Revision 1

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HYDROGEOLOGIC INVESTIGATION REPORT

FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Prepared For:
Exelon Generation Company, LLC

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TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY i

1.0 INTRODUCTION 1

2.0 STATION DESCRIPTION 2
2.1 STATION LOCATION 2
2.2 OVERVIEW OF COOLING WATER OPERATIONS 2
2.3 SURROUNDING LAND USE 3
2.4 STATION SETTING 4
2.4.1 TOPOGRAPHY AND SURFACE WATER FEATURES 4
2.4.2 GEOLOGY 5
2.4.3 HYDROGEOLOGY 7
2.5 AREA GROUNDWATER USE 9
2.6 BRAIDWOOD STATION BLOWDOWN LINE INVESTIGATIONS 10

3.0 AREAS FOR FURTHER EVALUATION 11
3.1 SYSTEMS EVALUATIONS 11
3.2 HISTORICAL RELEASES 14
3.3 STATION INVESTIGATIONS 14
3.3.1 PRE-OPERATIONAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM 14
3.3.2 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM 15
3.3.3 HISTORIC SITE INVESTIGATIONS 16
3.3.3.1 POWER PLANT DOCUMENTS-UFSAR REPORT 16
3.3.3.2 BLOWDOWN LINE INVESTIGATION 16
3.4 IDENTIFIED AREAS FOR FURTHER EVALUATION 16

4.0 FIELD METHODS 19
4.1 STAFF GAUGES INSTALLATION 19
4.2 GROUNDWATER MONITORING WELL INSTALLATION 19
4.3 GROUNDWATER MONITORING WELL DEVELOPMENT 21
4.4 WELL INVENTORY 21
4.5 SURVEY 22
4.6 GROUNDWATER AND SURFACE WATER ELEVATION MEASUREMENTS 22
4.7 GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION 24
4.8 DATA QUALITY OBJECTIVES 26
4.9 SAMPLE IDENTIFICATION 26
4.10 CHAIN-OF-CUSTODY RECORD 27
4.11 QUALITY CONTROL SAMPLES 27
4.12 ANALYSES 27

TABLE OF CONTENTS

Page

5.0 RESULTS SUMMARY 28
5.1 STATION GEOLOGY 28
5.2 SITE HYDROGEOLOGY 30
5.2.1 GROUNDWATER FLOW DIRECTIONS 30
5.2.2 MAN-MADE INFLUENCES ON GROUNDWATER FLOW 31
5.2.3 VERTICAL HYDRAULIC GRADIENTS 32
5.2.4 LATERAL GROUNDWATER FLOW AND VELOCITY 33
5.3 GROUNDWATER QUALITY 35
5.3.1 SUMMARY OF BETA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS 35
5.3.2 SUMMARY OF GAMMA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS 36
5.3.3 SUMMARY OF FIELD MEASUREMENTS 36
5.4 SURFACE WATER QUALITY 37
5.4.1 SUMMARY OF BETA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS 37
5.4.2 SUMMARY OF GAMMA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS 38

6.0 RADIONUCLIDES OF CONCERN AND SOURCE AREAS 39
6.1 GAMMA-EMITTING RADIONUCLIDES 39
6.2 BETA-EMITTING RADIONUCLIDES 39
6.3 TRITIUM 39
6.3.1 GENERAL CHARACTERISTICS 39
6.3.2 DISTRIBUTION IN STATION GROUNDWATER 40
6.3.2.1 UPPER SAND AQUIFER 41
6.3.2.2 DEEPER BEDROCK GROUNDWATER 42
6.3.3 DISTRIBUTION IN STATION SURFACE WATER 43
6.3.4 CONCEPTUAL MODEL OF TRITIUM RELEASE AND MIGRATION 43
6.3.5 ATTENUATION OF TRITIUM WITHIN THE SHALLOW GROUNDWATER SYSTEM 47

7.0 EXPOSURE PATHWAY ASSESSMENT 49
7.1 HEALTH EFFECTS OF TRITIUM 49
7.2 BACKGROUND CONCENTRATIONS OF TRITIUM 50
7.2.1 GROUNDWATER 50
7.2.2 PRECIPITATION DATA 50
7.2.3 SURFACE WATER DATA 51
7.2.4 DRINKING WATER DATA 52
7.2.5 EXPECTED TRITIUM BACKGROUND FOR THE STATION 52

TABLE OF CONTENTS

Page

7.3 IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS 53
7.3.1 POTENTIAL GROUNDWATER MIGRATION TO DRINKING WATER USERS OFF THE STATION PROPERTY 53
7.3.2 POTENTIAL GROUNDWATER MIGRATION TO SURFACE WATER USERS OFF THE STATION PROPERTY 54
7.3.3 POTENTIAL EXPOSURE TO SURFACE WATER IN THE PERIMETER DITCH AT THE STATION 54
7.4 SUMMARY OF POTENTIAL TRITIUM EXPOSURE PATHWAYS 55
7.5 OTHER RADIONUCLIDES 55

8.0 CONCLUSIONS 56

9.0 RECOMMENDATIONS 61
9.1 DATA GAPS 61
9.2 GROUNDWATER MONITORING 61

10.0 REFERENCES CITED 62

LIST OF FIGURES
(Following Text)

FIGURE 1.1 STATION LOCATION MAP

FIGURE 1.2 STATION BOUNDARIES AND FEATURES

FIGURE 1.3 STATION BOUNDARIES INCLUDING BLOWDOWN LINE

FIGURE 2.1 STATION BASE MAP

FIGURE 2.2 STATION FEATURES AND WELL LOCATIONS

FIGURE 2.3 STATION SURFACE WATER FEATURES

FIGURE 2.4 STORM WATER DRAINAGE CROSS-SECTION AA-AA'

FIGURE 2.5 OIL-WATER SEPARATOR CROSS-SECTION BB-BB'

FIGURE 2.6 PERIMETER DITCH CROSS-SECTION CC-CC'

FIGURE 2.7 PERIMETER DITCH CROSS-SECTION DD-DD'

FIGURE 2.8 LOCAL GEOLOGIC CROSS-SECTION

FIGURE 2.9 CONTOUR MAP OF THE WEDRON FORMATION

FIGURE 2.10 PRIVATE WELL LOCATIONS AND WELL DEPTHS

FIGURE 2.11 GROUNDWATER MONITORING LOCATIONS

FIGURE 2.12 REGIONAL HYDROGEOLOGIC CROSS-SECTION LOCATIONS

FIGURE 2.13 REGIONAL HYDROGEOLOGIC CROSS-SECTION E-E'

FIGURE 2.14 REGIONAL HYDROGEOLOGIC CROSS-SECTION F-F'

FIGURE 2.15 PRIVATE WELL AND MONITORING WELL SAMPLE RESULTS

FIGURE 3.1 AREAS FOR FURTHER EVALUATION (STATION)

LIST OF FIGURES
(Following Text)

FIGURE 3.2 AREAS FOR FURTHER EVALUATION (WEST SIDE OF TURBINE BUILDING)

FIGURE 4.1 SURFACE WATER/STAFF GAUGE MONITORING LOCATIONS

FIGURE 4.2 GROUNDWATER MONITORING LOCATIONS (STATION)

FIGURE 4.3 PRESSURE TRANSDUCER AND PRECIPITATION DATA – JUNE/JULY 2006

FIGURE 5.1 HYDROGEOLOGIC CROSS-SECTION LOCATIONS

FIGURE 5.2 HYDROGEOLOGIC CROSS-SECTION A-A'

FIGURE 5.3 HYDROGEOLOGIC CROSS-SECTION B-B'

FIGURE 5.4 HYDROGEOLOGIC CROSS-SECTION C-C'

FIGURE 5.5 HYDROGEOLOGIC CROSS-SECTION D-D'

FIGURE 5.6 POTENTIOMETRIC SURFACE CONTOURS – SHALLOW ZONE - MAY 2006

FIGURE 5.7 POTENTIOMETRIC SURFACE CONTOURS – SHALLOW ZONE - JULY 2006

FIGURE 5.8 POTENTIOMETRIC SURFACE CONTOURS – DEEP ZONE - MAY 2006

FIGURE 5.9 POTENTIOMETRIC SURFACE CONTOURS – DEEP ZONE - JULY 2006

FIGURE 5.10 TRITIUM CONCENTRATIONS - GROUNDWATER AND SURFACE WATER

FIGURE 5.11 RADIONUCLIDE CONCENTRATIONS – GROUNDWATER AND SURFACE WATER

FIGURE 6.1 HYDROGEOLOGIC PROFILE-TRITIUM CONCENTRATIONS – GROUNDWATER

FIGURE 6.2 MONITORING WELL TRITIUM SAMPLE RESULTS

LIST OF TABLES
(Following Text)

TABLE 4.1	SUMMARY OF MONITORING WELL INSTALLATION DETAILS
TABLE 4.2	SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
TABLE 4.3	SUMMARY OF GROUNDWATER ELEVATIONS
TABLE 4.4	SUMMARY OF SURFACE WATER ELEVATIONS
TABLE 4.5	SAMPLE KEY
TABLE 4.6	SUMMARY OF MONITORING WELL PURGING PARAMETERS
TABLE 5.1	SUMMARY OF CALCULATED VERTICAL HYDRAULIC GRADIENTS
TABLE 5.2	ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
TABLE 5.3	ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
TABLE 5.4	ANALYTICAL RESULTS SUMMARY - TRITIUM IN SURFACE WATER
TABLE 5.5	ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN SURFACE WATER
TABLE 5.6	EXISTING ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
TABLE 5.7	EXISTING ANALYTICAL RESULTS SUMMARY - TRITIUM IN SURFACE WATER

LIST OF APPENDICES

APPENDIX A	MONITORING WELL LOGS
APPENDIX B	PRIVATE WATER WELL INVENTORY RECORDS (CRA, MARCH 2006)
APPENDIX C	QUALITY ASSURANCE PROGRAM – TELEDYNE BROWN ENGINEERING, INC.
APPENDIX D	LABORATORY ANALYTICAL REPORTS
APPENDIX E	DATA VALIDATION MEMORANDUM

EXECUTIVE SUMMARY

This Hydrogeologic Investigation Report (HIR) documents the results of Conestoga-Rovers & Associates' (CRA's) May 2006 Hydrogeologic Investigation Work Plan (Work Plan) and associated correspondence pertaining to the Braidwood Generating Station in Braceville, Illinois. CRA prepared this HIR for Exelon as part of its Fleetwide Program to determine whether groundwater at and in the vicinity of its nuclear power generating facilities has been adversely impacted by any releases of radionuclides.

CRA collected and analyzed information on any historical releases, the structures, components, and areas of the Station that have the potential to release tritium or other radioactive liquids to the environment and past hydrogeologic investigations at the Station. CRA used this information, combined with its understanding of groundwater flow and sample locations at the Station to identify the Areas for Further Evaluation (AFEs) for the Station.

CRA collected 45 groundwater samples and six surface water samples at the Station. CRA also collected a full round of water levels on two occasions from the newly installed and existing wells and measured surface water levels. All groundwater and surface water samples were analyzed for tritium, strontium-89/90, and gamma-emitting radionuclides.

This HIR does not discuss the investigations of tritium in groundwater along the Braidwood Station Blowdown Line. This report focuses on the groundwater conditions in and near the Protected Area (PA). The results of this hydrogeologic investigation are:

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) in any of the groundwater or surface water samples obtained and analyzed during the course of this investigation;
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 picoCuries per liter (pCi/L) in any of the groundwater or surface water samples obtained and analyzed during the course of this investigation;
- Tritium was not detected in any of the groundwater or surface water samples obtained during the course of this investigation at concentrations greater than the United States Environmental Protection Agency drinking water standard of 20,000 pCi/L;

- Low levels of tritium were detected at concentrations greater than the LLD of 200 pCi/L in 15 of 45 groundwater monitoring locations. These tritium concentrations ranged from 204 (± 112 pCi/L) to 1,040 (± 172 pCi/L);
- Most of the tritium that was detected in groundwater at the Station is on the west side of the Turbine building and is believed to be the result of isolated historical releases;
- Based on the results of this investigation, tritium is not migrating off the Station property at detectable concentrations;
- Based on the results of this investigation, there is no current risk from exposure to radionuclides associated with licensed plant operations through any of the identified potential exposure pathways; and
- Based on the results of this investigation, there are no known active releases into the groundwater at the Station.

Based upon the information collected to date, CRA recommends that Exelon conduct periodic monitoring of selected locations.

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) has prepared this Hydrogeologic Investigation Report (HIR) for Exelon Generating Company, LLC (Exelon) as part of its fleetwide program to determine whether groundwater at and near its nuclear power generating facilities has been adversely impacted by any releases of radionuclides. This report documents the results of CRA's May 2006 Hydrogeologic Investigation Work Plan (Work Plan), as well as, several other investigative tasks recommended by CRA during the course of the investigation. These investigations pertain to Exelon's Braidwood Nuclear Power Station in Braceville, Illinois (Station) (see Figure 1.1).

The Station is defined as all property, structures, systems, and components owned and operated by Exelon LLC located at 35100 South Route 53, Braceville, Illinois. The Station boundaries for all areas of the Station are depicted on Figure 1.2 and Figure 1.3.

Pursuant to the Work Plan, CRA assessed groundwater quality at the Station in locations designated as areas for further evaluation (AFEs). The process by which CRA identified AFEs is discussed in Section 3.0 of this report.

Since the spring of 2005, Exelon has performed investigations into the occurrence of tritium along the blowdown line, as discussed in the following Section 2.0. This report does not include discussions of hydrogeologic investigations related to the Braidwood Station's Cooling Lake blowdown line.

The objectives of the Work Plan were to:

- characterize the geologic and hydrogeologic conditions at the Station including subsurface soil types, the presence or absence of confining layers, and the direction and rate of groundwater flow;
- characterize the groundwater/surface water interaction at the Station, including a determination of the surface water flow regime;
- evaluate groundwater quality at the Station including the vertical and horizontal extent, quantity, concentrations, and potential sources of tritium and other radionuclides in the groundwater, if any;
- define the probable sources of any radionuclides released at the Station;
- evaluate potential human, ecological, or environmental receptors of any radionuclides that might have been released to the groundwater; and
- evaluate whether interim response activities are warranted.

2.0 STATION DESCRIPTION

The following section presents a general summary of the Station location and definition, overview of Station operations, surrounding land use, and an overview of both regional and Station-specific topography, surface water features, geology, hydrogeology, and groundwater flow conditions. This section also presents an overview of groundwater use in the area.

2.1 STATION LOCATION

The Station property consists of approximately 4,450 acres, of which approximately 52 acres are used for the generating facilities. The other approximately 4,400 acres of property encompasses an approximately 2,500-acre Cooling Lake and the land associated with the blowdown line. The Station address is 35100 South Route 53, Braceville, Illinois. The Station is owned and operated by Exelon. Figure 2.1 presents the Station Base Map, which includes the key features.

This HIR excludes land associated with the Cooling Lake and as discussed in Section 1.0, excludes the land associated with the blowdown line and the blowdown line's vacuum breakers. As such, this HIR does not discuss the groundwater investigations performed recently along the Station's blowdown line. These are discussed further in Section 2.5.

2.2 OVERVIEW OF COOLING WATER OPERATIONS

The Station contains a two-unit nuclear generating facility capable of generating 1,120 net megawatts of electricity per unit. Units 1 and 2 are pressurized water reactors (PWRs) designed by Westinghouse and began commercial operation in July and October 1988, respectively. A PWR plant consists of three separate loops of fluids. Each loop is designed to avoid mixing the fluids of one loop with the fluids of another. The three loops are called the primary loop, the secondary loop, and the tertiary loop.

The main purpose of the primary loop is to transfer the energy generated from fission in the fuel to the secondary loop steam generators. It is a closed loop system. Nuclear fission creates heat in the fuel. This heat is removed by the flow of reactor coolant water through the reactor vessel and into the steam generators. The heat is transferred to the secondary side where steam is generated. The water is then pumped back to the reactor vessel to cool the fuel again.

The main purpose of the secondary loop is to use the steam generated in the steam generators to turn the turbine generator, which makes electricity. It is also a closed system.

The main purpose of the tertiary loop is to use cooler lake water to condense the steam in the condenser and transfer the heat to the atmosphere. The lake loop needs makeup water to operate properly. Makeup water comes from the Kankakee River.

As the steam is condensed in the condenser, the circulating water becomes hotter. The circulating water is discharged to the Cooling Lake where it loses some of its heat through evaporation. The now cooler water is then pumped back to the condenser to start the loop over again.

The Braidwood Station employs a blowdown line to return water from the Cooling Lake back to the Kankakee River for the purposes of reducing the dissolved mineral concentration in the lake water. This blowdown line also serves as a permitted discharge point for the site's sewage treatment plant and the liquid Radwaste system. The discharge is approved under the Station's National Pollutant Discharge Elimination System (NPDES) Permit IL 0048321 and Nuclear Regulatory Commission (NRC) Operating Licenses NPF-72 and NPF-77 for Units 1 and 2, respectively.

2.3 SURROUNDING LAND USE

To the north, south, east, and west, land surrounding the Station is primarily for agricultural, residential, and recreational use. Residential lots surround the Station to the north and to the east along Smiley Road and Center Street. Further to the north, there are several ponds or small lakes. The center of the Village of Braidwood is approximately 1.5 miles north of Braidwood Station measured from Smiley Road. To the northwest of the site, there are two main highways (Illinois State Highway 53 and Illinois Route 129) running parallel to each other with a railroad (Southern Pacific Railroad) between them. Within the southern portion of the Station is the Cooling Lake that is designated as a recreational area in the summer for boating and fishing under the auspices of the Illinois Department of Natural Resources (IDNR) (Refer to Figures 1.2 and 1.3). The town of Godley is located west and southwest of the PA.

2.4 STATION SETTING

The following sections present a summary of the topography, surface water features, geology, hydrogeology, and groundwater flow conditions in the region surrounding the Station. The information was primarily gathered from Sections 2.1 and 2.5 of the Braidwood Station Updated Final Safety Analysis Report (UFSAR) Revision 10, dated December 2004. The main references the UFSAR relies upon are listed in Section 10.0 of this HIR. CRA checked and verified all UFSAR references that apply to this HIR.

2.4.1 TOPOGRAPHY AND SURFACE WATER FEATURES

In general, the topography of the area slopes gently downward to the north toward the Illinois River and is relatively flat (see Figure 1.1 and United States Geological Topographic Quadrangle Map—Essex—1973, Photo revised 1980).

The Cooling Lake was formed from former coal strip mining operations discussed further in Section 2.4.2. The average depth of the Cooling Lake is about 8 feet (UFSAR, 1994). It is isolated from the adjacent upper water bearing aquifer by a slurry wall constructed during building construction at the PA. The lake bottom consists of mine spoils left behind after strip-mining operations.

There are also remnants of former coal strip mining operations to the north of the PA (ISGS March 2005 and October 2003). There are also a number of ponds located northeast of the PA that were dug originally as sand borrow pits (for highway construction materials) that have subsequently filled with groundwater. These include the ponds located near Center Street and Smiley Road (Figures 1.1 and 2.2). The ponds are evident on the aerial photo presented on Figure 2.2.

Figure 2.3 presents portions of some of the relevant surface water features at the Station such as the Cooling Lake, pond, and perimeter ditch. Surface water drains via the storm water drainage system and man-made ditches (e.g., the perimeter ditch) and flows generally to the north within the PA. Surface water is conveyed away from the Cooling Lake via the perimeter ditch (Figure 2.3). This ditch eventually flows west and south past the PA and past the Village of Godley. This ditch intercepts the shallow groundwater table (CRA, September 2003).

The PA and surrounding land is generally flat and covered by paved areas, roadways, and parking lots. These areas are drained by a storm water drainage system that drains to the northwest corner of the PA (Figure 2.3). The storm water drainage system drains

to an Oil/Water Separator at the north end of the PA. The outfall from the Oil/Water Separator discharges to a small east-west ditch and flows west to the perimeter ditch.

Previous studies have documented that the storm water drainage system intercepts groundwater on the west side of the Turbine Building. These same studies have indicated that the perimeter ditch (Figure 2.3), which flows from the north to the south along the western Station property line, also intercepts the groundwater (CRA, September 2003). Hydrogeologic profiles of the storm water drainage system, Oil/Water Separator, and the perimeter ditch are provided on Figures 2.4 to 2.7. These figures are from the CRA September 2003 report.

2.4.2 GEOLOGY

The Natural Resource Conservation Service (NRCS) classifies the shallow soils surrounding the site as primarily fine sands and silt loams; typical soils of an outwash plain. The NRCS classified the soils around the Station in groups that primarily include the following soils: Oakville fine sand, Wateska loamy fine sand, Markham silt loam, and Orthents loamy soil. These soil groups all have similar characteristics and vary by the amount of silt in the material. These soils are moderately to well drained, have moderate to rapid permeability from 0 to 60 inches below ground surface (bgs), and contain 0.5 to 2 percent organic matter.

The local geology is composed of a relatively thin overburden layer overlying the bedrock. Figure 2.8 presents a stratigraphic cross-section of the local geology.

The overburden consists of the Equality Formation (silty sand) and the Wedron Clay Till Formation (glacial outwash and till) (UFSAR, 1994). The Equality Formation is Quaternary age and primarily consists of eolian and lacustrine sands and at the Station it is described as a homogenous, loose, gray to brown sand. This formation is approximately 20 feet thick at the site (Arnold et al., 1999). The Wedron Clay Till consists of glacial till and interbedded discontinuous glacial outwash deposits. At the site, the Wedron Clay Till is predominantly a silty clay. The Wedron Clay Till ranges from 15 to 20 feet thick at the site (Willman et al., 1975). A contour map of the top of the Wedron Clay Till around the Turbine Building and Reactors from the UFSAR is included on Figure 2.9 (UFSAR, 1994).

The important bedrock units in the site area can be divided into these three general sections (Willman and Frye, 1970):

- Pennsylvanian age siltstone, shale, and coal;
- Ordovician shale; and
- Cambrian- Ordovician sandstone and limestone/dolostone.

The Pennsylvanian age units are generally horizontal strata that act as an aquitard and barriers to vertical flow. The coal-bearing Carbondale Formation (Colchester Member) within this group was previously strip-mined in the area of the Station (Figure 2.8). The strip mining removed the overlying units to the bottom of this coal seam (Chapter 2.5.1.2.7, UFSAR, 1994; and ISGS, October 2003). The Carbondale Formation includes the Francis Creek Shale Member and the Colchester Coal Member. It is underlain by the Spoon Formation (Figure 2.8).

Coal was discovered in Braidwood in 1854. Underground mining began in the 1870s. Strip-mining began in the 1920s. Total production of coal is estimated at over 26 million tons. Approximately 6.2 million tons was produced from underground mines, and about 20.5 million tons from strip mines. Coal was produced mainly from the No. 2 Coal Seam (Figure 2.8). The coal seam is approximately 100 feet bgs. Overlaying the coal is 30 or more feet of the Francis Creek Shale Member of the Pennsylvanian Carbondale Formation. This seam is also known as the Colchester Coal No. 2, which has an average thickness of 3 feet. In the southwestern part of the area thin seams of coal lie closely above and below the Colchester No. 2 seam.

As a result of coal mining, there are several small lakes near the site, which formed when abandoned open-pit mines subsequently filled with groundwater and precipitation. The Cooling Lake south of the facility is one of these lakes (Figure 1.2). The Cooling Lake is filled with mine spoils consisting of fractured, fragmented deposits of clay shale and other excavated material.

The Ordovician shale is the Maquoketa Shale Group of varying thickness but generally at least 70 feet thick. The Maquoketa Shale separates upper shallower bedrock formations (limestone and dolomite) from the deep sandstone bedrock of Cambrian-Ordovician-Glenwood-St. Peter Formations and the Ironton-Galesville Formations (Figure 2.8).

2.4.3 HYDROGEOLOGY

Groundwater in the site area is mainly extracted from two primary aquifers:

- the upper sand aquifer; and
- the deep Cambrian and Ordovician age sandstone formations.

There is some indication, however, based upon well logs from private residences that water supply wells are sometimes completed in the sandstone and limestone of the Carbondale Formation and the Spoon Formation (Figures 2.2 and 2.10). The Carbondale Formation includes the Francis Creek Shale Member, an aquitard, siltstones, conglomerates, shale, and the Colchester No. 2 coal. Beneath the Carbondale Formation is the limestone of the Spoon Formation. Apparently some private wells are installed into the Carbondale Formation above the coal or into the underlying Spoon Formation based upon well depth. Figure 2.10 presents wells completed in the 80- to 120-foot depth that may represent the Spoon Formation.

The upper sand aquifer comprises Quaternary age eolian and lacustrine sands (20 to 30 feet deep) (UFSAR, 1994). There are numerous private wells screened within the surficial sand unit where well yields are highly variable. In general, on a regional scale, well yields range from 20 gallons per minute (gpm) to 100 gpm; the higher yields are in areas where the sand and gravel deposits are thickest. The shallow groundwater flow direction is typically north-northeast but is influenced by surface water bodies.

The deeper bedrock formations used regionally for municipal and private water supplies (depths of 600 to 1,600 feet) are separated from the shallow system by a number of regional aquitards (Visocky, 1985). These barriers include the Wedron Clay Till (located just beneath the shallow sands) and various shale formations including the Scales Shale, which is over 70 feet thick at the Station and found at depths of 400 feet. Groundwater flow in these deep bedrock formations is expected to be toward the northeast in response to regional pumping centers near Joliet, Illinois (Visocky, 1985).

The groundwater system of most interest at the Station is the upper sand aquifer. This is the zone where previous studies of tritium occurrence have indicated its migration on and off the Braidwood Station property (CRA, March 2006).

The groundwater in the upper sand aquifer occurs under unconfined (water table) conditions and the saturated thickness ranges from 20 to 22 feet. The groundwater in this aquifer is recharged by local precipitation and discharges to local ponds and streams, and to the bedrock near the Kankakee River.

Recently, over 300 permanent and temporary monitoring wells have been installed into the deep and shallow zones (as described in Section 4.0) of the upper sand aquifer at Braidwood Station along the blowdown line (refer to Figure 2.11). Several well nests have been installed in the upper sand aquifer to determine the vertical distribution of impacted groundwater, and also the vertical hydraulic gradient within the aquifer.

Previous investigations along the blowdown line did not indicate a systematic pattern of vertical hydraulic gradients within the upper sand aquifer. The data recently collected as part of the fleetwide investigation has indicated similar vertical hydraulic gradients with one area of exception. Monitoring well clusters located just west of the Turbine Building indicate a downward vertical hydraulic gradient.

Data collected from CRA's previous investigations (CRA, September 2003 and March 2006) indicate there is a significant interaction between the groundwater in the overburden and the surface water bodies such as the perimeter ditch and the ponds to the northeast of the Station (refer to Figures 2.6 and 2.7).

The results from single-well response tests performed as part of the blowdown line investigation indicate that the hydraulic conductivity of the overburden aquifer is in the range of 2.5×10^{-2} centimeters/second (cm/sec) to 3.7×10^{-2} cm/sec (CRA, March 2006). Average groundwater velocity in the overburden aquifer is 80 feet/year (ft/yr) to 170 ft/yr in the area of the blowdown line.

The Cooling Lake, which is on the upgradient side of the Station, is not in direct contact with the upper sand aquifer, but rather is separated by a slurry wall (a low permeability barrier) that was installed at the time the Station was built. The slurry wall was installed or keyed into the Wedron Clay Till. The Cooling Lake is surrounded by this slurry wall and is, therefore, isolated from the upper sand aquifer at the site.

The Cooling Lake, although on the average is only 8 feet deep, is underlain by mine spoils left over from the coal-strip mining activities discussed previously. These mine spoils typically contain shales, clays, and siltstones that have been excavated and re-deposited. The mine spoil permeability is expected to be extremely low based upon CRA experience with mine spoils in the region. Consequently, the vertical seepage out of the Cooling Lake should not be significant when compared to evaporation losses or the amount of water blown down to the Kankakee River. Finally, although the Colchester Coal No. 2 was mined in this area, the Maquoketa Shale was not disturbed and remains a barrier to vertical flow beneath the Cooling Lake.

Approximately 140 feet of relatively impermeable shale separate the overburden aquifer from the deep bedrock aquifer. The shale units act as aquitards, limiting the hydraulic communication between the groundwater in the overburden and the bedrock aquifer (Visocky, 1985). Most domestic wells in the area are completed within the Glenwood-St. Peter Formation, which is approximately 600 feet bgs.

The Station does not rely on groundwater for any of its water supplies; consequently, there is little information on the deeper groundwater bearing zones at the Station property. However, a review of the water well logs (Appendix A) for private and public supply wells in the area indicate similar groundwater conditions as discussed previously in Section 2.0. Water supply wells in the Station area are completed to depths of approximately 100 feet, 600 feet, and 1,600 feet in order to tap bedrock water bearing formations (refer to Figure 2.10).

Figure 2.12 presents the locations of a local regional cross-section presenting the regional geology, the location of the PA and deeper private and public water supply wells. Figure 2.13 is a regional cross-section in a southwest to northeast direction. Figure 2.14 is a regional cross-section in a more northerly direction. Both Figures 2.13 and 2.14 indicate the relative depths of PA features, the bedrock aquifers, aquitards and private and public water supply wells.

A former construction water supply well is located in the northeast area of the PA, just east of the Condensate Storage Tanks (Figure 2.1). This well was drilled to a depth of approximately 1,750 feet and is cased to approximately 260 feet bgs. The Braidwood Station does not use this former supply well and there are plans to plug and abandon the well in the near future. The pump inside the well casing restricts access to this well.

2.5 AREA GROUNDWATER USE

The groundwater beneath the Station is not used as a potable resource for its operations. The Station obtains its water from the Kankakee River. There are a number of domestic wells near the Station (see Figures 2.2 and 2.10 for private well locations) that obtain their water from the upper sand aquifer. The groundwater within this upper sand aquifer is under water table conditions with the depth to water ranging from 5 to 15 feet bgs. The shallow aquifer is recharged by precipitation and the shallow aquifer discharges to nearby surface streams and strip mines.

The upper sand aquifer is underlain by Pennsylvanian bedrock composed of siltstone, shale, sandstone, clay, limestone, and coal (Carbondale and Spoon Formations). The Pennsylvanian strata may locally yield up to 20 gpm from the interbedded sandstones.

The Cambrian and Ordovician aquifers in the Station area comprise the Mt. Simon, the Ironton Galesville and the Glenwood-St. Peter Sandstones. These deeper Cambrian and Ordovician aquifers consist of sandstones in contrast to the shallow Pennsylvanian formations, which consist mainly of shale and limestone (Visocky et al, 1985). Water supply wells completed in this aquifer are at depths of over 600 feet (Figures 2.10, 2.13, and 2.14). Most of the groundwater supply wells within the surrounding area of the Braidwood Station are finished within these deeper aquifers (depths of 100 feet, and 600 to 1,600 feet) (Figure 2.10).

The Village of Braidwood, which is approximately 1.5 miles north of the site, provides municipal water via at least one deep bedrock water supply well that has a depth of over 1,600 feet (Figure 2.14). The homeowners and businesses in the Village of Godley generally rely upon shallow sand-point type wells that are constructed into the upper sand aquifer. The Godley Park District uses a deeper bedrock well for its purposes.

2.6 BRAIDWOOD STATION BLOWDOWN LINE INVESTIGATIONS

Since the spring of 2005, Exelon has undertaken extensive efforts to investigate tritium impact in areas outside and east of the PA and along the Station's blowdown lines, including extensive sampling of groundwater, surface water, and private wells. The results are presented as follows:

- Tritium Investigation Report (CRA, March 2006);
- Investigation of Tritium in the Groundwater in the Vicinity of VB-4 (CRA, April 2006);
- Investigation of Tritium in the Groundwater in the Vicinity of VB-6 (CRA, April 2006);
- Investigation of Tritium in the Groundwater in the Vicinity of VB-7 (CRA, April 2006);
- Technical memorandum, "Evaluation of the Source of Tritium in Two Private Wells located Along the Kankakee River and Illinois Route 113" (CRA, June 2006); and
- Hydrogeologic investigation Turbine Building/Protected Area (CRA, June 2006).

The above documents have been submitted to the Illinois EPA.

3.0 AREAS FOR FURTHER EVALUATION

CRA considered all Station operations in assessing groundwater quality at the Station. During this process, CRA identified areas at the Station that warranted further evaluation or "AFEs". This section discusses the process by which AFEs were selected.

CRA's identification of AFEs involved the following components:

- Station inspection on March 24, 2006;
- interviews with Station personnel;
- evaluation of Station systems;
- investigation of confirmed and unconfirmed releases of radionuclides; and
- review of previous Station investigations.

CRA analyzed the information collected from these components combined with information obtained from CRA's study of hydrogeologic conditions at the Station to identify those areas where groundwater potentially could be impacted from operations at the Station.

CRA then designed an investigation to determine whether any confirmed or potential releases or any other release of radionuclides adversely affected groundwater. This entailed evaluating whether existing Station groundwater monitoring systems were sufficient to assess the groundwater quality at the AFEs. If the systems were not sufficient to adequately investigate groundwater quality associated with any AFE, additional monitoring wells were installed by CRA.

The following sections describe the above considerations and the identification of AFEs. The results of CRA's investigation are discussed in Section 5.0.

3.1 SYSTEMS EVALUATIONS

Exelon launched an initiative to systematically assess the structures, systems and components that store, use, or convey potentially radioactively contaminated liquids. Maps depicting each of these systems were developed and provided to CRA for review. The locations of these systems are presented on Figures 3.1 and 3.2. The Station identified a total of 21 systems that contain or could contain potentially radioactively contaminated liquids. The following presents a list of these systems.

System Identification	*Description*
AB	Boric Acid Process
AS	Auxiliary System Steam
CD	Condensate
CP	Condensate Cleanup
CW	Circulation Water Blowdown and Treated Runoff Return Portions
FC	Fuel Pool Cooling
HD	Feedwater Drains
OG	Off Gas
OD	Equipment/Floor Oil Drain
PW	Primary Water
RF	Reactor Building Floor Drains
SH	Station Heating
ST	Sewage Treatment
SX	Essential Service Water
TE	Turbine Building Floor Drains
TF	Turbine Building Floor Drains
TR	Treated Runoff
VF	Filtered Vents
WE	Auxiliary Building Equipment Drain
WF	Auxiliary Building Floor Drain
WX	Radwaste Disposal

After these systems were identified, Exelon developed a list of the various structures, components and areas of the systems (e.g., piping, tanks, process equipment) that handle or could potentially handle any radioactively contaminated liquids. The structures, components, and areas may include:

- aboveground storage tanks;
- condensate vents;
- areas where confirmed or potential historical releases, spills, or accidental discharges may have occurred;
- pipes;
- pools;
- sumps;
- surface water bodies (i.e., basins, pits, ponds, or lagoons);
- trenches;
- underground storage tanks; and
- vaults.

The Station then individually evaluated the various system components to determine the potential for any release of radioactively contaminated liquid to enter the environment. Each structure or identified component was evaluated against the following seven primary criteria:

- location of the component (i.e., basement or second floor of building);
- component construction material (i.e., stainless steel or steel tanks);
- construction methodologies (i.e., welded or mechanical pipe joints);
- concentration of radioactively contaminated liquid stored or conveyed;
- amount of radioactively contaminated liquid stored or conveyed;
- existing controls (i.e., containment and detection); and
- maintenance history.

System components, which were located inside a building or that otherwise had some form of secondary containment, such that a release of radioactively contaminated liquid would not be discharged directly to the environment, were eliminated from further evaluation. System components that are not located within buildings or did not have some other form of secondary containment were retained for further qualitative evaluation of the risk of a release of radioactively contaminated liquid to the environment and the potential magnitude of any release.

Exelon's risk evaluation took into consideration factors such as:

- the potential concentration of radionuclides;
- the volume of liquid stored or managed;
- the probabilities of the systems actually containing radioactively contaminated liquid; and
- the potential for a release of radioactively contaminated liquid from the system component.

These factors were then used to rank the systems and system components according to the risk for a potential release of a radioactively contaminated liquid to the environment. The evaluation process resulted in the identification of structures, components, and areas to be considered for further evaluation.

3.2 HISTORICAL RELEASES

CRA also reviewed information concerning confirmed or potential historical releases of radionuclides at the Station, including reports and documents previously prepared by Exelon and compiled for CRA's review. CRA evaluated this information in identifying the AFEs. Any historical releases identified during the course of this assessment that may have a current impact on Station conditions are further discussed in Section 3.4.

3.3 STATION INVESTIGATIONS

CRA also considered previous Station investigations in the process of selecting the AFEs for the Station. This section presents a summary of the pre-operational radiological environmental monitoring program, past station investigations, and the radiological environmental monitoring program.

3.3.1 PRE-OPERATIONAL RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the Station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Environmental Radiological Monitoring for Braidwood Nuclear Power Station, Commonwealth Edison Company, Annual Report 1986, May 1987.

The pre-operational REMP at Braidwood commenced in July 1983. The fourth annual report in 1986 presented data acquired during the period from January through December 1985. Atmospheric radiation monitoring consisted of gas and air particulate radioactivity measurements; fall-out monitoring consisted of radioactivity measurements of soil, vegetation, and rain water; domestic water monitoring consisted of well water sample analysis; surface water samples were collected from the two Kankakee River locations and two cooling water locations. Foodstuffs were monitored by analyzing samples of cow's milk and vegetables from nearby farms.

The pre-operational REMP contained analytical results from samples collected from the surface water and groundwater. The samples were analyzed for gross beta content and were averaged for each quarter.

Surface water at the Kankakee River downstream collection point, BD-10, had gross beta concentrations that ranged from 2.8 ± 0.9 picoCuries per liter (pCi/L) to 3.2 ± 1.4 pCi/L. At the upstream Kankakee River collection point, BD-7, the average gross beta concentrations for the second and fourth quarters was 3.6 pCi/L and the average gross beta concentration during the third quarter was 18.8 pCi/L. Gross beta concentrations from the cooling water sample points ranged from unspecified LLDs to a maximum detection of 4.9 ± 1.0 pCi/L.

Monthly composites of weekly sample collections from all surface water locations indicated tritium concentrations were non detect at the LLD (200 pCi/L). Monthly composites of weekly sample collections from all surface water locations indicate (strontium-89, strontium-90, cesium-134, and cesium-137) concentrations less than their specified LLDs.

Groundwater was collected from one off-site well on a quarterly basis. Gross beta, gamma isotopic, radiostrontium, and tritium analyses were performed on all samples. Strontium-89, strontium-90, tritium and gamma emitters were below their respective LLDs. Gross beta activity was within the expected levels and ranged from 3.7 ± 1.7 pCi/L to 37.9 ± 3.2 pCi/L.

3.3.2 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

As part of its NRC operating license, Braidwood Station conducts a REMP. The REMP includes the collection of multi-media samples including air, surface water, groundwater, fish, sediment, and vegetation. The samples are analyzed for beta and gamma emitting radionuclides, tritium, iodine-131, and/or strontium as established in the procedures developed for the REMP. The samples are collected at established locations, identified as stations, so that trends in the data can be monitored.

An annual report is prepared providing a description of the activities performed and the results of the analysis of the samples collected from the various media. The latest report generated was prepared by Station personnel and is entitled Annual Radiological Environmental Operating Report for the Braidwood Station (period from January 1 to December 31, 2005), May 2006. This report concluded that the operation of the Braidwood Station had no adverse radiological impact on the environment.

As part of REMP, surface water samples are collected at two locations and groundwater samples are collected at six locations.

3.3.3 HISTORIC SITE INVESTIGATIONS

This section summarizes historic site investigations completed at the Station in regard to releases of radioactively contaminated liquid to the subsurface.

3.3.3.1 POWER PLANT DOCUMENTS-UFSAR REPORT

During the construction of the Station, a series of comprehensive investigations of regional and local geology, surface water, and groundwater conditions were conducted. These studies are documented in the UFSAR Rev. 10, December 2004.

3.3.3.2 BLOWDOWN LINE INVESTIGATION

The blowdown line, which runs from the PA and east to the Kankakee River, was previously evaluated by CRA. The results are presented in a series of reports listed in Section 2.6 and Section 10.0. Figure 2.11 presents locations of monitoring wells installed as of May 2006 along the blowdown line and in the PA as part of these previous studies.

3.4 IDENTIFIED AREAS FOR FURTHER EVALUATION

CRA used the information presented in the above sections along with its understanding of the hydrogeology at the Station to identify AFEs, which were a primary consideration in the development of the scope of work in the Work Plan. The establishment of AFEs is a standard planning practice in hydrogeologic investigations to focus the investigation activities at areas where there is the greatest potential for impact to groundwater.

Specifically, AFEs were identified based on these six considerations:

- systems evaluations;
- risk evaluations;
- review of confirmed and/or potential releases;
- review of documents;
- review of the hydrogeologic conditions; and
- Station inspection completed on March 24, 2006.

Prior to CRA completing its analysis and determination of AFEs, Station personnel completed an exhaustive review of all historic and current management of systems that may contain potentially radioactively contaminated liquids.

CRA reviewed the systems identified by the Station, which have the potential for the release of radioactively contaminated liquids to the environment, and groundwater flow at the Station. This evaluation allowed CRA to become familiar with Station operations and potential systems that may impact groundwater. CRA then evaluated information concerning historic releases as provided by the Station. This information, along with a review of the results from historic investigations, was used to refine CRA's understanding of areas likely to have the highest possibility of impacting groundwater. Where at risk systems or identified historical releases were located in close proximity or were located in areas which could not be evaluated separately, the systems and historical releases were combined into a single AFE. At times, during the Station investigation, separate AFEs were combined into one or were otherwise altered based on additional information and consideration.

Finally, CRA used its understanding of known hydrogeologic conditions (prior to this investigation) to identify AFEs. Groundwater flow was an important factor in deciding whether to combine systems or historical releases into a single AFE or create separate AFEs. For example, groundwater beneath several systems that contain radioactively contaminated liquids that flows toward a common discharge point were likely combined into a single AFE. The AFEs were created based on known groundwater flow conditions prior to the work completed during this investigation.

Based upon its review of information concerning confirmed or potential historical releases, historic investigations, and the systems at the Station that have the potential for release of radioactively contaminated liquids to the environment combined with its understanding of groundwater flow at the Station, CRA identified four AFEs (see Figures 3.1 and 3.2).

AFE-Braidwood-1- North of the Slurry Wall

This area was identified as an AFE to investigate the possibility that the slurry wall (slurry trench) is not providing sufficient hydraulic control to prevent tritium (if present) from migrating off the site property. Tritium has been detected in the groundwater within the slurry wall on the west side of the Turbine Building. It was necessary to assess if this tritium or other groundwater impacts had the potential to migrate north of the slurry wall and outside the PA.

On March 13, 2006, rain accumulated and mixed with tritiated water within the bermed area surrounding the Frac Tank storage area located on a concrete pad (Refer to Figure 3.2). The berm surrounding the tanks was breached and allowed water to spill over the berm and seep into soils near the pad. Most of the water was recovered.

AFE-Braidwood-2 - North/Northeast of Units 1 and 2

This area was identified as an AFE due to its proximity to Units 1 and 2 and the systems near these two units. More specifically, this area was identified as an AFE to monitor groundwater quality on the northeast of the reactors, the fuel handling building, and other systems.

AFE-Braidwood-3 - Auxiliary Construction Storage Tank

This area comprises the Auxiliary Construction Storage Tank, the blowdown line as it exits the PA, and the sewage treatment plant. This area was selected for groundwater monitoring to evaluate the quality of groundwater in this area of the PA and the potential impacts of historical releases documented by Exelon.

AFE-Braidwood-4 - West Side of Turbine Building

This area comprises the west side of the Turbine Building. The following five pieces of information provide support to this area being identified as an AFE:

- existing monitoring well data from the Winter of 2006 had indicated tritium impacts in wells located adjacent to the west side of the Turbine Building foundation;
- a seep, occurring intermittently, into the basement of the Turbine Building had indicated concentrations of tritium over the LLD of 200 pCi/L;
- prior to 1992, effluent from Turbine Building Fire and Oil Sump was released to the storm water drainage system;
- in December 1990, some tritiated water may have been periodically discharging to the storm sewer system through a heating system relief valve. The valves discharge to the Oil/Water Separator on the north end of the property. The separator then discharges into the drainage ditch; and
- on April 6, 2006, a release of steam (location is presented on Figure 3.2) from the west side of the Turbine Building discharged onto the ground surface near the waste treatment lagoons and north of the waste treatment plant. The release was partially remediated by collecting all available standing water, pumping water from the storm water drainage system, and blocking drainage paths for some site drainage ditches.

4.0 FIELD METHODS

The field investigations completed for this HIR were completed in April, May, and July 2006. CRA supervised the installation of monitoring wells and staff gauges, collected samples from the newly-installed and existing monitoring wells and from surface water locations, and collected a round of groundwater and surface water measurements. The field investigations were completed in accordance with the methodologies presented in the Work Plan (CRA, 2006).

4.1 STAFF GAUGES INSTALLATION

Figure 4.1 presents the location of the four new staff gauges and two surface water monitoring points installed as part of this investigation. CRA installed staff gauges at four locations (SG-BW-101 to 104) within the perimeter ditch and established two monitoring points (SG-105 and 106) on the Cooling Lake.

4.2 GROUNDWATER MONITORING WELL INSTALLATION

Twelve new monitoring wells were installed for the fleetwide hydrogeologic investigation. Monitoring well construction logs are provided in Appendix A. This included ten wells completed within the upper sand aquifer and two completed within the shallow bedrock. Figure 4.2 presents the location of the new monitoring wells. These locations were selected based on a review of all data provided, the hydrogeology at the Station, and current understanding of identified AFEs. Table 4.1 summarizes the well completion details.

Prior to completing any ground penetration activities, CRA completed subsurface utility clearance procedures to minimize the potential of injury to workers and/or damage to subsurface utility structures. The subsurface clearance procedures consisted of completing an electronic survey within a minimum of 10-foot radius of the proposed location utilizing electromagnetic and ground penetrating radar technology. Additionally, an air knife was utilized to verify utilities were not present at the proposed location to a depth to 10 feet bgs.

Specific installation protocols for the ten shallow monitoring wells are described below:

- the borehole was advanced to the target depth using 4.25-inch inside diameter hollow-stem augers (HSA) or Rotosonic techniques;

- a nominal 2-inch diameter (No. 10 slot) PVC screen, 10 feet in length, attached to a sufficient length of 2-inch diameter schedule 40 PVC riser pipe to extend to the surface, was placed into the borehole through the augers;
- a filter sand pack consisting of silica sand was installed to a minimum height of 2 feet above the top of the screen as the augers are removed;
- a minimum 2-foot thick seal consisting of 3/8-inch diameter bentonite pellets or chips was placed on top of the sand pack and hydrated using potable water;
- the remaining borehole annulus was sealed to within 3 feet of the surface using pure bentonite chips;
- the remaining portion of the annulus was filled with concrete and a 6-inch diameter protective above-grade casing. The well head will be fitted with a water-tight, lockable cap; and
- cement-filled bollard posts were installed around selected monitoring well locations.

Shallow monitoring wells included two types of wells completed within the upper sand aquifer. A shallow zone well was completed at depths of approximately 15 feet bgs into the upper sand zone and at the water table. The deep zone wells were completed at depths of approximately 25 to 30 feet bgs and into the lower portions of sand found on top of the Wedron Clay Till.

Specific installation protocols for the two bedrock monitoring wells are described below.

Each shallow bedrock well was drilled to and completed within the first water bearing zone encountered beneath the Francis Creek Shale Member. A sandstone was encountered below these shales and the screened interval for both MW-BW-201BD and MW-BW-208BD was set into this sandstone layer at a depth of approximately 80 to 95 feet bgs at MW-BW-201BD and from 85 to 100 feet bgs at MW-BW-208BD. This sandstone is expected to be part of the underlying Spoon Formation.

MW-BW-201D was installed using 8-inch HSA drilled to a depth of 39 feet bgs. A 6-inch protective casing was then installed through the augers and pushed to a depth of 40 feet bgs to ensure a proper seal into the till. A HQ coring bit was used to drill through the shale and siltstone formations to a depth of 100 feet bgs. Ten-foot core samples were recovered between 70 and 100 feet bgs. The core sample recovered in MW-BW-201BD between 84 and 91 feet bgs appeared to contain highly fractured and weathered sandstone, therefore the monitoring well screen was installed to straddle that zone (i.e., from 80 to 95 feet bgs) as shown on the well construction log. Similar conditions were encountered at MW-BW-208BD. At this location the well screen was

installed between 80 to 100 feet bgs. The monitoring well MW-BW-208BD was installed in July 2006 using Rotosonic drilling techniques.

Sand was installed in the borehole from the bottom of the hole to the bottom of the well screen to provide a base for the 2-inch monitoring well. A sand pack was then installed up to a depth of 2 feet above the top of the screen. Bentonite chips were installed to ensure a hydraulic seal above the sand pack. The protective casing and either the 8-inch augers (in the case of the HSA) or the drill steel (in the case of the Rotosonic) were then removed from the borehole. A bentonite gel and Portland cement slurry was then mixed and added to the borehole to 2 feet bgs. The monitoring wells were then finished with a Pro-cover protective casing.

4.3 GROUNDWATER MONITORING WELL DEVELOPMENT

In order to establish good hydraulic communication with the aquifer and reduce the volume of sediment in the monitoring well, monitoring well development was performed in accordance with the procedure outlined below:

- Monitoring wells were surged using a pre-cleaned surge block for a period of at least 20 minutes.
- Water was purged from the monitoring well using a pneumatic submersible pump.
- Groundwater was collected at regular intervals with the pH, temperature, and conductivity measured using field instruments. These instruments were calibrated daily according to the manufacturer's specifications. Additional observations such as color, odor, and turbidity of the purged water were recorded in the field book.
- Development continued until the turbidity and silt content of the monitoring wells was significantly reduced and three consistent readings of pH, temperature, and conductivity were recorded, or a minimum of ten well volumes were purged.

A summary of the well development parameters is provided in Table 4.2.

4.4 WELL INVENTORY

CRA performed a comprehensive private well survey/inventory along the length of the blowdown line and in areas north and west of the site. This well inventory was presented in the reports discussed in Section 2.6. The private well logs for wells near and surrounding the Site are provided in Appendix B. These wells are a subset of the

water supply wells sampled by Exelon. Figure 2.15 presents the locations and results for private wells, public wells, and monitoring wells.

4.5 SURVEY

The new monitoring wells and staff gauges were surveyed to establish reference elevations relative to mean sea level. The top of each well casing was surveyed to the nearest 0.01 feet relative to the National Geodetic Vertical Datum (NGVD), and the survey point was marked on the well casing. The survey included the ground elevation at each well to the nearest 0.10 feet relative to the NGVD, and the well location to the nearest 1.0 foot. A reference point was also marked on each staff gauge.

4.6 GROUNDWATER AND SURFACE WATER ELEVATION MEASUREMENTS

From May 9 to 11, 2006, CRA collected water level measurements from both existing monitoring wells, new monitoring wells, and from surface water locations in accordance with the Work Plan. CRA collected a second round of water levels from both existing and new monitoring wells on July 31, 2006. Based on the measured depth to water from the reference point and the surveyed elevation of the reference point, the groundwater or surface water elevation was calculated. A summary of groundwater elevations for the events is provided in Table 4.3.

Prior to the water level measurements, the wells were correctly identified and located. Once the well was identified, a thorough inspection of each well was conducted, and any deficiencies were noted. Water level measurements were collected using an electronic depth-to-water probe accurate to +/- 0.01 feet. The measurements were made from the designated location on each of the monitoring wells inner riser or steel casing. The water level measurements were obtained using the following procedures:

- The proper elevation of the meter was checked by inserting the tip into water and noting if the contact was registering correctly.
- The tip was dried, and then slowly lowered into the well until contact with the water was indicated.
- The tip was slowly raised until the light and/or buzzer just began to activate. This indicated the static water level.
- The reading at the reference point was noted to the nearest hundredth of a foot.

- The reading was then re-checked.
- The water level was then recorded, and the water level meter decontaminated prior to use at the next well location.

In early May 2006, as part of the fleetwide investigation, CRA collected a round of water level measurements from 43 of the Station monitoring wells and six surface water locations on the Station. On July 31, 2006, CRA collected a second round of water level measurements from 45 of the Station monitoring wells (including the two newly installed monitoring wells, MW-BW-207I and MW-BW-208BD). A summary of groundwater elevations for the two events is provided in Table 4.3.

During the May 2006 groundwater sampling program, the following monitoring wells (MW-4, MW-5, TB-1-3D, TW-6, and TW-8) were not measured for depth to water due to problems with the water level indicator meter. CRA subsequently has gone back at a later date to get these water levels. Also, water levels were not measured at TW-8 because TW-8 had broken riser.

Surface water elevations were measured at the four staff gages installed within the perimeter ditch (Figure 4.1) and at two locations on the north side of the Cooling Lake (Figure 4.1). The data from these measurements are provided in Table 4.4.

A pressure transducer was installed by CRA at TB-1-4D for approximately 6 weeks to evaluate water level changes near the Turbine Building close to where leaks have occurred within the basement. The purpose of the continuous monitoring was to determine if the system (pipe) water leaks were creating this basement seep, or, if precipitation/storm water system leaks were affecting flow into the basement.

Water level data were recorded for the period from June 6 to July 21, 2006. Precipitation data were also reviewed for this same period for the Village of Braidwood. Figure 4.3 presents a graphical presentation of the relative head (feet above the transducer) measurements from the transducer. Figure 4.3 also presents the precipitation (inches) for the monitored period. The pressure transducer was set at 10 feet below the top of the well casing. At the time of installation, the water table was 6.9 feet below the top of the well casing.

4.7 GROUNDWATER AND SURFACE WATER SAMPLE COLLECTION

CRA conducted two rounds of groundwater sampling during the completion of the Work Plan for these hydrogeologic investigations. A total of 43 monitoring wells were sampled between May 9 and May 22, 2006 and two monitoring wells were sampled on July 28, 2006. Of the 45 monitoring wells sampled, 12 were newly installed. The sampling was scheduled to allow for two weeks to elapse between well development and groundwater sample collection. The existing wells were selected for inclusion in this monitoring program based on their proximity to the AFEs. The new wells were installed to complete the monitoring network near the AFEs.

At the monitoring locations, CRA conducted the sampling using dedicated tubing and peristaltic pumps and employed low-flow purging techniques as described in Puls and Barcelona (1996).

The groundwater in the monitoring wells was sampled by the following low-flow procedures:

- The wells were located and the well identification numbers were verified.
- A water level measurement was taken.
- The well was sounded by carefully lowering the water level tape to the bottom of the well (so as to minimize penetration and disturbance of the well bottom sediment), and comparing the sounded depth to the installed depth to assess the presence of any excess sediment or drill cuttings.
- The pump or tubing was lowered slowly into the well and fixed into place such that the intake was located at the mid-point of the well screen, or a minimum of 2 feet above the well bottom/sediment level.
- The purging was conducted using a pumping rate between 100 to 500 milliliters per minute (mL/min). Initial purging began using the lower end of this range. The groundwater level was monitored to ensure that a drawdown of less than 0.3 feet occurred. If this criterion was met, the pumping rate was increased dependent on the behavior of the well. During purging, the pumping rate and groundwater level were measured and recorded every 10 minutes.
- The field parameters (pH, temperature, conductivity, oxidation-reduction potential (ORP), dissolved oxygen (DO), and turbidity) were monitored during the purging to evaluate the stabilization of the purged groundwater. Stabilization was considered to be achieved when three consecutive readings for each parameter, taken at 5-minute intervals, were within the following limits:

pH	± 0.1 pH units of the average value of the three readings;
Temperature	± 3 percent of the average value of the three readings;
Conductivity	± 0.005 milliSiemen per centimeter (mS/cm) of the average value of the three readings for conductivity <1 mS/cm and ± 0.01 mS/cm of the average value of the three readings for conductivity >1 mS/cm;
ORP	± 10 millivolts (mV) of the average value of the three readings;
DO	± 10 percent of the average value of the three readings; and
Turbidity	± 10 percent of the average value of the three readings, or a final value of less than 5 nephelometric turbidity units (NTU).

- Once purging was complete, the groundwater samples were collected directly from the pump/tubing directly into the sample containers.

All groundwater samples were labeled with a unique sample number, the date and time, the parameters to be analyzed, the job number, and the sampler's initials. The samples were then screened by the Station for shipment to Teledyne Brown Engineering, Inc. (Teledyne Brown).

A sample key is presented in Table 4.5; purging parameters for the fleetwide event are presented in Table 4.6.

CRA containerized the water purged from the monitoring wells during the sampling, as well as the water purged from all of the wells during the hydrogeologic investigation. The water was placed into 55-gallon drums, which will be processed by the Station in accordance with its NPDES permit.

Surface water samples were collected on May 17, 2006 a few days after a storm event. The surface water samples were collected under dry conditions in order to avoid dilution by rainwater. Six surface water samples were collected, four at staff gauges located on the perimeter ditch and locations on the north end of the Cooling Lake. The surface water sampling locations are presented on Figure 4.1.

The surface water samples were collected by submerging the sample container at the determined sample locations until completely filled. All samples were shipped to Teledyne Brown for analysis.

4.8 DATA QUALITY OBJECTIVES

CRA has validated the analytical data to establish the accuracy and completeness of the data reported. Teledyne Brown provided the analytical services. The Quality Assurance Programs for the laboratory is described in Appendix E. Analytical data for groundwater and surface water samples collected in accordance with the Work Plan are presented in Appendix F. Data validation reports are presented in Appendix G. The data validation included the following information and evaluations:

- sample preservation;
- sample holding times;
- laboratory method blanks;
- laboratory control samples;
- laboratory duplicates;
- verification of laboratory qualifiers; and
- field quality control (field blanks and duplicates).

Following the completion of field activities, CRA compiled and reviewed the geologic, hydrogeologic, and analytical data.

The data were reviewed using the following techniques:

- data tables and databox figures;
- hydrogeologic cross-sections; and
- hydraulic analyses.

4.9 SAMPLE IDENTIFICATION

Systematic sample identification codes were used to uniquely identify all samples. The identification code format used in the field was: WG - BW – 050806 - MB - 001. A summary of sample identification numbers is presented in Table 4.5.

WG - Sample matrix -groundwater
SW - Sample matrix - surface water
BW - Station code
050806 - Date
MB - Sampler initial
001 - Sample number

4.10 CHAIN-OF-CUSTODY RECORD

The samples were delivered to Station personnel under chain-of-custody protocol. Subsequently, the Station shipped the samples under chain-of-custody protocol to Teledyne Brown for analyses.

4.11 QUALITY CONTROL SAMPLES

Quality control samples were collected to evaluate the sampling and analysis process.

Field Duplicates

Field duplicates were collected to verify the accuracy of the analytical laboratory by providing two samples collected at the same location and then comparing the analytical results for consistency. Field duplicate samples were collected at a frequency of one duplicate for every ten samples collected. A total of seven duplicate samples were collected. The locations of duplicate samples were selected in the field during the performance of sample collection activities. The duplicate samples were collected simultaneously with the actual sample and were analyzed for the same parameters as the actual samples.

Split Samples

Split samples were collected for the NRC for tritium simultaneously with the actual sample at every sample location. Split samples were delivered to the Station personnel and made available to the NRC.

4.12 ANALYSES

Groundwater and surface water samples were analyzed for tritium and gamma-emitting radionuclides as listed in NUREG-1301 and strontium-89/90 as listed in 40 CFR 141.25.

5.0 RESULTS SUMMARY

This section provides a summary of Station-specific geology and hydrogeology, along with a discussion of hydraulic gradients, groundwater elevations, and flow directions in the vicinity of the Station. This section also presents and evaluates the analytical results obtained from activities performed in accordance with the Work Plan.

5.1 STATION GEOLOGY

The geology encountered during monitoring well installation is consistent with the geology described in Section 2.4.2 and the geology within areas to the east and along the blowdown line as described in the CRA reports previously listed (refer to Section 2.5). The geology beneath the site consists of overburden deposits of sand (Equality Formation) and clay (Wedron Clay Till) that overlies alternating layers of shale/siltstone and dolostone (Carbondale Formation) (refer to the site specific stratigraphic column on Figure 2.8). South-north and east-west hydrogeologic profiles (profiles) are presented on Figures 5.1 to 5.5. These profile locations were chosen because of their close proximity to structures potentially influencing groundwater flow patterns.

The three new shallow and seven intermediate depth wells (MW-BW-201S, MW-BW-201I, MW-BW-202S, MW-BW-202I, MW-BW-203S, MW-BW-203I, MW-BW-204I, MW-BW-205I, MW-BW-206I, and MW-BW-207I) were installed within the Equality Formation. The Equality Formation is primarily uniform fine-grained sand. The monitoring well logs for the new monitoring wells are presented in Appendix A.

The two bedrock wells, MW-BW-201BD and MW-BW-208BD, were installed through the Equality Formation, the Wedron Clay Till, the Francis Creek Shale Member of the Carbondale Formation and into the lower portion of the Francis Creek Shale Member. Refer to Figure 2.8 for the sequence of formations beneath the site. The top of the Wedron Clay Till was encountered at approximately 24 feet bgs, which is consistent with previous geological investigations. The bottom of the clay was approximately 54 feet bgs where shale bedrock was encountered and is considered to be the Francis Creek Shale Member. At a depth of approximately 85 feet bgs, a sandstone was encountered that was weathered. From 90 to 100 feet, the material included a conglomerate, sandstone, and shale. MW-BW-201BD and MW-BW-208BD were both completed in this lower zone from 80 to 95 feet bgs and 85 to 100 feet bgs, respectively. This is expected to be the bottom of the Francis Creek Shale Member of the Carbondale Formation and it is located just above the Colchester Coal (Figure 2.8).

Profile A-A' (Figure 5.2) is a west-east profile through the middle of the Station. It begins at the western fence line bordering the Station and terminates near the eastern perimeter ditch approximately 1,200 feet east of the eastern fence line of the site. The profile A-A' presents the relative elevations of the perimeter ditch water levels with groundwater levels on both sides of the PA. Higher water levels are measured in the eastern stretch of the perimeter ditch. The profile also indicates that the buildings extend to the top of the Francis Creek Shale Member (through the Wedron Clay Till) and will act as barriers to lateral flow. The backfilled area around the building is also indicated on this profile. Finally, the slurry wall is projected on this figure based upon information gathered from Station documents. The top of the slurry wall appears to be close to the current water table elevation.

Profile B-B' (Figure 5.3) is a north-south profile and parallels the storm sewer line that runs south-north. The profile B-B' indicates the relative elevation of the groundwater table and the approximate depth of the storm water drainage system. This figure clearly indicates that the storm water drainage system intercepts the water table as reported previously (CRA, August 2002 and September 2003). The limits of the construction excavation are also depicted on this profile along with the expected condition of the slurry wall. During drilling of the intermediate monitoring well MW-BW-207I on July 13, 2006, the Wedron Clay Till was not encountered. The material encountered included sands and other fill type material such as gravels and concrete. These observations indicate that the Station construction excavation went to a depth of approximately 44 to 45 feet bgs at this location. This depth of the excavation is indicated on Figure 5.3. Although the clay was missing in the location of MW-BW-207I, the top of the Francis Creek Shale Member was encountered where expected (45 feet bgs).

Profile C-C (Figure 5.4) is a north-south profile down the center of the PA area to the Cooling Lake. The bedrock well (MW-BW-201BD) is displayed on this figure, as well as the building foundation. The profile C-C' presents a more regional depiction of subsurface conditions from the Cooling Lake in the south to the north end of the PA. The slurry wall associated with the Cooling Lake and the slurry wall associated with the building construction are depicted on this profile. The depths of the various facility buildings are shown to extend down through the Wedron Clay Till and to the top of the Francis Creek Shale Member. As such, these buildings are barriers to lateral groundwater flow. The shallow bedrock monitoring well (MW-BW-201BD) is presented on this figure and indicates the bottom of the Francis Creek Shale Member.

Profile D-D' (Figure 5.5) is a west-east profile in the northern portion of the PA that transects the CST area. Hydrogeologic profile D-D' presents the locations and relative elevations of the groundwater, storm water drainage system, slurry wall, and

excavation/fill material. This profile is north of the Turbine Building and as such does not present subsurface building structures. The water levels on each side of the slurry wall on the west do indicate a slight difference in elevation. However, this is not as apparent in other areas in the PA.

5.2 SITE HYDROGEOLOGY

This section describes groundwater flow in the various hydrogeologic units identified at the site. Figure 5.1 presents the monitoring well network in relationship to the hydrogeologic profile locations. Hydrogeologic profiles are presented on Figures 5.2 to 5.5.

5.2.1 GROUNDWATER FLOW DIRECTIONS

Groundwater flow directions in the upper sand aquifer are presented on Figures 5.6 and 5.7 (the shallow zone) and on Figures 5.8 and 5.9 (the deep zone). Figures 5.6 and 5.8 represent water levels measured in May 2006. Figures 5.7 and 5.9 represent water levels measured in July 2006. CRA has identified four areas of differing flow within and around the PA based upon the May and July water levels. These four areas are a result of the man-made features presented in the previous section.

One flow system encompasses the east side of the PA. The second system is found along the west side of the Turbine Building within the perimeter of the slurry wall and within the limits of the former excavation. The third system is to the northwest of the slurry wall near the perimeter ditch. The fourth system includes the area west-southwest of the PA where groundwater flows to the southwest and discharges to the perimeter ditch. The groundwater flow is restricted by the basement walls and, to some degree, the slurry trench. Groundwater flow directions are provided on Figures 5.6 and 5.7 for the shallow zone of the upper sand aquifer and on Figures 5.8 and 5.9 for the deep zone of the upper sand aquifer.

Groundwater in the near west side of the Turbine Building predominantly flows to the north toward a storm water drainage system ditch north of the Oil/Water Separator. The storm water drainage system ditch is a tributary to the perimeter ditch (Figure 2.3).

To the west and southwest of the PA, the perimeter ditch acts as a discharge point for the shallow groundwater system (CRA, August 2002). Groundwater generally flows to the ditch from east to west. The water elevation within the ditch is measured to be

approximately 586 feet above mean sea level (AMSL) at a location northwest of the PA. Groundwater elevations are higher than ditch elevations along the length of the perimeter ditch as it flows to the south. There is no shallow groundwater flow to the west of the perimeter ditch under normal flow conditions (CRA, September 2003).

5.2.2 MAN-MADE INFLUENCES ON GROUNDWATER FLOW

There are a number of man-made features that influence the flow direction and velocity of groundwater as it moves through the site area. These features include:

- The perimeter ditch (Figures 2.3, 2.6, and 2.7), which was dug at the time of the Station Construction to drain surface water away from the Cooling Lake;
- The storm water drainage system (Figures 2.3, 2.4, and 2.5) located on the west side of the Turbine Building and its associated Oil/Water Separator;
- The slurry wall constructed around the footprint of the buildings in the PA (Figure 2.1;
- The former excavation now backfilled with material located around the current buildings (Figure 2.1);
- The various basements and foundations of the turbine, auxiliary, reactor, fuel handling, and other buildings, many of these extend through the water table (Figures 5.2 to 5.5); and
- The Cooling Lake and the slurry wall, which are located south of the PA (Figures 2.13, 2.14, and 5.4).

The figures listed above and the discussion presented below provide basic observations on the impact of these features on groundwater flow which was discussed previously in Section 5.2.2.

The PA (Figure 1.2) is located at the northwest area of the Station property and is surrounded by the perimeter ditch, which flows from the east, to the north of the PA, and then to the south. The perimeter ditch flows along the western boundary of the Station property (Figure 2.3). The elevation of the water in the ditch drops from about 593 feet AMSL on the east side to 586 feet AMSL on the west side. The water levels continue to drop as the ditch flows to the south and west. As the ditch exits the Braidwood Station Property, its surface water elevation is about 579 feet AMSL.

To the south of the PA is the Cooling Lake, which comprises over 2,500 acres of impounded water. A slurry wall constructed to keep surface water from seeping into

the upper sand aquifer surrounds the Cooling Lake. This is confirmed by the groundwater data monitored by the Station at various locations around the Lake.

During construction of the buildings within the PA, a slurry wall was constructed to minimize groundwater infiltration into the excavation. This excavation was within the confines of the slurry wall and in some areas the depth was greater than 40 feet and into the underlying bedrock shale formation (UFSAR, 1994).

The foundations or basements associated with the Reactors/Auxiliary Building and the Turbine Building extend to depths below the water table. In fact, the foundations were completed through the Wedron Clay Till at this Station, as is shown on the hydrogeologic profiles presented on Figures 5.2 to 5.5 (i.e., the Wedron Clay Till was removed during building excavation). These basements are barriers to groundwater flow in the upper sand aquifer. There are no dewatering systems such as sump pumps used to manage groundwater inflow. As such, the basement walls are assumed to be impermeable to groundwater flow. Consequently, groundwater pressure on these foundations will create an inward gradient into the basement. The Francis Creek Shale Member was not disturbed during building construction and remains in place as an aquitard.

The PA and surrounding land is generally flat and paved areas, roadways, and parking lots now cover it. These areas are drained by a storm water drainage system that drains to the northwest corner of the PA. The storm water drainage system drains to an Oil/Water Separator at the north end of the PA (Figures 2.3 and 2.5). The outfall from the Oil/Water Separator discharges to a small east-west ditch and then flows west to the perimeter ditch.

Previous studies have documented that the storm water drainage system intercepts groundwater on the west side of the Turbine Building. These same studies have indicated that the perimeter ditch, which flows from the north to the south along the western Station property line, also intercepts the groundwater (CRA, August 2002 and September 2003). As such, groundwater flowing near the perimeter ditch will be intercepted by the ditch (Figures 2.6 and 2.7).

5.2.3 VERTICAL HYDRAULIC GRADIENTS

Several monitoring well nests have been installed in the upper sand aquifer not only to determine the vertical distribution of impacted groundwater, but also the vertical hydraulic gradient within the aquifer. The calculated hydraulic gradients for the site are

provided in Table 5.1 and the well locations used to calculate hydraulic gradients are shown on Figure 5.1.

Table 5.1 indicates that vertical hydraulic gradients are minor or slightly upward in areas away from the buildings and away from the former construction excavation. However, a few monitoring well clusters located on the west side of the Turbine Building indicate a downward vertical hydraulic gradient. This gradient varies from 0.005 feet/foot (ft/ft) at TB-1-4D/TW-3 location to 0.167 ft/ft at the TB-1-2D/MW-2 location. The locations with downward vertical hydraulic gradients are also near the storm water drainage system. The cause of the downward vertical hydraulic gradients is likely related to the additional recharge from the nearby storm water drainage system.

Vertical groundwater flow is restricted by the regional aquitards. However, due to the removal of the Wedron Clay Till beneath the buildings, one of the two regional aquitards was locally removed within the PA. Nevertheless, groundwater data indicate that the remaining aquitard (the Francis Creek Shale Member) is preventing vertical migration of tritium downward within the PA.

The downward vertical hydraulic gradients measured along the west side of the Turbine Building are likely caused by increased recharge into the fill material by precipitation that leaks from the storm water drainage system. A review of the precipitation and transducer data on Figure 4.3 suggests that there are small groundwater fluctuations that may be due to precipitation/storm water infiltration. The data presented on Figure 4.3 do not suggest that there are any types of systematic or routine events (i.e., operations) that are causing fluctuations in the water table elevations.

5.2.4 LATERAL GROUNDWATER FLOW AND VELOCITY

The groundwater flow directions depicted on Figures 5.6, 5.7, 5.8, and 5.9 for the upper sand aquifer indicate, to some degree, a radial pattern of flow from the center of the PA. Groundwater flow directions are similar to conditions measured in May and July 2006. This pattern is better explained by understanding the role of man-made features on the regional flow direction in this upper sand aquifer. Groundwater on a local or regional basis in the upper sand aquifer is to the north and northeast towards the surface waters that drain to the Kankakee and Illinois Rivers (CRA March 2006). This flow direction was confirmed in the blowdown studies discussed in Section 2.6.

Within and nearby the PA the man-made features have modified the local flow system to the north. First, the former construction excavation and the building basements force

a split or divide in flow as groundwater moves from south to north. Second, the perimeter ditch flows from east, to north to south and ultimately to the west around the PA and becomes a discharge point for groundwater. This ditch intercepts the groundwater table and groundwater discharges into this ditch along its whole length. The surface water elevation of the perimeter ditch as it exits the Braidwood Station property (south of Godley) is approximately 579 feet AMSL (CRA, September 2000). This is 11 to 16 feet lower than the groundwater elevation in the PA.

Consequently, the combination of structures in the PA and the presence of the perimeter ditch create the appearance of radial flow, but these influences are just a modification to the regional flow direction of south to north.

The average calculated horizontal hydraulic gradient in the upper sand aquifer along the east side of the PA is 0.004 ft/ft. The groundwater flow direction in this area is from the south to north. Figures 5.6 and 5.7 display the groundwater elevation contours in the shallow groundwater zone.

The average calculated horizontal hydraulic gradient in the upper sand aquifer along the west side of the Turbine Building is 0.007 ft/ft. The general groundwater flow direction in this area is from south to north (Figures 5.6, 5.7, 5.8, and 5.9).

The average calculated horizontal hydraulic gradient in the upper sand aquifer west of the slurry wall is 0.005 ft/ft. The general groundwater flow direction in this area is from the southeast to the northwest (Figures 5.6, 5.7, 5.8, and 5.9).

The overall, site-wide, average calculated horizontal hydraulic gradient is approximately 0.007 ft/ft within the upper sand aquifer. Results from previous single-well response tests performed east of the PA and along the blowdown line (previous investigations referred to in Section 1.0) indicate that the hydraulic conductivity of the overburden aquifer is 2.5×10^{-2} cm/s. Assuming an average effective porosity of 0.3, the average groundwater velocity in the upper sand aquifer is approximately 604 ft/yr.

The calculated hydraulic gradients and average groundwater velocity are greater than that observed east of the PA and along the blowdown line. It is likely that the groundwater velocity is influenced by steep hydraulic gradients toward the perimeter ditch flowing to the north and to the west of the PA.

5.3 GROUNDWATER QUALITY

CRA personnel collected groundwater samples from 45 of the monitoring wells located on the Station property, including 12 newly installed monitoring wells. This subset included all available existing monitoring wells in the PA but did not include those located along the blowdown line to the east. The groundwater samples were analyzed for tritium and additional radionuclides. Teledyne Brown provided the analytical services. The Quality Assurance Program for the laboratory is described in Appendix E. The analytical data reports are provided in Appendix F.

Table 5.2 presents a summary of tritium analyses for groundwater samples collected recently in May and July 2006. Table 5.3 presents a summary of radionuclides analyzed in groundwater samples collected in May and July 2006. Tables 5.4 and 5.5 present the tritium and radionuclide analyses for surface water samples, respectively. Table 5.6 presents a summary of groundwater analyses for tritium in samples collected previously at existing monitoring wells. Table 5.7 presents a summary of surface water analyses for tritium in samples collected previously at existing surface water locations.

The analytical data presented herein has been subjected to CRA's data validation process. CRA has used the data with appropriate qualifiers where necessary.

The data reported in the figures and tables does not include the results of recounts that the laboratory completed, except if those results ultimately replaced an initial report. The tables and figures, therefore, include only the first analysis reported by the laboratory. Where multiple samples were collected over time, then the most recent result has been used in the discussion, below.

5.3.1 SUMMARY OF BETA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

A summary of the tritium results for the groundwater samples collected during this investigation is provided in Table 5.2 and shown on Figure 5.10. Table 5.6 summarizes analytical results for previous sampling events performed at the site.

All tritium concentrations were below the USEPA drinking water standard of 20,000 pCi/L. Tritium was not detected at concentrations greater than at the LLD of 200 pCi/L in 34 of the 45 groundwater samples collected.

The highest concentrations of tritium (between 200 pCi/L and 1,040 ± 172 pCi/L) in test wells were predominantly from groundwater samples collected on the west side of the Turbine Building. The highest concentration of tritium at 1,040 ± 172 pCi/L was found at TW-3, which was installed in the deep upper sand aquifer. At five of these locations, the groundwater analyses indicated tritium concentrations just over 200 pCi/L and less than 250 pCi/L.

The groundwater samples collected from the bedrock monitoring wells MW-BW-201BD and MW-BW-208BD, which were completed to a depth of 95 feet bgs and 100 feet bgs, respectively, did not contain tritium at a concentration exceeding the LLD of 200 pCi/L. These wells were completed beneath the confining layers of the Wedron Clay Till and the Francis Creek Shale Member.

Strontium-89/90 was not detected in concentrations greater than the LLD of 2.0 pCi/L. A summary of the strontium-89/90 results for the groundwater samples collected as part of the investigation that is the subject of this HIR is provided in Table 5.3 and shown on Figure 5.11.

5.3.2 SUMMARY OF GAMMA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

Gamma-emitting target radionuclides were not detected in concentrations greater than their respective LLD. A summary of the gamma-emitting radionuclides results for the groundwater samples collected as part of the investigation that is the subject of this HIR is provided in Table 5.3 and shown on Figure 5.11.

Other non-targeted radionuclides were also included in the tables but excluded from discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

5.3.3 SUMMARY OF FIELD MEASUREMENTS

Table 4.6 presents of a summary of field measurements collected during the well purging and sampling activities. These field measurements included pH, dissolved oxygen, conductivity, turbidity and temperature. The field parameters were typical of a shallow sand aquifer with carbonate source rock (i.e., the underlying limestones and

shales). As such the pH values were found to be above 7.0 and the conductivity was indicative of a shallow water table system subject to surface water recharge.

Of note were the slightly elevated temperature readings (above 20 degrees Celsius) at TB-1-9D, which is located south of the wastewater treatment building and the treatment lagoon (Figure 3.1), TB-10-D, which is located adjacent to the Turbine Building, and just east of TB-1-9D, and MW-BW-207I, which is located adjacent to the Turbine Building, and north of TB-1-10D. It should also be noted that the conductivity of the water purged from MW-6, TB-1-3D, and TB-1-8D was an order-of-magnitude higher than the readings from other sampling locations.

5.4 SURFACE WATER QUALITY

Six surface water samples were collected from the four staff gauge locations on the perimeter ditch and from two locations along the north end of the Cooling Lake. The locations of the samples are shown on Figure 4.1. The samples were analyzed for tritium, gamma-emitting radionuclides, and strontium-89/90. Teledyne Brown provided the analytical services. The Quality Assurance Program for the laboratory is described in Appendix E. The analytical data reports are provided in Appendix F. Analytical data for these surface water samples are presented in Tables 5.4 and 5.5.

5.4.1 SUMMARY OF BETA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

A summary of the tritium results for the surface water samples collected in this investigation is provided in Table 5.4 and shown on Figure 5.10.

Surface water samples SW-101, SW-102, SW-103 had concentrations of tritium of 398 ± 129, 365 ± 120, and 230 ± 114 pCi/L, respectively. These concentrations are greater than the LLD of 200 pCi/L. Surface water samples SW-101 and SW-102 were collected from the perimeter ditch located just northwest of the PA. Surface water sample SW-103 was collected along the perimeter ditch near the northeast corner of the Cooling Lake. A summary of the tritium analytical results from six surface water samples is presented in Table 5.4. Surface water samples collected as part of the blowdown line investigations and as part of the interim routine monitoring program in the PA are provided in Table 5.7.

The results of analyses of numerous surface water samples, which were collected during the spring and summer of 2006, along the perimeter ditch, have shown that no tritium greater than detectable limits have left the Station.

Strontium-89/90 was not detected in concentrations greater than the LLD of 2.0 pCi/L. A summary of the strontium-89/90 results for the surface water samples collected in this investigation is provided in Table 5.5 and shown on Figure 5.11.

Surface water samples were collected within the perimeter ditch and analyzed for tritium at four monitoring points found north, west, and south of the PA. In addition, surface water was collected at the north end of the Cooling Lake at two locations just off the shoreline. Figure 4.1 presents these locations.

5.4.2 SUMMARY OF GAMMA-EMITTING RADIONUCLIDES ANALYTICAL RESULTS

Gamma-emitting target radionuclides were not detected in concentrations greater than their respective LLD. A summary of the gamma-emitting radionuclides results for the surface water samples collected in this investigation is provided in Table 5.5 and shown on Figure 5.11.

Other non-targeted radionuclides were also included in the tables but excluded from discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

6.0 RADIONUCLIDES OF CONCERN AND SOURCE AREAS

This section discusses radionuclides evaluated in this investigation, potential sources of the radionuclides detected, and their distribution.

6.1 GAMMA-EMITTING RADIONUCLIDES

Gamma-emitting target radionuclides were not detected at concentrations greater than their respective LLD. Other non-targeted radionuclides were also included in the tables but excluded from discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

6.2 BETA-EMITTING RADIONUCLIDES

Strontium-89/90 was not detected in any of the samples collected at concentrations that were greater than the LLD of 2.0 pCi/L. Concentrations of tritium ranged between 200 pCi/L and 1,040 ± 172 pCi/L.

Since only tritium was detected at concentrations greater than the LLDs, the following sections focus on tritium; specifically, providing general characteristics of tritium, potential sources, distribution in groundwater, and a conceptual model for migration.

6.3 TRITIUM

This section discusses the general characteristics of tritium, the distribution of tritium in groundwater and surface water, and the conceptual model of tritium release and migration.

6.3.1 GENERAL CHARACTERISTICS

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common forms of tritium are tritium gas and tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary hydrogen. Tritiated water behaves the same as ordinary water in both the environment and the body.

Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine within a month or so after ingestion. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-7 and/or boron-10 are bombarded to produce tritium.

Although tritium can be a gas, its most common form is in water because, like non-radioactive hydrogen, radioactive tritium reacts with oxygen to form water. Tritium replaces one of the stable hydrogen atoms in the water molecule and is called tritiated water. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (^{3}He). This radioactive decay releases a beta particle (low-energy electron). The radioactivity of tritium is the source of the risk of exposure.

Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

6.3.2 DISTRIBUTION IN STATION GROUNDWATER

This section provides an overview of the lateral and vertical distribution of tritium detected in groundwater within and adjacent to the PA. Tritium has been the only parameter detected in the upper sand aquifer at concentrations exceeding background concentrations. This observation is based upon the studies recently completed within and adjacent to the PA and based upon the extensive studies performed along the blowdown line and reported previously to the Illinois EPA. A hydrogeologic profile of the tritium concentrations in groundwater is presented on Figure 6.1. In addition, a plan view of the tritium concentrations detected in the groundwater samples collected as part of this investigation is presented on Figure 6.2. As discussed later in this section, tritium

has not been detected in the deeper, bedrock groundwater at concentrations greater than the LLD of 200 pCi/L.

The detections of tritium in the shallow or deeper parts of the upper sand aquifer in the Station area, which were greater than the LLD of 200 pCi/L, occur within the confines of the slurry wall.

6.3.2.1 UPPER SAND AQUIFER

West Side of the Turbine Building

Generally, tritium concentrations that were greater than the LLD of 200 pCi/L are limited to an area along the west side of the Turbine Building, as summarized in Table 5.2 and illustrated on Figures 5.10 and 6.2. The tritium detected in the groundwater samples from monitoring wells located along the west side of the Turbine Building (TB-1-3D, TB-1-4D, TW-3, TW-6, MW-9, TW-21, and TB-1-5D) indicate consistent concentrations of tritium greater than the LLD. Tritium analytical data for groundwater samples collected from these monitoring wells are available back to January 2006 and have been included in Table 5.6.

Groundwater flow within the west side of the Turbine Building has been observed recently and historically to flow from south to north. The monitoring wells on the west side of the Turbine Building are located within the limits of the former excavated area (for Station construction) and are located within 150 feet of the main foundation of the Turbine Building. These wells are also located within 150 feet of the main storm water drainage system, which runs from the south to the north parallel to the Turbine Building (Figure 2.3). This storm water drainage system discharges to the Oil/Water Separator located at the north end of the PA as is shown on Figure 2.3.

The storm water drainage system intercepts groundwater and has been shown to be a preferential pathway for groundwater to migrate to the north (Figures 2.4 and 2.5). The sewer's ability to transmit groundwater and its contaminants was documented in various reports submitted to the Illinois EPA in the past (CRA, September 2003).

The more recent detections of tritium in groundwater samples from monitoring wells installed in the area along the west side of the Turbine Building are found both in the upper portions or shallow zone of the sand aquifer (e.g., TW-3 and TW-6) in the deeper portions (deeper zone) of the upper sand aquifer (e.g., TB-1-4D and TB-1-5D); and within the fill material (MW-BW-207I).

Other Areas

There are four monitoring wells where tritium has been detected in groundwater samples at concentrations greater than the LLD of 200 pCi/L in areas not associated with the Turbine Building. These wells are MW-BW-201S/I, MW-BW-205I and TW-24, and at TW-16. The tritium concentrations detected in groundwater samples from MW-BW-201S/I, MW-BW-205I and TW-24 were only slightly greater than the LLD of 200 pCi/L and below 250 pCi/L (refer to Figures 5.10 and 6.2).

The tritium concentration detected in a groundwater sample from TW-16, which is located approximately 300 feet due west of TW-3 (Figures 4.2, 5.10, and 6.2), is situated where water ponded from the April 6, 2006 steam release (Figure 4.2), was 893 ± 145 pCi/L. In this case, the tritium in the groundwater sample from TW-16 can be explained by the more recent release of tritiated water in the west area of the PA, as is discussed further below. Both TW-3 and TW-16 are located in an area near the point at which the relief valve vents outside of the Turbine Building. As shown on Figure 5.7, the groundwater beneath the western side of the PA generally flows from the south to north-northwest.

6.3.2.2 DEEPER BEDROCK GROUNDWATER

The first water bearing zone in the deeper bedrock, the zone below the Wedron Clay Till and the Francis Creek Shale Member of the Carbondale Formation was monitored by MW-BW-201BD and MW-BW-208BD. The screened intervals of these two monitoring wells are completed in the zone of conglomerates and sandstones found at the base of the Francis Creek Shale Member and just above the Colchester Coal No. 2. Some of the private wells located north and east of the PA are also completed in this zone (Figure 2.10). The two deeper bedrock monitoring wells were installed at locations expected to be downgradient of the reactor buildings and fuel handling building. The location of these wells is shown on Figure 4.2. Groundwater samples collected from the two bedrock monitoring wells (including samples and duplicates) indicated tritium concentrations less than the LLD of 200 pCi/L.

Additionally, there are a number of private and public wells located to the north of the PA, which have been sampled as part of the blowdown line investigations. The sample results for tritium from these wells indicated no concentrations greater than the LLD of 200 pCi/L.

Based upon the findings from the recent studies around the PA and those performed in the past along the blowdown line, the groundwater zones found below the Wedron Clay Till and the Francis Creek Shale Member do not indicate tritium impacts from releases within or adjacent to the PA.

6.3.3 DISTRIBUTION IN STATION SURFACE WATER

Surface water was collected within the perimeter ditch and analyzed for tritium at four monitoring points found north, west, and south of the PA. In addition, surface water was collected at the north end of the Cooling Lake at two locations just off the shoreline. Figure 4.1 presents these locations.

Surface water samples SW-101, SW-102, and SW-103 had concentrations of tritium of 398 ± 129, 365 ± 120, and 230 ± 114 pCi/L, respectively. These concentrations exceeded the LLD of 200 pCi/L. Surface water samples SW-101 and SW-102 were collected from the perimeter ditch located just northwest of the PA. Surface water sample SW-103 was collected along the perimeter ditch near the northeast corner of the Cooling Lake. A summary of the tritium analytical results from samples collected from surface water is presented in Table 5.4. Surface water samples collected as part of the blowdown line investigations and as part of the interim routine monitoring program in the PA are provided in Table 5.7.

6.3.4 CONCEPTUAL MODEL OF TRITIUM RELEASE AND MIGRATION

This section presents CRA's conceptual model of groundwater and tritium migration at the Station. This model is then used to discuss the historic detections of tritium within the PA and the more recent detections found during the hydrogeologic investigations presented in this report.

Hydrogeologic Framework

Groundwater flows within the upper sand aquifer (Equality Formation) at the site in response to regional discharge points located to the north and in response to the perimeter ditch located west and south of the site. Groundwater moving within the upper sand aquifer is separated from the regional bedrock aquifer zones by the Wedron Clay Till, the Francis Creek Shale Member and the Maquoketa Shale. The only exception is where the building basements were constructed through the Wedron Clay Till.

However, these building structures are considered impermeable barriers to flow in or out of their foundations.

As of the date of this report, no tritium has been detected at concentrations greater than the LLD of 200 pCi/L in samples from bedrock monitoring wells, bedrock private wells, or bedrock public wells located downgradient of the PA. These groundwater quality data further support the role of the Wedron Clay Till and the Francis Creek Shale Member as aquitards. As such, the focus of the conceptual hydrogeologic model presented herein is the migration of groundwater and tritium within the upper sand aquifer.

Groundwater flowing in the upper sand aquifer within the PA is restricted by the building foundations which, in some cases, extend through the Wedron Clay Till. As a result, groundwater flowing with the regional gradient from south to north is diverted to the east or west of the building structures (a divide). In addition, groundwater flowing on the west side of the Turbine Building discharges into and out of the storm water drainage system located in this area of the PA. Additional recharge of water from the sewer into groundwater is expected in this area.

The slurry wall, which surrounds the main Station buildings, appears to provide some limited hydraulic control on the west side of the PA. There is a noticeable drop in groundwater levels across the wall on the west side and groundwater flow changes direction from north to northwest in this area (Figures 5.6 and 5.7). However, the slurry wall's impact on groundwater flowing north toward the regional surface water discharge points is still unknown. The lateral hydraulic gradients to the north are consistent across the slurry wall.

To the west and south of the PA, the upper sand aquifer is influenced by the perimeter ditch which flows from north to south on the west side of the Station property. This man-made ditch intercepts the shallow aquifer and under normal flow conditions is a discharge point for groundwater. The water level in the ditch as it exits the Braidwood Station property is 11 to 16 feet lower than groundwater in the PA. As such, the perimeter ditch is acting similar to a gravity drain or "French Drain" within the upper sand aquifer. This is evident in the southwest and west flow of groundwater outside the slurry wall (Figures 5.6 and 5.7).

Sources and Migration of Tritium

Tritium has recently been detected at concentrations greater than background in groundwater samples from two areas within the PA and within the confines of the slurry wall:

- Along the west side of the Turbine Building; and
- 300 feet west of the Turbine Building.

Prior to the more recent release of tritium to the surface in the west area of the PA, the tritium detections were limited to the area near the west wall of the Turbine Building. The current distribution of tritium (both within the shallow water table zone and within the deeper portions of the upper sand aquifer) is likely related to the following tritiated water release history:

- previous releases of tritium to the surface or subsurface; and
- the April 6, 2006 release of steam containing tritiated water.

After April 2006 a number of groundwater samples from the same monitoring wells sampled in early 2006 indicated higher concentrations of tritium. The more recent groundwater sampling data that were collected in May and July 2006 show very good correlation with the release of steam which occurred on April 6, 2006 on the west side of the Turbine Building. The distribution of tritium in May 2006 groundwater samples matches with the location of ponded areas of the April 6 steam release and with groundwater and surface water (e.g., storm water) flow directions in this area of the PA. Refer to Figures 6.1 and 6.2 for a presentation of the vertical and lateral distribution of tritium in groundwater, respectively.

In the case of both the pre-April 2006 groundwater data and the post-April 2006 groundwater data the role of surface water infiltration and transport within the storm water drainage system is well documented. The previous discussions suggest that the tritium detected in the groundwater on the west side of the Turbine Building is a result of multiple isolated spills or releases to the surface that have occurred over time.

Groundwater samples were collected from the existing monitoring wells within the PA and the new monitoring wells in the first week of May 2006; a month after the April 6 steam release. This was a surface release that allowed tritiated water to both pond on the land surface and also to seep into the storm water drainage system.

The May 2006 groundwater sampling event very clearly shows the impact of the steam release waters as they ponded on the ground and drained into the storm water drainage system (Figure 3.1). Figure 5.10 and Table 5.2 present the May and July 2006 tritium data in groundwater. The highest concentration of tritium detected was in the groundwater sample from the shallow monitoring well TW-3 (1,040 ± 172 pCi/L), which is near the valve which released the steam with the tritiated water. The concentration of tritium in the groundwater sample from this well in March 2006 was approximately 300 pCi/L. CRA considers the increase in tritium concentrations in TW-3 to be a result of steam/water entering the groundwater through the storm water drainage system, which is located near this well. Similarly, the tritium concentration in the groundwater sample from TW-16, which is directly west of the steam vent and where the tritiated water pooled on the ground, increased from 368 ± 94 pCi/L to 893 ± 145 pCi/L. This information indicates that within 30 days the steam release waters had impacted the shallow groundwater zone. The steam release event is also suspected to have affected the groundwater near TW-6, MW-9, and TB-1-5D, which are along or near the storm water drainage system.

Groundwater infiltrating the storm water drainage system will flow to the Oil/Water Separator to the north. This separator discharges water to small ditch which then flows to the west and discharges to the perimeter ditch (Figure 2.3). Surface water samples collected in the perimeter ditch as part of this investigation of the PA (Figure 4.1) and surface water samples collected in the perimeter ditch have indicated concentrations of tritium greater than background at locations north and west of the PA. The main source of the tritium in this area of the perimeter ditch is the plume of tritium migrating from historical releases at vacuum breaker VB-1 into the ditch at that location (CRA, March 2006).

In addition, as a result of the recent steam release, it is expected that some tritiated water has entered the Oil/Water Separator and migrated in the small ditch toward the larger perimeter ditch. Recent sampling of the Oil/Water Separator supports this pathway of tritiated water migration.

Table 5.7 presents the results of previous sampling of surface water in the perimeter ditch and samples from the Oil/Water Separator discharge after the April 6, 2006 steam release.

The following section provides further details supporting the conceptual model of groundwater flow and tritium transport discussed above.

6.3.5 ATTENUATION OF TRITIUM WITHIN THE SHALLOW GROUNDWATER SYSTEM

Within the PA consideration must be given to how long ago a release occurred and the effect of precipitation water infiltration on groundwater quality. During the previous hydrogeologic investigations the releases from vacuum breakers along the blowdown line where it became apparent that the distribution of a historical or older release of tritium into the groundwater system would be impacted by the infiltration from "clean" precipitation recharge (CRA, March 2006). This resulted in the upper, water table zone of the sand aquifer appearing to have lower concentrations of tritium from the deeper portions (these zones are only separated by 5 to 15 feet). This "cleaning up" of the shallow zone of the sand aquifer needs to be considered when evaluating the data collected within the PA. Specifically, the location of the storm water drainage system near the Turbine Building and the affected monitoring wells (TB-1-3D, TB-1-4D, TW-3, TW-6, MW-9, TB-1-5D, and MW-BW-207I) likely allows for both the flow in and out of the sewer line of tritiated water and clean precipitation waters.

Table 5.6 presents the history of sampling results in 2006 for the area west of the Turbine Building. Figure 6.2 presents a summary of these data on a plan view map. The highest concentrations detected prior to the April 6, 2006 steam release event are found in monitoring wells TW-6 and TB-1-4D. The detections in TB-1-4D in March 2006 (582 pCi/L) were greater than in the adjacent shallow well TW-3 (330 pCi/L) for the same sampling event. This suggests that the source for this deeper tritium is not recent but historical in nature. The tritium concentrations in March 2006 for groundwater samples collected at TW-6 were in the 600 to 800 pCi/L range and may indicate a more recent release, although of limited in extent. In both cases (TW-6 and TB-1-4D) the extent of tritium impacts in the upper sand aquifer appears to be limited to near these two wells along the west side of the Turbine Building. It has been determined that the vertical limits in the excavated area are restricted by the underlying shale formation (Figure 6.1).

The relatively high groundwater velocities measured in the site area of 600 ft/yr and the permeable nature of the upper sand aquifer also support attenuation of the tritium through lateral groundwater movement. The dispersion of the tritium as it flows through the sand along with its natural decay rate will allow for reduction in concentrations over time and with distance from a release into the groundwater. Simple fate and transport modeling performed for the blowdown line investigations using the USEPA BIOSCREEN Model (CRA, March 2006 and April 2006) provides evidence of the attenuation of tritium through dispersion and decay. Consequently, tritium released

within the west side of the PA and near the Turbine Building would also be expected to attenuate rapidly to lower concentrations as it flowed in the upper sand aquifer.

The natural decay rate of the tritium itself lends to further attenuation of its concentration in the groundwater. Tritium has a half-life of 12.3 years and as such its concentration would be reduced over the time period that it travels in the groundwater system. Consequently, as the tritium migrates with the groundwater, its concentration would be decreased by 50 percent in a 12.3-year time frame.

7.0 EXPOSURE PATHWAY ASSESSMENT

This section addresses the groundwater impacts from tritium and other radionuclides at the Station and potential risks to human health and the environment.

Based upon historical knowledge and data related to the Station operations, and based upon radionuclide analyses of groundwater samples, the primary constituent of concern (COC) is tritium. The discussions that follow are restricted to the exposure pathways related to tritium.

Teledyne Brown reports all samples to their statistically derived Minimum Detectable Concentration (MDC) of approximately 150 to 170 pCi/L, which is associated with 95 percent confidence interval on their hardcopy reports. However, the laboratory uses a 99 percent confidence range (± 3 sigma) for determining whether to report the sample activity concentration as detected or not. This 3-sigma confidence range typically equates to 150 (± 135.75) pCi/L.

Exelon has specified a LLD of 200 pCi/L for the Fleetwide assessment. Exelon has also required the laboratory to report related peaks identified at the 95 percent confidence level (2-sigma).

This HIR, therefore, screens and assesses data using Exelon's LLD of 200 pCi/L. As is outlined below, this concentration is also a reasonable approximation of the background concentration of tritium in groundwater at the Station.

7.1 HEALTH EFFECTS OF TRITIUM

Tritium is a radionuclide that decays by emitting a low-energy beta particle that cannot penetrate deeply into tissue or travel far in air. A person's exposure to tritium is primarily through the ingestion of water (drinking water) or through ingestion of water bearing food products. Inhalation of tritium requires the water to be in a vapor form (i.e., through evaporation or vaporization due to heating). Inhalation is a minor exposure route when compared to direct ingestion or drinking of tritiated water. Absorption of tritium through skin is possible, but tritium exposure is more limited here versus direct ingestion or drinking of tritiated water.

7.2 BACKGROUND CONCENTRATIONS OF TRITIUM

The purpose of the following paragraphs is to establish a background concentration through review of various media.

7.2.1 GROUNDWATER

Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "cosmogenic" tritium is produced from the bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium isotopes ^{6}Li (92.5 percent abundance) and ^{7}Li (7.5 percent abundance) present in crystalline rocks by neutrons produced by the radioactive decay of uranium and thorium. Lithogenic production of tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

A major anthropogenic source of tritium comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased during the 1950s and early 1960s, coinciding with the release of significant amounts of tritium to the atmosphere during nuclear weapons testing prior to the signing of the Limited Test Ban Treaty in 1963, which prohibited atmospheric nuclear tests.

7.2.2 PRECIPITATION DATA

Precipitation samples are routinely collected at stations around the world for the analysis of tritium and other radionuclides. Two publicly available databases that provided tritium concentrations in precipitation are Global Network of Isotopes in Precipitation (GNIP) and USEPA's RadNet database. GNIP provides tritium precipitation concentration data for samples collected world wide from 1960 to 2006. RadNet provides tritium precipitation concentration data for samples collected at Stations through the U.S. from 1960 up to and including 2006.

Based on GNIP data for sample stations located in the U.S. Midwest including Chicago, St. Louis and Madison, Wisconsin, as well as Ottawa Ontario, and data from the University of Chicago, tritium concentrations peaked around 1963. This peak, which approached 10,000 pCi/L for some stations, coincided with the atmospheric testing of

thermonuclear weapons. Tritium concentrations showed a sharp decline up until 1975 followed by a gradual decline since that time. Tritium concentrations in Midwest precipitation have typically been below 100 pCi/L since around 1980.

The RadNet database for several stations in the U.S. Midwest (Chicago, Columbus, Indianapolis, Lansing, Madison, Minneapolis, Painesville, Toledo, and Welsch, MN) did not show the same trend, which can attributed to pre-1995 data handling procedures. The pre-1995 data were rounded to the nearest 100 pCi/L, which damped out variances in the data. The post-1995 RadNet data, where rounding was not applied, exhibit much more scatter, and similar to the GNIP data, the vast majority of the data were less than 100 pCi/L.

CRA constructed a non-parametric upper tolerance limit with a confidence of 95 percent and a coverage of 95 percent based on RadNet data for USEPA Region 5 from 2004 to 2005. The resulting upper tolerance limit is 133 pCi/L, which indicates that CRA is 95 percent confident that 95 percent of the ambient precipitation concentration results are below 133 pCi/L. The statistical confidence, however, must be compared with the limitations of the underlying RadNet data, which does not include the minimum detectable concentration for a majority of the measurements. Some of the RadNet values below 200 pCi/L may be approximated. Nevertheless, these results show a background contribution for precipitation of up to 133 pCi/L.

7.2.3 SURFACE WATER DATA

Tritium concentrations are routinely measured in large surface water bodies, including Lake Michigan and the Mississippi River. Surface water data from the RadNet database for Illinois sampling stations include East Moline (Mississippi River), Moline (Mississippi River), Marseilles (Illinois River), Morris (Illinois River), Oregon (Rock River), and Zion (Lake Michigan). As is the case for the RadNet precipitation data, the pre-September 1995 Illinois surface water data was rounded to the nearest 100 pCi/L, creating a dampening of variances in the data. The post-1995 Illinois surface water data, similar to the post-1995 Midwest precipitation data, were less than 100 pCi/L with the exception of the Moline (Mississippi River) station. Tritium surface water concentrations at this location varied between 100 and 800 pCi/L, which may reflect local natural or anthropogenic inputs.

For the Lake Michigan station, the surface water concentrations were less than 100 pCi/L, with the exception of a couple of occasions occurring around 1996 to 1997. Tritium concentrations in Lake Michigan would be expected to be lower than

precipitation concentrations given the 99-year surface water residence time within Lake Michigan, which corresponds to 8 half-lives of tritium and the dilution provided the large volume of the Lake (1,180 cubic miles) as well as seasonal mixing effects (WDNR, 1999).

The USEPA RadNet surface water data typically has a reported 'Combined Standard Uncertainty' of 35 to 50 pCi/L. According to USEPA, this corresponds to a ± 70 to 100 pCi/L 95 percent confidence bound on each given measurement. Therefore, the typical background data provided may be subject to measurement uncertainty of approximately ± 70 to 100 pCi/L.

7.2.4 DRINKING WATER DATA

Tritium concentrations in drinking water from the RadNet database for three Illinois sampling stations (Chicago, Morris, and East Chicago) exhibit similar trends as the precipitation and surface water data. As with the precipitation and surface water data, the pre-1995 data has dampened out variances due to rounding the data to the nearest 100 pCi/L. The post-1995 results show tritium concentrations in drinking water well below 100 pCi/L and less than the tritium concentrations found in precipitation and surface water.

7.2.5 EXPECTED TRITIUM BACKGROUND FOR THE STATION

As reported in the GNIP and RadNet databases, tritium concentrations in U.S. Midwest precipitation has typically been less than 100 pCi/L since 1980. Tritium concentrations reported in the RadNet database for Illinois surface water and groundwater, at least since 1995, has typically been less than 100 pCi/L. Based on the USEPA Region 5's 2004 to 2005 RadNet precipitation data, 95 percent of the ambient concentrations of tritiated water in Illinois are expected to be less than 133 pCi/L, based on a 95 percent confidence limit. Tritium concentrations in surface water and drinking water are expected to be comparable or less based on historical data and trends.

Concentrations in groundwater similar to surface water and drinking are expected to be less as compared to precipitation values. The lower groundwater concentrations are related to the age of the groundwater as compared to the half-life of tritium. Deep aquifers in proximity to crystalline basement rock, however, can potentially show elevated concentrations of tritium due to lithogenic sources.

As was noted in Section 7.0, the analytical laboratory is reporting tritium results to a LLD of 200 pCi/L. This concentration also represents a reasonable representation of background groundwater quality, given the data for precipitation, surface water, and drinking water.

Based on the evaluation presented above, the background concentration for tritium at the Station is reasonably represented by the LLD of 200 pCi/L.

7.3 IDENTIFICATION OF POTENTIAL EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

Three potential exposure pathways were considered during the evaluation of tritium in groundwater:

- groundwater migration off the Station Property to private and public groundwater users;
- groundwater migration off the Station Property to a surface water body; and
- potential exposure to surface water in the perimeter ditch at the Station.

The following section provides an overview of each of these three potential exposure pathways for tritium in groundwater.

7.3.1 POTENTIAL GROUNDWATER MIGRATION TO DRINKING WATER USERS OFF THE STATION PROPERTY

In this pathway groundwater flows to the north off Exelon's property and onto adjacent private property. There are a number of private landowners to the north that use private wells completed in the upper sand aquifer. These shallow water supply wells are considered potential pathways.

The concentrations of tritium in groundwater (within the upper sand aquifer and the deeper bedrock aquifer) are below the LLD of 200 pCi/L off the Station property. Consequently, there is no tritium in the groundwater currently migrating off the Station property.

With the exception of the blowdown line investigation there have been no samples collected from private or public water supply wells, to the north or west of the PA, that contained tritium at concentrations that exceed the LLD of 200 pCi/L. Therefore,

although there is a potentially complete exposure pathway, there is no current risk of exposure associated with groundwater ingestion from private wells in the upper sand aquifer.

Groundwater samples collected from private wells in the deep bedrock investigated did not contain tritium that exceeded the LLD of 200 pCi/L. This is to be expected because the vertical movement of tritiated water into deeper formations is restricted by the following three regional aquitards (see Figure 2.8):

- the Wedron Clay Till, which directly underlies the upper sand aquifer;
- the shales of the Carbondale Formation (Francis Creek Shale Member); and
- the Scales Shale of the Maquoketa Group.

The effectiveness of these aquitards is further supported by the recent data collected from the approximately 100 feet deep bedrock monitoring wells MW-BW-201BD and MW-BW-208BD on the Station property. Samples from these wells were from a water bearing zone just beneath the Francis Creek Shale Member and contained tritium at concentrations less than the LLD of 200 pCi/L. Therefore, the exposure pathway is incomplete and there is no current risk of exposure associated with groundwater ingestion from private wells in the deep bedrock aquifer.

7.3.2 POTENTIAL GROUNDWATER MIGRATION TO SURFACE WATER USERS OFF THE STATION PROPERTY

There is a potential exposure pathway in the upper sand aquifer to ponds, ditches, and other surface water bodies. Based on the results of this investigation tritium has not been detected at concentrations greater than the LLD 200 pCi/L in groundwater, which might discharge to these surface water bodies.

Although this is a potentially complete exposure pathway, there is no current risk of exposure associated with ingestion and recreational use off the Station property.

7.3.3 POTENTIAL EXPOSURE TO SURFACE WATER IN THE PERIMETER DITCH AT THE STATION

The perimeter ditch flows to the south on the west side of the Station Property and does not flow off the property until a point located approximately 2 miles southwest of the PA.

Under this potential exposure pathway, groundwater must migrate to the surface and into the perimeter ditch. Potential exposures could occur if the groundwater discharge to the surface water contains tritium. Although water in the perimeter ditch has contained trace amounts of tritium in the past, Station personnel are protected and monitored by the Radiation Protection Program, which is controlled by Federal guidelines. This is a potentially complete exposure pathway, but there is no current risk of exposure associated with ingestion, inhalation, or absorption on Station property.

7.4 SUMMARY OF POTENTIAL TRITIUM EXPOSURE PATHWAYS

There are three potential exposure pathways for tritium originating in or adjacent to the PA:

- groundwater migration off the Station Property to private and public groundwater users (drinking water exposure);
- groundwater migration off the Station Property to a surface water body (recreational exposure); and
- potential exposure to surface water in the perimeter ditch at the Station.

In summary, based upon the groundwater and surface water data provided and referenced in this investigation, none of the potential receptors are at risk of exposure to concentrations of tritium in excess of USEPA drinking water standards (20,000 pCi/L).

7.5 OTHER RADIONUCLIDES

Target radionuclides were not detected at concentrations greater than their respective LLD in the groundwater samples collected. Other non-targeted radionuclides were also included in the tables but excluded from discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.

8.0 CONCLUSIONS

Based on all of the studies completed to date at this site, CRA concludes:

Groundwater Flow

- The deeper bedrock water supply aquifers are separated from the upper sand aquifer system by a number of aquitards, including the Wedron Clay Till and the regionally-identified Francis Creek Shale Member, and the Maquoketa Shale. These aquitards are present beneath the PA and continue to restrict downward vertical movement of groundwater.
- Groundwater at near-by properties is extracted from both the 20- to 30-foot thick upper sand aquifer and deeper bedrock formations at depths of 600 to 1,600 feet.
- Depth to groundwater in the upper sand aquifer ranges from 4 to 12 feet and it flows beneath the PA in a generally south to north manner, flowing from the Cooling Lake toward ponds and streams located north of the Station property.
- Groundwater in the upper sand aquifer flows to the west and southwest at locations west and south of the PA.
- Lateral groundwater flow within the PA is affected by the construction (basements/foundations) of the Reactor, Turbine, and Auxiliary Buildings, which were constructed through the Wedron Clay Till onto the top of the Francis Creek Shale Member. These buildings are barriers to lateral flow.
- Lateral groundwater flow within the PA is controlled by the slurry trench to some degree as is evident by the change in hydraulic gradients on the west side of the PA. However, the degree of its influence on flow to the north is not known at this time.
- Vertical groundwater flow is restricted by the regional aquitards, however, due to the removal of the Wedron Clay Till beneath the buildings, one of the two regional aquitards has been removed within the PA. Nevertheless, groundwater data indicate that the remaining aquitard (Francis Creek Shale Member) is preventing vertical migration of tritium downward within the PA.

Groundwater Quality

- Tritium concentrations in groundwater were not detected at concentrations greater than the USEPA drinking water standard of 20,000 pCi/L.
- Tritium was not detected at concentrations greater than the LLD (200 pCi/L) in 34 of the 45 samples collected as part of this investigation.

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in 45 of the 45 samples collected as part of this investigation.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in 45 of the 45 samples collected as part of this investigation.
- In the site area, tritium is not migrating off the Exelon property in the upper sand aquifer at concentrations greater than the LLD of 200 pCi/L.
- Deeper private water supply wells that are located downgradient of the PA contain concentrations of tritium less than the LLD of 200 pCi/L. The regional aquitards act as vertical barriers to migration of tritium from surficial aquifers to deeper bedrock aquifers.
- The depth of the tritium detected within the PA is defined by the top of the Wedron Clay Till with one exception. Along the west side of the Turbine Building and within the formerly excavated area, where the clay was excavated and backfilled, the vertical extent of the tritium is limited by the top of the Francis Creek Shale Member.
- Tritium has not been detected at concentrations greater than the LLD of 200 pCi/L in groundwater located beneath the Francis Creek Shale Member in the vicinity of the PA, downgradient of the buildings, and near the former building excavation.

Surface Water Quality

- Tritium concentrations in surface water were not detected at concentrations greater than the USEPA drinking water standard of 20,000 pCi/L.
- Tritium was not detected at concentrations greater than the LLD (200 pCi/L) in three of the six samples collected as part of this investigation.
- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in six of the six samples collected as part of this investigation.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in six of the six samples collected as part of this investigation.
- In the site area, tritium is not migrating off the Exelon property in surface water at concentrations exceeding the LLD of 200 pCi/L.
- Detections of tritium in the north and east stretches of the perimeter ditch can be attributed to the releases at vacuum breaker VB-1 located to the east along the blowdown line.

AFE-Braidwood-1 – North of the Slurry Wall

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-1.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-1.
- In the area north of the slurry wall, tritium was detected in groundwater samples from the shallow and deeper zones of the upper sand aquifer at concentrations less than 250 pCi/L.
- The concentrations of tritium detected in groundwater samples from north of the slurry wall in the upper sand aquifer are less than or just slightly greater than the LLD of 200 pCi/L.
- The concentrations of tritium detected in groundwater samples from the deeper bedrock monitoring well completed just below the Francis Creek Shale Member was less than the LLD of 200 pCi/L.
- Private well samples collected downgradient of this area provide additional evidence that the deeper bedrock is not impacted by tritium greater than the LLD of 200pCi/L.
- There are currently three monitoring wells (and numerous private wells) located downgradient of this AFE. No additional data are needed in this area of the site. There have been no impacts to groundwater from AFE-Braidwood-1.

AFE-Braidwood-2 – North/Northeast of Units 1 and 2

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-2.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-2.
- Groundwater samples collected downgradient of the fuel handling building, Units 1 and 2, and other systems on the east side of the PA did not contain tritium at concentrations greater than the LLD of 200 pCi/L.

- There are currently five monitoring wells (and numerous private wells) located downgradient of this AFE. There is no current impact to groundwater from AFE-Braidwood-2.

AFE-Braidwood-3 – Auxiliary Condensate Construction Storage Tank

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-3.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-3.
- Groundwater samples collected from new monitoring wells located near and downgradient of this AFE area did not contain tritium at concentrations greater than the LLD of 200 pCi/L.
- There are two monitoring wells (and numerous private wells) located downgradient of this AFE. There is no current impact to groundwater from AFE-Braidwood-3.

AFE-Braidwood-4 – West Side of Turbine Building

- Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective LLDs in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-4.
- Strontium-89/90 was not detected at a concentration greater than the LLD of 2.0 pCi/L in any of the groundwater samples collected from the monitoring wells in the vicinity of AFE-Braidwood-4.
- Tritium has been detected at concentrations greater than the LLD of 200 pCi/L in a localized area found along the west side of the Turbine Building. These detections are within the former excavation used during construction, adjacent to the deep basement of the Turbine Building and next to the storm water sewer.
- The lateral extent of tritium within this area of the Station has been defined by groundwater monitoring data to the north, west, and south, by the building basements to the east. The vertical extent of the tritium is limited by the Wedron Clay Till.

- The vertical extent of tritium within this area of the Station has been defined by groundwater monitoring data where the Wedron Clay Till has not been excavated and has been defined within the formerly excavated area.
- There are over 37 monitoring wells on the west side of the Turbine building that delineate the lateral and vertical extent of tritium in the upper sand unit and within the fill material.
- The source of the tritium detected on the west side of the Turbine Building is likely a result of multiple intermittent surface spills or releases of tritiated water.

Potential Receptors

- Based on the results of this investigation[1], there is no current risk from exposure to radionuclides associated with licensed plant operations through any of the identified potential exposure pathways.

General Conclusions

- Based on the results of this investigation, tritium is not migrating off the Station property at detectable concentrations.
- Based on the results of this investigation, there are no known active releases into the groundwater at the Station.

[1] Using the LLD specified in this HIR.

9.0 RECOMMENDATIONS

The following presents CRA's recommendations for proposed activities to be completed at the Braidwood Station

9.1 DATA GAPS

Based on the results of this hydrogeologic investigation, there are no data gaps remaining to support CRA's conclusions regarding the characterization of the groundwater regime and potential impacts from radionuclides at the Station.

9.2 GROUNDWATER MONITORING

Based upon the information collected to date, CRA recommends that Exelon conduct periodic monitoring of selected sample locations.

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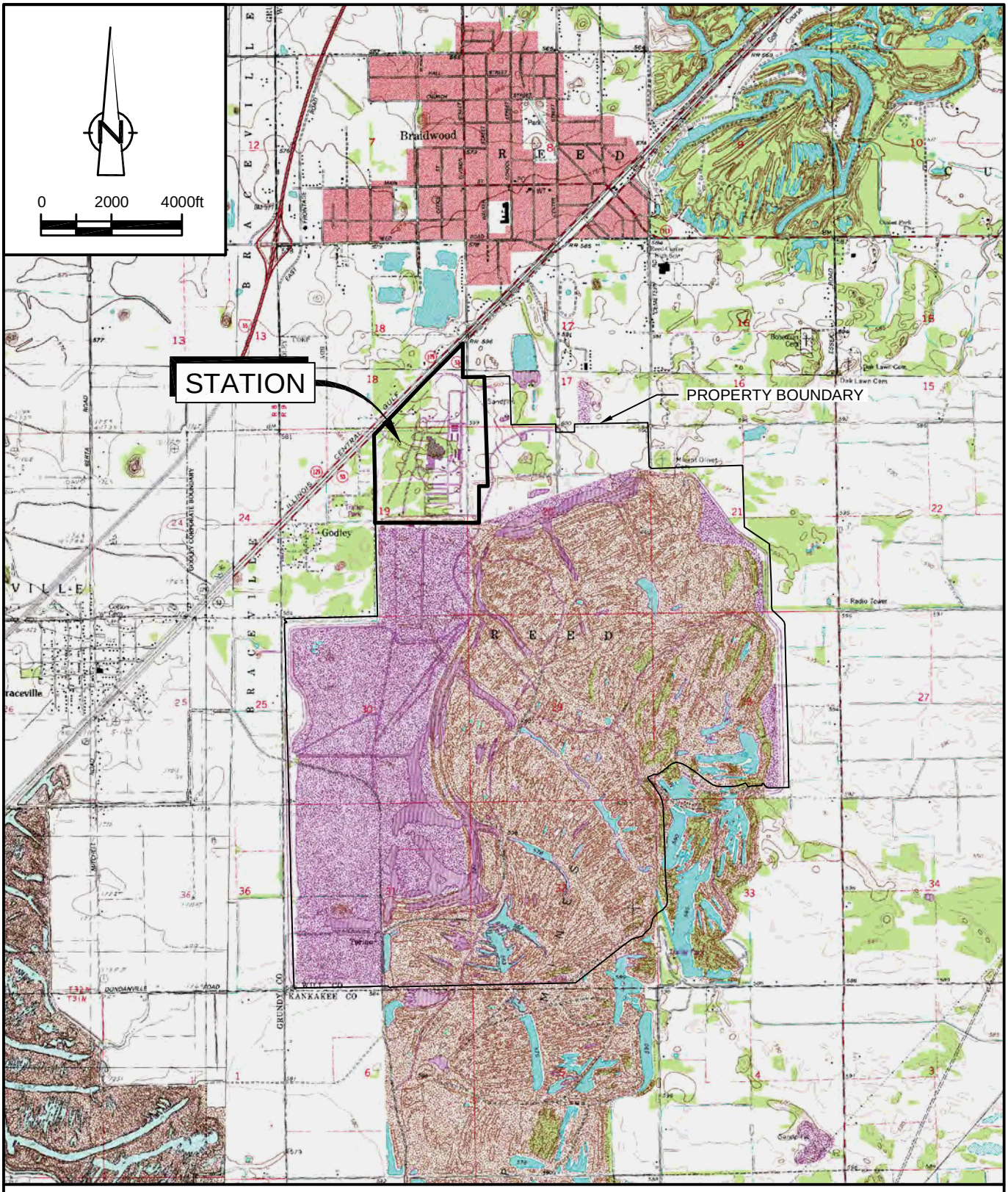


SOURCE: USGS QUADRANGLE MAP;
BRAIDWOOD MOSAIC, ILLINOIS - 1973 (PHOTO REVISED 1980)

figure 1.1

STATION LOCATION MAP
BRAIDWOOD GENERATING STATION
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

45136-20(012)GN-WA037 AUG 23/2006 REVISION 1

FIGURE 1.2 STATION BOUNDARIES AND FEATURES

(Withheld)

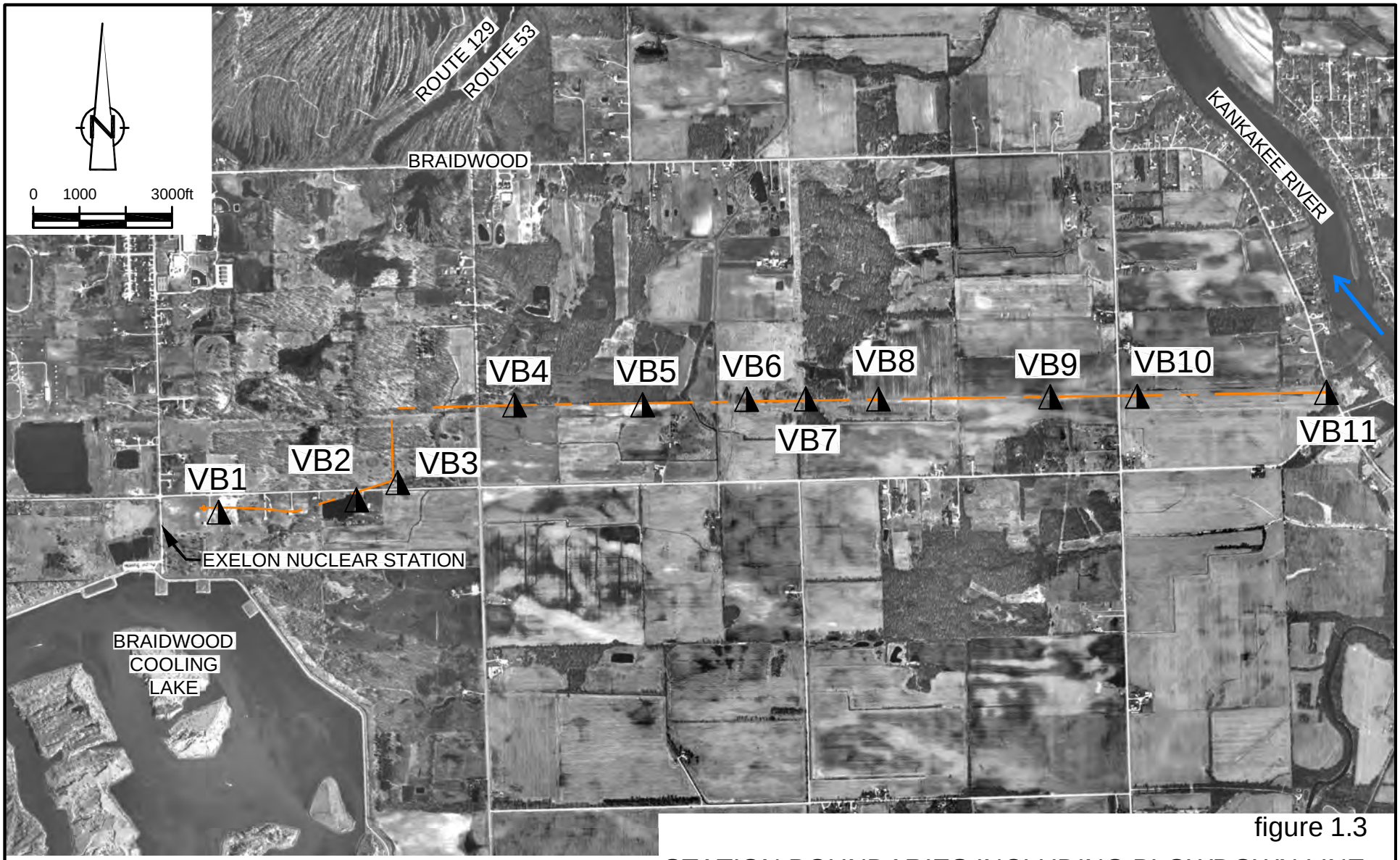


figure 1.3

LEGEND

BLOW DOWN LINE

STATION BOUNDARIES INCLUDING BLOWDOWN LINE
AERIAL PHOTO WITH UBS
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

45136-20(012)GN-WA038 AUG 23/2006 REVISION 1

FIGURE 2.1 STATION BASE MAP

(Withheld)

FIGURE 2.2 STATION FEATURES AND WELL LOCATIONS

(Withheld)

FIGURE 2.3 STATION SURFACE WATER FEATURES

(Withheld)

FIGURE 2.3 STATION SURFACE WATER FEATURES

(Withheld)

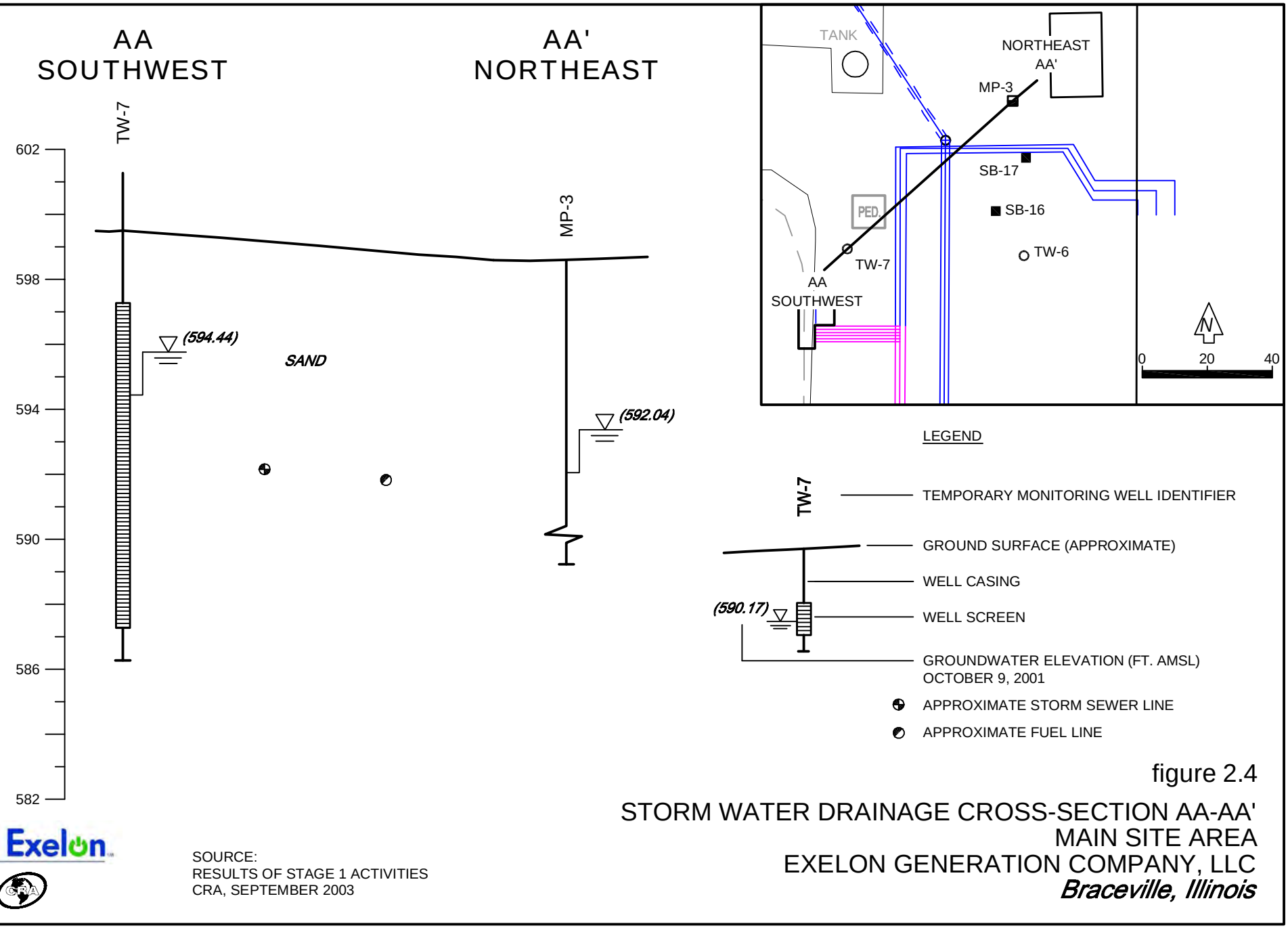


figure 2.4

STORM WATER DRAINAGE CROSS-SECTION AA-AA'
MAIN SITE AREA
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

SOURCE:
RESULTS OF STAGE 1 ACTIVITIES
CRA, SEPTEMBER 2003

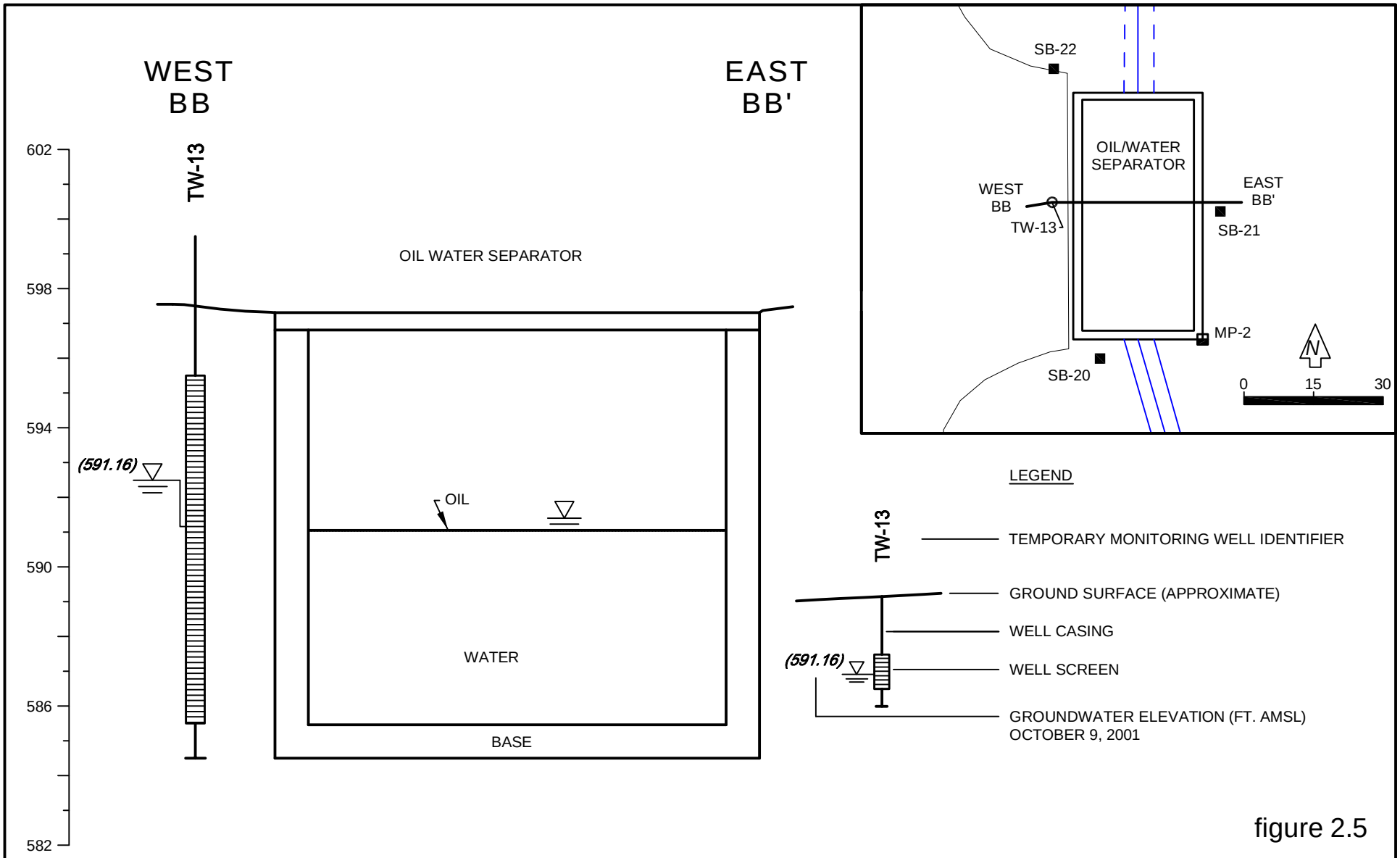


figure 2.5

OIL-WATER SEPARATOR CROSS-SECTION BB-BB'
MAIN SITE AREA
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

SOURCE:
RESULTS OF STAGE 1 ACTIVITIES
CRA, SEPTEMBER 2003

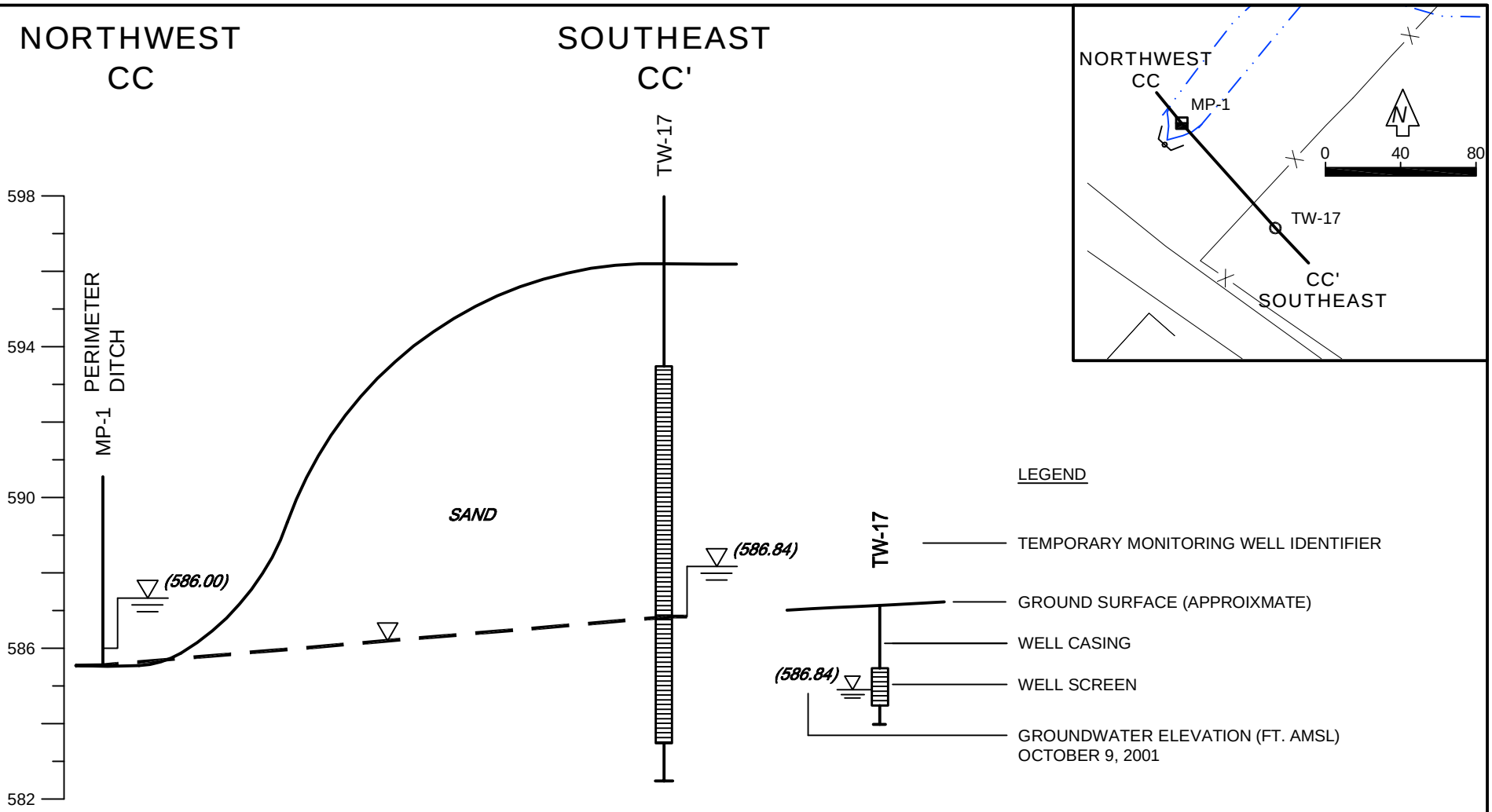


figure 2.6

PERIMETER DITCH CROSS-SECTION CC-CC'
MAIN SITE AREA
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

SOURCE:
RESULTS OF STAGE 1 ACTIVITIES
CRA, SEPTEMBER 2003

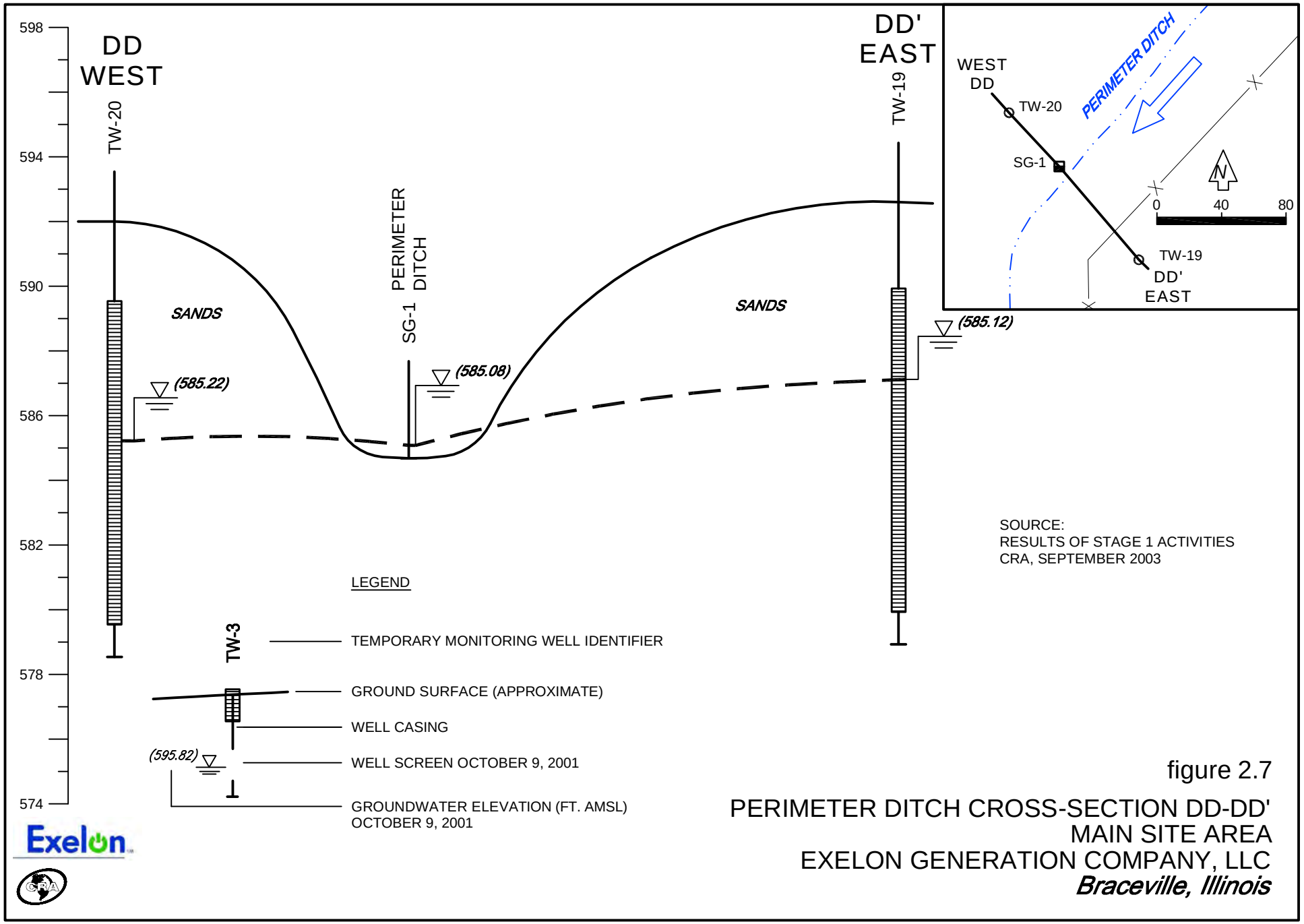
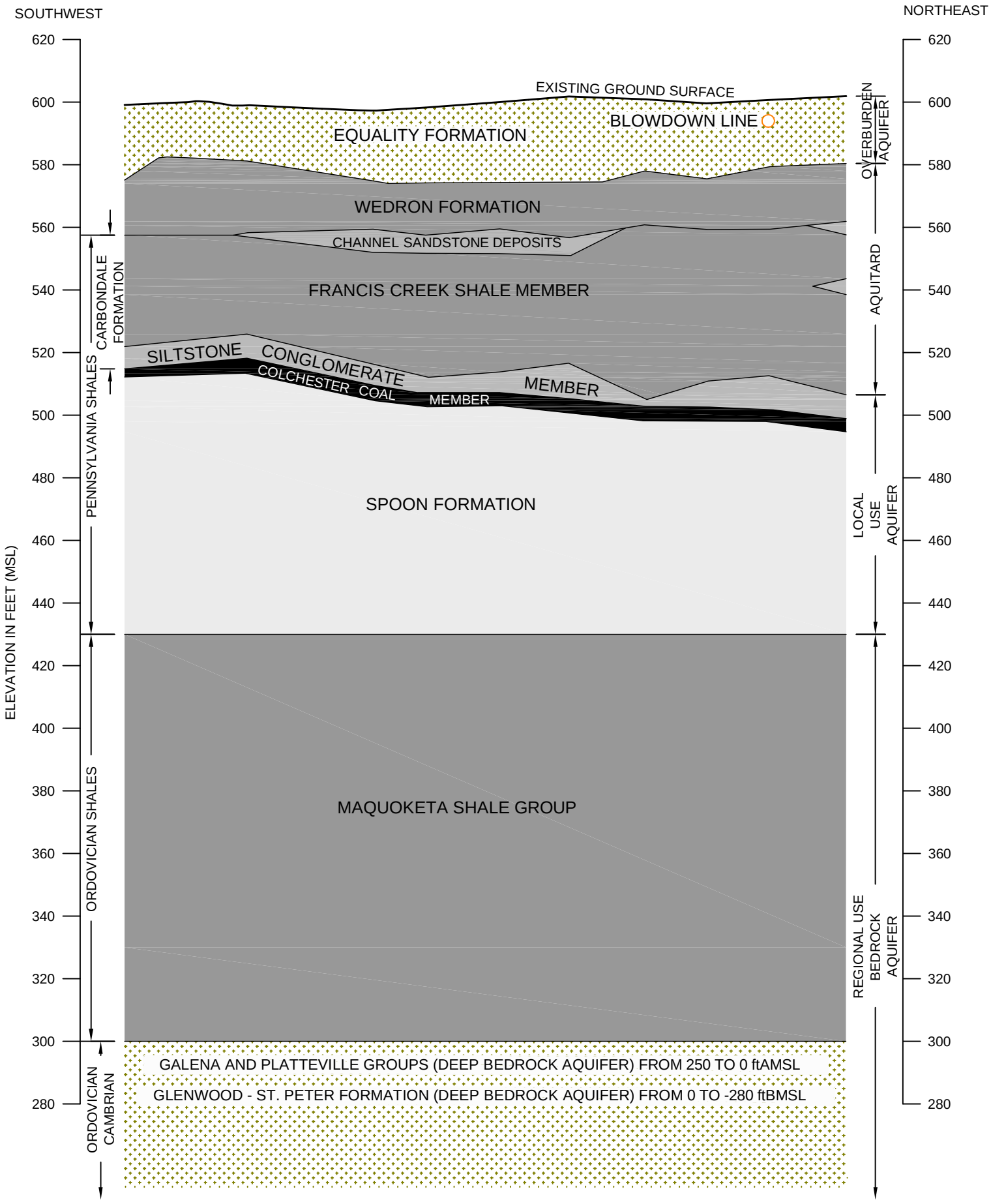


figure 2.7

PERIMETER DITCH CROSS-SECTION DD-DD'
MAIN SITE AREA
EXELON GENERATION COMPANY, LLC
Braceville, Illinois



SCALE: HORIZONTAL 1"=400'
VERTICAL 1"=40'

figure 2.8

LOCAL GEOLOGIC CROSS-SECTION
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

FIGURE 2.9 CONTOUR MAP OF THE WEDRON FORMATION

(Withheld)

FIGURE 2.10 PRIVATE WELL LOCATIONS AND WELL DEPTHS

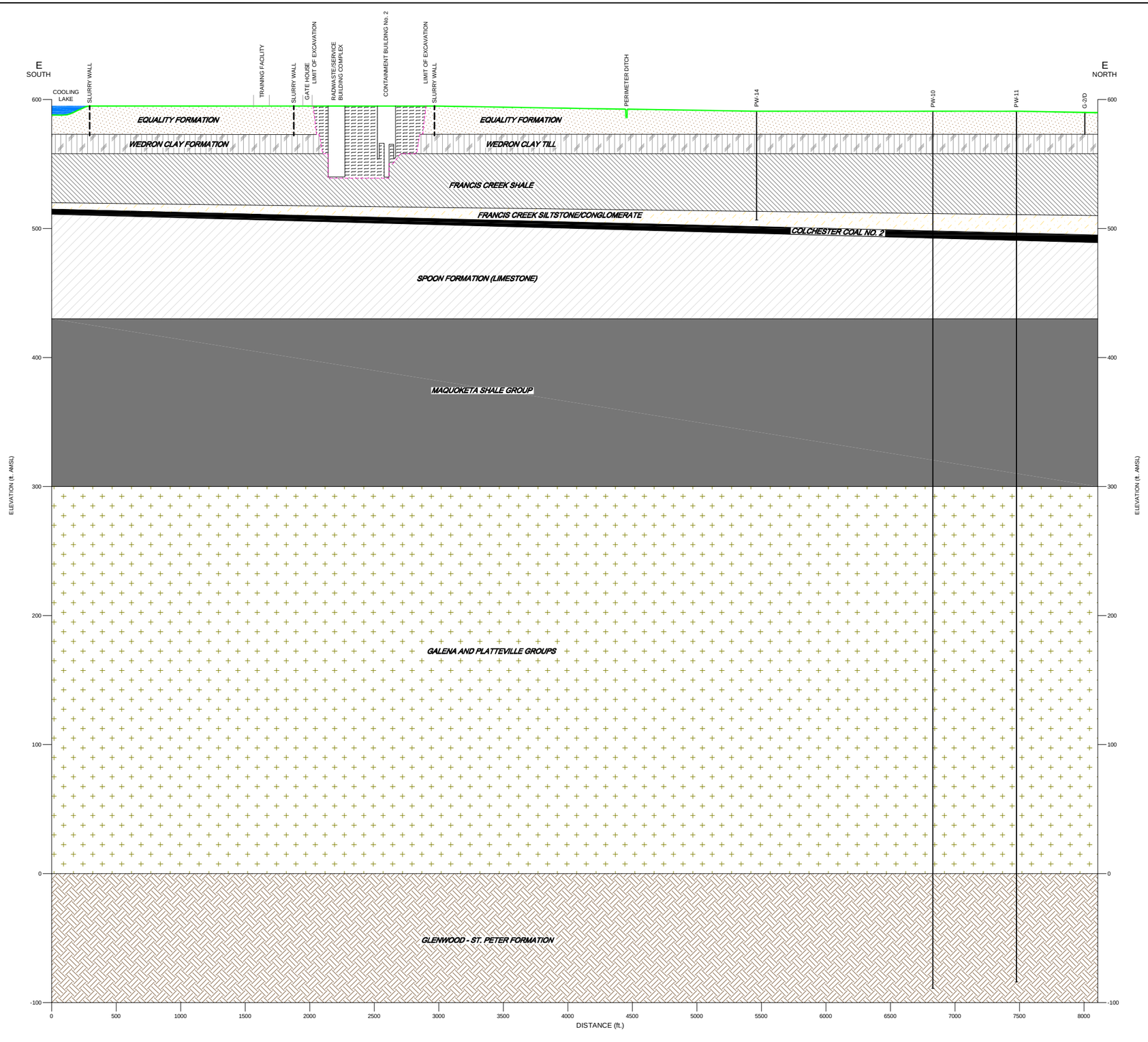
(Withheld)

FIGURE 2.11 GROUNDWATER MONITORING LOCATIONS

(Withheld)

FIGURE 2.12 REGIONAL HYDROGEOLOGIC CROSS-SECTION LOCATIONS

(Withheld)



LEGEND

W-2 — WELL ID

WELL

GROUNDWATER ELEVATION

QF — STRAT LAYER

WELL SCREEN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

REGIONAL HYDROGEOLOGIC CROSS-SECTION E-E'
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

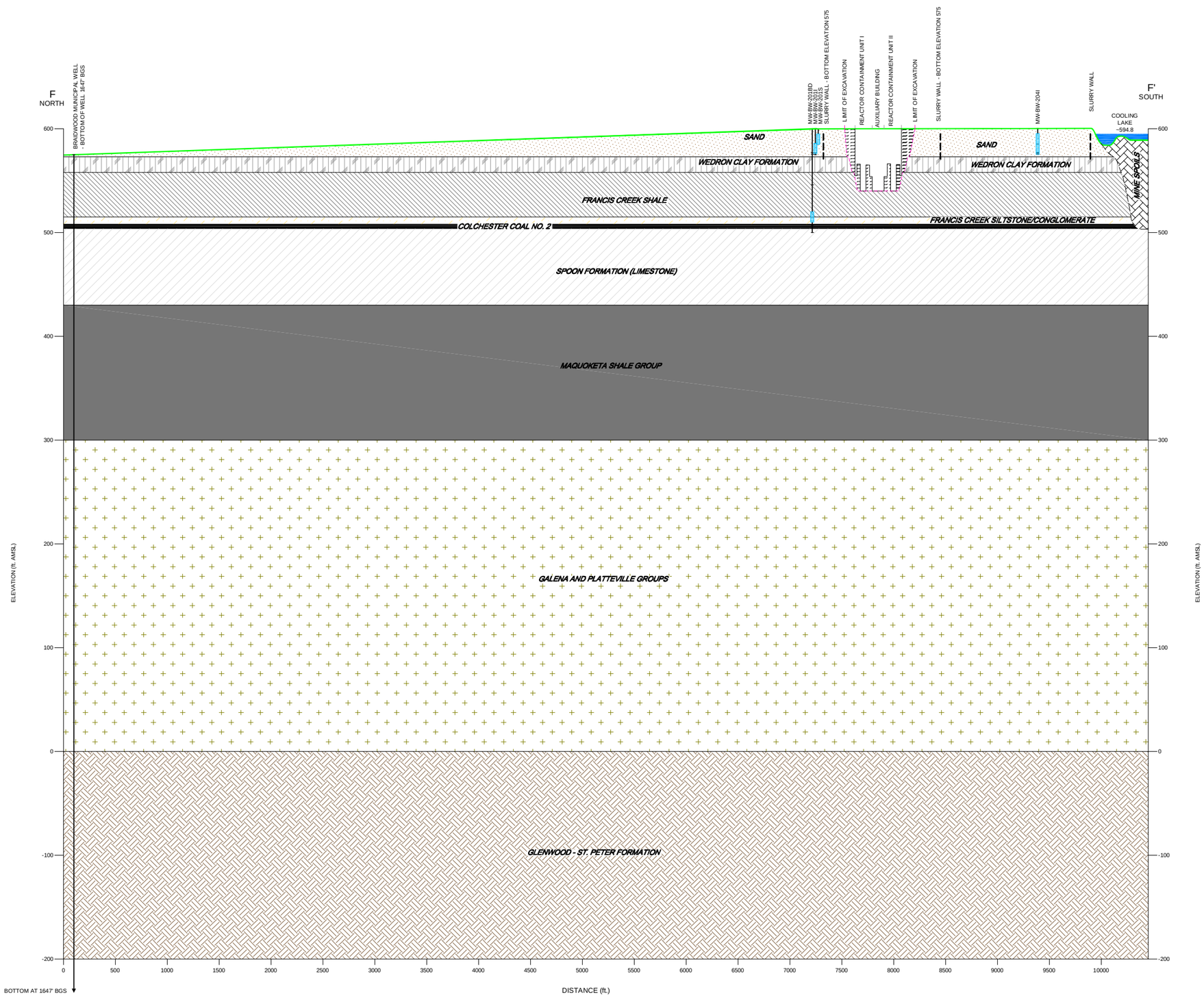
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
S. QUIGLEY	M. KELLY	AUGUST 2006	
Scale: AS SHOWN	Project N°: 45136-20	Report N°: 012	Drawing N°: figure 2.13

REVISION 1

45136-20(012)GN-WA028 AUG 23/2006



LEGEND

- W-2 — WELL ID
- WELL
- GROUNDWATER ELEVATION
- CF — STRAT LAYER
- WELL SCREEN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

REGIONAL HYDROGEOLOGIC CROSS-SECTION F-F'
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

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S. QUIGLEY	M. KELLY	AUGUST 2006	
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45136-20(012)GN-WA028 AUG 23/2006

FIGURE 2.15 PRIVATE WELL AND MONITORING WELL SAMPLE RESULTS

(Withheld)

FIGURE 3.1 AREAS FOR FURTHER EVALUATION (STATION)

(Withheld)

FIGURE 3.2 AREAS FOR FURTHER EVALUATION (WEST SIDE OF TURBINE BUILDING)

(Withheld)

FIGURE 4.1 SURFACE WATER/STAFF GAUGE MONITORING LOCATIONS

(Withheld)

FIGURE 4.2 GROUNDWATER MONITORING LOCATIONS (STATION)

(Withheld)

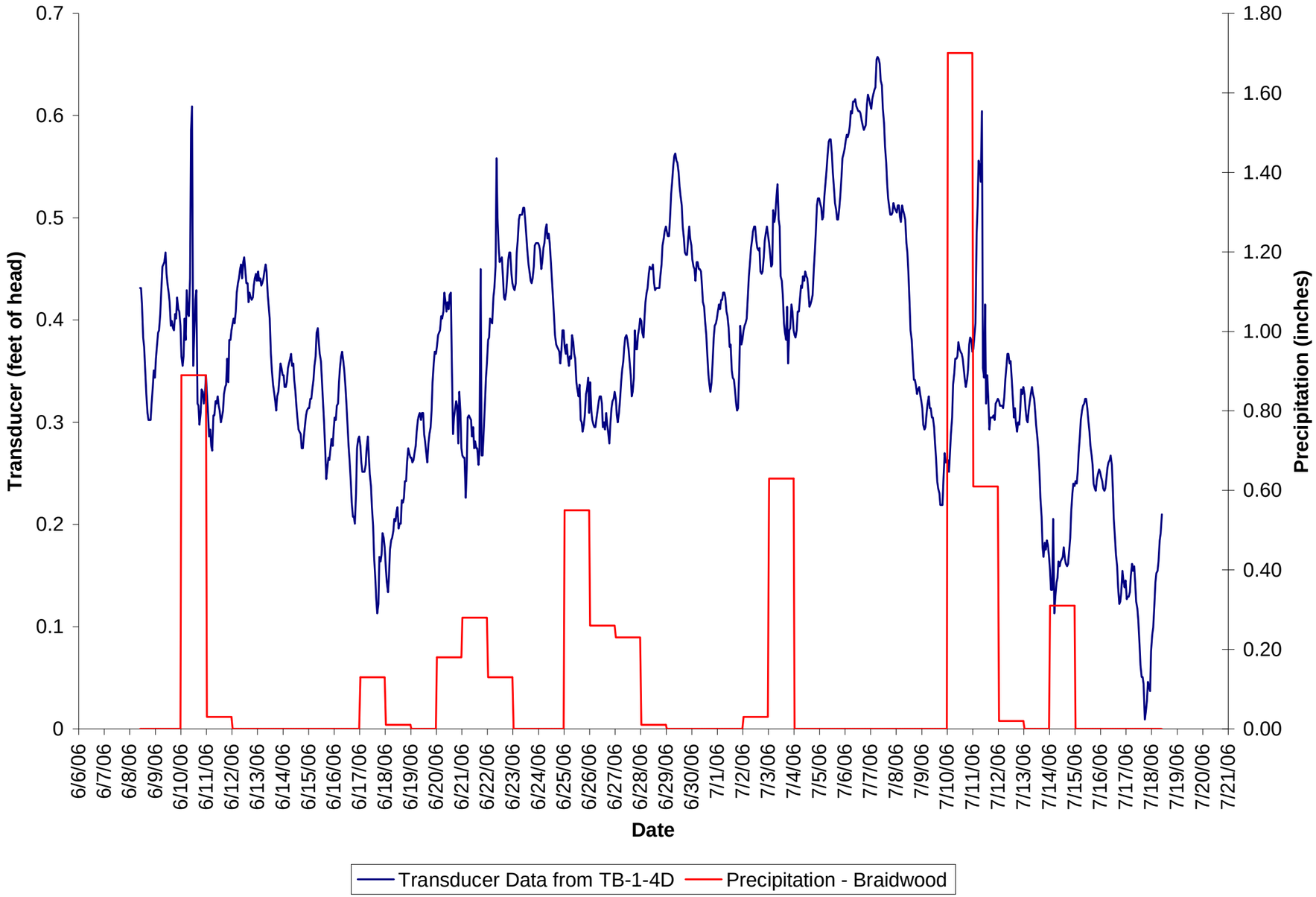
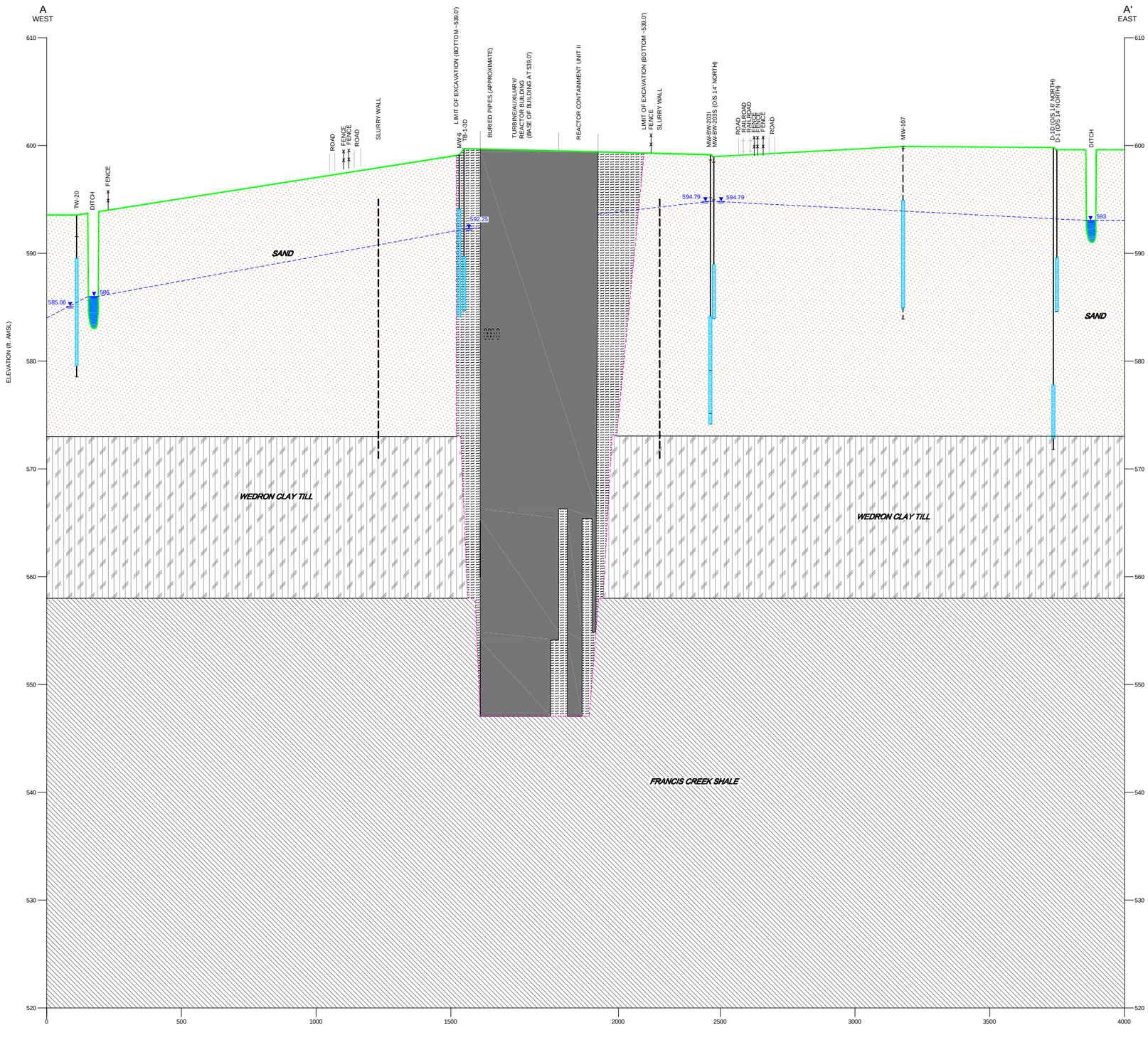


figure 4.3

PRESSURE TRANSDUCER AND PRECIPITATION DATA-JUNE/JULY 2006
BRAIDWOOD GENERATING STATION
EXELON GENERATION COMPANY, LLC
Braceville, Illinois

FIGURE 5.1 HYDROGEOLOGIC CROSS-SECTION LOCATIONS

(Withheld)



LEGEND

- W-2 — WELL ID
- WELL
- 593.72 — GROUNDWATER ELEVATION
- CF — STRAT LAYER
- WELL SCREEN

- FILL
- SAND
- WEDRON CLAY TILL
- FRANCIS CREEK SHALE
- FRANCIS CREEK SILTSTONE/CONGLOMERATE
- COLCHESTER COAL NO. 2
- SPOON FORMATION

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

HYDROGEOLOGIC CROSS-SECTION A-A'
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
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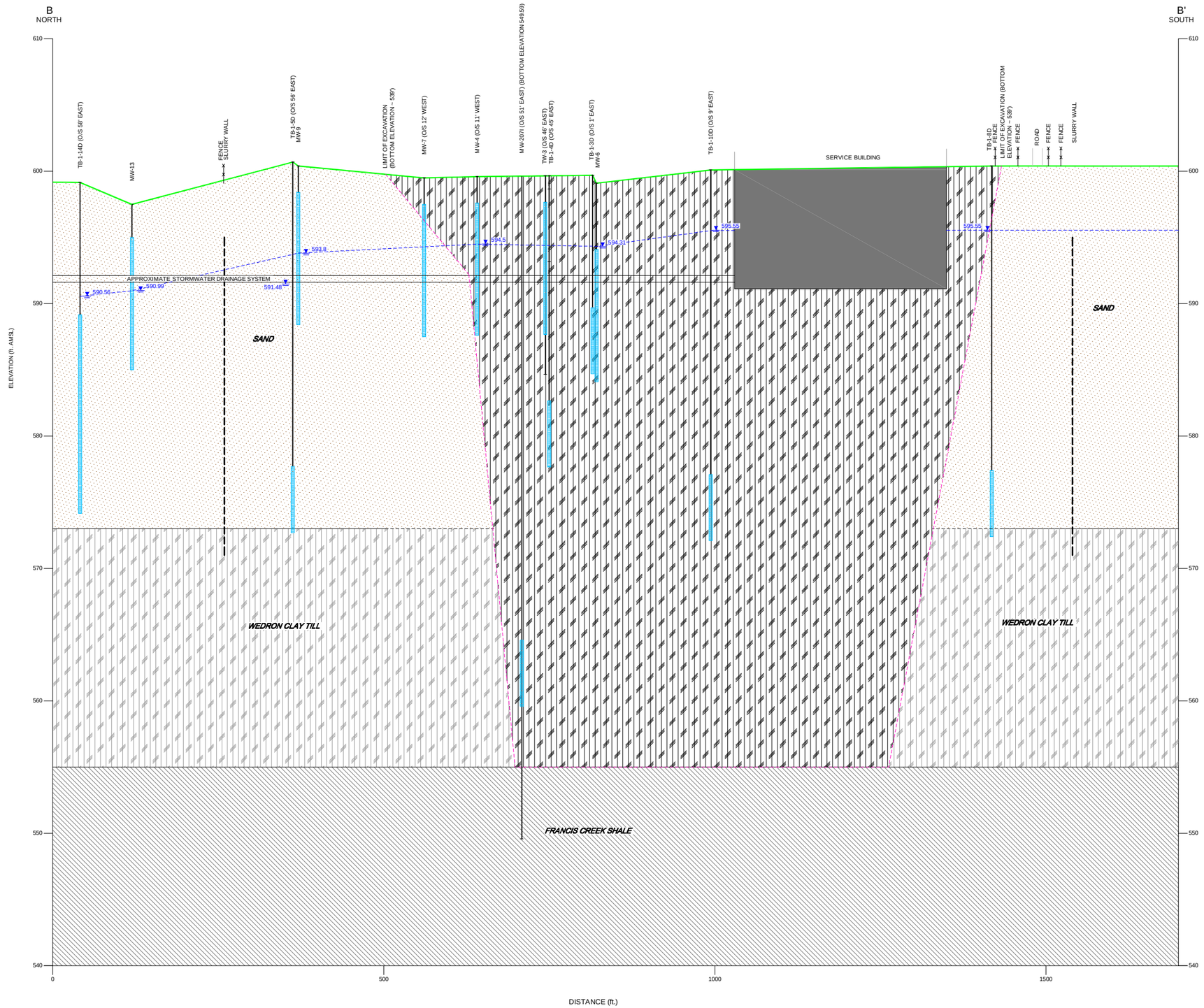
45136-20(012)GN-WA026 AUG 23/2006



LEGEND

- W-2 — WELL ID
- WELL
- 593.72 — GROUNDWATER ELEVATION
- CF — STRAT LAYER
- WELL SCREEN
- FILL
- SAND
- WEDRON CLAY TILL
- FRANCIS CREEK SHALE
- FRANCIS CREEK SILTSTONE/CONGLOMERATE
- COLCHESTER COAL NO. 2
- SPOON FORMATION

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

HYDROGEOLOGIC CROSS-SECTION B-B'
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

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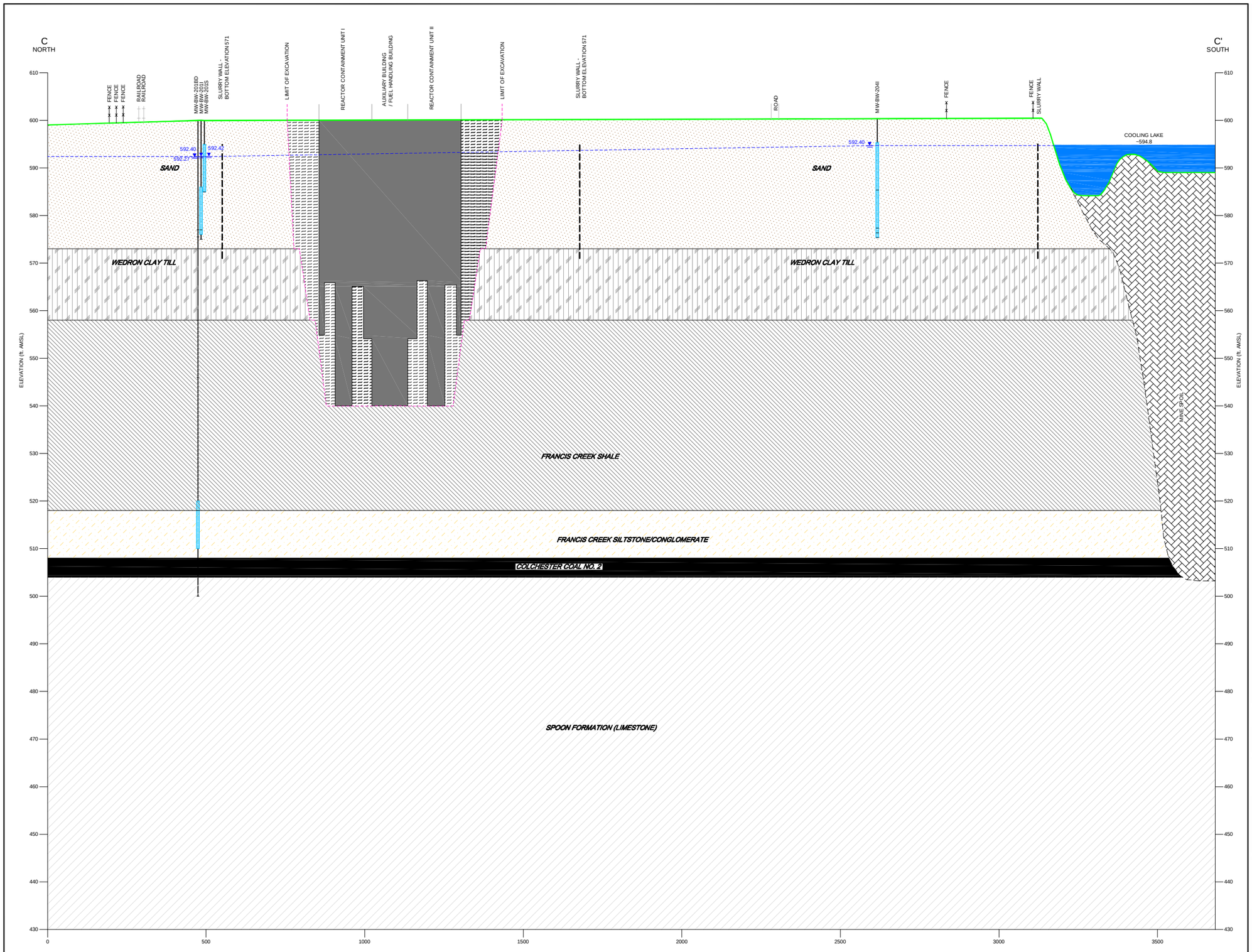
REVISION 1

45136-20(012)GN-WA026 AUG 23/2006



LEGEND

- W-2 — WELL ID
- WELL
- 593.72 — GROUNDWATER ELEVATION
- CF — STRAT LAYER
- WELL SCREEN

- FILL
- SAND
- WEDRON CLAY TILL
- FRANCIS CREEK SHALE
- FRANCIS CREEK SILTSTONE/CONGLOMERATE
- COLCHESTER COAL NO. 2
- SPOON FORMATION
- MINE SPOIL

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

HYDROGEOLOGIC CROSS-SECTION C-C'
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

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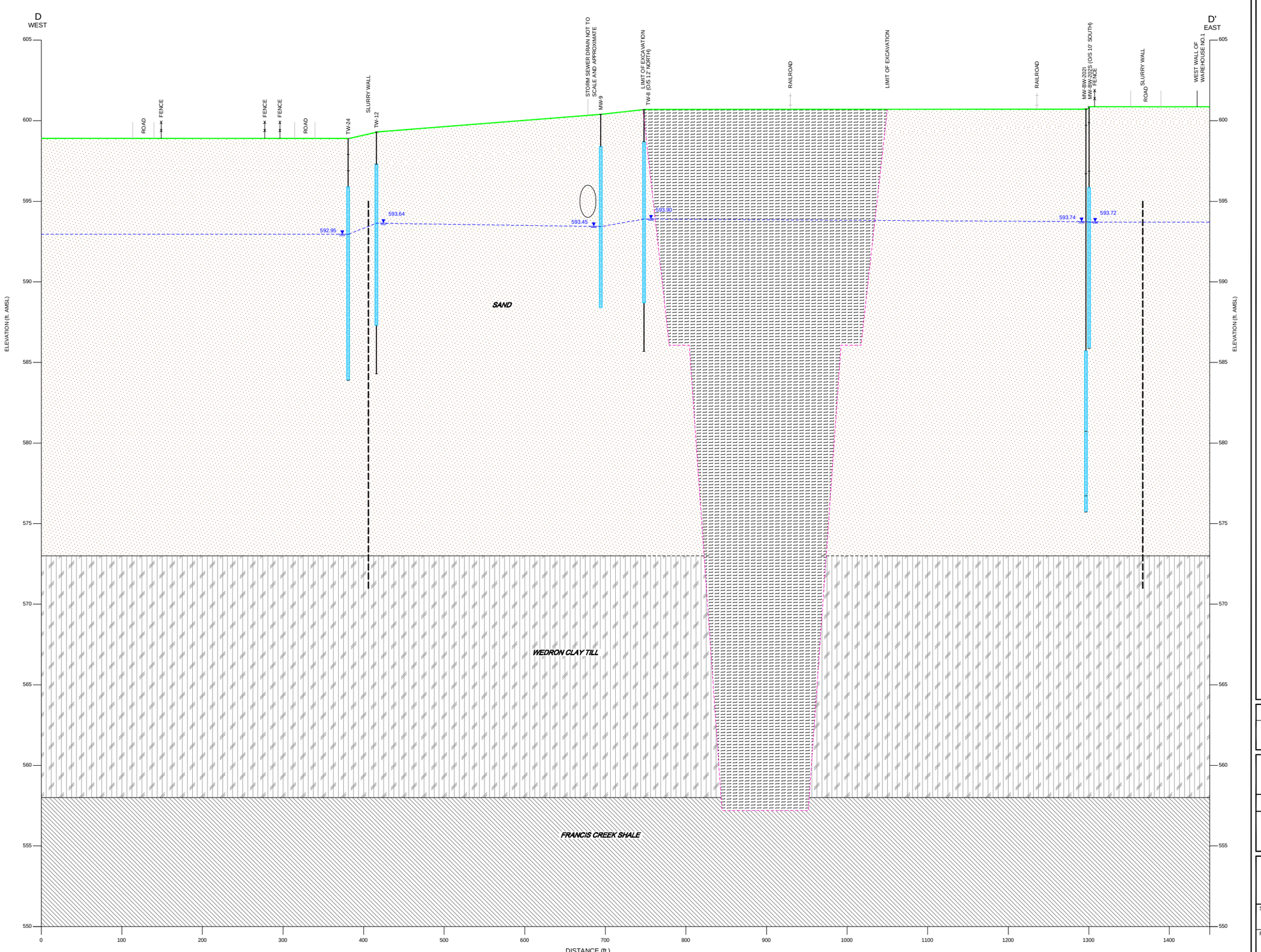
45136-20(012)GN-WA026 AUG 23/2006



LEGEND

- W-2 — WELL ID
- WELL
- 593.72 — GROUNDWATER ELEVATION
- CF — STRAT LAYER
- WELL SCREEN
- FILL
- SAND
- WEDRON CLAY TILL
- FRANCIS CREEK SHALE
- FRANCIS CREEK SILTSTONE/CONGLOMERATE
- COLCHESTER COAL NO. 2
- SPOON FORMATION
- STORM SEWER

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

HYDROGEOLOGIC CROSS-SECTION D-D'
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

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S. QUIGLEY	M. KELLY	AUGUST 2006	
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45136-20(012)GN-WA026 AUG 23/2006

FIGURE 5.6 POTENTIOMETRIC SURFACE CONTOURS – SHALLOW ZONE - MAY 2006

(Withheld)

FIGURE 5.7 POTENTIOMETRIC SURFACE CONTOURS – SHALLOW ZONE - JULY 2006

(Withheld)

FIGURE 5.8 POTENTIOMETRIC SURFACE CONTOURS – DEEP ZONE - MAY 2006

(Withheld)

FIGURE 5.9 POTENTIOMETRIC SURFACE CONTOURS – DEEP ZONE - JULY 2006

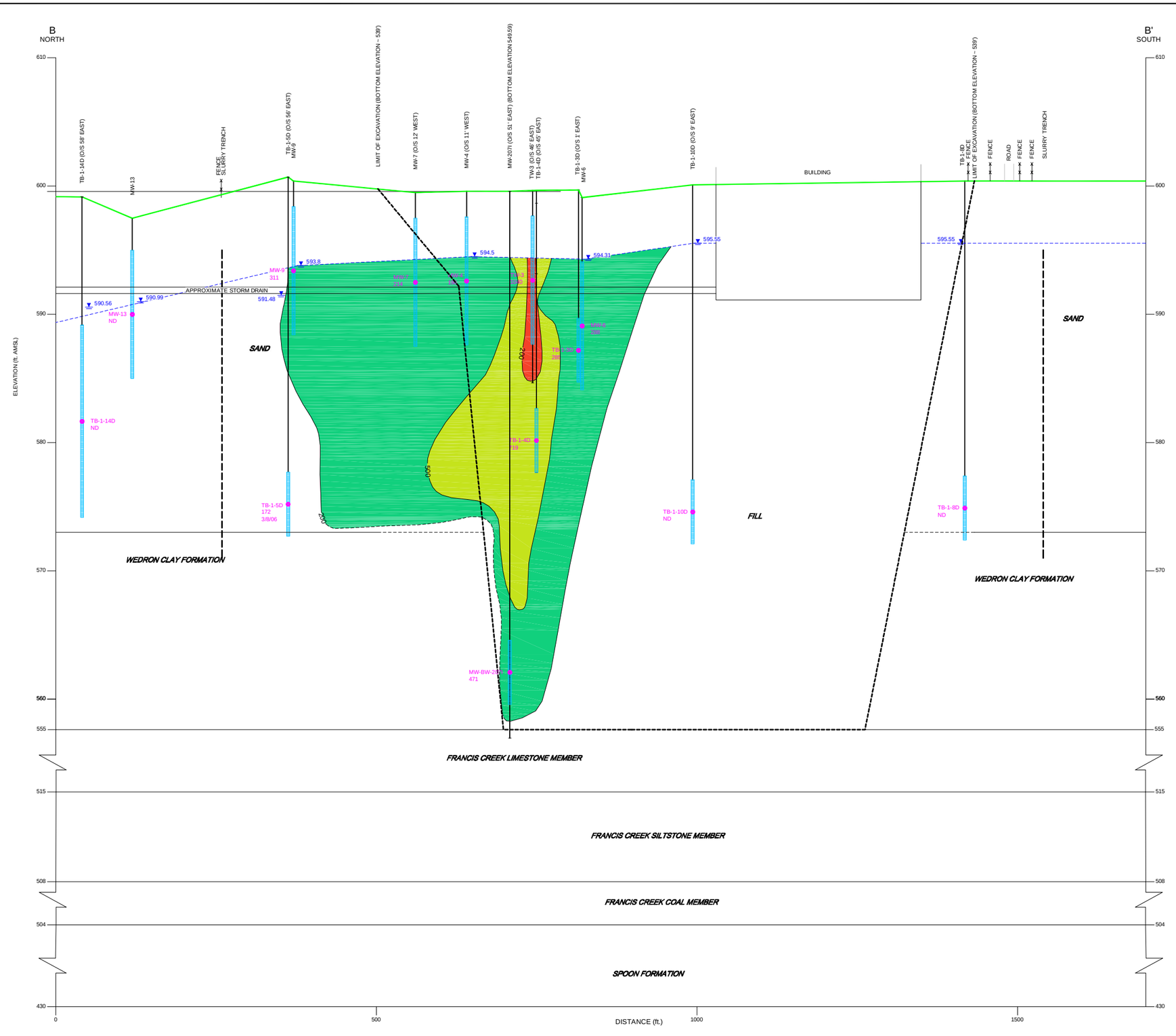
(Withheld)

FIGURE 5.10 TRITIUM CONCENTRATIONS - GROUNDWATER AND SURFACE WATER

(Withheld)

FIGURE 5.11 RADIONUCLIDE CONCENTRATIONS – GROUNDWATER AND SURFACE WATER

(Withheld)



LEGEND

- W-2 — WELL ID
- WELL
- 593.72 — GROUNDWATER ELEVATION
- CF — STRAT LAYER
- MW-13 ND — WELL SCREEN, TRITIUM CONCENTRATION

- TRITIUM RESULTS GREATER THAN 1,000 (pCi/L)
- TRITIUM RESULTS 500 TO 1,000 (pCi/L)
- TRITIUM RESULTS 200 TO 500 (pCi/L)
- TRITIUM RESULTS 0 TO 200 (pCi/L)

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

HYDROGEOLOGIC PROFILE
TRITIUM CONCENTRATIONS - GROUNDWATER
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
S. QUIGLEY	M. KELLY	AUGUST 2006	
Scale: AS SHOWN	Project N°: 45136-20	Report N°: 012	Drawing N°: figure 6.1

REVISION 1

45136-20(012)GN-WA027 AUG 23/2006

FIGURE 6.2 MONITORING WELL TRITIUM SAMPLE RESULTS

(Withheld)

TABLE 4.1

SUMMARY OF MONITORING WELL INSTALLATION DETAILS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	X coor. (Site-Specific Coordinates)	Y coor. (Site-Specific Coordinates)	Surface Elevation (ft AMSL) [1]	Reference Elevation (ft AMSL)	Screened Interval Top (ft bgs) [2]	Screened Interval Bottom (ft bgs) [2]	Screened Interval Top (ft AMSL)	Screened Interval Bottom (ft AMSL)	Well Construction	Hydrogeologic Unit Screened [3]
Existing Monitoring Wells										
MW-11	65288.1939	84097.4503	600.60	603.83	2.0	12.0	596.00	586.00	2-inch PVC Screen	*S*
MW-13	65367.1182	84267.4234	597.50	600.85	2.5	12.5	595.00	585.00	2-inch PVC Screen	*S*
MW-14	65103.9949	84342.5513	599.50	602.46	2.0	12.0	597.50	587.50	2-inch PVC Screen	*S*
MW-2	65271.3906	83474.2371	599.80	603.00	2.0	12.0	597.80	587.80	2-inch PVC Screen	*S*
MW-22	65319.3555	83911.9591	597.70	601.65	7.0	17.0	591.70	581.70	2-inch PVC Screen	*S*
MW-4	65409.1225	83750.0194	599.60	599.35	2.0	12.0	597.60	587.60	2-inch PVC Screen	*S*
MW-5	65250.5952	83778.1842	599.90	598.64	2.0	12.0	597.90	587.90	2-inch PVC Screen	*S*
MW-6	65425.2927	83575.8848	599.10	599.56	5.0	15.0	594.10	584.10	2-inch PVC Screen	*S*
MW-9	65412.2272	84020.0972	600.40	603.83	2.0	12.0	598.40	588.40	2-inch PVC Screen	*S*
Exelon-Owned Wells										
MW-BW-201I	65818.6280	84208.5570	600.02	603.21	14	24	586.02	576.02	2-inch PVC Screen	I
MW-BW-202I	66014.4060	84018.4590	600.72	604.09	15	25	585.72	575.72	2-inch PVC Screen	I
MW-BW-203I	66327.2810	83422.6210	598.95	602.19	15	25	583.95	573.95	2-inch PVC Screen	I
MW-BW-204I	66042.0060	82081.7290	600.37	603.17	5	25	595.37	575.37	2-inch PVC Screen	I
MW-BW-205I	64768.7390	82860.2200	598.04	600.86	15	25	583.04	573.04	2-inch PVC Screen	I
MW-BW-206I	64330.7570	81803.4620	595.10	598.35	14	24	581.10	571.10	2-inch PVC Screen	I
MW-BW-207I	66063.7670	83836.3590	599.59	601.59	35	45	564.59	554.59	2-inch PVC Screen	I
MW-BW-201S	65819.1100	84203.0330	599.97	603.11	5	15	594.97	584.97	2-inch PVC Screen	S
MW-BW-202S	66013.7490	84009.2920	600.87	604.30	5	15	595.87	585.87	2-inch PVC Screen	S
MW-BW-203S	66327.6550	83436.7650	599.14	602.33	5	15	594.14	584.14	2-inch PVC Screen	S
MW-BW-201BD	65825.1430	84203.7530	599.94	603.23	80	95	519.94	504.94	2-inch PVC Screen	BD
MW-BW-208BD	66063.7670	83836.3590	599.98	601.98	85	100	514.59	499.59	2-inch PVC Screen	BD
Existing Temporary Wells										
TB-1-1D	65393.4430	83562.0330	598.50	601.00	15	20	583.50	578.50	1-inch PVC Screen	I
TB-1-2D	65273.1690	83473.5080	599.41	600.62	19	24	580.41	575.41	1-inch PVC Screen	I
TB-1-3D	65425.9530	83576.8750	599.70	602.77	10	15	589.70	584.70	1-inch PVC Screen	I
TB-1-4D	65468.1300	83642.7460	599.45	600.86	17	22	582.45	577.45	1-inch PVC Screen	I
TB-1-5D	65467.1650	84030.2150	600.71	602.37	23	28	577.71	572.71	1-inch PVC Screen	I
TB-1-6D	65289.3290	84093.8570	600.34	602.69	22.5	27.5	577.84	572.84	1-inch PVC Screen	I
TB-1-7D	65143.3310	84097.4860	600.45	601.46	18	23	582.45	577.45	1-inch PVC Screen	I

TABLE 4.1

SUMMARY OF MONITORING WELL INSTALLATION DETAILS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	X coor. (Site-Specific Coordinates)	Y coor. (Site-Specific Coordinates)	Surface Elevation (ft AMSL) [1]	Reference Elevation (ft AMSL)	Screened Interval Top (ft bgs) [2]	Screened Interval Bottom (ft bgs) [2]	Screened Interval Top (ft AMSL)	Screened Interval Bottom (ft AMSL)	Well Construction	Hydrogeologic Unit Screened [3]
TB-1-8D	65618.2450	83005.0640	600.43	602.43	23	28	577.43	572.43	1-inch PVC Screen	I
TB-1-9D	65293.9090	83362.6330	600.68	603.41	22	27	578.68	573.68	1-inch PVC Screen	I
TB-1-10D	65490.5850	83409.8970	600.05	604.68	23	28	577.05	572.05	1-inch PVC Screen	I
TB-1-11D	65532.5070	84328.0420	600.41	604.29	10	25	590.41	575.41	1-inch PVC Screen	I
TB-1-12D	65621.9120	84412.5880	599.40	603.15	10	25	589.40	574.40	1-inch PVC Screen	I
TB-1-13D	65517.5830	84403.9470	599.40	602.59	10	25	589.40	574.40	1-inch PVC Screen	I
TB-1-14D	65425.3930	84345.7930	599.16	602.32	10	25	589.16	574.16	1-inch PVC Screen	I
TBRW-1	65534.1810	84232.9450	600.58	603.74	4	14	596.58	586.58	2-inch PVC Screen	I
TBRW-2	65600.3030	84274.6220	600.44	603.72	4	14	596.44	586.44	2-inch PVC Screen	I
TBRW-3	65571.3530	84346.9090	600.53	603.44	4	14	596.53	586.53	2-inch PVC Screen	I
TW-8	65465.9498	84031.8836	600.70	600.52	2	12	598.70	588.70	1-inch PVC Screen	S
TW-16	65187.5681	83650.3472	599.00	601.93	2	12	597.20	587.20	1-inch PVC Screen	S
TW-6	65459.9085	83827.6580	599.60	599.56	2	12	597.60	587.60	1-inch PVC Screen	S
TW-23	65288.6581	84140.0696	600.10	603.10	6	16	594.10	584.10	1-inch PVC Screen	S
TW-3	65469.3170	83648.7042	599.60	599.37	2	12	597.60	587.60	1-inch PVC Screen	S
TW-10	65403.4913	84146.6207	600.60	602.54	2	12	598.60	588.60	1-inch PVC Screen	S
TW-15	65099.6209	84260.1475	599.20	601.17	3	13	596.20	586.20	1-inch PVC Screen	S
TW-12	65134.2956	84008.2068	599.30	601.51	2	12	597.30	587.30	1-inch PVC Screen	S
TW-21	65466.2133	84104.6516	600.70	600.54	2	12	598.70	588.70	1-inch PVC Screen	S
TW-18	64856.1143	83653.2073	597.70	599.09	3	13	594.70	584.70	1-inch PVC Screen	S
TW-24	65099.2125	84010.5879	598.90	601.87	5	15	593.90	583.90	1-inch PVC Screen	S
TW-25	65142.5107	84100.4868	597.10	600.07	6	16	591.10	581.10	1-inch PVC Screen	S
TW-26	64958.0854	84223.0321	599.70	602.68	7	17	592.70	582.70	1-inch PVC Screen	S

Notes:

[1] ft AMSL - feet Above Mean Sea Level
[2] ft bgs - feet below ground surface
[3] Hydrogeologic unit screened:
S, well open to the water table in the shallow aquifer
I, well open to the water table in the intermediate aquifer
BD, well open to the top of the bedrock

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Well Volume (gallons)*	*Volume Purged (gallons)*	*pH (Std. Units)* [1]	*Conductivity (µS/cm)* [2]	*Temperature (° C)* [3]	*Turbidity (NTU)* [4]	*Observations*
MW-BW-201I	5/1/2006	2.6	6	7.17	891	11.7	452	NM [5]
			12	7.04	1,014	11.7	175	NM
			18	7.00	1,052	11.7	77	NM
MW-BW-201S	5/1/2006	1.2	3	7.33	1,006	11.0	180	NM
			6	7.11	1,132	11.0	22.0	NM
			9	7.07	1,145	11.0	18.6	NM
MW-BW-202I	5/1/2006	2.7	6	7.68	167	12.2	555	NM
			12	7.34	178	12.3	704	NM
			18	7.26	175	12.3	305	NM
MW-BW-202S	5/1/2006	1.2	4	6.97	248	12.3	310	NM
			8	6.93	221	12.3	85.1	NM
			12	6.89	217	12.3	67.5	NM
MW-BW-203I	5/1/2006	3.2	7	7.23	1,192	11.7	678	NM
			14	7.16	1,201	11.7	177	NM
			21	7.14	1,195	11.7	64	NM
MW-BW-203S	5/1/2006	1.6	4	9.04	930	10.8	1,248	NM
			8	8.30	1,004	10.8	150	NM
			12	8.01	1,040	10.8	73.5	NM
			16	7.91	1,062	10.8	61.1	NM
MW-BW-204I	4/28/2006	2.9	6	8.11	638	13.3	417	Cloudy
			12	7.96	612	13.5	337	Slightly cloudy
			18	7.85	611	13.3	222	Slightly cloudy
			24	7.77	613	13.3	84.2	Slightly cloudy

TABLE 4.2

SUMMARY OF MONITORING WELL DEVELOPMENT PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Well Volume (gallons)*	*Volume Purged (gallons)*	*pH (Std. Units)* [1]	*Conductivity (µS/cm)* [2]	*Temperature (° C)* [3]	*Turbidity (NTU)* [4]	*Observations*
MW-BW-201I	5/1/2006	2.6	6	7.17	891	11.7	452	NM [5]
			12	7.04	1,014	11.7	175	NM
			18	7.00	1,052	11.7	77	NM
MW-BW-201S	5/1/2006	1.2	3	7.33	1,006	11.0	180	NM
			6	7.11	1,132	11.0	22.0	NM
			9	7.07	1,145	11.0	18.6	NM
MW-BW-205I	4/28/2006	3.1	6	7.78	859	23.5	264	Cloudy
			12	7.74	825	23.4	48.5	Slightly cloudy
			18	7.72	819	23.3	27.4	Clear
MW-BW-206I	4/28/2006	2.7	5	6.89	1,494	20.7	204	Cloudy
			10	6.92	1,418	20.5	33.0	Slightly cloudy
			15	7.01	1,354	20.6	12.2	Clear
MW-BW-207I	7/14/2006	6.5	6	7.19	491	11.7	NM	Slightly cloudy
			12	7.24	475	12.0	NM	Slightly cloudy
			18	7.27	469	12.0	NM	Slightly cloudy
			24	7.31	431	12.1	NM	Clear
			30	7.35	421	12.0	NM	Clear
MW-BW-208BD	7/18/2006	14	28	7.91	359	13.1	NM	Slightly cloudy
			42	7.53	371	12.9	NM	Slightly cloudy
			56	7.29	385	12.5	NM	Slightly cloudy
			70	7.13	391	12.3	NM	Slightly cloudy

Notes:

(1) Std. Units - standard units
(2) µS/cm - microsiemens per centimeter
(3) ° C - degrees Celsius
(4) NTU - nephelometric turbidity units
(5) NM - not measured

TABLE 4.3

SUMMARY OF GROUNDWATER ELEVATIONS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Reference Elevation (ft AMSL)* [1]	*Depth to Water (ft Below Reference) May 9-11, 06*	*Groundwater Elevation (ft AMSL) May 9-11, 06*	*Depth to Water (ft Below Reference) July 31, 06*	*Groundwater Elevation (ft AMSL) July 31, 06*
MW-11	603.83	10.49	593.34	10.79	593.04
MW-13	600.85	9.86	590.99	9.95	590.90
MW-14	602.46	12.69	589.77	12.78	589.68
MW-2	603	NM	NM	6.93	596.07
MW-22	601.65	8.60	593.05	8.15	593.50
MW-4	599.35	4.89	594.46	4.73	594.62
MW-5	599.9	5.40	594.50	4.23	595.67
MW-6	599.1	5.42	593.68	3.41	595.69
MW-9	603.83	10.03	593.80	10.40	593.43
MW-BW-201BD	603.23	10.96	592.27	11.45	591.78
MW-BW-201I	603.21	10.79	592.42	11.89	591.32
MW-BW-201S	603.11	10.71	592.40	10.75	592.36
MW-BW-202I	604.09	10.37	593.72	10.38	593.71
MW-BW-202S	604.3	10.56	593.74	10.55	593.75
MW-BW-203I	602.19	7.39	594.80	7.49	594.70
MW-BW-203S	602.33	7.55	594.78	7.65	594.68
MW-BW-204I	603.173	8.51	594.66	8.94	594.23
MW-BW-205I	600.859	8.13	592.73	8.30	592.56
MW-BW-206I	598.349	10.74	587.61	11.11	587.24
MW-BW-207I	599.59	NM	NM	7.35	592.24
MW-BW-208BD	601.98	NM	NM	13.05	588.93*
TB-1-10D	604.68	9.35	595.33	9.03	595.65
TB-1-1D	601	6.61	594.39	5.91	595.09
TB-1-2D	600.62	6.22	594.40	7.04	593.58
TB-1-3D	602.77	8.64	594.13	6.94	595.83
TB-1-4D	600.86	6.60	594.26	5.38	595.48
TB-1-5D	602.37	10.89	591.48	11.40	590.97
TB-1-6D	602.69	11.14	591.55	11.28	591.41
TB-1-7D	601.46	9.65	591.81	9.55	591.91
TB-1-8D	602.43	6.88	595.55	7.00	595.43
TB-1-9D	603.41	8.03	595.38	7.40	596.01
TW-10	602.54	10.42	592.12	10.76	591.78
TW-12	601.51	9.16	592.35	9.06	592.45
TW-15	601.17	10.92	590.25	11.00	590.17
TW-16	601.93	7.14	594.79	6.56	595.37
TW-18	599.09	7.65	591.44	8.61	590.48
TW-21	600.54	4.79	595.75	7.25	593.29
TW-23	603.1	11.80	591.30	11.90	591.20
TW-24	601.87	10.51	591.36	10.48	591.39
TW-25	600.07	8.14	591.93	8.06	592.01
TW-26	602.68	12.53	590.15	12.77	589.91
TW-3	599.37	4.51	594.86	3.82	595.55
TW-6	599.56	6.73	592.83	5.00	594.56
TW-84	600.52	6.13	594.39	7.10	593.42

Notes:

(1) - ft AMSL - feet above mean sea level.
NM - Not Measured.
* - A water elevation of 592.74 ft AMSL was measured at MW-BW-208BD on August 15, 2006.

TABLE 4.4

SUMMARY OF SURFACE WATER ELEVATIONS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Reference Elevation (ft AMSL)*	*Depth to Water (ft Below Reference)*	*Groundwater Elevation (ft AMSL)*
SG-BW-101	588.36	1.00	587.36
SG-BW-102	587.61	1.00	586.61
SG-BW-103	580.03	1.00	579.03
SG-BW-104	567.38	1.00	566.38
SG-BW-105	595.92	1.42	594.50
SG-BW-106	596.44	2.03	594.41

Notes:

All elevations were measured May 17, 2006.
ft AMSL - feet above mean sea level.

TABLE 4.5

SAMPLE KEY
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*QC Sample*	*Date Collected*	*Matrix*	*Analyses*
TB-1-9D	WG-BW-050906-JL-001		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-6	WG-BW-050906-MS-002		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-5D	WG-BW-050906-JL-003		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-3D	WG-BW-050906-MS-004		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-1D	WG-BW-050906-JL-005		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-8	WG-BW-050906-MS-006		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-16	WG-BW-050906-JL-007		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-6	WG-BW-050906-MS-008		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-10D	WG-BW-051006-JL-009		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-5	WG-BW-050906-MS-010		5/9/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-10D	WG-BW-051006-JL-011	Duplicate (009)	5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-11	WG-BW-051006-MS-012		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-4D	WG-BW-051006-JL-013		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-23	WG-BW-051006-MS-014		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-3	WG-BW-051006-JL-015		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-10	WG-BW-051006-MS-016		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-2	WG-BW-051006-JL-017		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-13	WG-BW-051006-MS-018		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-2D	WG-BW-051006-JL-019		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-15	WG-BW-051006-MS-020		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-7D	WG-BW-051006-JL-021		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-15	WG-BW-051006-MS-022	Duplicate (020)	5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-14	WG-BW-051006-MS-024		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-8D	WG-BW-051006-JL-025		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-12	WG-BW-051006-MS-026		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-22	WG-BW-051106-JL-027		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-24	WG-BW-051006-MS-028		5/10/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-9	WG-BW-051106-JL-029		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-4	WG-BW-051106-MS-030		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-9	WG-BW-051106-JL-031	Duplicate (029)	5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-7	WG-BW-051106-MS-032		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-6D	WG-BW-051106-JL-033		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-21	WG-BW-051106-MS-034		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-202I	WG-BW-051106-JL-035		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-203S	WG-BW-051106-MS-036		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-202S	WG-BW-051106-JL-037		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-203I	WG-BW-051106-MS-038		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201S	WG-BW-051106-JL-039		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201I	WG-BW-051106-MS-040		5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-204I	WG-BW-051206-JL-041		5/12/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201I	WG-BW-051106-MS-042	Duplicate (040)	5/11/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-205I	WG-BW-051206-JL-043		5/12/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-26	WG-BW-051206-MS-044		5/12/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-18	WG-BW-051206-MS-046		5/12/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-206I	WG-BW-051206-MS-048		5/12/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-24	WG-BW-051506-MB-050		5/15/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-24	WG-BW-051506-MB-052	Duplicate (050)	5/15/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
SG-BW-101	SW-BW-051706-MB-101		5/17/2006	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-102	SW-BW-051706-MB-102		5/17/2006	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-103	SW-BW-051706-MB-103		5/17/2006	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-104	SW-BW-051706-MB-104		5/17/2006	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-105	SW-BW-051706-MB-105		5/17/2006	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-106	SW-BW-051706-MB-106		5/17/2006	Surface Water	Tritium/Strontium/Gamma Spectrum
TW-25	WG-BW-051906-MB-054		5/19/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-26	WG-BW-051906-MB-055		5/19/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201BD	WG-BW-052206-MB-056		5/22/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201BD	WG-BW-052206-MB-057	Duplicate (056)	5/22/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-208BD	WG-BW-MW-208BD-072806-JL-100		7/28/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-207I	WG-BW-MW-207I-072806-JL-101		7/28/2006	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-207I	WG-BW-MW-207I-072806-JL-102	Duplicate (101)	7/28/2006	Groundwater	Tritium/Strontium/Gamma Spectrum

Notes:

QC - Quality Control
Gamma Spectrum - Barium-140, Cesium-134, Cesium-137, Cobalt-58, Cobalt-60, Iron-59, Lanthanum-140, Manganese-54, Niobium-95, Zinc-65, Zirconium-95

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
TB-1-9D	5/9/2006	5	200	7.18	22.01	1600	NA	0.80	95	
		10	200	7.19	22.35	1590	NA	0.24	40	
		15	200	7.20	22.47	1580	NA	0.16	37	
		20	200	7.21	22.55	1560	NA	0.13	35	
		25	200	7.22	22.62	1560	NA	0.12	20	
		30	200	7.24	22.62	1550	NA	0.09	20	
		35	200	7.25	22.64	1540	NA	0.10	17	2 gallons
MW-6	5/9/2006	5	250	7.51	16.25	19990	281	0.73	141	
		10	250	7.31	16.14	20020	277	0.55	62.5	
		15	250	7.22	15.98	21000	275	0.58	16.4	
		20	250	7.16	16.01	22200	275	0.55	34.9	
		25	250	7.11	15.91	24300	275	0.51	32.8	2 gallons
TB-1-5D	5/9/2006	5	200	7.76	13.74	763	NA	1.55	100	
		10	200	7.56	14.19	828	NA	2.05	55	
		15	200	7.54	14.77	898	NA	4.68	45	
		20	200	7.52	14.93	907	NA	7.47	29	
		25	200	7.42	14.97	929	NA	7.41	9.2	
		30	200	7.34	15.09	939	NA	7.31	7.6	
		35	200	7.29	15.13	942	NA	7.30	5.7	
		40	200	7.30	15.10	941	NA	7.34	6	2 gallons
TB-3D	5/9/2006	5	200	7.06	16.19	23500	142	0.46	76.7	
		10	200	7.08	15.99	24000	90	0.37	14.1	
		15	200	7.05	16.04	24000	66	0.33	5.98	
		20	200	7.04	15.93	23800	45	0.32	5.11	
		25	200	7.02	15.92	23700	29	0.31	2.96	1 gallon
TB-1D	5/9/2006	5	200	7.48	14.22	889	NA	1.67	190	
		10	200	7.44	14.33	894	NA	1.03	60	
		15	200	7.46	14.30	892	NA	0.12	27	
		20	200	7.47	14.33	889	NA	0.10	28	
		25	200	7.44	14.37	891	NA	0.09	18	
		30	200	7.45	14.33	891	NA	0.08	23	1.5 gallons

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
TW-8	5/9/2006	5	200	7.98	13.32	8040	217	0.86	13.7	
		10	200	7.17	13.19	7840	222.0	0.62	8.09	
		15	200	6.88	13.18	7650	226	0.52	4.94	
		20	200	6.81	13.16	7540	229	0.48	4.84	
		25	200	6.78	13.01	7330	231	0.48	3.25	1 gallon
TW-16	5/9/2006	5	200	7.14	13.75	437	NA	1.24	5.3	
		10	200	6.98	13.66	435	NA	1.12	3.4	
		15	200	6.90	13.64	432	NA	0.90	2.8	
		20	200	6.83	13.62	438	NA	0.73	1.7	
		25	200	6.83	13.61	439	NA	0.65	2	
		30	200	6.81	13.59	443	NA	0.63	1.4	1.5 gallons
TW-6	5/9/2006	5	200	8.16	16.88	925	123	0.77	16	
		10	200	7.66	17.26	872	112	0.62	16.1	
		15	200	7.39	17.38	781	107	0.70	7.67	
		20	200	7.31	16.70	694	94	0.55	4.44	
		25	200	7.22	16.65	695	89	0.52	2.45	1 gallon
TB-1-10D	5/10/2006	5	200	7.09	19.37	2690	NA	1.01	15	
		10	200	7.15	19.81	2280	NA	6.12	18	
		15	200	7.18	20.11	2060	NA	6.72	4.8	
		20	200	7.10	20.09	1970	NA	5.26	2.2	
		25	200	7.11	20.08	1960	NA	5.84	1.6	
		30	200	7.17	20.10	1940	NA	5.87	1.4	1.5 gallons
MW-5	5/9/2006	5	200	8.68	12.48	553	168	7.76	19.1	
		10	200	8.10	12.52	551	198	7.87	13	
		15	200	7.90	12.64	550	220	7.84	6.43	
		20	200	7.82	12.51	550	231	7.94	5.49	
		25	200	7.77	12.51	556	242	8.06	4.3	1 gallon

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
TB-1-4D	5/10/2006	5	200	7.54	16.14	7730	NA	0.19	310	
		10	200	7.56	16.11	7140	NA	0.14	110	
		15	200	7.58	16.03	6990	NA	0.11	60	
		20	200	7.60	16.04	6770	NA	0.11	31	
		25	200	7.58	16.10	6680	NA	0.11	36	
		30	200	7.60	16.08	6650	NA	0.15	33	1.5 gallons
MW-11	5/10/2006	5	200	8.83	13.26	6600	380.0	6.51	6.18	
		10	200	7.89	13.21	6560	382.0	6.53	5.6	
		15	200	7.38	13.18	6470	384.0	6.42	3.83	
		20	200	7.15	13.21	6330	385.0	6.37	2.16	
		25	200	7.05	13.16	6230	386.0	6.41	1.41	1 gallon
TW-3	5/10/2006	5	200	8.58	16.28	2210	NA	0.58	95	
		10	200	9.31	16.16	2730	NA	0.48	100	
		15	200	9.58	16.14	3070	NA	0.28	390	
		20	200	9.76	16.01	3340	NA	0.25	400	
		25	200	10.06	16.01	3690	NA	0.29	350	1 gallon
TW-23	5/10/2006	5	200	8.31	13.42	2160	303.0	1.57	8.78	
		10	200	7.54	13.02	1710	315.0	3.42	8.75	
		15	200	7.32	12.88	1670	321	3.69	4.65	
		20	200	7.19	12.89	1680	325	3.51	2.77	
		25	200	7.14	12.87	1650	328	3.50	1.72	1 gallon
MW-2	5/10/2006	5	200	7.32	13.40	401	NA	2.43	16	
		10	200	7.26	13.51	400	NA	1.34	8.9	
		15	200	7.23	13.55	398	NA	0.67	4.9	
		20	200	7.21	13.49	397	NA	0.46	3.8	
		25	200	7.19	13.44	397	NA	0.37	2.9	1 gallon
TW-10	5/10/2006	5	200	8.78	14.10	772	282	7.18	47.2	
		10	200	8.63	13.93	772	290	7.31	45.1	
		15	200	8.56	13.92	774	296	7.35	42.3	
		20	200	8.53	13.92	776	301	7.40	39.5	1 gallon

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
TB-1-2D	5/10/2006	5	200	7.68	14.49	493	NA	2.49	75	
		10	200	7.66	14.87	488	NA	2.53	32	
		15	200	7.57	14.99	486	NA	1.82	26	
		20	200	7.54	14.96	482	NA	2.08	15	
		25	200	7.52	14.96	482	NA	2.20	16	1 gallon
MW-13	5/10/2006	5	200	7.92	14.57	2190	284	2.13	295	
		10	200	7.47	14.49	2780	295	1.86	169	
		15	200	7.18	14.46	3820	304	1.35	89.7	
		20	200	7.06	14.31	4620	309	1.07	62.3	
		25	200	6.95	14.19	5040	302	0.96	43	1 gallon
TB-1-7D	5/10/2006	5	200	7.60	13.30	1660	NA	1.81	55	
		10	200	7.56	13.24	1650	NA	1.50	100	
		15	200	7.53	13.32	1640	NA	1.24	120	
		20	200	7.55	13.21	1630	NA	1.79	23	
		25	200	7.53	13.55	1640	NA	1.74	12	
		30	200	7.55	13.28	1630	NA	1.51	24	1.5 gallons
TW-15	5/10/2006	5	200	8.69	12.57	662	283	6.89	3.75	
		10	200	7.68	12.40	645	293	7.01	1.67	
		15	200	7.28	12.40	650	303	7.01	1.46	1 gallon
TW-25	5/10/2006	5	200	7.19	12.91	7200	NA	4.97	6.1	
		10	200	7.18	12.97	6550	NA	4.39	3.2	
		15	200	7.20	12.92	6100	NA	4.01	2.7	
		20	200	7.21	12.94	5940	NA	3.94	2.4	
		25	200	7.21	12.98	5860	NA	3.83	2.5	1 gallon
MW-14	5/10/2006	5	200	9.21	11.88	563	288	8.92	2.39	
		10	200	7.97	11.66	524	305	8.90	1.97	
		15	200	7.83	11.59	522	309	8.90	1.46	
		20	200	7.61	11.55	517	314	9.10	1.33	1 gallon

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
TB-1-8D	5/10/2006	5	250	7.22	14.51	11580	NA	2.11	160	
		10	200	7.21	14.49	11560	NA	1.38	40	
		15	200	7.20	14.54	11460	NA	0.74	16	
		20	200	7.20	14.51	11470	NA	0.41	13	
		25	200	7.19	14.52	11520	NA	0.37	7.3	1.5 gallons
TW-12	5/10/2006	5	200	7.90	14.89	2440	317	7.17	3.01	
		10	200	7.34	14.68	2440	322	7.35	4.95	
		15	200	7.13	14.63	2520	328	7.42	5.93	
		20	200	7.01	14.58	2840	332	7.60	4.02	
		25	200	6.95	14.54	3090	335	7.13	2.01	1 gallon
MW-22	5/10/2006	5	250	7.79	14.44	717	NA	3.57	7.2	
		10	200	7.78	14.44	732	NA	2.72	4.5	
		15	200	7.76	14.89	740	NA	2.66	4.7	
		20	200	7.74	14.50	738	NA	2.76	2.4	1 gallon
TW-24	5/12/2006	5	250	7.25	16.59	2	301	8.55	2.91	
		10	200	7.21	16.32	2	311	8.60	2.81	
		15	200	7.20	16.30	1	319	8.63	1.79	1 gallon
MW-9	5/10/2006	5	200	7.53	12.00	2520	NA	1.21	2.6	
		10	200	7.53	11.99	2550	NA	1.05	2	
		15	200	7.52	11.95	2570	NA	1.01	1.9	1 gallon
MW-4	5/11/2006	5	200	7.68	13.00	2610	334	0.94	11.1	
		10	200	7.08	13.02	2610	306	0.78	10	
		15	200	6.88	13.14	2630	271	0.74	6.94	
		20	200	6.82	13.01	2620	251	0.69	4.42	1 gallon
TB-1-6D	5/11/2006	5	200	8.10	12.72	807	NA	3.05	19	
		10	200	8.05	12.65	851	NA	3.85	25	
		15	150	7.97	12.72	927	NA	3.33	19	
		20	150	7.90	12.73	928	NA	3.16	11	
		25	150	8.11	12.68	930	NA	3.85	5.4	1 gallon

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
MW-7	5/11/2006	5	200	7.08	14.56	4320	265	1.83	98.7	
		10	200	7.09	14.79	4050	267	1.57	94.2	
		15	200	7.20	14.83	3290	271	2.87	86.2	
		20	200	7.16	14.82	3110	276	2.92	48.3	1 gallon
MW-BW-202	5/11/2006	5	250	7.55	12.01	1480	NA	1.47	85	
		10	250	7.54	12.02	1510	NA	1.46	27	
		15	250	7.55	12.00	1520	NA	0.68	13	
		20	250	7.54	12.02	1540	NA	0.51	6.9	
		25	250	7.54	12.01	1540	NA	0.88	4.6	1.5 gallons
TW-21	5/11/2006	5	250	7.19	13.32	3040	303	3.10	64.1	
		10	200	7.16	13.19	3080	305	3.11	31.5	
		15	200	7.08	13.06	3090	307	3.38	13	
		20	200	7.03	12.02	2820	309	3.43	11	1 gallon
MW-BW-202S	5/11/2006	5	250	7.48	12.42	3480	NA	1.56	24	
		10	250	7.35	12.38	3400	NA	0.81	13	
		15	250	7.34	12.39	3130	NA	0.55	7.9	
		20	250	7.35	12.39	2850	NA	0.39	6.7	
		25	250	7.35	12.36	2620	NA	0.38	4.7	
		30	250	7.35	12.31	2590	NA	0.36	3.7	
MW-BW-203S	5/11/2006	5	200	7.54	11.02	962	317	4.64	129	
		10	200	7.54	11.08	997	318	4.27	60.2	
		15	200	7.53	11.12	1005	318	4.20	32.8	
		20	200	7.51	11.15	1025	320	3.99	13.11	
		25	200	7.51	11.16	1032	321	3.90	7.89	1 gallon
MW-BW-201S	5/11/2006	5	250	7.62	11.07	893	NA	4.94	5.1	
		10	250	7.59	11.10	904	NA	4.73	3.6	
		15	250	7.58	11.09	915	NA	4.67	3.4	
		20	250	7.58	11.09	914	NA	4.68	1.7	1 gallon

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
MW-BW-203I	5/11/2006	5	200	8.24	11.68	1332	217	1.02	764	
		10	200	7.61	11.53	1324	216	0.77	113	
		15	200	7.30	11.50	1326	209	0.71	37.5	
		20	200	7.14	11.50	1332	207	0.65	26.2	
		25	200	7.07	11.48	1329	203	0.63	12.4	1 gallon
MW-BW-201I	5/11/2006	5	200	7.20	12.42	1	267	9.31	na	
		10	200	7.19	11.54	1630	267	1.32	534	
		15	200	7.20	11.50	1680	271	0.85	57.5	
		20	200	7.17	11.47	1700	272	0.70	27.1	
		25	200	7.13	11.46	1710	274	0.62	11.2	1 gallon
MW-BW-204I	5/12/2006	5	250	7.36	10.44	512	NA	2.27	900	
		10	250	7.34	10.35	510	NA	1.43	130	
		15	250	7.33	10.30	514	NA	0.96	60	
		20	250	7.33	10.33	520	NA	0.62	55	
		25	250	7.32	10.36	522	NA	0.45	31	
		30	250	7.31	10.35	523	NA	0.32	24	
		35	250	7.31	10.34	525	NA	0.34	18	2 gallons
TW-26	5/12/2006	5	200	7.81	11.28	949	305	5.66	29.5	
		10	200	7.36	11.29	1043	314	5.51	21.5	
		15	200	7.17	11.34	1092	321	5.52	16.2	
		20	200	7.05	11.32	1113	325	5.51	11.6	1 gallon
TW-18	5/12/2006	5	200	7.17	10.57	1780	341	1.06	10.73	
		10	200	7.16	10.64	1770	340	0.93	8.13	
		15	200	7.13	10.68	1760	326	0.77	4.47	1 gallon
MW-BW-205I	5/12/2006	5	250	7.87	20.43	944	NA	0.19	16	
		10	250	7.88	20.37	944	NA	0.12	8.8	
		15	250	7.86	20.63	943	NA	0.10	5.4	
		20	250	7.87	20.74	941	NA	0.09	6.2	1 gallon

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5][6]	*DO (mg/L)* [7][8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
MW-BW-206I	5/12/2006	5	200	6.78	16.55	3580	233	1.11	na	
		10	200	6.61	16.06	3570	213	0.94	na	
		15	200	6.60	16.34	3580	208	0.88	799	
		20	200	6.54	16.21	3590	197	0.77	287	
		25	200	6.54	16.30	3600	189	0.72	147	1 gallon
TW-24	5/15/2006	5	200	7.25	16.59	2000	303	8.55	2.91	
		10	200	7.21	16.32	2000	310	8.60	2.81	
		15	200	7.20	16.30	100	313	8.63	1.79	1 gallon
TW-25	5/19/2006	5	200	6.89	12.90	457	310	6.21	45.7	
		10	200	6.87	12.80	463	316	6.15	32.1	
		15	200	6.85	12.90	471	318	6.13	19.6	1 gallon
TW-26	5/19/2006	5	200	7.71	11.32	949	307	5.65	30.2	
		10	200	7.32	11.32	1010	310	5.62	24.1	
		15	200	7.05	11.33	1015	313	5.61	20.9	
		20	200	7.01	11.35	1023	315	5.61	14.6	1 gallon
MW-BW-201BD	5/22/2006	5	200	7.59	12.00	432	732	1.56	1000	
		10	200	7.54	12.30	452	315	2.15	1000	
		15	200	7.55	12.20	455	217	3.19	929	
		20	200	7.37	12.50	432	214	3.27	572	
		25	200	7.28	12.70	415	210	3.33	453	
		30	200	7.27	12.90	417	208	3.34	193	1.5 gallons
MW-BW-208BD	7/28/2006	10	250	7.15	19.53	419	333	2.17	cloudy	
		15	250	7.39	17.75	429	319	2.71	cloudy	
		20	250	7.41	17.06	422	311	2.53	cloudy	
		25	250	7.50	17.70	411	305	3.18	cloudy	
		30	250	7.46	17.09	408	307	2.76	cloudy	
		35	250	7.58	17.10	400	302	2.70	cloudy	
		40	250	7.57	17.05	400	302	2.40	cloudy	
		45	250	7.60	17.66	402	301	2.65	cloudy	
		50	250	7.64	17.09	401	299	2.72	cloudy	
		55	250	7.63	17.13	403	302	2.61	slightly cloudy	3 gallons
MW-BW-207I	7/28/2006	10	250	8.20	24.73	1290	245	0.18	cloudy	

TABLE 4.6

SUMMARY OF MONITORING WELL PURGING PARAMETERS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Date*	*Minutes Purged*	*Pumping Rate (mL/min)* [1]	*pH (Std. Units)* [2]	*Temperature (°C)* [3]	*Conductivity (µS/cm)* [4]	*ORP (mV)* [5] [6]	*DO (mg/L)* [7] [8]	*Turbidity (NTU)* [9]	*Volume Purged (gallons)*
		15	250	8.25	24.83	1292	230	0.16	slightly cloudy	
		20	250	8.31	24.98	1295	216	0.15	slightly cloudy	
		25	250	8.32	24.93	1293	190	0.15	clear	
		30	250	8.30	24.93	1289	185	0.14	clear	1.5 gallons

Notes:

(1) mL/min - milliliters per minute
(2) Std. Units - standard units
(3) °C - degrees Celsius
(4) µS/cm - microsiemens per centimet
(5) ORP - oxidation-reduction potential
(6) mV - millivolts
(7) DO - dissolved oxygen
(8) mg/L - milligrams per liter
(9) NTU - nephelometric turbidity units
The last three readings are provided in the table

TABLE 5.1

SUMMARY OF CALCULATED VERTICAL GRADIENTS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Top of Screen Elevation (ft AMSL)*	*Bottom of Screen Elevation (ft AMSL)*	*Mid-Point of Screen Elevation (ft AMSL)*	*31-Jul-06*	
				Water Level (ft AMSL)	*Vertical Gradient (ft/ft)* [(1)]
MW-BW-201S	594.97	584.97	589.97	592.36	0.116
MW-BW-201I	586.02	576.02	581.02	591.32	
MW-BW-202S	595.87	585.87	590.87	593.75	0.004
MW-BW-202I	585.72	575.72	580.72	593.71	
MW-BW-203S	594.14	584.14	589.14	594.68	-0.002
MW-BW-203I	583.95	573.95	578.95	594.70	
TB-1-4D	582.45	577.45	579.45	595.48	0.005
TW-3	597.60	587.60	592.6	595.55	
TB-1-2D	580.41	575.41	577.91	593.58	0.167
MW-2	597.80	587.80	592.8	596.07	
MW-11	594.10	584.10	589.1	593.04	0.118
TB-1-6D	577.84	572.84	575.34	591.41	
MW-6	594.10	584.10	589.1	595.69	-0.074
TB-1-3D	589.70	584.70	587.2	595.83	
MW-BW-207I	564.59	554.59	559.59	592.24	0.100
TW-3	597.60	587.60	592.6	595.55	

Notes:

ft AMSL feet above mean sea level.
(1) Positive value denotes downward vertical gradient; negative value denotes upward vertical gradient.

TABLE 5.2

ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*QC Sample*	*Sample Date*	*Tritium (pCi/L)*	*Result Error*
MW-2	WG-BW-051006-JL-017		5/10/2006	ND (200)	-
MW-4	WG-BW-051106-MS-030		5/11/2006	ND (200)	-
MW-5	WG-BW-050906-MS-010		5/9/2006	ND (200)	-
MW-6	WG-BW-050906-MS-002		5/9/2006	288	+/-121
MW-7	WG-BW-051106-MS-032		5/11/2006	214	+/-101
MW-9	WG-BW-051106-JL-029		5/11/2006	311	+/-118
MW-9	WG-BW-051106-JL-031	Duplicate (029)	5/11/2006	441	+/-131
MW-11	WG-BW-051006-MS-012		5/10/2006	ND (200)	-
MW-13	WG-BW-051006-MS-018		5/10/2006	ND (200)	-
MW-14	WG-BW-051006-MS-024		5/10/2006	ND (200)	-
MW-22	WG-BW-051106-JL-027		5/11/2006	ND (200)	-
MW-BW-201BD	WG-BW-052206-MB-056		5/22/2006	ND (200)	-
MW-BW-201BD	WG-BW-052206-MB-057	Duplicate (056)	5/22/2006	ND (200)	-
MW-BW-201I	WG-BW-051106-MS-040		5/11/2006	261	+/-104
MW-BW-201I	WG-BW-051106-MS-042	Duplicate (040)	5/11/2006	ND (200)	-
MW-BW-201S	WG-BW-051106-JL-039		5/11/2006	244	+/-100
MW-BW-202I	WG-BW-051106-JL-035		5/11/2006	ND (200)	-
MW-BW-202S	WG-BW-051106-JL-037		5/11/2006	ND (200)	-
MW-BW-203I	WG-BW-051106-MS-038		5/11/2006	ND (200)	-
MW-BW-203S	WG-BW-051106-MS-036		5/11/2006	ND (200)	-
MW-BW-204I	WG-BW-051206-JL-041		5/12/2006	ND (200)	-
MW-BW-205I	WG-BW-051206-JL-043		5/12/2006	221	+/-102
MW-BW-206I	WG-BW-051206-MS-048		5/12/2006	ND (200)	-
MW-BW-207I	WG-BW-207-072806-JL-101		7/28/2006	438	+/-133
MW-BW-207I	WG-BW-207-072806-JL-102	Duplicate (101)	7/28/2006	471	+/-137
MW-BW-208BD	WG-BW-208D-072806-JL-100		7/28/2006	ND (200)	-
TB-1-1D	WG-BW-050906-JL-005		5/9/2006	ND (200)	-
TB-1-2D	WG-BW-051006-JL-019		5/10/2006	ND (200)	-
TB-1-3D	WG-BW-050906-MS-004		5/9/2006	285	+/-120
TB-1-4D	WG-BW-051006-JL-013		5/10/2006	719	+/-150
TB-1-5D	WG-BW-050906-JL-003		5/9/2006	443	+/-122
TB-1-6D	WG-BW-051106-JL-033		5/11/2006	ND (200)	-
TB-1-7D	WG-BW-051006-JL-021		5/10/2006	ND (200)	-
TB-1-8D	WG-BW-051006-JL-025		5/10/2006	ND (200)	-
TB-1-9D	WG-BW-050906-JL-001		5/9/2006	ND (200)	-
TB-1-10D	WG-BW-051006-JL-011	Duplicate (009) [(1)]	5/10/2006	ND (200)	-
TW-3	WG-BW-051006-JL-015		5/10/2006	1040	+/-172
TW-6	WG-BW-050906-MS-008		5/9/2006	775	+/-136
TW-8	WG-BW-050906-MS-006		5/9/2006	ND (200)	-
TW-10	WG-BW-051006-MS-016		5/10/2006	ND (200)	-
TW-12	WG-BW-051006-MS-026		5/10/2006	ND (200)	-
TW-15	WG-BW-051006-MS-020		5/10/2006	ND (200)	-
TW-15	WG-BW-051006-MS-022	Duplicate (020)	5/10/2006	ND (200)	-
TW-16	WG-BW-050906-JL-007		5/9/2006	893	+/-145
TW-18	WG-BW-051206-MS-046		5/12/2006	ND (200)	-
TW-21	WG-BW-051106-MS-034		5/11/2006	211	+/-95.6
TW-23	WG-BW-051006-MS-014		5/10/2006	ND (200)	-
TW-24	WG-BW-051506-MB-050		5/15/2006	204	+/-112
TW-24	WG-BW-051506-MB-052	Duplicate (050)	5/15/2006	200	+/-111
TW-25	WG-BW-051906-MB-054		5/19/2006	ND (200)	-
TW-26	WG-BW-051206-MS-044		5/12/2006	ND (200)	-
TW-26	WG-BW-051906-MB-055		5/19/2006	ND (200)	-

Notes:

Samples analyzed by: Teledyne Brown Engineering, Inc.
QC - Quality Control
(1) - Sample container for original tritium analysis lost in transit.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*MW-2*	*MW-2*	*MW-4*	*MW-4*	*MW-5*	*MW-5*	*MW-6*	*MW-6*	*MW-7*	*MW-7*
Sample Identification:		*WG-BW-051006-JL-017*	*Result*	*WG-BW-051106-MS-030*	*Result*	*WG-BW-050906-MS-010*	*Result*	*WG-BW-050906-MS-002*	*Result*	*WG-BW-051106-MS-032*	*Result*
Sample Date:		*5/10/2006*	*Error*	*5/11/2006*	*Error*	*5/9/2006*	*Error*	*5/9/2006*	*Error*	*5/11/2006*	*Error*
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	5.585	+/-3.31	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*MW-9*	*MW-9*	*MW-9*	*MW-9*	*MW-11*	*MW-11*	*MW-13*	*MW-13*	*MW-14*	*MW-14*
Sample Identification:		*WG-BW-051106-JL-029*	*Result*	*WG-BW-051106-JL-031*	*Result*	*WG-BW-051006-MS-012*	*Result*	*WG-BW-051006-MS-018*	*Result*	*WG-BW-051006-MS-024*	*Result*
Sample Date:		*5/11/2006*	*Error*	*5/11/2006*	*Error*	*5/10/2006*	*Error*	*5/10/2006*	*Error*	*5/10/2006*	*Error*
				Duplicate							
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10) U*	-	ND (10)	-	ND (10) U*	-	ND (10)	-	ND (10) U*	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30) U*	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-	ND (30) U*	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	151.5	+/-27.52
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	99.41	+/-39.54
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	10.46	+/-2.686
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	12.97	+/-4.909

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*MW-22*	*MW-22*	*MW-BW-201BD*	*MW-BW-201BD*	*MW-BW-201BD*	*MW-BW-201BD*	*MW-BW-201I*	*MW-BW-201I*
Sample Identification:		*WG-BW-051106-JL-027*	*Result*	*WG-BW-052206-MB-056*	*Result*	*WG-BW-052206-MB-057*	*Result*	*WG-BW-051106-MS-040*	*Result*
Sample Date:		*5/11/2006*	*Error*	*5/22/2006*	*Error*	*5/22/2006*	*Error*	*5/11/2006*	*Error*
						Duplicate			
	Units								
Target Radionuclides									
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10) U*	-	ND (10)	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]									
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*MW-BW-201I*	*MW-BW-201I*	*MW-BW-201S*	*MW-BW-201S*	*MW-BW-202I*	*MW-BW-202I*	*MW-BW-202S*	*MW-BW-202S*
Sample Identification:		*WG-BW-051106-MS-042*	*Result*	*WG-BW-051106-JL-039*	*Result*	*WG-BW-051106-JL-035*	*Result*	*WG-BW-051106-JL-037*	*Result*
Sample Date:		*5/11/2006*	*Error*	*5/11/2006*	*Error*	*5/11/2006*	*Error*	*5/11/2006*	*Error*
		Duplicate							
	Units								
Target Radionuclides									
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]									
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*MW-BW-203I*	*MW-BW-203I*	*MW-BW-203S*	*MW-BW-203S*	*MW-BW-204I*	*MW-BW-204I*	*MW-BW-205I*	*MW-BW-205I*
Sample Identification:		*WG-BW-051106-MS-038*	*Result*	*WG-BW-051106-MS-036*	*Result*	*WG-BW-051206-JL-041*	*Result*	*WG-BW-051206-JL-043*	*Result*
Sample Date:		*5/11/2006*	*Error*	*5/11/2006*	*Error*	*5/12/2006*	*Error*	*5/12/2006*	*Error*
	Units								
Target Radionuclides									
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10) U*	-	ND (10)	-	ND (10)	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [(1)]									
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*MW-BW-206I*	*MW-BW-206I*	*MW-BW-207I*	*MW-BW-207I*	*MW-BW-207I*	*MW-BW-207I*	*MW-BW-208BD*	*MW-BW-208BD*
Sample Identification:		*WG-BW-051206-MS-048*	*Result*	*WG-BW-207-072806-JL-101*	*Result*	*WG-BW-207-072806-JL-102*	*Result*	*WG-BW-208D-072806-JL-100*	*Result*
Sample Date:		*5/12/2006*	*Error*	*7/28/2006*	*Error*	*7/28/2006*	*Error*	*7/28/2006*	*Error*
						Duplicate			
	Units								
Target Radionuclides									
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]									
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	10.5	+/-4.897
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
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LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*TB-1-1D*	*TB-1-1D*	*TB-1-2D*	*TB-1-2D*	*TB-1-3D*	*TB-1-3D*	*TB-1-4D*	*TB-1-4D*	*TB-1-5D*	*TB-1-5D*
Sample Identification:		*WG-BW-050906-JL-005*	*Result*	*WG-BW-051006-JL-019*	*Result*	*WG-BW-050906-MS-004*	*Result*	*WG-BW-051006-JL-013*	*Result*	*WG-BW-050906-JL-003*	*Result*
Sample Date:		*5/9/2006*	*Error*	*5/10/2006*	*Error*	*5/9/2006*	*Error*	*5/10/2006*	*Error*	*5/9/2006*	*Error*
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10)	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	120	+/-55.18	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	5.026	+/-3.153	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
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Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
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TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*TB-1-6D*	*TB-1-6D*	*TB-1-7D*	*TB-1-7D*	*TB-1-8D*	*TB-1-8D*	*TB-1-9D*	*TB-1-9D*	*TB-1-10D*	*TB-1-10D*
Sample Identification:		*WG-BW-051106-JL-033*	*Result*	*WG-BW-051006-JL-021*	*Result*	*WG-BW-051006-JL-025*	*Result*	*WG-BW-050906-JL-001*	*Result*	*WG-BW-051006-JL-009*	*Result*
Sample Date:		*5/11/2006*	*Error*	*5/10/2006*	*Error*	*5/10/2006*	*Error*	*5/9/2006*	*Error*	*5/10/2006*	*Error*
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10) U*	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	RNI	-	73.83	+/-34.97	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	21.28	+/-3.067	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
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U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
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TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*TB-1-10D*	*TB-1-10D*	*TW-3*	*TW-3*	*TW-6*	*TW-6*	*TW-8*	*TW-8*	*TW-10*	*TW-10*
Sample Identification:		*WG-BW-051006-JL-011*	*Result*	*WG-BW-051006-JL-015*	*Result*	*WG-BW-050906-MS-008*	*Result*	*WG-BW-050906-MS-006*	*Result*	*WG-BW-051006-MS-016*	*Result*
Sample Date:		*5/10/2006*	*Error*	*5/10/2006*	*Error*	*5/9/2006*	*Error*	*5/9/2006*	*Error*	*5/10/2006*	*Error*
		Duplicate									
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10) U*	-	ND (10) U*	-	ND (10) U*	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	104.9	+/-53	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
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U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
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TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*TW-12*	*TW-12*	*TW-15*	*TW-15*	*TW-15*	*TW-15*	*TW-16*	*TW-16*	*TW-18*	*TW-18*
Sample Identification:		*WG-BW-051006-MS-026*	*Result*	*WG-BW-051006-MS-020*	*Result*	*WG-BW-051006-MS-022*	*Result*	*WG-BW-050906-JL-007*	*Result*	*WG-BW-051206-MS-046*	*Result*
Sample Date:		*5/10/2006*	*Error*	*5/10/2006*	*Error*	*5/10/2006* *Duplicate*	*Error*	*5/9/2006*	*Error*	*5/12/2006*	*Error*
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10) U*	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10) U*	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30) U*	-	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-

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(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
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TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*TW-21*	*TW-21*	*TW-23*	*TW-23*	*TW-24*	*TW-24*	*TW-24*	*TW-24*	*TW-24*	*TW-24*
Sample Identification:		*WG-BW-051106-MS-034*	*Result*	*WG-BW-051006-MS-014*	*Result*	*WG-BW-051006-MS-028*	*Result*	*WG-BW-051506-MB-050*	*Result*	*WG-BW-051506-MB-052*	*Result*
Sample Date:		*5/11/2006*	*Error*	*5/10/2006*	*Error*	*5/10/2006*	*Error*	*5/15/2006*	*Error*	*5/15/2006*	*Error*
										Duplicate	
	Units										
Target Radionuclides											
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10) U*	-	ND (10) U*	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]											
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	136.6	+/-89.11	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
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Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
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TABLE 5.3

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*TW-25*	*TW-25*	*TW-26*	*TW-26*	*TW-26*	*TW-26*
Sample Identification:		*WG-BW-051906-MB-054*	*Result*	*WG-BW-051206-MS-044*	*Result*	*WG-BW-051906-MB-055*	*Result*
Sample Date:		*5/19/2006*	*Error*	*5/12/2006*	*Error*	*5/19/2006*	*Error*
	Units						
Target Radionuclides							
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10) U*	-	ND (10)	-	ND (10)	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]							
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-
Radium-226	pCi/L	RNI	-	RNI	-	RNI	-
Thorium-228	pCi/L	8.752	+/-5.457	RNI	-	RNI	-
Thorium-232	pCi/L	RNI	-	RNI	-	RNI	-

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected.
Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.4

ANALYTICAL RESULTS SUMMARY - TRITIUM IN SURFACE WATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*Sample Date*	*Tritium (pCi/L)*	*Result Error*
SG-BW-101	SW-BW-051706-MB-101	5/17/2006	398	+/-129
SG-BW-102	SW-BW-051706-MB-102	5/17/2006	365	+/-120
SG-BW-103	SW-BW-051706-MB-103	5/17/2006	230	+/-114
SG-BW-104	SW-BW-051706-MB-104	5/17/2006	ND (200)	-
SG-BW-105	SW-BW-051706-MB-105	5/17/2006	ND (200)	-
SG-BW-106	SW-BW-051706-MB-106	5/17/2006	ND (200)	-

Notes:

Samples analyzed by: Teledyne Brown Engineering, Inc.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
- - Non-detect value, +/- value not reported.

TABLE 5.5

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN SURFACE WATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*SG-BW-101*	*SG-BW-101*	*SG-BW-102*	*SG-BW-102*	*SG-BW-103*	*SG-BW-103*	*SG-BW-104*	*SG-BW-104*
Sample Identification:		*SW-BW-051706-MB-101*	*Result*	*SW-BW-051706-MB-102*	*Result*	*SW-BW-051706-MB-103*	*Result*	*SW-BW-051706-MB-104*	*Result*
Sample Date:		*5/17/2006*	*Error*	*5/17/2006*	*Error*	*5/17/2006*	*Error*	*5/17/2006*	*Error*
	Units								
Target Radionuclides									
Barium-140	pCi/L	ND (60)	-	ND (60)	-	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10) U*	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-	ND (30) U*	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]									
Actinium-228	pCi/L	RNI	-	RNI	-	RNI	-	11.64	+/-5.653
Potassium-40	pCi/L	RNI	-	RNI	-	RNI	-	RNI	-

Notes:

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.5

ANALYTICAL RESULTS SUMMARY - RADIONUCLIDES IN SURFACE WATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location:		*SG-BW-105*	*SG-BW-105*	*SG-BW-106*	*SG-BW-106*
Sample Identification:		*SW-BW-051706-MB-105*	*Result*	*SW-BW-051706-MB-106*	*Result*
Sample Date:		*5/17/2006*	*Error*	*5/17/2006*	*Error*
	Units				
Target Radionuclides					
Barium-140	pCi/L	ND (60)	-	ND (60)	-
Cesium-134	pCi/L	ND (10)	-	ND (10) U*	-
Cesium-137	pCi/L	ND (18)	-	ND (18)	-
Cobalt-58	pCi/L	ND (15)	-	ND (15)	-
Cobalt-60	pCi/L	ND (15)	-	ND (15)	-
Iron-59	pCi/L	ND (30)	-	ND (30)	-
Lanthanum-140	pCi/L	ND (15)	-	ND (15)	-
Manganese-54	pCi/L	ND (15)	-	ND (15)	-
Niobium-95	pCi/L	ND (10)	-	ND (10)	-
Strontium-89/90 (Total)	pCi/L	ND (2)	-	ND (2)	-
Zinc-65	pCi/L	ND (30)	-	ND (30)	-
Zirconium-95	pCi/L	ND (10)	-	ND (10)	-
Non-Target Radionuclides [1]					
Actinium-228	pCi/L	RNI	-	RNI	-
Potassium-40	pCi/L	65.77	+/-41.1	RNI	-

Notes:

Samples analyzed by: Teledyne Brown
(1) - These non-targeted radionuclides are included in this table but excluded from the discussion in this report. These radionuclides were either a) naturally occurring and thus not produced by the Station, or b) could be definitively evaluated as being naturally occurring due to the lack of presence of other radionuclides which would otherwise indicate the potential of production from the Station.
RNI- Radionuclide Not Identified during analysis.
ND ( ) - Non-detect; value in parentheses is the LLD.
LLD - Lower limit of detection.
U* - Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds Minimum Detectable Concentration and 3 sigma.
- - Non-detect value, +/- value not reported.

TABLE 5.6

EXISTING ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*QC Sample*	*Laboratory Analysis*	*Laboratory*	*Sample Date*	*Tritium (pCi/L)*	*Result Error*
MW-2	GW-030806-MB-MW-2			EI	3/8/2006	ND (200)	-
MW-2	WG-BW-051006-JL-017			TBE	5/10/2006	ND (200)	-
MW-4	GW-030806-MB-MW-4			EI	3/8/2006	ND (200)	-
MW-4	GW-050206-MB-MW-4			EI	5/2/2006	390	+/-95
MW-4	WG-BW-051106-MS-030			TBE	5/11/2006	ND (200)	-
MW-5	GW-050206-MB-MW-5			EI	5/2/2006	206	+/-87
MW-5	WG-BW-050906-MS-010			TBE	5/9/2006	ND (200)	-
MW-6	GW-030806-MB-MW-6			EI	3/8/2006	348	+/-107
MW-6	WG-BW-050906-MS-002			TBE	5/9/2006	288	+/-121
MW-7	WG-BW-051106-MS-032			TBE	5/11/2006	214	+/-101
MW-9	WG-BW-051106-JL-029			TBE	5/11/2006	311	+/-118
MW-9	WG-BW-051106-JL-031	Duplicate (029)		TBE	5/11/2006	441	+/-131
MW-11	WG-BW-051006-MS-012			TBE	5/10/2006	ND (200)	-
MW-13	WG-BW-051006-MS-018			TBE	5/10/2006	ND (200)	-
MW-14	WG-BW-051006-MS-024			TBE	5/10/2006	ND (200)	-
MW-22	WG-BW-051106-JL-027			TBE	5/11/2006	ND (200)	-
MW-BW-201BD	WG-BW-052206-MB-056			TBE	5/22/2006	ND (200)	-
MW-BW-201BD	WG-BW-052206-MB-057	Duplicate (056)		TBE	5/22/2006	ND (200)	-
MW-BW-201I	WG-BW-051106-MS-040			TBE	5/11/2006	261	+/-104
MW-BW-201I	WG-BW-051106-MS-042	Duplicate (040)		TBE	5/11/2006	ND (200)	-
MW-BW-201S	WG-BW-051106-JL-039			TBE	5/11/2006	244	+/-100
MW-BW-202I	WG-BW-051106-JL-035			TBE	5/11/2006	ND (200)	-
MW-BW-202S	WG-BW-051106-JL-037			TBE	5/11/2006	ND (200)	-
MW-BW-203I	WG-BW-051106-MS-038			TBE	5/11/2006	ND (200)	-
MW-BW-203S	WG-BW-051106-MS-036			TBE	5/11/2006	ND (200)	-
MW-BW-204I	WG-BW-051206-JL-041			TBE	5/12/2006	ND (200)	-
MW-BW-205I	WG-BW-051206-JL-043			TBE	5/12/2006	221	+/-102
MW-BW-206I	WG-BW-051206-MS-048			TBE	5/12/2006	ND (200)	-
TB-1-1D	GW-011106-MB-TB-1D			EI	1/11/2006	ND (200)	-
TB-1-1D	GW-030806-MB-TB-1D			EI	3/8/2006	ND (200)	-
TB-1-1D	WG-BW-050906-JL-005			TBE	5/9/2006	ND (200)	-
TB-1-2D	GW-011106-MB-TB-2D			EI	1/11/2006	ND (200)	-
TB-1-2D	GW-030806-MB-TB-2D			EI	3/8/2006	ND (200)	-
TB-1-2D	WG-BW-051006-JL-019			TBE	5/10/2006	ND (200)	-
TB-1-3D	GW-011106-MB-TB-3D			EI	1/11/2006	265	+/-117
TB-1-3D	GW-030806-MB-TB-3D			EI	3/8/2006	301	+/-90
TB-1-3D	WG-BW-050906-MS-004			TBE	5/9/2006	285	+/-120
TB-1-4D	GW-011106-MB-TB-4D			EI	1/11/2006	622	+/-128
TB-1-4D	GW-030806-EV-TB-4D			EI	3/8/2006	582	+/-111
TB-1-4D	WG-BW-051006-JL-013			TBE	5/10/2006	719	+/-150
TB-1-5D	GW-011106-MB-TB-5D			EI	1/11/2006	ND (200)	-
TB-1-5D	GW-030806-MB-TB-5D			EI	3/8/2006	ND (200)	-
TB-1-5D	WG-BW-050906-JL-003			TBE	5/9/2006	443	+/-122
TB-1-6D	GW-011106-MB-TB-6D			EI	1/11/2006	ND (200)	-
TB-1-6D	GW-030806-MB-TB-6D			EI	3/8/2006	ND (200)	-
TB-1-6D	WG-BW-051106-JL-033			TBE	5/11/2006	ND (200)	-
TB-1-7D	GW-011106-MB-TB-7D			EI	1/11/2006	ND (200)	-
TB-1-7D	GW-030806-EV-TB-7D			EI	3/8/2006	ND (200)	-
TB-1-7D	WG-BW-051006-JL-021			TBE	5/10/2006	ND (200)	-
TB-1-8D	GW-022406-MB-TB1-8D			EI	2/24/2006	ND (200)	-
TB-1-8D	GW-030806-MB-TB-8D			EI	3/8/2006	ND (200)	-
TB-1-8D	WG-BW-051006-JL-025			TBE	5/10/2006	ND (200)	-
TB-1-9D	GW-022406-MB-TB1-9D			EI	2/24/2006	ND (200)	-
TB-1-9D	GW-030806-EV-TB1-9D			EI	3/8/2006	ND (200)	-
TB-1-9D	WG-BW-050906-JL-001			TBE	5/9/2006	ND (200)	-
TB-1-10D	GW-022406-MB-TB1-10D			EI	2/24/2006	ND (200)	-

TABLE 5.6

EXISTING ANALYTICAL RESULTS SUMMARY - TRITIUM IN GROUNDWATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*QC Sample*	*Laboratory Analysis*	*Laboratory*	*Sample Date*	*Tritium (pCi/L)*	*Result Error*
TB-1-10D	GW-030806-EV-TB-1-10D			EI	3/8/2006	ND (200)	-
TB-1-10D	WG-BW-051006-JL-011	Duplicate (009) (1)		TBE	5/10/2006	ND (200)	-
TB-1-11D	GW-031706-MB-TB1-11D			EI	3/17/2006	ND (200)	-
TB-1-12D	GW-031606-MB-TB1-12D			EI	3/16/2006	ND (200)	-
TB-1-13D	GW-031606-MB-TB1-13D			EI	3/16/2006	ND (200)	-
TB-1-14D	GW-031706-MB-TB1-14D			EI	3/17/2006	ND (200)	-
TBRW-1	GW-031706-MB-TBRW-1			EI	3/17/2006	ND (200)	-
TBRW-1	GW-050206-MB-TBRW-1			EI	5/2/2006	ND (200)	-
TBRW-2	GW-031706-MB-TBRW-2			EI	3/17/2006	ND (200)	-
TBRW-2	GW-050206-MB-TBRW-2			EI	5/2/2006	ND (200)	-
TBRW-3	GW-031706-MB-TBRW-3			EI	3/17/2006	ND (200)	-
TBRW-3	GW-050206-MB-TBRW-3			EI	5/2/2006	ND (200)	-
TW-3	GW-030806-EV-TW-3			EI	3/8/2006	302	+/-101
TW-3	GW-030806-EV-TW-3-recount		Recount	EI	3/8/2006	330	+/-103
TW-3	WG-BW-051006-JL-015			TBE	5/10/2006	1040	+/-172
TW-6	GW-030806-EV-TW-6			EI	3/8/2006	880	+/-110
TW-6	GW-030806-EV-TW-6-recount		Recount	EI	3/8/2006	676	+/-117
TW-6	WG-BW-050906-MS-008			TBE	5/9/2006	775	+/-136
TW-8	GW-030806-EV-TW-8			EI	3/8/2006	ND (200)	-
TW-8	WG-BW-050906-MS-006			TBE	5/9/2006	ND (200)	-
TW-10	WG-BW-051006-MS-016			TBE	5/10/2006	ND (200)	-
TW-12	WG-BW-051006-MS-026			TBE	5/10/2006	ND (200)	-
TW-15	WG-BW-051006-MS-020			TBE	5/10/2006	ND (200)	-
TW-15	WG-BW-051006-MS-022	Duplicate (020)		TBE	5/10/2006	ND (200)	-
TW-16	GW-050206-MB-TW-16			EI	5/2/2006	368	+/-94
TW-16	WG-BW-050906-JL-007			TBE	5/9/2006	893	+/-145
TW-18	WG-BW-051206-MS-046			TBE	5/12/2006	ND (200)	-
TW-21	WG-BW-051106-MS-034			TBE	5/11/2006	211	+/-95.6
TW-23	WG-BW-051006-MS-014			TBE	5/10/2006	ND (200)	-
TW-24	WG-BW-051506-MB-050			TBE	5/15/2006	204	+/-112
TW-24	WG-BW-051506-MB-052	Duplicate (050)		TBE	5/15/2006	200	+/-111
TW-25	GW-030806-EV-TW-25			EI	3/8/2006	ND (200)	-
TW-25	WG-BW-051906-MB-054			TBE	5/19/2006	ND (200)	-
TW-26	WG-BW-051206-MS-044			TBE	5/12/2006	ND (200)	-
TW-26	WG-BW-051906-MB-055			TBE	5/19/2006	ND (200)	-
Seep*	Turbine Building Basement			EI	12/13/2005	2,825	+/-181

Notes:

EI - Environmental, Inc.
TBE - Teledyne Brown Engineering, Inc.
QC - Quality Control
(1) - Sample container for original tritium analysis lost in transit.
ND - Non-detect at associated value.
- Non-detect value, +/- value not reported.
* This seep sample was collected from the west side of the Turbine Building within the basement. The water seeps into the basement on an intermittent basis. This water sample may not represent groundwater.

TABLE 5.7

EXISTING ANALYTICAL RESULTS SUMMARY - TRITIUM IN SURFACE WATER
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Date*	*Sample Identification*	*Tritium (pCi/L)*	*Result Error*
Ditch at Culvert	12/22/2005	Ditch at Culvert~12/22/05	1007	+/-128
Ditch at Culvert	2/15/2006	GW-021506-MB-Ditch at Culvert	468	+/-99
Ditch at Culvert	2/22/2006	GW-022206-MB-Ditch at Culvert	306	+/-95
Ditch at Culvert	3/1/2006	GW-030106-MB-Ditch at Culvert	670	+/-119
Ditch at Culvert	3/7/2006	GW-030706-MB-Ditch at Culvert	311	+/-91
Ditch at Culvert	3/15/2006	GW-031506-MB-Ditch at Culvert	458	+/-96
Ditch at Culvert	3/22/2006	GW-032206-MB-Ditch at Culvert	889	+/-119
Ditch at Culvert	3/29/2006	GW-032906-MB-Ditch at Culvert	598	+/-109
Ditch at Culvert	4/5/2006	GW-040506-MB-Ditch at Culvert	704	+/-110
Ditch at Culvert	4/12/2006	GW-041206-MB-Ditch at Culvert	664	+/-102
Ditch at Culvert	4/19/2006	GW-041906-MB-Ditch at Culvert	423	+/-90
Ditch at Culvert	4/26/2006	GW-042606-JL-Ditch at Culvert	633	+/-104
Ditch at Culvert	5/17/2006	GW-051706-MB-Ditch at Culvert	368	+/-101
Ditch by Alpha Gate	12/15/2005	Ditch by Alpha Gate~12/15/05	1	+/-82
Ditch by Alpha Gate	12/22/2005	Ditch by Alpha Gate~12/22/05	13	+/-82
Ditch by Alpha Gate	12/29/2005	Ditch by Alpha Gate~12/29/05	11	+/-93
Ditch by Alpha Gate	1/5/2006	Ditch by Alpha Gate~1/5/06	7	+/-93
Ditch by Alpha Gate	1/12/2006	Ditch by Alpha Gate~1/12/06	-30	+/-95
Ditch by Alpha Gate	1/19/2006	Ditch by Alpha Gate~1/19/06	107	+/-100
Ditch by Alpha Gate	1/26/2006	Ditch by Alpha Gate~1/26/06	77	+/-98
Ditch by Alpha Gate	2/2/2006	Ditch by Alpha Gate~2/2/06	23	+/-96
Ditch by Alpha Gate	2/9/2006	Ditch by Alpha Gate~2/9/06	201	+/-86
Ditch by Alpha Gate	2/16/2006	Ditch by Alpha Gate~2/16/06	123	+/-100
Ditch by Alpha Gate	2/23/2006	Ditch by Alpha Gate~2/23/06	166	+/-84
Ditch by GW-1	2/15/2006	GW-021506-MB-Ditch by GW-1	36	+/-82
Ditch by GW-1	2/22/2006	GW-022206-MB-Ditch by GW-1	100	+/-91
Ditch by GW-1	3/1/2006	GW-030106-MB-Ditch by GW-1	-10	+/-80
Ditch by GW-1	3/7/2006	GW-030706-MB-Ditch by GW-1	56	+/-80
Ditch by GW-1	3/15/2006	GW-031506-MB-Ditch by GW-1	96	+/-81
Ditch by GW-1	3/22/2006	GW-032206-MB-Ditch by GW-1	70	+/-82
Ditch by GW-1	3/29/2006	GW-032906-MB-Ditch by GW-1	-166	+/-79
Ditch by GW-1	4/5/2006	GW-040506-MB-Ditch by GW-1	122	+/-89
Ditch by GW-1	4/12/2006	GW-041206-MB-Ditch by GW-1	89	+/-79
Ditch by GW-1	4/19/2006	GW-041906-MB-Ditch by GW-1	-30	+/-97
Ditch by GW-1	4/26/2006	GW-042606-JL-Ditch at GW-1	152	+/-85
Ditch by GW-1	5/17/2006	GW-051706-MB-DITCHBYGW-1	105	+/-108
Oil Water Sep	4/19/2006	GW-041906-MB-Oil Water Sep	86	+/-75
Oil Water Sep	5/2/2006	GW-050206-MB-OILWATERSEP	368	+/-94
Oil Water Sep	5/18/2006	Oil Separator~051806	394	+/-99
Oil Water Sep	6/2/2006	Oil Separator~060206	199	+/-85

Note:

Samples analyzed by Environmental, Inc.

APPENDIX A

MONITORING WELL LOGS

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-201BD
DATE COMPLETED: May 11, 2006
DRILLING METHOD: HSA/ROTARY/CORE (HQ)
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	NO SAMPLE		Gel/Portland Mix; 2" Ø PVC Well Casing				
	SP SAND (native) - fine grain, saturated	23.00					
	CL CLAY - trace gravel, silt, hard, gray	24.50					51
							163
							65

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 6/6/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-201BD
DATE COMPLETED: May 11, 2006
DRILLING METHOD: HSA/ROTARY/CORE (HQ)
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
42							
44			Bentonite				
46							
48							
50							
52							
54	END OF OVERBURDEN HOLE @ 54.0ft BGS						
56							
58							
60							
62							
64							
66							
68							
70							
72							
74							
76							
78							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-201BD
DATE COMPLETED: May 11, 2006
DRILLING METHOD: HSA/ROTARY/CORE (HQ)
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	RUN NUMBER	CORE RECOVERY %	RQD %
54	SHALE - dark gray, soft	54.00	6" Borehole 2" Ø PVC Well Screen Sand Pack			
56						
58						
60						
62						
64						
66						
68						
70						
72						
74						
76						
78						
80						
82						
84						
86						
88						
90						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-201BD
DATE COMPLETED: May 11, 2006
DRILLING METHOD: HSA/ROTARY/CORE (HQ)
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	RUN NUMBER	CORE RECOVERY %	RQD %	
94	SANDSTONE - dark gray, fine grained, saturated	93.00					
100	END OF BOREHOLE @ 100.0ft BGS	100.00	WELL DETAILS Screened interval: 80.00 to 90.00ft BGS Length: 10ft Diameter: 2in Slot Size: 0.010 Material: PVC Sand Pack: 77.50 to 100.00ft BGS Material: #5 Sand				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-201I
DATE COMPLETED: April 26, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL/M. BORKOWSKI

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	603.21 600.02					
0	NO SAMPLE		Concrete				
2							
4			Bentonite				
6			2" Ø PVC Well Casing				
8							
10							
12			6" Borehole				
14							
16			2" Ø PVC Well Screen				
18			Sand Pack				
20							
22							
24	SP SAND (native) - fine grain, saturated	577.02					
26	END OF BOREHOLE @ 25.0ft BGS	575.02					
28							
30							
32							
34							
36							
38							

WELL DETAILS
Screened interval:
586.02 to 576.02ft AMSL
14.00 to 24.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
588.02 to 575.02ft AMSL
12.00 to 25.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

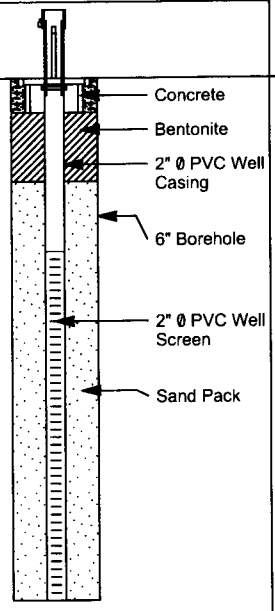
OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 6/6/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-201S
DATE COMPLETED: April 26, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	603.11 599.97					
0	NO SAMPLE						
16	END OF BOREHOLE @ 15.0ft BGS	584.97					



WELL DETAILS
Screened interval:
594.97 to 584.97ft AMSL
5.00 to 15.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
596.97 to 584.97ft AMSL
3.00 to 15.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

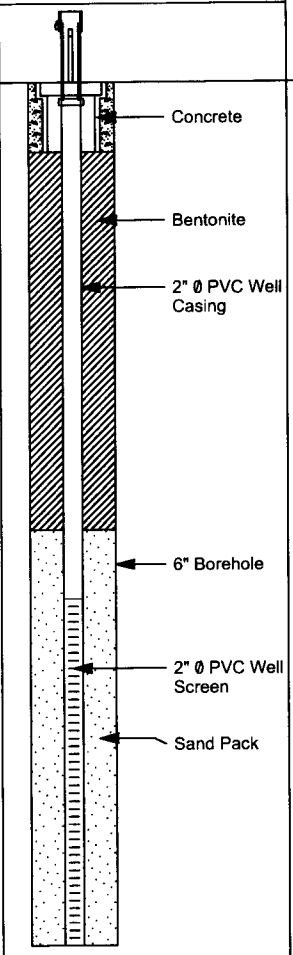
OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 6/6/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-202I
DATE COMPLETED: April 26, 2006
DRILLING METHOD: HSA/GEOPROBE
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	604.09 600.72					
0	GP GRAVEL (FILL) - gray	599.72					
2	SP/GP (FILL) - brown						
4		596.72					
6	NO SAMPLE						
8							
10							
12							
14							
16							
18							
20		580.72					
22	CL CLAY - trace gravels, silty, hard, low plasticity, gray - 2" clay seam, firm to soft, silty, medium plasticity at 21.0ft BGS						
24		576.72					
26	END OF BOREHOLE @ 25.0ft BGS						
28							
30							
32							
34							
36							
38							



WELL DETAILS
Screened interval:
585.72 to 575.72ft AMSL
15.00 to 25.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
587.72 to 575.72ft AMSL
13.00 to 25.00ft BGS
Material: #5 Sand

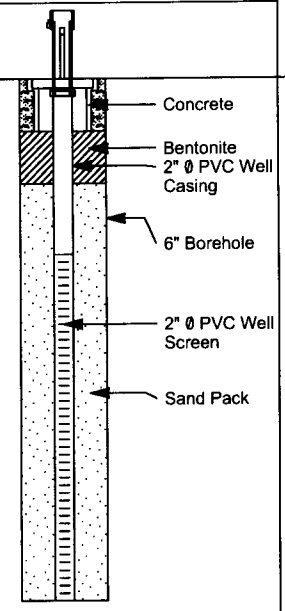
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-202S
DATE COMPLETED: April 26, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	604.30 600.87					
0	GP GRAVEL (FILL) - gray	599.87					
2	SP/GP (FILL) - brown						
4	NO SAMPLE	596.87					
6							
8							
10							
12							
14		585.87					
16	END OF BOREHOLE @ 15.0ft BGS						
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							



WELL DETAILS
Screened interval:
595.87 to 585.87ft AMSL
5.00 to 15.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
597.87 to 585.87ft AMSL
3.00 to 15.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-203I
DATE COMPLETED: April 25, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	602.19 598.95					
0	GP GRAVEL	598.45	Concrete				
2	SP SAND (FILL) - medium grain, poorly graded, dry		Bentonite				
4		594.95	2" Ø PVC Well Casing				
4	NO SAMPLE						
6							
8							
10							
12							
14			6" Borehole				
16							
16			2" Ø PVC Well Screen				
18			Sand Pack				
20	SP SAND - medium grain, poorly graded, brown, saturated	578.95					
22	- 2" clay seam, medium plasticity, soft at 21.3ft BGS						
24		574.95					
24	CL CLAY, trace gravel, silty, hard, low plasticity, gray	573.95					
26	END OF BOREHOLE @ 25.0ft BGS						
28							
30							
32							
34							
36							
38							

WELL DETAILS
Screened interval:
583.95 to 573.95ft AMSL
15.00 to 25.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
585.95 to 573.95ft AMSL
13.00 to 25.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 6/6/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-203S
DATE COMPLETED: April 25, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	602.33 599.14					
0	GP GRAVEL	598.64	Concrete Bentonite 2" Ø PVC Well Casing				
2	SP SAND (FILL) - medium grain, poorly graded, dry						
4	NO SAMPLE	595.14	6" Borehole				
6			2" Ø PVC Well Screen				
8			Sand Pack				
10							
12							
14		584.14					
16	END OF BOREHOLE @ 15.0ft BGS						
18							
20							
22							
24							
26							
28							
30							
32							
34							
36							
38							

WELL DETAILS
Screened interval:
594.14 to 584.14ft AMSL
5.00 to 15.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
596.64 to 584.14ft AMSL
2.50 to 15.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

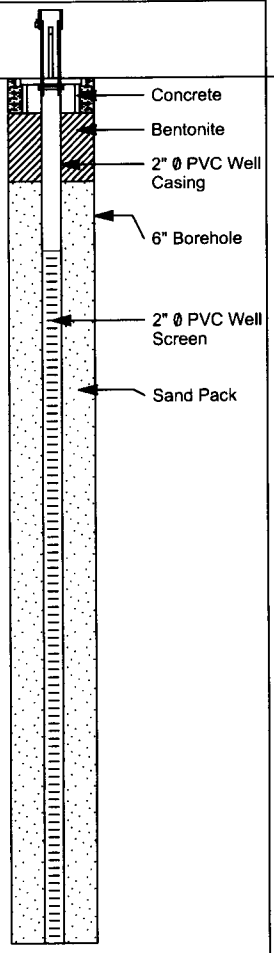
OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 6/6/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-204I
DATE COMPLETED: April 25, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	603.17 600.37					
0	NO SAMPLE						
14	SP SAND - medium grain, poorly graded, brown, saturated	585.37					
22	GP GRAVEL - trace sand, well graded	577.37					
24	ML SILTS - poorly graded, hard, moist	576.37					
	END OF BOREHOLE @ 25.0ft BGS	575.37					



WELL DETAILS
Screened interval:
595.37 to 575.37ft AMSL
5.00 to 25.00ft BGS
Length: 20ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
595.37 to 575.37ft AMSL
5.00 to 25.00ft BGS
Material: #5 Sand

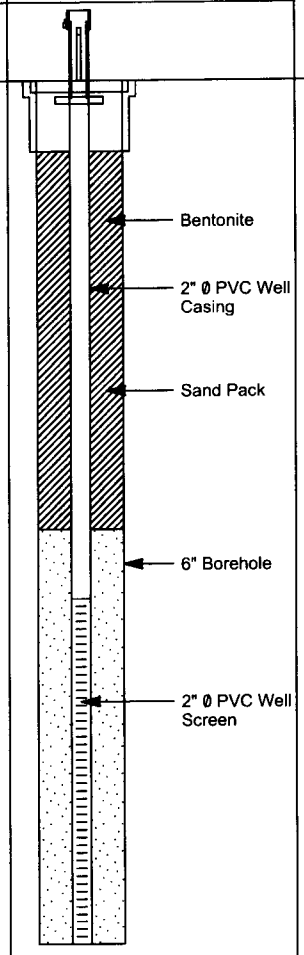
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-205I
DATE COMPLETED: April 27, 2006
DRILLING METHOD: HSA/GEOPROBE
FIELD PERSONNEL: M. BORKOWSKI

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	600.86 598.04					
0	SOIL (organic)	597.04					
2	SP SAND - dark tan						
4		594.04					
6	NO SAMPLE						
8							
10							
12							
14							
16							
18							
20		578.04					
22	SP SAND - fine grain, saturated						
24		574.04					
26	- clay, slightly saturated at 25.0ft BGS END OF BOREHOLE @ 25.0ft BGS						
28							
30							
32							
34							
36							
38							



WELL DETAILS
Screened interval:
583.04 to 573.04ft AMSL
15.00 to 25.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
585.04 to 573.04ft AMSL
13.00 to 25.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-206I
DATE COMPLETED: April 25, 2006
DRILLING METHOD: Hollow Stem Auger
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF RISER GROUND SURFACE	598.35 595.10					
0	NO SAMPLE		Concrete				
2							
4			Bentonite				
6			2" Ø PVC Well Casing				
8							
10							
12			6" Borehole				
14							
16			2" Ø PVC Well Screen				
18			Sand Pack				
20	SP SAND - medium grain, poorly graded, brown, saturated	575.10					
22							
24	CL CLAY, trace gravel, silty, hard, low plasticity, gray, dry	572.10					
26	END OF BOREHOLE @ 25.0ft BGS	570.10					
28							
30							
32							
34							
36							
38							

WELL DETAILS
Screened interval:
581.10 to 571.10ft AMSL
14.00 to 24.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 0.010
Material: PVC
Sand Pack:
583.10 to 570.10ft AMSL
12.00 to 25.00ft BGS
Material: #5 Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-207I
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	GROUND SURFACE	599.59					
0	Asphalt	599.09					
	SP - Sand, brown						
2							
4							
	- saturated at 5.0ft BGS						
6							
8							
10	Fill, gray, poorly graded, medium grained sand, saturated	589.59					
12							
14			Grout				
16							
18							
20							
22							
24							
	- brown at 25.0ft BGS						
26							
28			Bentonite Chips				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 8/9/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-207I
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
32	- cobble seam at 30.0ft BGS						
34			Sand				
36							
38							
40	Sand/gravel fill, dry concrete	559.59					
42			2" Ø PVC Well Screen				
44	CL - Clay, silty	555.59					
46	Shale, hard	554.09					
48							
50	END OF BOREHOLE @ 50.0ft BGS	549.59					
52							
54							
56							
58							

WELL DETAILS
Screened interval:
564.59 to 554.59ft AMSL
35.00 to 45.00ft BGS
Length: 10ft
Diameter: 2in
Slot Size: 10
Material: PVC
Sand Pack:
567.59 to 549.59ft AMSL
32.00 to 50.00ft BGS
Material: Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-208BD
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	TOP OF CASING	601.98					
	SP - Sand, brown		Grout				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 45136-20.GPJ CRA_CORP.GDT 8/9/06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-208BD
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
32	CL - clay, silty, gray	30.00					
34							
36							
38							
40	END OF OVERBURDEN HOLE @ 40.0ft BGS						
42							
44							
46							
48							
50							
52							
54							
56							
58							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-208BD
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	RUN NUMBER	CORE RECOVERY %	RQD %
40	Shale, gray	40.00				
42						
44						
46						
48						
50						
52						
54						
56						
58						
60			Grout			
62						
64						
66						

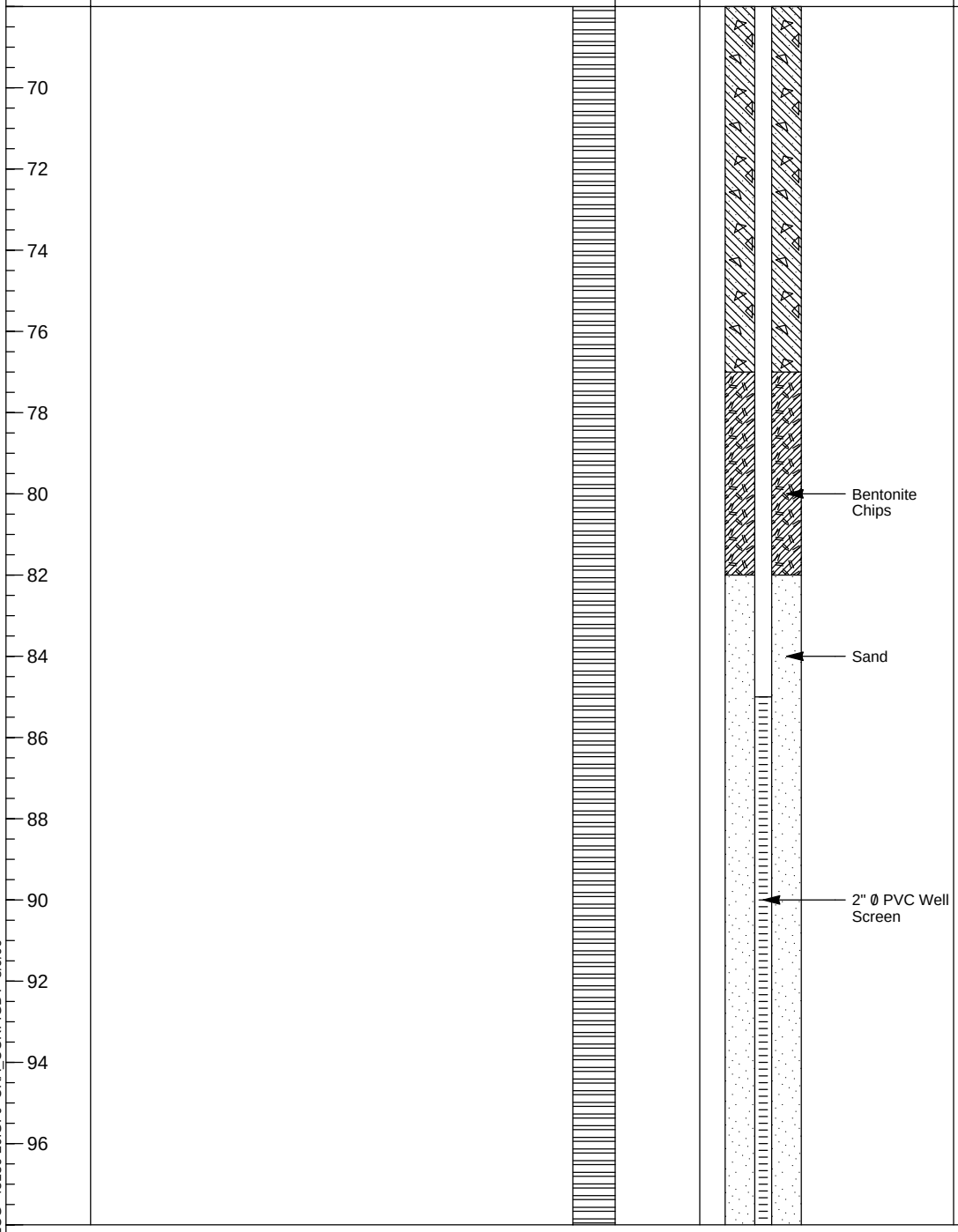
NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-208BD
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	RUN NUMBER	CORE RECOVERY %	RQD %	



NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (BEDROCK)

PROJECT NAME: BRAIDWOOD GENERATING STATION
PROJECT NUMBER: 45136-20
CLIENT: EXELON GENERATION COMPANY LLC
LOCATION: BRAIDWOOD, ILLINOIS

HOLE DESIGNATION: MW-BW-208BD
DATE COMPLETED: July 13, 2006
DRILLING METHOD: Sonic
FIELD PERSONNEL: N. KUHL

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	RUN NUMBER	CORE RECOVERY %	RQD %	
100	- trace sandstone at 98.0ft BGS						
102	END OF BOREHOLE @ 102.0ft BGS	102.00	WELL DETAILS Screened interval: 85.00 to 100.00ft BGS Length: 15ft Diameter: 2in Slot Size: 10 Material: PVC Sand Pack: 82.00 to 102.00ft BGS Material: Sand				
104							
106							
108							
110							
112							
114							
116							
118							
120							
122							
124							
126							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

APPENDIX B

PRIVATE WATER WELL INVENTORY RECORDS (CRA, MARCH 2006)

TABLE B.1

SUMMARY OF PRIVATE WELL LOCATIONS
FLEETWIDE TRITIUM ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Location	X-coord	Y-coord
PW-8	69990.437	86292.616
PWS-105	72609.760	84740.620
PWS-201B	72599.192	84017.487
PWS-104	72321.130	84616.820
PWN-103	72237.120	85936.930
PWS-101	72171.640	85070.240
PW-409	72106.054	85345.562
PWN-102	72073.780	85953.130
PW-411	72044.983	84695.237
PW-410	72029.555	85013.795
PWS-102	71952.970	84886.930
PWS-103	71940.060	84650.450
PWN-202	71931.210	86935.330
PWN-101	71858.950	85920.420
PW-403	71852.715	87016.198
PW-406	71852.715	86649.659
PW-407	71848.974	86567.375
PW-416	71845.234	86862.850
PW-900	71802.536	86662.790
PW-600	71801.847	88801.973
PWN-201	71701.864	85717.075
PW-408	71643.264	86500.052
PW-418	71643.264	86088.631
PW-419	71639.524	85763.235
PW-405	71624.563	86806.747
PW-6	71605.796	85391.696
PW-420	71602.122	85254.570
PW-12	71587.852	86707.365
PW-404	71583.421	87132.143
PW-13	71546.472	86841.803
PW-6P	71388.441	85039.761
PW-401	71385.191	88665.620
PW-402	71329.088	88014.827
PW-530	71289.638	88990.609
PW-5	71067.841	85419.750
PW-414	71011.173	88710.502
PW-415	70996.212	88863.850
PW-7	70885.511	86008.244
PW-422-Pond	70708.217	87846.519
SW-7	70580.707	88711.098
PW-422	70405.262	88033.528
PW-400	70337.939	88673.100
PW-3	69587.058	84332.752
PW-2	69372.937	84385.856
PW-11	69334.651	86909.209
PW-1	69272.431	84296.473
PW-9	69244.481	86394.565

TABLE B.1

SUMMARY OF PRIVATE WELL LOCATIONS
FLEETWIDE TRITIUM ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Location	X-coord	Y-coord
PW-413	69163.521	88609.517
PW-604-Pond	69024.152	93493.943
PW-603	69024.152	93493.943
PW-602	69024.152	93512.320
PW-431	68697.487	84158.754
PW-423-Trailer	68580.051	86803.007
PW-10	68549.643	86613.142
PW-423	68381.822	88669.360
PW-15	68374.868	85430.394
PW-4	68105.605	85295.707
PW-14	68000.667	85361.724
PWG-005	67790.817	90404.436
PW-614	66594.462	87475.150
PW-540	66064.576	87131.387
PWG-184	63950.203	81324.681
PWG-080	63943.422	81783.803
PWG-143	63914.529	81998.729
PWG-142	63892.440	82101.811
PWG-096	63882.426	81783.803
PWG-182	63871.101	81333.470
PWG-181	63859.382	81506.324
PWG-105	63848.878	82351.066
PWG-104	63845.829	82457.809
PWG-041	63832.868	83173.340
PWG-095	63824.480	81780.753
PWG-141	63821.264	81992.593
PWG-031	63808.704	82699.370
PWG-600	63781.890	82113.025
PWG-180	63780.279	81330.540
PWG-102	63772.633	82451.710
PWG-094	63754.335	81777.703
PWG-179	63753.912	81491.675
PWG-038	63748.755	83174.927
PWG-027	63682.535	82703.958
PWG-026	63680.241	82839.302
PWG-139	63677.686	81982.776
PWG-099	63668.940	82360.216
PWG-093	63665.890	81768.554
PWG-176	63663.090	81491.675
PWG-177	63660.161	81318.822
PWG-138	63650.688	82095.675
PWG-025	63643.538	82706.252
PWG-022	63636.656	82850.772
PWG-091	63598.795	81762.454
PWG-136	63595.466	81972.959
PWG-234	63595.438	81888.498
PWG-032	63595.364	83169.634

TABLE B.1

SUMMARY OF PRIVATE WELL LOCATIONS
FLEETWIDE TRITIUM ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Location	X-coord	Y-coord
PWG-135	63593.012	82096.903
PWG-227	63588.720	82096.765
PWG-229	63588.720	82161.708
PWG-228	63588.720	82159.469
PWG-097	63586.595	82348.016
PWG-024	63581.601	82701.664
PWG-023	63572.425	82832.420
PWG-232	63564.086	83292.621
PWG-233	63555.128	83568.071
PWG-174	63551.761	81491.675
PWG-175	63551.761	81310.032
PWG-090	63525.599	81759.404
PWG-230	63494.664	82237.849
PWG-187	63490.780	84164.240
PWG-172	63481.448	81491.675
PWG-173	63481.448	81310.032
PWG-089	63452.404	81750.255
PWG-171	63440.432	81307.103
PWG-170	63414.064	81488.745
PWG-087	63363.960	81768.554
PWG-185	63361.329	81280.735
PWG-156	63361.329	81280.735
PWG-186	63358.399	81482.886
PWG-088	63342.611	81930.193
PWG-199	63324.066	82912.177
PWG-198-1	63324.002	82912.876
PWG-122	63309.063	82421.212
PWG-169	63273.437	81479.956
PWG-189	63269.049	83305.923
PWG-086	63266.366	81771.603
PWG-237	63265.453	83313.127
PWG-168	63255.859	81307.103
PWG-120	63226.718	82280.921
PWG-085	63180.971	81762.454
PWG-198-2	63177.091	83054.698
PWG-200	63172.637	82907.723
PWG-166	63170.897	81304.173
PWG-167	63170.897	81465.308
PWG-121	63162.673	82430.361
PWG-126	63150.473	82283.970
PWG-084	63110.826	81759.404
PWG-164	63083.005	81304.173
PWG-163	63071.287	81465.308
PWG-007	63047.106	82281.973
PWG-119	63043.730	82277.871
PWG-009	63026.460	82121.289
PWG-083	63022.382	81756.354

TABLE B.1

SUMMARY OF PRIVATE WELL LOCATIONS
FLEETWIDE TRITIUM ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Location	X-coord	Y-coord
PWG-162	62995.114	81304.173
PWG-161	62980.465	81453.589
PWG-008	62953.053	82167.169
PWG-082	62936.987	81756.354
PWG-006	62934.701	82295.684
PWG-129	62912.589	82433.411
PWG-131	62909.539	82433.411
PWG-160	62872.065	81274.876
PWG-116	62863.792	82283.970
PWG-081	62857.692	81753.305
PWG-159	62848.628	81441.870
PWG-130	62833.294	82430.361
PWG-133	62833.294	82430.361
PWG-157	62792.963	81269.016
PWG-115	62790.596	82265.672
PWG-114	62787.547	82268.721
PWG-158	62769.525	81447.729
PWG-079	62766.198	81744.155
PWG-145	62758.451	82130.765
PWG-188	62754.058	82740.864
PWG-113	62753.999	82393.763
PWG-112	62753.999	82396.813
PWG-109	62753.999	82396.813
PWG-110	62753.999	82396.813
PWG-144	62752.826	82220.766
PWG-124	62750.949	82393.763
PWG-125	62750.949	82393.763
PWG-132	62747.899	82396.813
PWG-192	62746.906	82748.017
PWG-147	62653.450	81842.011
PWG-146	62649.700	82142.015
PWG-034	62629.564	81644.013
PWG-149	62627.199	81643.259
PWG-014	62407.088	81082.121
PWG-015	62404.794	81004.126
PWG-021	62400.206	80669.206
PWG-020	62395.618	80747.201
PWG-017	62395.618	80889.427
PWG-018	62393.324	80838.960
PWG-019	62322.211	80721.967
PWG-013	62319.917	81194.525
PW-535	62316.016	81977.041
PWG-012	62310.741	81267.932
PWG-064	62244.682	80856.662
PWG-213	62197.256	80297.800
PWG-108	62192.835	82073.534
PWG-107	62189.785	81902.745

TABLE B.1

SUMMARY OF PRIVATE WELL LOCATIONS
FLEETWIDE TRITIUM ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Location	X-coord	Y-coord
PWG-062	62162.337	80856.662
PWG-210	62117.088	80627.381
PWG-206	62108.180	81090.575
PWG-203	62108.180	81331.080
PWG-202	62103.727	81429.064
PWG-208	62014.651	80979.230
PWG-071	61939.701	80444.939
PWG-061	61918.352	80756.019
PWG-205	61912.214	81126.206
PWG-003	61872.603	81240.813
PWG-070	61848.207	80444.939
PWG-069	61848.207	80344.295
PWG-002	61829.919	81115.274
PWG-068	61784.161	80341.245
PWG-224	61778.600	80685.280
PWG-001	61759.617	81110.252
PWG-221	61756.331	81420.156
PWG-223	61756.331	80930.239
PWG-222	61756.331	81001.499
PWG-225	61640.532	80645.196
PWG-004	61631.567	81243.324
PWG-067	61616.422	80826.164
PWG-072	61573.725	80447.988
PWG-066	61534.077	80734.670
PWG-190	61516.651	81467.694
PWG-190-Pond	61516.376	81471.908
PWG-193	61509.499	81467.694
PWG-065	61476.131	80829.214
PWG-052-Pond	61425.969	79697.474
PWG-591	61425.953	81080.151
PWG-049	61417.429	80490.904
PWG-042	61414.176	81226.180
PWG-048	61404.415	80617.788
PWG-047	61404.415	80708.884
PWG-045	61340.567	83003.772
PWG-054	61328.366	79636.472
PWG-053	61328.366	79689.341
PWG-046	61313.319	80725.151
PWG-051	61312.099	79827.611
PWG-050	61303.966	79913.014
PWG-059	61280.545	80190.231
PWG-056	61280.545	86566.046
PWG-542	61204.623	82476.990
PWG-043	61181.962	83007.839

REC-2

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sand dolomitic white to brn pnk crs to f	0	10
till, dolomitic, sandy, gray, pebbly	10	15
sand dolomitic silty white-brn pnk rndd	15	20
till dolomitic sandy silty gray pebbly	20	45
shale	45	75
no sample	75	80
shale	80	90
sandstone	90	95
coal	95	100
underclay	100	105
sandstone	105	115
shale	115	135
sandstone	135	145
Maquoketa limestone, siltstone, shale	145	260
Galena limestone	260	460
Decorah limestone	460	515
Platteville limestone	515	640
Glenwood limestone sandstone dolomite sh	640	740
St. Peter sandstone	740	875
Shakopee dolomite, sandstone	875	995
Total Depth		1647

Permit Date: **Permit #:** 0

COMPANY Varner C W

FARM [redacted]

DATE DRILLED January 1, 1937 **NO.** 1

ELEVATION 577GL **COUNTY NO.** 00010

LOCATION 1310'N line, 257'E line of SW

LATITUDE [redacted] **LONGITUDE** [redacted]

COUNTY Will **API** 121970001000 **8 - 32N - 9E**

ILLINOIS STATE GEOLOGICAL SURVEY

Driller's Log filed
Survey Sample Study filed
Sample set # 1933 (0' - 1603')

[redacted]

Braidwood City 1

COUNTY Will API 121970001000 8 - 32N - 9E

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
topsoil, sand	0	5
brown sand	5	20
gray sand	20	28
blue clay	28	55
sandy clay	55	60
sandy shale	60	71
some rock in shale	71	80
Total Depth		80

Casing: 5" GALV STEEL from 0' to 62'

Grout: NEAT CEMENT from 0 to 20.
Size hole below casing: 5"

Water from limestone, shale at 71' to 80'.
Static level 8' below casing top which is 1' above GL
Pumping level 20' when pumping at 20 gpm for 2 hours
Driller's Log filed
Location source: Platbook verified

Permit Date: October 17, 1973 **Permit #:** 26015

COMPANY Griffy, Cecil D.
FARM [redacted]
DATE DRILLED November 5, 1973 **NO.**
ELEVATION 0 **COUNTY NO.** 24083
LOCATION NW NW SW
LATITUDE [redacted] **LONGITUDE** [redacted]
COUNTY Will **API** 121972408300 **16 - 32N - 9E**

REC- 40

Yellow Copy – Well Contractor
Blue Copy – Well Owner

ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL / WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam: 5 in. Depth 40 ft.
      Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. ____ in. Depth ____ ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
      Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Cement grouted		

2. Distance to Nearest:
   Building ____ Ft. Seepage Tile Field 75
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 50 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 1-25-72
5. Permanent Pump Installed? Yes X No ____
   Manufacturer Barnes Type [illegible]
   Capacity ____ gpm. Depth of setting 35 ft.
6. Well Top Sealed? Yes X No ____
7. Pitless Adaptor Installed? Yes X No ____
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes ____ No X

REMARKS:

Owner instructed

IDPH 4.065
10/68

P 140030

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. ____
    Address [redacted]
    Driller [illegible] License No. [illegible]
11. Permit No. [illegible] Date 1-14-72
12. Water from [illegible] (Formation) 13. County [illegible]
    at depth 10 to 40 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____

Sec. 17 [illegible]
Twp. 32N
Rge. 6E
Elev. ____

SHOW LOCATION IN SECTION PLAT
NW NE SE

15. Casing and Liner Pipe

Diam. (In.)	Kind and Weight	From (Ft.)	To (Ft.)
5	[illegible], 15#	0	38

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 35 ft. when pumping at 20 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Overburden	0	38
Rock formation	38	40

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 5-22-72

C
O
P
Y

DRILLERS LOG

VILLAGE OF BRAIDWOOD, TEST HOLE NO. 1

Formation	From	To
Humus	0	4
Sand	4	17
Clay	17	27
Sandstone	27	65
Shale	65	75
		TD

Driller: J. Bolliger and Sons
Date drilled: April 1950
County No. 1222
Authority: J. W. Crenshaw
County: Will
Location: [redacted]

P-220524

C
O
P
Y

DRILLERS LOG

VILLAGE OF BRAIDWOOD, TEST HOLE NO. 2

Formation	From	To
Humus	0	2
Tight sand	2	15
Hard sandy clay, no water	15	27
		TD

Driller: J. Bolliger and Sons
Date drilled: April 1950
County No. 1223
Authority: J. W. Crenshaw
County: Will
Location: [redacted]

COPY

TH3

DRILLERS LOG

VILLAGE OF BRAIDWOOD, TEST HOLE NO. 3

Formation	From	To
Humus	0	2
Sand	2	25
Hardpan	25	27
Sand	27	30
Sandstone	30	75
Shale, soapstone	75	79

Driller: J. Bolliger and Sons
Date drilled: April 1950
County No. 1224
Authority: J. W. Crenshaw
County: Will
Location: [redacted]

P-22-0522

C
O
P
Y

DRILLERS LOG

VILLAGE OF BRAIDWOOD, TEST HOLE NO. 2

Formation	Thickness	Top	Bottom
Sand yellow	5	0	5
Sand yellow	6.5	5	11.5
Fine gray sand	5	11.5	16.5
Gray sandstone 17'	5.5	16.5	22
Gray sandstone	5	22	27
Softens at 28'	5.5	27	32.5
Hard again 33'. Fine gray sand	5	32.5	37.5
Cemented with lime	5.5	37.5	43
Hard gray sandstone	5	43	48
Hard gray sandstone	5.5	48	53.5
Hard gray sandstone and coal	5	53.5	58.5
Hard gray sandstone and coal	5.5	58.5	64
Hard gray sandstone and coal	5	64	69
	5.5	69	74.5
Stopped drilling at 80'	5	74.5	79.5

Driller: J. P. Miller Artesian Well Co.
Date drilled: July 1955
County No. 1225
Authority: J. P. Miller Artesian Well Co.
County: Will
Location: [redacted]

P-220525

COPY

DRILLERS LOG

VILLAGE OF BRAIDWOOD, TEST HOLE NO. 3

Formation	Thickness	Top	Bottom
Dirty sand	5	0	5
Fine sand	6.5	5	11.5
Fine sand	5	11.5	16.5
Hard blue clay and boulders 18'	5.5	16.5	22
Soft 22', hard 23'. Moved hole ahead 2'	5	22	27
Hard blue clay and boulders	5.5	27	32.5
Sandstone 33'	5	32.5	37.5
Sandstone	5.5	37.5	43
Sandstone	5	43	48
Sandstone	5.5	48	53.5
Sandstone and some coal	2.5	53.5	56

Driller: J. P. Miller Artesian Well Co.
Date drilled: July 1955
County No. 1226
Authority: J. P. Miller Artesian Well Co.
County: Will
Location: [redacted]

P-220527

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sandy soil to 2', 2' orange sand	0	5
fine sand Boulder 11' With ls chips	5	11
hard blue glacial clay	11	16
hard blue glacial clay	16	22
hard blue glacial clay	22	27
sandstone 30 1/2'	27	32
sandstone	32	37
sandstone	37	43
sandstone	43	48
sandstone	48	53
sandstone. Gray clay 58'	53	58
gray clay	58	64
gray clay	64	69
gray clay	69	74
gray clay	74	79
gray clay	79	85
gray clay	85	90
gray clay	90	95
hard gray clay	95	100
hard gray clay	100	106
Total Depth		106

Permit Date: **Permit #:** 0

COMPANY Miller, J. P. Art. Well

FARM [redacted]

DATE DRILLED July 1, 1955 **NO.** 0001

ELEVATION 0 **COUNTY NO.** 01227

LOCATION [redacted]

LATITUDE [redacted] **LONGITUDE** [redacted]

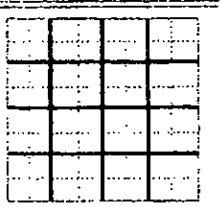
COUNTY Will **API** 121970122700 **18 - 32N - 9E**

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sandy soil to 2', 2' orange sand	0	5
fine sand Boulder 11' With ls chips	5	11
hard blue glacial clay	11	16
hard blue glacial clay	16	22
hard blue glacial clay	22	27
sandstone 30 1/2'	27	32
sandstone	32	37
sandstone	37	43
sandstone	43	48
sandstone	48	53
sandstone. Gray clay 58'	53	58
gray clay	58	64
gray clay	64	69
gray clay	69	74
gray clay	74	79
gray clay	79	85
gray clay	85	90
gray clay	90	95
hard gray clay	95	100
hard gray clay	100	106
Total Depth		106

Permit Date: **Permit #:** 0

COMPANY Miller, J. P. Art. Well
FARM Braidwood City
DATE DRILLED July 1, 1955 **NO.** 0001
ELEVATION 0 **COUNTY NO.** 01227
LOCATION 330'N line, 330'E line of SE NE
LATITUDE 41.255505 **LONGITUDE** - 88.227621
COUNTY Will **API** 121970122700 **18 - 32N - 9E**



ILLINOIS STATE GEOLOGICAL SURVEY

Driller's Log filed

Miller, J. P. Art. Well — Braidwood City 0001

COUNTY Will **API 121970122700** **18 - 32N - 9E**

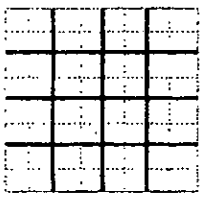
ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
cinders	0	2
yellow sand	2	6
fine gray sand to medium, loose	6	14
gray clay, gravel and boulders imbedded	14	29
hard gray s & cl mixture,used pulldowns	29	49
gray hard shale	49	65
Total Depth		65

Driller's Log filed

Permit Date: **Permit #:** 0

COMPANY Layne Western Co., Inc.
FARM Braidwood Village
DATE DRILLED February 1, 1957 **NO.** 0001
ELEVATION 0 **COUNTY NO.** 01229
LOCATION 650'S line, 650'E line of SW
LATITUDE 41.262320 **LONGITUDE** - 88.200523
COUNTY Will **API** 121970122900 **9 - 32N - 9E**



White Copy – Ill. Dept. of Public ..lth
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED ..D MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, ROOM 616, STATE OFFICE BUILDING, SPRINGFIELD, ILLINOIS, 62706. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

REC- 73

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 75 ft.
   Curb material ____. Buried Slab: Yes____ No____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 43 ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

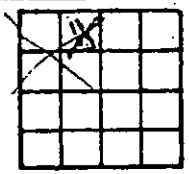
2. Distance to Nearest:
   Building 20 Ft. Seepage Tile Field 75'
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 50' Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 9-2-71
5. Permanent Pump Installed? Yes X No ____
   Manufacturer BARNES Type SUBMERSIBLE
   Capacity 10 gpm. Depth of setting 60 ft.
6. Well Top Sealed? Yes X No ____
7. Pitless Adaptor Installed? Yes X No ____
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes ____ No X

REMARKS:

IDPH 4.065
10/68

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. 1
    Address [redacted]
    Driller [redacted] License No. 180
11. Permit No. 14361 Date 9-3-71
12. Water from SAND STONE (Formation) 13. County LIVINGSTON
    at depth 43 to 75 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 17
    Twp. 32N
    Rge. 6E
    Elev. ____



SHOW LOCATION IN SECTION PLAT
Lot 3 Dawson NW

15. Casing and Liner Pipe

Diam. (In.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	A-53 15 lbs	0'	43'

16. Size Hole below casing: 5 in.
17. Static level 30 ft. below casing top which is +1 ft. above ground level. Pumping level 30 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	3'	3'
CLAY	7'	10'
SAND	20'	30'
SAND GRAVEL	13'	43'
SAND STONE	32'	75'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Charles Seybert DATE 9-9-71

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

REC-99

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, BUREAU OF ENVIRONMENTAL HEALTH, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62701. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 80 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 50 ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 90 Ft. Seepage Tile Field 75
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 50 Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 12/2/73
5. Permanent Pump Installed? Yes X No ____
   Manufacturer Barnes Type Submersible
   Capacity 10 gpm. Depth of setting 60 ft.
6. Well Top Sealed? Yes ____ No ____ Williams-Vermin proof
7. Pitless Adaptor Installed? Yes X No ____ Williams attached to casing by compression gasket connection
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes ____ No X

REMARKS: 201 WXT gal. pressure tank located in house.

IDPH 4.065
10-72
KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. 1
    Address [redacted]
    Driller Charles Tyler License No. 23
11. Permit No. UF 26795 Date 11/8/73
12. Water from Limestone Formation 13. County Will
    at depth 50 to 80 ft.
    Sec. 17
    Twp. 35N
    Rge. 9E
    Elev. ____
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____

SHOW LOCATION IN SECTION PLAT
SESENE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	A-53 15/16	0'	50'

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is +1 ft. above ground level. Pumping level 40 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sand	18'	18'
Gravel	2'	20'
Shale	17'	37'
Sand & Gravel	4'	41'
Shale	9'	50'
Limestone	30'	80'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Charles Tyler DATE 8/27/74
Lockport Well & Pump

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sandy clay	0	5
sand	5	10
sandy clay	10	20
blue clay	20	60
shale, coal, rock	60	61
shale	61	86
Total Depth		86

Casing: 5" GALV STL 15 from 0' to 60'

Grout: NEAT CEMENT from 0 to 20.
Size hole below casing: 5"

Water from shale at 61' to 86'.
Static level 12' below casing top which is 1' above GL
Pumping level 60' when pumping at 4 gpm for 5 hours
Driller's Log filed
Location source: Platbook verified

Permit Date: September 9, 1974 **Permit #:** 32855

COMPANY Griffy, Cecil D.
FARM [redacted]
DATE DRILLED October 5, 1974 **NO.**
ELEVATION 0 **COUNTY NO.** 24827
LOCATION SE SW SW
LATITUDE [redacted] **LONGITUDE** [redacted]
COUNTY Will **API** 121972482700 **9 - 32N - 9E**

REC- 107

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sand	0	30
gravel	30	46
sandstone	46	90
Total Depth		90

Casing: 5" A-53 15# from 0' to 46'

Size hole below casing: 5"

Water from sandstone at 46' to 90'.
Static level 20' below casing top which is 1' above GL
Pumping level 20' when pumping at 10 gpm for 1 hour
Permanent pump installed at 60' on , with a capacity of 10 gpm

Driller's Log filed
Location source: Location from permit

Permit Date: October 29, 1974 **Permit #:** 34385

COMPANY Lockport Well & Pump
FARM [redacted]
DATE DRILLED October 28, 1974 **NO.** 0001
ELEVATION 0 **COUNTY NO.** 24852
LOCATION SW NW NW
LATITUDE [redacted] **LONGITUDE** -[redacted]
COUNTY Will **API** 121972485200 **17 - 32N - 9E**

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sand	0	40
Total Depth		40

Driller's Log filed

Permit Date: Permit #: 0

COMPANY Anderson Well Drlg.

FARM [redacted]

DATE DRILLED June 1, 1972 NO. 1

ELEVATION 0 COUNTY NO. 25404

LOCATION NW SE SE

LATITUDE [redacted] LONGITUDE [redacted]

COUNTY Will API 121972540400 8 - 32N - 9E

White – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, BUREAU OF ENVIRONMENTAL HEALTH, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62701. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

REC - 158

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug____. Bored____. Hole Diam. 5 in. Depth 65 ft.
   Curb material _____. Buried Slab: Yes_____ No_____
   b. Driven _____. Drive Pipe Diam. 5 in. Depth 35 ft.
   c. Drilled X. Finished in Drift_____. In Rock X.
   Tubular _____. Gravel Packed _____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

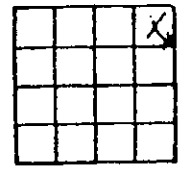
2. Distance to Nearest:
   Building 35 Ft. Seepage Tile Field 75'
   Cess Pool _____ Sewer (non Cast iron) _____
   Privy _____ Sewer (Cast iron) _____
   Septic Tank 50' Barnyard _____
   Leaching Pit _____ Manure Pile _____
3. Is water from this well to be used for human consumption?
   Yes X No _____
4. Date well completed 2-24-77
5. Permanent Pump Installed? Yes X No _____
   Manufacturer Baines Type Submersible
   Capacity 8 gpm. Depth of setting 40 ft.
6. Well Top Sealed? Yes X No _____
7. Pitless Adaptor Installed? Yes X No _____
8. Well Disinfected? Yes X No _____
9. Water Sample Submitted? Yes _____ No X

REMARKS:

IDPH 4.065
10-72
KNB-1

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. 1
    Address [redacted]
    Driller Charles Fyffes License No. 33
11. Permit No. 56857 Date 2-17-77
12. Water from Sandstone (Formation)
    at depth 35 to 65 ft.
13. County Knox
    Sec. 17.1g
    Twp. 12N
    Rge. 2E
    Elev. _____



SHOW LOCATION IN SECTION PLAT
SE NE NE

14. Screen: Diam. _____ in.
    Length: _____ ft. Slot _____
15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	A-53 15 lbs.	0	35

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is +1 ft. above ground level. Pumping level 20 ft. when pumping at 8 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sand	35	35
Sandstone	30	65

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Charles Fyffes DATE 1-7-80

REC- 15¢

White Co. - Ill. Dept. of Public Health
Yellow Copy — Well Contractor
Blue Copy — Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, BUREAU OF ENVIRONMENTAL HEALTH, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62701. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 100 ft.
      Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam. 5 in. Depth 42 ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
      Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 25 Ft. Seepage Tile Field 75'
   Cess Pool ____ Sewer (non Cast iron) ____
   Privy ____ Sewer (Cast iron) ____
   Septic Tank 50' Barnyard ____
   Leaching Pit ____ Manure Pile ____
3. Is water from this well to be used for human consumption?
   Yes X No ____
4. Date well completed 4-20-78
5. Permanent Pump Installed? Yes X No ____
   Manufacturer Barnes Type Submersible
   Capacity 10 gpm. Depth of setting ____ ft.
6. Well Top Sealed? Yes X No ____
7. Pitless Adaptor Installed? Yes X No ____
8. Well Disinfected? Yes X No ____
9. Water Sample Submitted? Yes ____ No X

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. 1
    Address [redacted]
    Driller Charles Fykes License No. 23
11. Permit No. 73034 Date 4-13-78
12. Water from Sandstone (Formation) 13. County Will
    at depth 40 to 65 ft.
    Sec. 17.1h
14. Screen: Diam. ____ in. Twp. 32N
    Length: ____ ft. Slot ____ Rge. 9E
    Elev. ____

SHOW LOCATION IN SECTION PLAT: NE NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	A-53 15 lbs	0	42

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is +1 ft. above ground level. Pumping level 40 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sand	40	40
Sandstone	25	65
Shale	35	100

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Charles Fykes DATE 12-7-79

IDPH 4.065
72
3-1 ◌ 111 03 ◌

EC 18C

White Copy – Ill. Dept. of Public Health
Yellow Copy – Well Contractor
Blue Copy – Well Owner

INSTRUCTIONS TO DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well
   a. Dug ____. Bored ____. Hole Diam. 5 in. Depth 60 ft.
   Curb material ____. Buried Slab: Yes ____ No ____
   b. Driven ____. Drive Pipe Diam 5 in. Depth 40 ft.
   c. Drilled X. Finished in Drift ____. In Rock X.
   Tubular ____. Gravel Packed ____.
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Distance to Nearest:
   Building 35 Ft. — Seepage Tile Field 75'
   Cess Pool ____ — Sewer (non Cast iron) ____
   Privy ____ — Sewer (Cast iron) ____
   Septic Tank 50' — Barnyard ____
   Leaching Pit ____ — Manure Pile ____
3. Well furnishes water for human consumption? Yes X No ____
4. Date well completed 11-26-86
5. Permanent Pump Installed? Yes ____ Date ____ No X
   Manufacturer ____ Type ____ Location ____
   Capacity ____ gpm. Depth of Setting ____ Ft.
6. Well Top Sealed? Yes X No ____ Type Vermin-Proof (Wms)
7. Pitless Adapter Installed? Yes ____ No ____
   Manufacturer ____ Model Number ____
   How attached to casing? ____
8. Well Disinfected? Yes X No ____
9. Pump and Equipment Disinfected? Yes ____ No ____
10. Pressure Tank Size ____ gal. Type ____
    Location ____
11. Water Sample Submitted? Yes ____ No X

REMARKS:

Co # 29241

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner [redacted] Well No. 1
    Address [redacted]
    Driller Charles Fykes License No. 102-23
11. Permit No. 128246 Date 11-21-86
12. Water from ~~Sandstone~~ Formation 13. County Will
    at depth 38 to 60 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 17 19
    Twp. 32N
    Rge. 9E
    Elev. ____

			X
			X

SHOW LOCATION IN SECTION PLAT [redacted]
SE NE NE
Cornet East

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	A-53 15 lbs.	0	40

16. Size Hole below casing: 5 in.
17. Static level 35 ft. below casing top which is +1 ft. above ground level. Pumping level 58 ft. when pumping at 10 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sand	38'	38'
Sandstone	22'	60'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Charles Fykes DATE Nov. 26, 1986

IDPH 4.065

REC- 191

Well Construction Report

White Copy: W.C.H.D.
Yellow Copy: Well Contractor

This form must be completed within 30 days of well completion and submitted to the appropriate office depending on which township the well is located. See listing at bottom of page.

1. Type of Well
   a. Bored____ Hole Diam.____in. Depth____ft
      Buried Slab: Yes___ No___
   b. Driven ✓ Drive Pipe Diam. 1 1/2 in. Depth 19 ft
   c. Drilled____ Finished in Drift____ In Rock____
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Well furnishes water for human consumption? Yes ✓ No___
3. Date well drilled 11-27-91
4. Permanent pump installed? Yes ✓ Date 11-28-91 No ✓
   Manufacturer_____ Type Jet
   Location_____
   Capacity _____gpm. Depth of setting_____ft.
5. Well top sealed? Yes ✓ No___ Type GALVANIZED CAP
6. Pitless adapter installed? Yes ✓ No___
   Manufacturer_____ Model No._____
   How attached to casing?_____
7. Well disinfected? Yes ✓ No___
8. Pump and equipment disinfected Yes ✓ No___

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9. Driller [redacted] License No. [redacted]
10. Well Site Addres[redacted] Well No.____
11. Property Owner [redacted] Date Issued 1-8-92
12. Permit No. 197-92-0002-D
13. Location [redacted] County Will
    Tax # [redacted] Sec. 17 Twp. 32N Rge. 9E

Show location in section plat

No LEGA

14. Water from_____ at depth____ft to____ft

15. Casing and Liner Pipe

Diam.(in)	Kind and Weight	From (ft)	To (ft)
1½"	Galvanized		
1	Drive Pipe		

16. Screen: Diam. 1 in. Length 4 in. Slot Size____
17. Size hole below casing____in. 18. Ground Elev._____ ft m
19. Static level____ft below casing top which is ____ft. above ground level. Pumping level ____ft. pumping gpm for ____ hou

20. Earth Materials Passed Through	Depth of Top	Depth of Bottom
ALL SAND	0	19'

Continue on separate sheet if necessary.

Signed [redacted] Da 1-8-92

Will County Health Dept.
Environmental Health
501 Ella Avenue
Joliet, IL 60433
(815) 727-8840

Townships
Channahon, Custer, Florence, Jackson, Joliet, Manh, New Lenox, Reed, Troy, Wesley, Wilmington, Wilton

Will County Health Dept.
Environmental Health
701 N. Lockport St.
Plainfield, IL 60544
(815) 436-6871

Townships
DuPage, Homer, Lockport, Plainfield, Wheatland

Will County Health Dept.
Environmental Health
800 University Park
University Park, IL 60466
(815) 727-8803
(708) 534-0800

Townships
Crete, Frankfort, Green Garden, Monee, Peotone, Washington

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
sand	2	38
sandstone	38	65
Total Depth		65

Casing: 5" A-53 15 LBS. from 0' to 42'

Size hole below casing: 5"

Water from sandstone at 38' to 65'.
Static level 30' below casing top which is 1' above GL
Pumping level 40' when pumping at 10 gpm for 1 hour
Permanent pump installed at 50' on July 28, 1984, with a capacity of 10 gpm

Location source: Field verified

Permit Date: July 27, 1984 **Permit #:** 113697

COMPANY Fykes, Charles N.
FARM [redacted]
DATE DRILLED July 27, 1984 **NO.** 1
ELEVATION 593GL **COUNTY NO.** 31161
LOCATION [redacted]
LATITUDE [redacted] **LONGITUDE** [redacted]
COUNTY Will **API** 121973116100 **16 - 32N - 9E**

White Co: W.C.H.D.
Yellow C: Well Contractor

Well Cons‑uction Report

REC- 221

This form must be completed within 30 days of well completion and submitted to the appropriate office depending on which township the well is located. See listing at bottom of page.

1. Type of Well
   a. Bored____ Hole Diam. 5 in. Depth 48 ft
      Buried Slab: Yes___ No___
   b. Driven____ Drive Pipe Diam.___in. Depth____ft
   c. Drilled ✓ Finished in Drift___ In Rock ✓
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Well furnishes water for human consumption? Yes ✓ No___
3. Date well drilled June 5, 1991
4. Permanent pump installed? Yes ✓ Date June 8, 1991 No___
   Manufacturer [illegible] Type Subm.
   Location Braidwood
   Capacity 10 gpm. Depth of setting 32 ft.
5. Well top sealed? Yes ✓ No___ Type IL APPROVED VENT cap
6. Pitless adapter installed? Yes ✓ No___
   Manufacturer Williams Model No B50-ACV
   How attached to casing? [illegible] in Casing to Pump
7. Well disinfected? Yes ✓ No___
8. Pump and equipment disinfected Yes ✓ No___

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9. Driller [redacted] License No 102-0016
10. Well Site Address [redacted]
11. Property Owner [redacted] Well No.____
12. Permit No. 191-90-0064 Date Issued 5-15-90
13. Location: Braidwood County Will
    Ta[redacted] Sec. 17 Twp 32N Rge. 9E

Show location in section plat: NE, SE, NE

14. Water from SAND ROCK at depth 32 ft to 48 ft

15. Casing and Liner Pipe

Diam. (in)	Kind and Weight	From (ft)	To (ft)
5in	A53 14.62 LBS	0	35

16. Screen: Diam.___in, Length___in, Slot Size___
17. Size hole below casing___in. 18. Ground Elev.____ ft msl
19. Static level 9 ft below casing top which is 1 ft. above ground level. Pumping level ___ft, pumping gpm for ___ hours

20. Earth Materials Passed Through	Depth of Top	Depth of Bottom
SAND	0	16
GRAY CLAY	16	32
SAND ROCK	32	48

Continue on separate sheet if necessary.

Signed Elmer Wills Date 7-9-91

Will County Health Dept.
Environmental Health
501 Ella Avenue
Joliet, IL 60433
(815) 727-8840

Townships
Channahon, New Lenox, Custer, Reed, Florence, Troy, Jackson, Wesley, Joliet, Wilmington, Manhattan, Wilton

Will County Health Dept.
Environmental Health
342 N. Independence
Romeoville, IL 60441
(815) 886-1550
(312) 739-7971

Townships
DuPage, Homer, Lockport, Plainfield, Wheatland

Will County Health Dept.
Environmental Health
800 University Park
University Park, IL 60466
(815) 727-8803
(312) 534-0800

Townships
Crete, Frankfort, Green Garden, Monee, Peotone, Washington, Will

1 1 ~ 6 0 ^

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
sand	0	16
gray clay	16	32
sand rock	32	48
Total Depth		48

Casing: 5" A-53 14.62# from 0' to 35'

Water from sand rock at 32' to 48'.
Static level 9' below casing top which is 1' above GL

Permanent pump installed at 32' on June 8, 1991, with a capacity of 10 gpm

Additional location info: [redacted]

Address of well: [redacted]

Location source: Location from permit

Permit Date: May 15, 1990 **Permit #:**

COMPANY Wills, Elmer D.
FARM [redacted]
DATE DRILLED June 5, 1991 **NO.**
ELEVATION 0 **COUNTY NO.** 35619
LOCATION NE SE NE
LATITUDE [redacted] **LONGITUDE** [redacted]
COUNTY Will **API** 1219735619**00** **17 - 32N - 9E**

REC- 2

Well Construction Report

White Copy .C.H.D.
Yellow Copy: Well Contractor

This form must be completed within 30 days of well completion and submitted to the appropriate office depending on which township the well is located. See listing at bottom of page.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9. Driller [redacted] License No. NONE
10. Well Site Address [redacted] Well No.
11. Property Owner [redacted] Date Issued 01-21-9
12. Permit No. 92-92-0008-J
13. Location: Colket Estates County WILL
Tax [redacted] Sec. 17 1/4
Twp. 32N
Rge. 9E

Show location in section plat
NEIGHBORHOOD

1. Type of Well
a. Bored___ Hole Diam.___in. Depth___ft
Buried Slab: Yes___ No___
b. Driven X Drive Pipe Diam. 1¼" in. Depth 14' ft finished in sand
c. Drilled___ Finished in Drift___ In Rock___

d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
SAND		

14. Water from Gravel at depth 10' ft to 14' ft

15. Casing and Liner Pipe

Diam. (in)	Kind and Weight	From (ft)	To (ft)
1¼"	galvanized steel	0'	14'

2. Well furnishes water for human consumption? Yes X No___
3. Date well drilled 01-24-92
4. Permanent pump installed? Yes X Date___ No___
Manufacturer Farm & Fleet Jet Pump Type Jet
Location___
Capacity 15 gpm. Depth of setting in crawl space ft.
5. Well top sealed? Yes X No___ Type galvanized cap
6. Pitless adapter installed? Yes X No___
Manufacturer Farm & Fleet Model No.___
How attached to casing? threaded on both ends
7. Well disinfected? Yes X No___ X
8. Pump and equipment disinfected Yes X No___

16. Screen: Diam. 1¼ in. Length 3' in. Slot Size 80 Mesh
17. Size hole below casing 2" in. 18. Ground Elev. UNK ft a
19. Static level 10' ft below casing top which is 1½ ft. above ground level. Pumping level 14' ft. pumping gpm for 10 hou

20. Earth Materials Passed Through	Depth of Top	Depth of Bottom
Sand (black)	0'	1'
Sand (yellow)	1'	14'

Continue on separate sheet if necessary.

Signed [redacted] Date 3-9-92

Will County Health Dept.
Environmental Health
501 Ella Avenue
Joliet, IL 60433
(815) 727-2840

Townships
Channahon, Custer, Florence, Jackson, Joliet, Manhattan, New Lenox, Reed, Troy, Wesley, Wilmington, Wilton

Will County Health Dept.
Environmental Health
701 N. Lockport St.
Plainfield, IL 60544
(815) 436-6871

Townships
DuPage, Homer, Lockport, Plainfield, Wheatland

Will County Health Dept.
Environmental Health
800 University Park
University Park, IL 60466
(815) 727-8803
(708) 534-0800

Townships
Crete, Frankfort, Green Garden, Monee, Peotone, Washington

R - 'LC

White Copy: W.C.H.D.
Yellow Copy: Well Contractor

Well Construction Report

This form must be completed within 30 days of well completion and submitted to the appropriate office depending on which township the well is located. See listing at bottom of page.

1. Type of Well
   a. Bored____ Hole Diam.____in. Depth____ft
      Buried Slab: Yes__ No__
   b. Driven ✓ Drive Pipe Diam. 1¼ in. Depth 14 ft
   c. Drilled____ Finished in Drift____ In Rock____
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)

2. Well furnishes water for human consumption? Yes ✓ No____
3. Date well drilled 6/4/92
4. Permanent pump installed? Yes ✓ Date 6/5/92 No____
   Manufacturer Flotec Type Jet pump
   Location In CRAWL
   Capacity 11.8 gpm. Depth of setting 14 ft.
5. Well top sealed? Yes ✓ No____ Type Pipe CAP
6. Pitless adapter installed? Yes____ No ✓
   Manufacturer____ Model No.____
   How attached to casing?____
7. Well disinfected? Yes ✓ No____
8. Pump and equipment disinfected Yes ✓ No____

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9. Driller [redacted] License No.____
10. Well Site Address [redacted]
11. Property Owner [redacted] Well No.____
12. Permit No. 19920088 30 Date Issued 5/5/92
13. Location: Tax # [redacted]
    17 32N 09E
    County Will
    Sec. 17
    Twp. Reed
    Rge. 9E

Show location in section plat
NESENE Lot 49

14. Water from 4 SAND POINT at depth 10 ft to 14 ft

15. Casing and Liner Pipe

Diam.(in)	Kind and Weight	From (ft)	To (ft)
1¼	GALVANIZED	10'	SURFACE

16. Screen: Diam. 1¼ in, Length 48 in. Slot Size ½
17. Size hole below casing____in. 18. Ground Elev.____ ft msl
19. Static level____ft below casing top which is ____ft. above ground level. Pumping level ____ft. pumping ____gpm for ____ hours

20. Earth Materials Passed Through	Depth of Top	Depth of Bottom
SAND		14'

Continue on separate sheet if necessary.

Will County Health Dept.
Environmental Health
501 Ella Avenue
Joliet, IL 60433
(815) 727-8490

Townships
Channahon, New Lenox, Custer, Reed, Florence, Troy, Jackson, Wesley, Joliet, Wilmington, Manhattan, Wilton

Will County Health Dept.
Environmental Health
701 N. Lockport St.
Plainfield, IL 60544
(815) 436-6871

Townships
DuPage, Homer, Lockport, Plainfield, Wheatland

Will County Health Dept.
Environmental Health
800 University Park
University Park, IL 60466
(815) 727-8803
(708) 534-0800

Townships
Crete, Frankfort, Green Garden, Monee, Peotone, Washington, Will

REC- 22

White Copy: W.C.H.D.
Yellow Copy: Well Contractor

Well Construction Report

permit # as A7-94-093-J

RECEIVED
DEC 05 1994
WILL COUNTY HEALTH DEPT.

This form must be completed within 30 days of well completion and submitted to the appropriate office depending on which township the well is located. See listing at bottom of page.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9. Driller Darwin Brown of K+K License No. 092-006844 well Drilling
10. Well Site Address [redacted]
11. Property Owner [redacted] Well No.
12. Permit No 197-94-081-93W Date Issued 8-16-94
13. Location: County Will
Tax [redacted] Twp 32N
SE1/4, NE1/4, NE1/4 Rge 8E

Show locatio in section plat

1. Type of Well
   a. Bored ____ Hole Diam. 5 in. Depth 50 ft
   Buried Slab: Yes ___ No ___
   b. Driven ____ Drive Pipe Diam. ____ in. Depth ____ ft
   c. Drilled ✓ Finished in Drift ✓ In Rock ____

d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
5"	CUTTINGS	
PLASTIC		
PVC	0	40

2. Well furnishes water for human consumption? Yes ✓ No ___
3. Date well drilled 10-21-94
4. Permanent pump installed? Yes ✓ Date 10-21-94 No ___
   Manufacturer DELTA Type SUB
   Location WELL
   Capacity 10 gpm. Depth of setting 40' ft.
5. Well top sealed? Yes ✓ No ___ Type CAP
6. Pitless adapter installed? Yes ✓ No ___
   Manufacturer Williams Model No. B50AC
   How attached to casing? DRAWNUT
7. Well disinfected? Yes ✓ No ___
8. Pump and equipment disinfected Yes ✓ No ___
   owner instructed well was chlorinated.

14. Water from SHALE at depth 10 ft to 50 ft

15. Casing and Liner Pipe

Diam.(in)	Kind and Weight	From (ft)	To (ft)
5"	PLASTIC PVC	0	40
	SDR 21		

16. Screen: Diam. 5 in, Length 10 in. Slot Size 015
17. Size hole below casing 5 in. 18. Ground Elev. ____ ft m
19. Static level 10 ft below casing top which is 1 ft. above ground level. Pumping level 40 ft. pumping gpm for ___ hou

20. Earth Materials Passed Through	Depth of Top	Depth of Bottom
SAND	0	12
GRAVEL	12	25
CLAY	25	29
SHALE	29	35
SANDSTONE	35	48
SHALE	48	50
GRAVEL WELL		

Continue on separate sheet if necessary.

Will County Health Dept.
Environmental Health
501 Ella Avenue
Joliet, IL 60433
(815) 727-8490

Townships
Channahon, Custer, Florence, Jackson, Joliet, Manhat, New Lenox, Reed, Troy, Wesley, Wilmington, Wilton

Will County Health Dept.
Environmental Health
701 N. Lockport St.
Plainfield, IL 60544
(815) 436-6871

Townships
DuPage, Homer, Lockport, Plainfield, Wheatland

Will County Health Dept.
Environmental Health
800 University Park
University Park, IL 60466
(815) 727-8803
(708) 534-0800

Townships
Crete, Frankfort, Green Garden, Monee, Peo, Washi

REC-241

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
sand	0	25
shale	25	40
gravel	40	45
shale	45	110
Total Depth		110

Casing: 5" BLACK STEEL from 0' to 50'

Grout: BENTONITE from 0 to 50.
Size hole below casing: 4.75"

Water from shale at 45' to 110'.
Static level 50' below casing top which is 1' above GL
Pumping level 60' when pumping at 0 gpm for 4 hours
Permanent pump installed at 60' on December 5, 1994, with a capacity of 15 gpm

Additional location info: [redacted]

Address of well: [redacted]

Location source: Location from permit

Permit Date: October 21, 1994 **Permit #:**

COMPANY Fordonski, Keith
FARM [redacted]
DATE DRILLED November 11, 1994 **NO.**
ELEVATION 0 **COUNTY NO.** 36500
LOCATION NW NW SW
LATITUDE [redacted] **LONGITUDE** [redacted]
COUNTY Will **API** 121973650000 **16 - 32N - 9E**

REC- 268

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
sand	0	20
shale & limestone	20	350
Total Depth		350

Casing: 5" BLACK STEEL from 0' to 60'

Grout: BENTONITE from 0 to 60.
Water from shale & limestone at 60' to 350'.
Static level 15' below casing top which is 0' above GL
Pumping level 330' when pumping at 0 gpm for 2 hours
Permanent pump installed at 330' on May 16, 1996, with a capacity of 7 gpm

Additional location info: [redacted]

Address of well: [redacted]

Location source: Location from permit

Permit Date: May 9, 1996 **Permit #:**

COMPANY Fordonski, Keith
FARM [redacted]
DATE DRILLED May 15, 1996 **NO.**
ELEVATION 0 **COUNTY NO.** 37128
LOCATION SW NW SW
LATITUDE [redacted] **LONGITUDE** [redacted]
COUNTY Will **API** 121973712800 **16 - 32N - 9E**

REC - 275

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
sand	0	20
shale	20	100
limestone	100	110
limestone & shale	110	260
limestone	260	470
Total Depth		470

Casing: 5" STEEL from 0' to 110'

Grout: BENTONITE from 0 to 110.
Water from limestone at 260' to 470'.
Static level 50' below casing top which is 1' above GL
Pumping level 450' when pumping at 0 gpm for 4 hours
Permanent pump installed at 450' on October 21, 1996, with a capacity of 5 gpm

Additional location info: [redacted]

Address of well: [redacted]

Location source: Location from permit

Permit Date: September 18, 1996 **Permit #:**

COMPANY Fordonski, Keith
FARM [redacted]
DATE DRILLED October 21, 1996 **NO.**
ELEVATION 0 **COUNTY NO.** 37229
LOCATION SW NW SW
LATITUDE [redacted] **LONGITUDE** -[redacted]
COUNTY Will **API** 1211973722900 **16 - 32N - 9E**

REC-27
5 5 7
1-23-97

White Copy: W.C.H.D.
Yellow Copy: Well Contractor

Well Construction Report

This form must be completed within 30 days of well completion and submitted to the appropriate office depending on which township the well is located. See listing at bottom of page.

1. Type of Well
   a. Bored____ Hole Diam.____in. Depth____ft
      Buried Slab: Yes__ No__
   b. Driven____ Drive Pipe Diam.____in. Depth____ft
   c. Drilled X Finished in Drift____ In Rock X
   d. Grout:

(KIND)	FROM (Ft.)	TO (Ft.)
Bentonite	0'	60'

2. Well furnishes water for human consumption? Yes X No__
3. Date well drilled 10-8-96
4. Permanent pump installed? Yes X Date 10-15-96 No__
   Manufacturer Gould 1½ HP 7½ GPM Type Sub
   Location In well
   Capacity 7 gpm. Depth of setting 100' ft.
5. Well top sealed? Yes X No__ Type Vented
6. Pitless adapter installed? Yes X No__
   Manufacturer Williams Model No.____
   How attached to casing? Locknut
7. Well disinfected? Yes X No__
8. Pump and equipment disinfected Yes X No__

GEOLOGICAL AND WATER SURVEYS WELL RECORD

9. Driller Calvin Bussing License No. 012-0070
10. Well Site Address [redacted]
11. Property Owner [redacted] Well No.
12. Permit No. 147-96-DRS Date Issued 9-24-96
13. Location: SE NE NE County Will
    Tax # [redacted] Sec. 17 Twp. 35 N Rge. 9 E

Show location in section plat

14. Water from Limestone-Shale at depth 60 ft to 125 ft

15. Casing and Liner Pipe

Diam.(in)	Kind and Weight	From (ft)	To (ft)
5"	Blk Steel	0'	60'

16. Screen: Diam NA in, Length — in, Slot Size —
17. Size hole below casing 4 3/4 in. 18. Ground Elev. Unk ft msl
19. Static level 20 ft below casing top which is 60 ft. above ground level. Pumping level 100 ft, pumping gpm for 2 hours

20. Earth Materials Passed Through

	Depth of Top	Depth of Bottom
Sand	0	15
Shale	15	60
Limestone + Shale	60	125

Continue on separate sheet if necessary.

Signed Calvin Bussing Date 11-97

Will County Health Dept.
Environmental Health
501 Ellis Avenue
Joliet, IL 60433
(815) 727-8490

Townships
Channahon, Custer, Florence, Jackson, Joliet, Manhattan, New Lenox, Reed, Troy, Wesley, Wilmington, Wilton

Will County Health Dept.
Environmental Health
701 N. Lockport St.
Plainfield, IL 60544
(815) 436-6871

Townships
DuPage, Homer, Lockport, Plainfield, Wheatland

Will County Health Dept.
Environmental Health
800 University Park
University Park, IL 60466
(815) 727-8803
(708) 534-0800

Townships
Crete, Frankfort, Green Garden, Monee, Peotone, Washington, Will

BJS 7-5 REC- 314

Well Consti ion Report

Date June 28

. . PE OR PRESS FIRMLY WITH BLACK INK PEN
COMPLETE WITHIN 30 DAYS OF WELL COMPLETION
AND SEND TO THE APPROPRIATE HEALTH DEPARTMENT

1. Type of Well: a. Driven Well: Casing diam. ____ in. Depth ____ ft.
   b. Bored Well: Buried Slab [ ] Yes [ ] No
   Hole Diameter ___ in. to ___ ft.; ___ in. to ___ ft.; ___ in. to ___ ft.
   (c.) Drilled Well: PVC casing Formation packer set at depth of ___ ft.
   Hole Diameter ___ in. to ___ ft.; ___ in. to ___ ft.; ___ in. to ___ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
BENTONITE	1	9.6 per	32	0	YES

   d. Drilled Well: Steel Casing - - - Mechanically Driven [ ] Yes [ ] No
   Hole Diameter ___ in. to ___ ft.; ___ in. to ___ ft.; ___ in. to ___ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)

   e. Well finished within: [X] Unconsolidated Materials [ ] Bedrock

   f. Kind of Gravel Sand Pack

Kind of Gravel Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
PEA GRAVEL	1/4	38	32

2. Well Use: [X] Domestic [ ] Irrigation [ ] Commercial [ ] Livestock
   [ ] Monitoring [ ] Other
3. Date Well Completed: 6-7-2000 Well Disinfected [X] Yes [ ] No
   Driller's estimated well yield 10 gpm
4. Date Permanent Pump Installed 6-8-2000
5. Pump Capacity 10 gpm Set at (depth) 30 ft.
6. Pitless Adapter Model and Manufacturer: BAKER IBP
7. Well Cap Type and Manufacturer BAKER
8. Pressure Tank: Working Cycle 13.5 gals. Captive Air: [X] Yes [ ] No
9. Pump System Disinfected: [X] Yes [ ] No
10. Name of Pump Company AREA WELL Y PUMP
11. Pump Installer: TKACY SWANSON License # 101-004679
12. Robert Strange License # 101-002558
    Licensed Pump Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 W. Jefferson Street
Springfield, IL 62761

CO # 38837

R 323976

DO Not write on these lines

IMPORTANT NOTICE: This State Agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. DISCLOSURE OF THIS INFORMATION IS MANDATORY. This form has been approved by the Forms Management Center.
IL 482-0126 rev. 12/98

GEOLOGICAL & WATER SURVEY WELL RECORD

13. Property Owner [redacted] Well # ____
14. Driller ROBERT STRANGE License # 092-008182
Name of Drilling Company AREA WELL Y PUMP 16.
Permit No. 197-00-00-96-5 Date Issued ____
17. Date Drilling Started 6-7-2000
18. Well SITE address [redacted] 19
Township Name REED [redacted] Land I[redacted]
Subdivision Name [redacted] Lot # ____ 21.
Location: a. County WILL
   b. Township 32N Range 9E Section 17
   c. SW Quarter NE Quarter NE Quarter
   d. coordinates: ____ Site Elevation ____ ft.(msl)

22. Casings, Liners*, & Screen Information

Diam. (in.)	Material	Joint	Slot Size	From (ft.)	To (ft.)
5"	PVC	GLUE	12	38	33
5"	PVC	GLUE	200PSI	33	+1

(*) ____
(List reason for liner, type of upper and lower seals installed)

23. Water from SAND Y GRAVEL at a depth of 33 ft. to 38 ft.
   a. static water level 20 ft. below casing which is 12 in. above ground
   b. pumping level is 30 ft. pumping 10 gpm after pumping for 2 hours

For Survey Use Only

24. Earth Materials Passed Through	From (ft.)	To (ft.)
BLACK SAND	0	2
SAND	2	20
SAND + GRAVEL	20	38

(If DRY HOLE, fill out log & indicate how hole was sealed)

25. Robert Strange — Licensed Water Well Contractor Signature
092-006379 License Number

PW-1

37

BJS

Date 6-2005

Illinois Department of Public Health
WATER WELL CONSTRUCTION REPORT

TYPE OR PRESS FIRMLY WITH BLACK INK PEN. COMPLETE WITHIN 30 DAYS OF WELL COMPLETION AND SEND TO THE APPROPRIATE HEALTH DEPARTMENT.

1. Type of Well a. Driven Well Casing diam. ____ in. Depth ____ ft.
   b. Bored Well Buried Slab [ ] Yes [ ] No
   Hole Diameter ____ in. to ____ ft.; ____ in. to ____ ft.; ____ in. to ____ ft.
   c. Drilled Well PVC casing Formation packer set at depth of 32 ft.
   Hole Diameter 10 in. to ____ ft. ____ in. to ____ ft. ____ in. to ____ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Grout	1½	9.4	20	0	Yes

d. Drilled Well Steel Casing--- Mechanically Driven [ ] Yes [ ] No
Hole Diameter ____ in. to ____ ft. ____ in. to ____ ft. ____ in. to ____ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)

e. Well finished within [ ] Unconsolidated Materials [ ] Bedrock

f. Kind of Gravel Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Mixbalent	#2	32	20

2. Well Use [X] Domestic [ ] Irrigation [ ] Commercial [ ] Livestock [ ] Monitoring [ ] Other
3. Date Well Completed June 1 Well Disinfected [X] Yes [ ] No
   Driller's estimated well yield 15 gpm
4. Date Permanent Pump Installed 6-3-05
5. Pump Capacity 12 gpm Set at (depth) 20 ft.
6. Pitless Adapter Model and Manufacturer BP 102
7. Well Cap Type and Manufacturer Wells
8. Pressure Tank Working Cycle 12 gals. Captive Air [X] Yes [ ] No
9. Pump System Disinfected [X] Yes [ ] No
10. Name of Pump Company Joe's Well + Pump [redacted]
11. Pump Installer Joe Machak License # [redacted]
12. Joe Machak License # 102003183
    Licensed Pump Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 W. Jefferson St.
Springfield, IL 62761

41544

P 371516

DO NOT write on these lines

IMPORTANT NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. DISCLOSURE OF THIS INFORMATION IS MANDATORY. This form has been approved by the Forms Management Center.

GEOLOGICAL AND WATER SURVEY WELL RECORD

13. Property Owner [redacted] Well # 1
14. Driller [redacted] License # 092-006279
15. Name of Drilling Co. Ord Well & Pump, Inc.
16. Permit No. 197-011-05 Date Issued ____
17. Date Drilling Started June [redacted]
18. Well SITE address [redacted]
19. Township Name [redacted] Land ID # [redacted]
20. Subdivision Name ____ Lot # ____
21. Location a. County Will
    b. Township 32N Range 9E Section 20
    c. NW Quarter NW Quarter NE Quarter 4H
    d. Coordinates ____ Site Elevation ____ ft. (msl)

For Survey Use

22. Casings, Liners* and Screen Information

Diam. (in.)	Material	Joint	Slot Size	From (ft.)	To (ft.)
5"	PVC	Glue	12 slot	22	32
5"	PVC	Glue	SDR 21	+1	22

(*) ____
(List reason for liner, type of upper and lower seals installed)

23. Water from Sand+Gravel at a depth of 22 ft. to 32 ft.
a. Static water level 8 ft. below casing which is 12 in. above ground
b. Pumping level is 10 ft. pumping 15 gpm after pumping for 2 hours

24. Earth Materials Passed Through	From (ft.)	To (ft.)
Brown Dirt	0	2
Sand + Gravel	2	32

(If dry hole fill out log and indicate how hole was sealed.)

25. Licensed Water Well Contractor Signature ____ 092-006279 License Number

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

PW-2 (37N)

Illinois Department of Public Health
WATER WELL CONSTRUCTION REPORT

BLS

Date 6.20.05

TYPE OR PRESS FIRMLY WITH BLACK INK PEN. COMPLETE WITHIN 30 DAYS OF WELL COMPLETION AND SEND TO THE APPROPRIATE HEALTH DEPARTMENT.

1. Type of Well a. Driven Well Casing diam. _____ in. Depth _____ ft.
b. Bored Well Buried Slab [ ] Yes [ ] No
Hole Diameter ____ in. to ____ ft.; ____ in. to ____ ft.; ____ in. to ____ ft.
c. Drilled Well PVC casing Formation packer set at depth of 31 ft.
Hole Diameter 10½ in. to ____ ft. ____ in. to ____ ft. ____ in. to ____ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Grout	172	9.4	20	0	45

d. Drilled Well Steel Casing- - - Mechanically Driven [ ] Yes [ ] No
Hole Diameter ____ in. to ____ ft. ____ in. to ____ ft. ____ in. to ____ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)

e. Well finished within [ ] Unconsolidated Materials [ ] Bedrock

f. Kind of Gravel Sund Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Mustakee	#2	31	20

2. Well Use [X] Domestic [ ] Irrigation [ ] Commercial [ ] Livestock
[ ] Monitoring [ ] Other
3. Date Well Completed June 1 Well Disinfected [X] Yes [ ] No
Driller's estimated well yield 15 gpm
4. Date Permanent Pump Installed 6-3-05
5. Pump Capacity 12 gpm Set at (depth) 30' ft.
6. Pitless Adapter Model and Manufacturer BP 10 x MARTINSON
7. Well Cap Type and Manufacturer Well
8. Pressure Tank Working Cycle 15 guls. Captive Air [X] Yes [ ] No
9. Pump System Disinfected [X] Yes [ ] No
10. Name of Pump Company Joe's Well & Pump
11. Pump Installer Joe MacNak License # 122 003183
12. [redacted] License # _____
Licensed Pump Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 W. Jefferson St.
Springfield, IL 62761

ID # 41545

DO NOT write on these lines

R371517

IMPORTANT NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. **DISCLOSURE OF THIS INFORMATION IS MANDATORY.** This form has been approved by the Forms Management Center.

GEOLOGICAL AND WATER SURVEY WELL RECORD

13. Property Owner [redacted] Well #
14. Driller Robert Schroeder License # 092-006279
15. Name of Drilling Co. Area Well & Pump, Inc.
16. Permit No. 197-0112-05 Date Issued 5-18-05
17. Date Drilling Started 6-1-05
18. Well SITE address [redacted]
19. Township Name Custer Park Land ID # [redacted]
20. Subdivision Name _____ Lot # 2
21. Location a. County Will
b. Township 32N Range 9E Section 20
c. NW Quarter NW Quarter NE Quarter 4th
d. Coordinates _____ Site Elevation ____ ft. (msl)

For Survey Use

22. Casings, Liners* and Screen Information

Diam. (in.)	Material	Joint	Slot Size	From (ft.)	To (ft.)
5"	PVC	Glue	12 Slot	21	31
5"	PVC	Glue	SD 21	+1	21

(*) _____
(List reason for liner, type of upper and lower seals installed)

23. Water from Sand & gravel at a depth of 21 ft. to 31 ft.
a. Static water level 8 ft. below casing which is 12 in. above ground
b. Pumping level is 10 ft. pumping 15 gpm after pumping for 2 hours

24. Earth Materials Passed Through	From (ft.)	To (ft.)
brown dirt	0	2
Sand & gravel	2	31

(If dry hole, fill out log and indicate how hole was sealed.)

[redacted] 092-006279
25. Licensed Water Well Contractor Signature License Number

SEE REVERSE SIDE FOR ADDITIONAL INFORMATION

WELL CONSTRUCTION REPORT

Date February 22, 1999

TYPE OR PRESS FIRMLY WITH BLACK INK PEN. THIS FORM MUST BE COMPLETED WITHIN 30 DAYS OF COMPLETION AND SENT TO THE APPROPRIATE HEALTH DEPARTMENT

1. Date Well Completed January 28, 1999
2. Use: [X] Domestic [ ] Irrigation [ ] Commercial [ ] Livestock [ ] Monitoring [ ] Other
3. Type of Well:
   a. Bored Well: Hole Diameter — in. Depth — ft. Casing Diameter — in. Buried Slab: [ ]Yes [ ]No
   b. Driven Well: Drive Pipe Diameter — in. Depth — ft.
   c. Drilled Well: Well Diameter 6 in. Depth 680 ft. Casing Diameter 6 in. Type SDR 21 Joint 8

Casing Grout:

Kind	Oversized Drill Hole(In)	From(ft)	To(ft)
Bentonite GROUT	10"	0	160

Finished In: Unconsolidated [ ] Gravel Pack: [ ]Yes [ ]No Rock [ ] Grain Size

4. Well Disinfected? [X]Yes [ ]No
5. Date Permanent Pump Installed February 8, 1999
6. Licensed Pump Contractor Hubert Matherly License Number 102-002433
7. Pitless Adapter Installed? [X]Yes [ ]No Manufacturer BAKER Model B62 ACV Attached to Casing - How? [ ] Screwed On [ ] Welded [X] Compression
8. Type of Well Cap Vermin proof
9. Tank Working Cycle 9.8 gallons Captive Air: [X]Yes [ ]No
10. Pump and Equipment Disinfected? [X]Yes [ ]No

NONE

General Comments: (If dry hole, fill out log & indicate how hole was sealed.)

Illinois Department of Public Health
Division of Environmental Health - 525 W. Jefferson
Springfield, IL 62761

CO# 38245
Q 309140

IMPORTANT NOTICE. This State Agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. Disclosure of this information is mandatory. This form has been approved by the Forms Management Center.

IL 48 .26 Printed by Authority of the State of Illinois P.O. PRT3030244 6.5M 6/98

GEOLOGICAL AND WATER SURVEY WELL RECORD

11. Permit Number 197-98-0180 J Date Issued 2-17-98
12. Property Owner [redacted] Well #
13. Drilling Company Name Lockport Well + Pump, Inc.
14. Name of Person who drilled the well Dan Gibson
15. Well Site Address [redacted]
16. Twnshp Name Wesley Land [redacted]
17. Subdivision Name None Sd. Lot N/A Elevation UNK ft.
18. Location: Cnty Will Sect 17 Twnshp 32 N Range 9E NE Quarter of the NE Quarter of the SW Quarter
19. Casing and Liner Pipe:

Dia (In)	Type	From(ft)	To (ft)
6"	SDR 21 6.625 O.D.	+1	160'
4"	4.500 O.D. 0.237 thickness	-15'	315'

20. Screen: Diameter — in. Length — ft. Slot Size — Material —
21. Water from ST. PETE at depth 615 ft. to 680 ft.
22. Static Level 340 ft. below casing top which is 12 in. above ground level. Pumping Level 380 ft. Pumping — gpm for 1 hours.
23. Earth Materials Passed Through

Earth Materials Passed Through	Depth Top(ft)	Depth Bottom(ft)
Sand	0	30
Clay	30	100
SOFT SHALE	100	155
Limestone	155	200
SHALE	200	280
Limestone	280	615
ST. Pete	615	680

Continue on back of sheet if necessary

Hubert Matherly — Licensed Contractor Signature

102-002433 — License Number

11/95

(SEE REVERSE SIDE FOR ADDITIONAL INFORMATION)

Well Construction Report

12-420 345

Date 12-6-2001 PW-1

TYPE OR PRESS FIRMLY WITH BLACK INK PEN
COMPLETE WITHIN 30 DAYS OF WELL COMPLETION
AND SEND TO THE APPROPRIATE HEALTH DEPARTMENT

1. Type of Well: a. Driven Well: Casing diam. ____ in. Depth ____ ft.
b. Bored Well: Buried Slab [ ] Yes [ ] No
Hole Diameter ____ in. to ____ ft.; ____ in. to ____ ft.; ____ in. to ____ ft.
c. Drilled Well: PVC casing Formation packer set at depth of ____ ft.
Hole Diameter ____ in. to ____ ft.; ____ in. to ____ ft.; ____ in. to ____ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)

d. Drilled Well: Steel Casing Mechanically Driven [ ] Yes [X] No
Hole Diameter 9 in. to 118 ft.; ____ in. to ____ ft.; ____ in. to ____ ft.

Type of Grout	# of Bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite Grout	6		0	118	118

e. Well finished within [ ] Unconsolidated Materials [X] Bedrock

f. Kind of Gravel Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)

2. Well Use [X] Domestic [ ] Irrigation [ ] Commercial [ ] Livestock
[ ] Monitoring [ ] Other ____
3. Date Well Completed 11-20-2001 Well Disinfected [ ] Yes [ ] No
Driller's estimated well yield 12 gpm
4. Date Permanent Pump Installed 11-26-2001
5. Pump Capacity 12 gpm Set at (depth) 489 ft.
6. Pitless Adapter Model and Manufacturer ____
7. Well Cap Type and Manufacturer Williams
8. Pressure Tank: Working Cycle 44 gals. Captive Air: [X] Yes [ ] No
9. Pump System Disinfected: [X] Yes [ ] No
10. Name of Pump Company W E B
11. Pump Installer Edward Hall License # 102-004280
12. Edward Hall License # 102-004280
Licensed Pump Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 W. Jefferson Street
Springfield, IL 62761

CF 40310

DO Not write on these lines

R339521

IMPORTANT NOTICE: This State Agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. DISCLOSURE OF THIS INFORMATION IS MANDATORY. This form has been approved by the Forms Management Center.

IL 482-0126 rev. 12/98

WELL CONSTRUCTION RECORD

GEOLOGICAL & WATER SURVEY WELL RECORD

13. Property Owner [redacted] Well # 1
14. Driller [illegible] License # [illegible] 15.
Name of Drilling Company [illegible] 16.
Permit No. 1970137-01-I Date Issued 10-30-01
17. Date Drilling Started [illegible]
18. Well SITE address [redacted] 19.
Township Name Reado Land ID # [redacted]
Subdivision Name ____ Lot # ____
Location: a. County Will
b. Township 33N Range 9E Section 17 & 18
c. NW Quarter NW Quarter SE Quarter
d. coordinates: Site Elevation ____ ft.(msl)

For Survey Use Only

22. Casings, Liners & Screen Information

Diam. (in.)	Material	Joint	Slot Size	From (ft.)	To (ft.)
4"	PVC			100	290

(*) ____
(List reason for liner, type of upper and lower seals installed)

23. Water from Sand at a depth of 155 ft. to 675 ft.
a. static water level 290 ft. below casing which is 12" in. above ground
b. pumping level is 340 ft. pumping 12 gpm after pumping for 2 hours

24. Earth Materials Passed Through

	From (ft.)	To (ft.)
Sand	0	22
Shale	22	150
Limestone	150	186
Shale	186	243
Lime	243	655
Stone	655	675

(If DRY HOLE, fill out log & indicate how hole was sealed)

W E B Well & Pump
25. Licensed Water Well Contractor Signature

102-004280
License Number

APPENDIX C

QUALITY ASSURANCE PROGRAM – TELEDYNE BROWN ENGINEERING, INC.

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Rev. 8 Effective October 26, 2005
Document K-QAM-1

Quality Assurance Manual

For

Teledyne Brown Engineering

Environmental Services

2508 Quality Lane
Knoxville, Tennessee 37931-3133
865-690-6819

Generated by: Lynne Perry
Lynne Perry, QA Manager

Approved by: Keith Jeter
Keith Jeter, Operations Manager

Copy No.: Original
Issued To: Lynne Perry
Date: 10/26/05

TABLE OF CONTENTS

Section	Title	Page
1.0	**KNOXVILLE QAM SECTION INTRODUCTION**	**7**
2.0	**QUALITY SYSTEM**	**10**
2.1	Policy	10
2.2	Quality System Structure	10
2.3	Quality System Objectives	10
2.4	Personnel Orientation, Training, and Qualification	11
3.0	**ORGANIZATION, AUTHORITY, AND RESPONSIBILITY**	**12**
4.0	**PERSONNEL ORIENTATION, DATA INTEGRITY, TRAINING, AND QUALIFICATION**	**13**
4.1	Orientation	13
4.2	Data Integrity	13
4.3	Training	13
4.4	Qualification	13
4.5	Records	13
5.0	**CUSTOMER INTERFACES**	**14**
5.1	Interface Personnel	14
5.2	Bid Requests and Tenders	14
5.3	Contracts	14
5.4	TBE's Expectation of Customers	14
5.5	Customer Satisfaction	15
	5.5.1 Customer Complaints	15
	5.5.2 Customer Confidentiality	15
6.0	**DOCUMENTATION GENERATION AND CONTROL**	**16**
6.1	General	16
6.2	New Documentation	16
6.3	Documentation Changes	16

TABLE OF CONTENTS - Continued

6.4	Documentation Lists and Distributions	16
6.5	Other Documentation	16
6.6	Documentation Reviews	16
7.0	**DESIGN OF LABORATORY CONTROLS**	**17**
7.1	General	17
7.2	Facility	17
7.3	Technical Processes and Methods	17
7.3.1	Operational Flow	17
7.3.2	Methods	18
7.3.3	Data Reduction and Analysis	18
7.4	Verification of Technical Processes, Methods, and Software	18
7.4.1	Operational Flow Verification	18
7.4.2	Method Verifications	18
7.4.3	Data Reduction and Analysis Verification	18
7.5	Design of Quality Controls	18
7.5.1	General	19
7.5.2	Demonstration of Capability (D of C)	19
7.5.3	Process Control Checks	19
7.6	Counting Instrument Controls	20
8.0	**PURCHASING AND SUBCONTRACT CONTROLS**	**21**
8.1	General	21
8.2	Source Selection	21
8.3	Procurement of Supplies and Support Services	21
8.3.1	Catalog Supplies	21
8.3.2	Support Services	21
8.3.3	Equipment and Software	22
8.4	Subcontracting of Analytical Services	22
8.5	Acceptance of Items or Services	22

TABLE OF CONTENTS - Continued

9.0	**TEST SAMPLE IDENTIFICATION AND CONTROL**	**23**
9.1	Sample Identification	23
9.2	LIMS	23
9.3	Sample Control	23
10.0	**SPECIAL PROCESSES, INSPECTION, AND TEST**	**24**
10.1	Special Processes	24
10.2	Inspections and Tests	24
	10.2.1 Intra Laboratory Checks (QC Checks)	24
	10.2.2 Inter Laboratory Checks	24
	10.2.3 Data Reviews	24
10.3	Control of Sampling of Samples	24
10.4	Reference Standards / Material	24
	10.4.1 Weights and Temperatures	25
	10.4.2 Radioactive Materials	25
11.0	**EQUIPMENT MAINTENANCE AND CALIBRATION**	**26**
11.1	General	26
11.2	Support Equipment	26
11.3	Instruments	26
11.4	Nonconformances and Corrective Actions	26
11.5	Records	27
12.0	**NONCONFORMANCE CONTROLS**	**28**
12.1	General	28
12.2	Responsibility and Authority	28
12.3	10CFR21 Reporting	28

TABLE OF CONTENTS - Continued

13.0	**CORRECTIVE AND PREVENTIVE ACTIONS**	**29**
13.1	General	29
13.2	Corrective Actions	29
13.3	Preventive Actions	29
14.0	**RESULTS ANALYSIS AND REPORTING**	**30**
14.1	General	30
14.2	Results Review	30
14.3	Reports	30
15.0	**RECORDS**	**31**
15.1	General	31
15.2	Type of Records	31
15.3	Storage and Retention	31
15.4	Destruction or Disposal	31
16.0	**ASSESSMENTS**	**32**
16.1	General	32
16.2	Audits	32
16.3	Management Reviews	32

REVISION HISTORY

Revision 7	Complete re-write	January 1, 2005	Bill Meyer
Revision 8	Updated organization chart, minor change to 1.0, 4.4, 7.5.3.2, 10.2.3, and 12.3		

1.0 Knoxville QAM Section Introduction

This Quality Assurance Manual (QAM) and related Procedures describes the Knoxville Environmental Services Laboratory's QA system. This system is designed to meet multiple quality standards imposed by Customers and regulatory agencies including:

NRC's 10 CFR 50 Appendix B
NRC's Regulatory Guide 4.15
DOE's Order 414.1
DOE's QSAS
ANSI N 42.23
ANSI N 13.30
NELAC Standard, Chapter 5

The Environmental Services (ES) Laboratory does low level radioactivity analyses for Power Plants and other customers. It primarily analyzes environmental samples (natural products from around plants such as milk), in-plant samples (air filters, waters), bioassay samples from customer's employees, and waste disposal samples (liquids and solids).

Potable and non-potable water samples are tested using methods based on EPA standards as cited in State licenses (see Procedure 4010). The listing [current as of initial printing of this Manual – see current index for revision status and additions / deletions] of implementing Procedures (SOPs) covering Administration, Methods, Counting Instruments, Technical, Miscellaneous, and LIMS is shown in Table 1-1. Reference to these Procedures by number is made throughout this QAM.

Table 1-1

Number	Title
Part 1	**Administrative Procedures**
1001	Validation and Verification of Computer Programs for Radiochemistry Data Reduction
1002	Organization and Responsibility
1003	Control, Retention, and Disposal of Quality Assurance Records
1004	Definitions
1005	Data Integrity
1006	Job Descriptions
1007	Training and Certifications
1008	Procedure and Document Control
1009	Calibration System
1010	Nonconformance Controls
1011	10CFR21 Reporting
1012	Corrective Action and Preventive Action

Number	Title
1013	Internal Audits and Management Reviews
1014	RFP, Contract Review, and Order Entry (formerly 4001)
1015	Procurement Controls
Part 2	**Method Procedures**
2001	Alpha Isotopic and Plutonium-241
2002	Carbon-14 Activity in Various Matrices
2003	Carbon-14 and Tritium in Soils, Solids, and Biological Samples; Harvey Oxidizer Method
2004	Cerium-141 and Cerium-144 by Radiochemical Separation
2005	Cesium-137 by Radiochemical Separation
2006	Iron-55 Activity in Various Matrices
2007	Gamma Emitting Radioisotope Analysis
2008	Gross Alpha and/or Gross Beta Activity in Various Matrices
2009	Gross Beta Minus Potassium-40 Activity in Urine and Fecal Samples
2010	Tritium and Carbon-14 Analysis by Liquid Scintillation
2011	Tritium Analysis in Drinking Water by Liquid Scintillation
2012	Radioiodine in Various Matrices
2013	Radionickel Activity in Various Matrices
2014	Phosphorus-32 Activity in Various Matrices
2015	Lead-210 Activity in Various Matrices
2016	Radium-226 Analysis in Various Matrices
2017	Total Radium in Water Samples
2018	Radiostrontium Analysis by Chemical Separation
2019	Radiostrontium Analysis by Ion Exchange
2020	Sulfur-35 Analysis
2021	Technetium-99 Analysis by Eichrom Resin Separation
2022	Total Uranium Analysis by KPA
2023	Compositing of Samples
2024	Dry Ashing of Environmental Samples
2025	Preparation and Standardization of Carrier Solutions
2026	Radioactive Reference Standard Solutions and Records
2027	Glassware Washing and Storage
2028	Moisture Content of Various Matrices
2029	Polonium-210 Activity in Various Matrices
2030	Promethium-147 Analysis

Number	Title
Part 3	**Instrument Procedures**
3001	Calibration and Control of Gamma-Ray Spectrometers
3002	Calibration of Alpha Spectrometers
3003	Calibration and Control of Alpha and Beta Counting Instruments
3004	Calibration and Control of Liquid Scintillation Counters
3005	Calibration and Operation of pH Meters
3006	Balance Calibration and Check
3008	Negative Results Evaluation Policy
3009	Use and Maintenance of Mechanical Pipettors
3010	Microwave Digestion System Use and Maintenance
Part 4	**Technical Procedures**
4001	Not Used
4002	QC Checks on Data
4003	Sample Regent and Control
4004	Data Package Preparation and Reporting
4005	Blank, Spike, and Duplicate Controls
4006	Inter-Laboratory Comparison Study Process
4007	Method Basis and Initial Validation Process
4008	Not Used
4009	MDL Controls
4010	State Certification Process
4011	Accuracy, Precision, Efficiency, and Bias Controls and Data Quality Objectives
4012	Not Used
4013	Not Used
4014	Facility Operation and Control
4015	Documentation of Analytical Laboratory Logbooks (formerly 1002)
4016	Total Propagated Uncertainty (formerly 1004)
4017	LIMS Operation
4018	Instrument Calibration System
4019	Radioactive Reference Material Standards
Part 5	**Miscellaneous Procedures**
5001	Laboratory Hood Operations
5002	Operation and Maintenance of Deionized Water System
5003	Waste Management
5004	Acid Neutralization and Purification System Operation Procedure

Part 6	LIMS
6001	LIMS Raw Data Processing and Reporting
6002	Software Development and/or Pilots of COTS Packages
6003	Software Change and Version Control
6004	Backup of Data and System Files
6005	Disaster Recovery Plan
6006	LIMS Hardware
6007	LIMS User Access
6008	LIMS Training
6009	LIMS Security

2.0 QUALITY SYSTEM

The TBE-ES QA system is designed to comply with multiple customer- and regulatory agency-imposed specifications related to quality. This quality system applies to all activities of TBE-ES that affect the quality of analyses performed by the laboratory.

2.1 Policy

The TBE quality policy, given in Company Policy P-501, is "TBE will continually improve our processes and effectiveness in providing products and services that exceed our customer's expectations."

This policy is amplified by this Laboratory's commitment, as attested to by the title page signatures, to perform all work to good professional practices and to deliver high quality services to our customers with full data integrity. (See Section 4.0 and Procedure 1005).

2.2 Quality System Structure

The Quality System is operated by the organizations described in Section 3.0 of this Manual. The Quality System is described in this Manual and in the Procedures Manual, both of which are maintained by the QA Manager. Procedures are divided into 6 sections – Administrative, Methods, Equipments, Technical, Miscellaneous, and LIMS. This Manual is structured as shown in the Table of Contents and refers to Procedures when applicable. Cross references to the various imposed quality specifications are contained in Appendices to this Manual.

2.3 Quality System Objectives

The Quality System is established to meet the objective of assuring all operations are planned and executed in accordance with system requirements. The Quality System also assures that performance evaluations are performed (see Procedure 4006), and that appropriate verifications are performed (see Procedures in the 1000 and 4000 series) to further assure compliance. Verification includes

examination of final reports (prior to submittal to customers) to determine their quality (see Procedure 4004).

To further these objectives, various in-process assessments of data, as well as assessments of the system, via internal audits and management reviews, are performed. Both internal experts and customer / regulatory agencies perform further assessments of the system and compliance to requirements.

2.4 Personnel Orientation, Training, and Qualification

TBE provides indoctrination and training to employees and performs proficiency evaluation of technical personnel. This effort is described in Section 4.0.

3.0 ORGANIZATION, AUTHORITY, AND RESPONSIBILITY

TBE has established an effective organization for conducting laboratory analyses at the Knoxville Environmental Services Laboratory. The basic organization is shown in Figure 3-1. Detail organization charts with names, authorities, and responsibilities are given in Procedure 1002. Job descriptions are given in Procedure 1006.

This organization provides clearly established Quality Assurance authorities, duties, and functions. QA has the organizational freedom needed to:

(1) Identify problems
(2) Stop nonconforming work
(3) Initiate investigations
(4) Recommend corrective and preventive actions
(5) Provide solutions or recommend solutions
(6) Verify implementation of actions

All Laboratory personnel have the authority and resources to do their assigned duties and have the freedom to act on problems. The QA personnel have direct, independent access to Company management as shown in Figure 3-1.

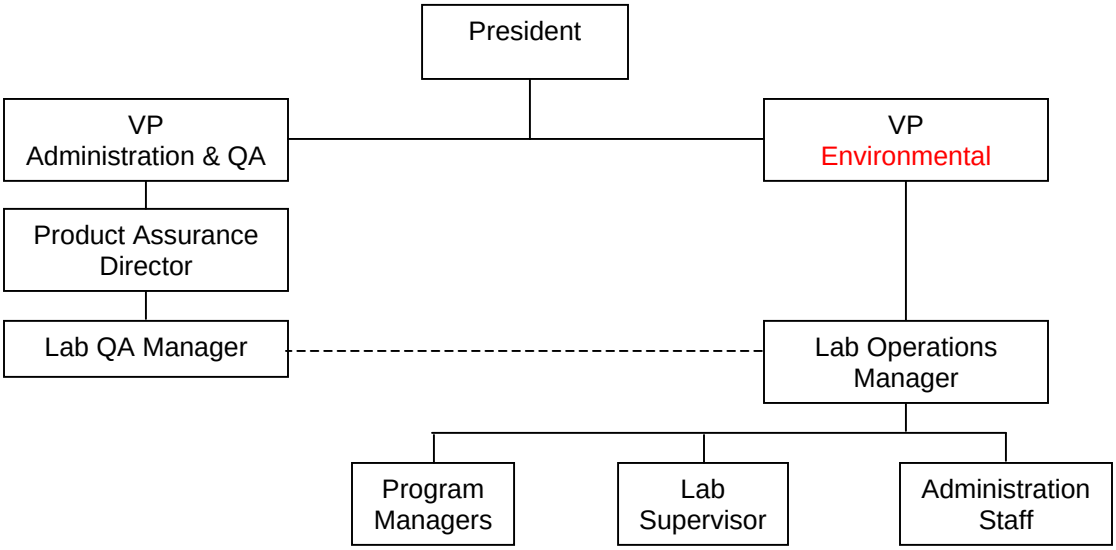


Figure 3.1. Laboratory Organization

4.0 PERSONNEL ORIENTATION, DATA INTEGRITY, TRAINING, AND QUALIFICATION

4.1 Orientation

All laboratory personnel must receive orientation to the quality program if their work can affect quality. Orientation includes a brief review of customer- and regulatory agency-imposed quality requirements, the structure of the QAM, and the implementing procedures. The goal of orientation is to cover the nature and goals of the QA program.

4.2 Data Integrity

The primary output of the Laboratory is data. Special emphasis and training in data integrity is given to all personnel whose work provides or supports data delivery. The Laboratory Data Integrity Procedure (Procedure 1005) describes training, personnel attestations, and monitoring operations. Annual reviews are required.

4.3 Training

The Quality Assurance Manager (QAM) maintains a training matrix indicating which laboratory personnel need training in which specific Procedures. This matrix is updated when personnel change or change assignments. All personnel are trained per these requirements and procedures. This training program is described in Procedure 1007. The assigned responsibilities for employees are described in Procedure 1002 (See Section 3.0) on Organization and in Procedure 1006, Job Descriptions. Refresher training or re-training is given annually as appropriate.

4.4 Qualification

Personnel are qualified as required by their job description. Management and non-analysts are evaluated based on past experience, education, and management's assessment of their capabilities. Formal qualification is required of analysts and related technical personnel who perform laboratory functions. Each applicable person is given training and then formally evaluated by the Operations Manager (or his designees) and by QA. Each analyst must initially demonstrate capability to perform each assigned analytical effort. Each year, thereafter, he or she must perform similar analyses on Interlab Comparison Samples (see Procedure 4006) or on equivalent blanks and spikes samples. Acceptable results extend qualifications (certification). Unacceptable results require retraining in the subject method / Procedures. (See Procedure 1007 for added information, records, forms, etc. used.)

4.5 Records

Records of training subjects, contents, attendees, instructors, and certifications are maintained by QA.

5.0 CUSTOMER INTERFACES

5.1 Interface Personnel

The Laboratory has designated Program Managers as the primary interface with all customers. Other interfaces may be the QA Manager or the Lab Operations Manager.

5.2 Bid Requests and Tenders

The Program Managers respond to customer requests for bids and proposals per Procedure 1014 for bids, proposals, and contract reviews. They clarify customer requests so both the customer and the lab staff understand requests. As responses are developed, internal reviews are conducted to ensure that requirements are adequately defined and documented and to verify that the Laboratory has adequate resources in physical capabilities, personal skills, and technical information to perform the work. Accreditation needs are reviewed. If subcontracts are required to perform any analysis, the subcontractor is similarly evaluated and the client notified in writing of the effort. Most qualifications are routine with standard pricing and the review of these quotes is performed by the Program Manager. Larger or more complex quotes are reviewed by the Operations Manager and the QA Manager (or designees). Evidence of review is by initialing and dating applicable papers, signatures on quotations, or by memo.

5.3 Contracts

The Program Manager's receive contract awards (oral or written) and generate the work planning for initiation preparation (charge numbers, data structure or contents in LIMS, etc.). They review contracts for possible differences from quotations and, if acceptable, contracts are processed. Documentation of the review is by initials and date as a minimum. Contract changes receive similar reviews and planning.

5.4 TBE's Expectation of Customers

TBE expects customers to provide samples suitable for lab analysis. These expectations include:

- Accurate and unambiguous identification of samples
- Proper collection and preservation of samples
- Use of appropriate containers free from external and internal contamination
- Integrity preservation during shipment and timely delivery of samples that are age sensitive
- Adequate sized samples that allow for retest, if needed
- Specification of unique MOA/MDC requirements
- Alerting the lab about abnormal samples (high activity, different chemical contents, etc.)
- Chain of custody initiation, when required.

5.5 Customer Satisfaction

TBE's quality policy centers on customer satisfaction (See 2.0). TBE will work to satisfy customers through full compliance with contract requirements, providing accurate data and properly responding to any questions or complaints. Customers are provided full cooperation in their monitoring of Laboratory performance. Customers are notified if any applicable State Accreditation is withdrawn, revoked, or suspended.

5.5.1 Customer Complaints

Any customer complaints are documented and tracked to closure. Most complaints concern analysis data and are received by Program Managers. They log each such complaint, order retests for verification, and provide documented results to customers. Complaints may also be received by QA or Operations.

If complaints are other than re-test type, the nonconformance and corrective action systems (Sections 12 and 13) are used to resolve them and record all actions taken.

5.5.2 Customer Confidentiality

All laboratory personnel maintain confidentiality of customer-unique information.

6.0 DOCUMENTATION GENERATION & CONTROL

6.1 General

The documentation generation and control system is detailed in Procedure 1008. An overview is given below. The basic quality system documents are described in Section 2.0.

6.2 New Documentation

Each Procedure and this QAM is written by appropriate personnel, validated if applicable (see Section 7.0), reviewed for adequacy, completeness, and correctness, and, if acceptable, accepted by the authorized approver [QA Manager, Operations Manager (or their designee)]. Both approvals are required if a Procedure affects both QA and Operations. (See Responsibilities in Section 3.0). These procedures control the quality measurements and their accuracy.

Each document carries a unique identification number, a revision level, dates, page numbers and total page count, and approver identification and sign off. If TBE writes code for software, the software is version identified and issued after Verification and Validation per Section 7.0.

6.3 Documentation Changes

Each change is reviewed in the same manner and by the same people as new documentation. Revision identifications are updated and changes indicated by side bars, italicized words, or by revision description when practical. Obsolete revisions are maintained by QA after being identified as obsolete.

6.4 Documentation Lists and Distributions

Computer indexes of documents are maintained by Quality showing the current authorized revision level of each document. These revisions are placed on the Laboratory server and obsolete ones are removed so that all personnel have only the current documents. If hard copies are produced and distributed, separate distribution lists are maintained indicating who has them and their revision level(s). Copies downloaded off the server are uncontrolled unless verified by the user (on the computer) to be the latest revision.

6.5 Other Documentation

In addition to TBE-generated documentation, QA maintains copies of applicable specifications, regulations, and standard methods.

6.6 Documentation Reviews

Each issued document is reviewed at least every third year by the approving personnel. This review determines continued suitability for use and compliance with requirements.

7.0 DESIGN OF LABORATORY CONTROLS

7.1 General

The Laboratory and its operating procedures are designed specifically for low level (environmental and in-plant) radioactive sample analysis. The various aspects of the laboratory design include the following which are discussed in subsequent paragraphs of this Section:

(a) Facility
(b) Technical Processes and Methods
(c) Verification of Design of Processes, Methods, and Software.
(d) Design of Quality Controls
(e) Counting Instrument Controls

7.2 Facility

The facility was designed and built in 2000 to facilitate correct performance of operations in accordance with good laboratory practices and regulatory requirements. It provides security for operations and samples. It separates sample storage areas based on activity levels, separates wet chemistry from counting instrumentation for contamination control, and provides space and electronic systems for documentation, analysis, and record storage. Procedure 4014 describes the facility, room uses, layouts, etc.

7.3 Technical Processes and Methods

7.3.1 Operational Flow

The laboratory design provides for sample receipt and storage (including special environmental provisions for perishable items) where samples are received from clients and other labs (see Section 9.0). The samples are logged into the computer based Laboratory Information Management System (LIMS) and receive unique identification numbers and bar code labels. (See Procedure 4017 for LIMS description and user procedures). The Program Managers then plan the work and assure LIMS contains any special instructions to analysts. Samples then go to sample preparation, wet chemistry (for chemical separation), and counting based on the radionuclides. See Procedures in the 2000 and 3000 series. Analysts perform the required tasks with data being entered into logbooks, LIMS, and counting equipment data systems as appropriate. Results are collected and reviewed by the Operations Manager and Program Managers and reports to clients are generated (See Section 14.0). All records (electronic or hard copy) are maintained in files or in back-up electronic copies (see Section 15.0). After the required hold periods and client notification and approval, samples are disposed of in compliance with regulatory requirements (see Procedures 5003 and 5004).

7.3.2 Methods

The laboratory methods documented in the 2000 and 3000 series of Procedures were primarily developed by senior TBE laboratory personnel based on years of experience at our prior facility in New Jersey. They have been improved, supplemented and implemented here. Where EPA or other accepted national methods exist (primarily for water analyses under State certification programs - see Procedure 4010), the TBE methods conform to the imposed requirements or State accepted alternate requirements. Any method modifications are documented and described in the Procedure. There are no nationally recognized methods for most other analysis methods but references to other method documents are noted where applicable.

7.3.3 Data Reduction and Analysis

Whenever possible automatic data capture and computerized data reduction programs are used. Calculations are either performed using commercial software (counting system operating systems) or TBE developed and validated software is used (see 7.4 below). Analysis of reduced data is performed as described in Section 14.0 and Procedure 4004.

7.4 Verification of Technical Processes, Methods, and Software

7.4.1 Operational Flow Verification

The entire QA Manual and related procedures describe the verification of elements of the technical process flow and the establishment of quality check points, reviews, and controls.

7.4.2 Method Verifications

Methods are verified and validated per Procedure 4007 prior to use unless otherwise agreed to by the client. For most TBE methods initial validation occurred well in the past. New or significantly revised Methods receive initial validation by demonstration of their performance using known analytes (NIST traceable) in appropriate matrices. Sufficient samples are run to obtain statistical data that provides evidence of process capability and control, establishes detection levels (see procedure 4009), bias and precision data (see Procedure 4011). All method procedures and validation data are available to respective clients. Also see Section 7.5 below for the Demonstration of Capability program.

7.4.3 Data Reduction and Analysis Verification

Data reduction and analysis verification is performed by personnel who did not generate the data. (See Section 14.0).

7.5 Design of Quality Controls

7.5.1 General

There are multiple quality controls designed into the laboratory operations. Many of these are described elsewhere in this manual and include personnel qualification (Section 4.0), Document control (6.0), Sample identification and control (9.0), Use of reference standards (10.0), intra- and inter- laboratory tests (10.0), etc. This Section describes the basic quality control systems used to verify Method capability and performance.

7.5.2 Demonstration of Capability (D of C)

The demonstration of capability system verifies and documents that the method, analyst, and the equipment can perform within acceptable limits. The D of C is certified for each combination of analyte, method, and instrument type. D of C's are certified based on objective evidence at least annually. This program is combined with the analyst D of C program (See Section 4.0). Initial D of C's use the method validation effort as covered above. Subsequent D of C's use Inter-Laboratory samples (Procedure 4006) or, if necessary, laboratory generated samples using NIST traceable standards. If results are outside of control limits, re-demonstration is required after investigation and corrective action is accomplished (See Sections 12.0 and 13.0)

7.5.3 Process Control Checks

Process control checks are designed to include Inter-Lab samples, Intra-lab QC check samples, and customer provided check samples. 10% of laboratory analysis samples are for process control purposes.

7.5.3.1 Inter- Lab Samples. Inter-lab samples are procured or obtained from sources providing analytes of interest in matrices similar to normal client samples. These samples may be used for Demonstration of Capability of analyst's, equipment and methods. They also provide for independent insight into the lab's process capabilities. Any value reported as being in the warning zone (over 2 sigma) is reviewed and improvements taken. Any value failing (over 3 sigma) is documented on an NCR and formal investigation per Section 12.0 and 13.0 is performed. If root causes are not clearly understood and fixed, re-tests are required using lab prepared samples (See Procedure 4006).

7.5.3.2 QC Samples. QC samples, along with Inter-lab samples and customer check samples, are 10% of the annual lab workload for the applicable analyte and method. If batch processing is used, some specifications require specific checks with each batch or each day rather than as continuous process controls. (See Procedure 4005)

QC samples consist of multiple types of samples including:

(a) Method blanks
(b) Blank spikes
(c) Matrix spikes

(d) Duplicates
(e) Tracers and carriers

Acceptance limits for these samples are given in Procedures or in lab standards. The number, frequency, and use of these sample types varies with the method, matrix, and supplemental requirements. The patterns of use versus method and the use of the resulting test data is described in Procedure 4005.

7.5.3.3 Customer Provided Check Samples. Customers may provide blind check samples and duplicates to aid in their evaluation of the Laboratory. When the lab is notified that samples are check samples their results are included in the QC sample percentage counts. Any reported problems are treated as formal complaints and investigated per Section 5.

7.6 Counting Instrument Controls

The calibration of instruments is their primary control and is described in Section 11.0. In addition, counting procedures (3000 series) also specify use of background checks (method blank data is not used for this) to evaluate possible counting equipment contamination. Instrument calibration checks using a lab standard from a different source than the one used for calibration are also used. Background data can be used to adjust client and test data. Checks with lab standards indicate potential calibration changes.

8.0 PURCHASING AND SUBCONTRACT CONTROLS

8.1 General

Procurement and Subcontracts efforts use the Huntsville-based Cost Point computer system to process orders. The Laboratory-generated Purchase Requisitions are electronically copied into Purchase Orders in Huntsville. The Laboratory also specifies sources to be used. Procured items and services are received at the Laboratory where receiving checks and inspections are made. Laboratory Procedure 1015 provides details on the procurement control system at the Laboratory and references the Huntsville procedures as applicable.

8.2 Source Selection

Sources for procurements of items and services are evaluated and approved by QA as described in Procedure 1015. Nationally recognized catalog item sources are approved by the QA Manager based on reputation. Maintenance services by an approved distributor or the equipment manufacturing company are pre-approved. Sources for other services are evaluated by QA, based on service criticality to the quality system, by phone, mail out, or site visit.

Subcontract sources for laboratory analysis services are only placed with accredited laboratories (by NELAP, NUPIC, State, Client, etc.) as applicable for the type of analysis to be performed. QA maintains lists of approved vendors and records of evaluations performed.

8.3 Procurement of Supplies and Support Services

8.3.1 Catalog Supplies

The Laboratory procures reagents, processing chemicals, laboratory "glassware," consumables, and other catalog items from nationally known vendors and to applicable laboratory grades, purities, concentrations, accuracy levels, etc. Purchase Requisitions for these items specify catalog numbers or similar call-outs for these off-the-shelf items. Requisitions are generated by the personnel in the lab needing the item and are approved by the Operations or Production Manager. Reagents are analytical reagent grade only.

8.3.2 Support Services

Purchase Requisitions for support services (such as balance calibration, equipment maintenance, etc.) are processed as in 8.3.1 but technical requirements are specified and reviewed before approvals are given.

8.3.3 Equipment and Software

Purchase Requisitions for new equipment, software programs, and major facility modifications affecting the quality system are reviewed and approved by the Operations Manager and the QA Manager.

8.4 Subcontracting of Analytical Services

When necessary, the Laboratory may subcontract analytical services required by a client. This may be because of special needs, infrequency of analysis, etc. Applicable quality and regulatory requirements are imposed in the Purchase Requisition and undergo a technical review by QA. TBE reserves the right of access by TBE and our client for verification purposes.

8.5 Acceptance of Items or Services

Items and services affecting the quality system are verified at receipt based on objective evidence supplied by the vendor. Supply items are reviewed by the requisitioner and, if acceptable, are accepted via annotation on the vendor packing list or similar document. Similarly, equipment services are accepted by the requisitioning lab person. Calibration services are accepted by QA based on certification reviews. (See Section 11.0.)

Data reports from analytical subcontractors are evaluated by Program Managers and subsequently by the Operations Manager (or designee) as part of client report reviews.

Items are not used until accepted and if items or services are rejected, QA is notified and nonconformance controls per Section 12.0 are followed. Vendors may be removed from the approved vendor's list if their performance is unacceptable.

9.0 TEST SAMPLE IDENTIFICATION AND CONTROL

9.1 Sample Identification

Incoming samples are inspected for customer identification, container condition, chain of custody forms, and radioactivity levels. If acceptable, the sample information is entered into LIMS which generates bar coded labels for attachment to the sample(s). The labels are attached and samples stored in the assigned location. If environmental controls are needed (refrigeration, freezing, etc.), the samples are placed in these storage locations. If not acceptable, the Program Manager is notified, the customer contacted, and the problem resolved (return of sample, added data receipts, etc.). See Procedure 4003 for more information on sample receipt.

9.2 LIMS

The LIMS is used to schedule work, provide special information to analysts, and record all actions taken on samples. See Procedure 4017 and the 6000 series of procedures for more information on LIMS operations.

9.3 Sample Control

The sample, with its bar coded label, is logged out to the applicable lab operation where the sample is processed per the applicable methods (Procedures 2000 and 3000). The LIMS-assigned numbers are used for identification through all operations to record data. Data is entered into LIMS, log books (kept by the analysts) or equipment data systems to record data. The combination of LIMS, logbooks, and equipment data systems provide the Chain of Custody data and document all actions taken on samples. Unused sample portions are returned to its storage area for possible verification use. Samples are discarded after required time limits are passed and after client notification and approval, if required.

10.0 SPECIAL PROCESSES, INSPECTION, AND TEST

10.1 Special Processes

The Laboratory's special processes are the methods used to analyze a sample and control equipment. These methods are defined in Procedures in the 2000 and 3000 series. These processes are performed to the qualified methods (see Section 7.0) by qualified people (see 4.0).

10.2 Inspections and Tests

The quality of the process is monitored by indirect means. This program involves calibration checks on counting equipments (see Section 11.0), intra-laboratory checks, and inter-laboratory checks. In addition, some customers submit quality control check samples (blinds, duplicates, external reference standards). All generated data gets independent reviews.

10.2.1 Intra Laboratory Checks (QC Checks)

The quantity and types of checks varies with the method, but basic checks which may include blanks, spiked blanks, matrix spikes, matrix spike duplicates, and duplicates are used as appropriate for customer samples. This process is described in Procedure 4005 and in Section 7.0.

10.2.2 Inter Laboratory Checks

TBE participates in Inter-lab performance evaluation (check) programs with multiple higher level labs. These programs provide blind matrices for the types of matrix/analyte combinations routinely processed by the Lab, if available. This program is described in Procedure 4006.

10.2.3 Data Reviews

Raw data and reports are reviewed by the Operations Manager, or designees. This review checks for data logic, expected results, procedure compliance, etc. (See Section 14.0).

10.3 Control of Sampling of Samples

Samples for analysis are supplied by customers preferably in quantities sufficient to allow re-verification analyses if needed. The samples are prepared for analysis by analysts and then an aliquot (partial sample extraction) is taken from the homogeneous customer sample for the initial analysis. Methods specify standard volumes of sample material required. Sampling data is recorded in LIMS and/or logbooks.

10.4 Reference Standards / Material

10.4.1 Weights and Temperatures

Reference standards are used by the Laboratory's calibration vendor to calibrate the Labs working instruments measuring weights and thermometers.

10.4.2 Radioactive Materials

Reference radioactive standards, traceable to NIST, are procured from higher level laboratories. These reference materials are maintained in the standards area and are diluted down for use by laboratory analysts. All original and diluted volumes are fully traceable to source, procedure, analyst, dilution, and acquisition dates. See Section 11.0 and Procedure 1009.

11.0 EQUIPMENT MAINTENANCE AND CALIBRATION

11.1 General

There are two types of equipment used by the Laboratory: support equipment (scales, glassware, weights, thermometers, etc.) and instruments for counting. Standards traceable to NIST are used for calibration and are of the needed accuracy for laboratory operations. Procedures 1009, 4018, and 4019 describe the calibration and maintenance programs.

11.2 Support Equipment

Analytical support equipment is purchased with the necessary accuracies and appropriate calibration data. If needed, initial calibration by the Laboratory or its calibration vendor is performed. Recalibration schedules are established and equipment recalibrated by the scheduled date by a calibration vendor or by Laboratory personnel. Maintenance is performed, as needed, per manufacturer's manuals or lab procedures.

In addition to calibrations and recalibrations, checks are made on the continued accuracy of items as described in Procedure 1009. Records are maintained of calibration and specified checks.

11.3 Instruments

Instruments receive initial calibration using radioactive sources traceable to NIST. The initial calibration establishes statistical limits of variation that are used to set control limits for future checks and recalibration. This process is described in Procedure 4018. Instruments are maintained per Instrument Manual requirements. Recalibrations are performed per the Procedure.

Between calibrations, check sources are used to assure no significant changes have occurred in the calibration of items. Background checks are performed to check for possible radioactive contamination. Background values are used to adjust sample results. Hardware and software are safeguarded from adjustments that could invalidate calibrations or results.

11.4 Nonconformances and Corrective Actions

If calibrations or checks indicate a problem, the nonconformance system (Section 12.0) and corrective action system (Section 13.0) are initiated to document the problem and its resolution. Equipment is promptly removed from service if questionable.

11.5 Records

Records of calibrations are maintained. Calibration certificates from calibration vendors are maintained by QA. Other calibration data and check data is maintained in log books, LIMS, or instrument software as appropriate and as described in Procedures 1009, 4018, and 4019.

12.0 NONCONFORMANCE CONTROLS

12.1 General

The nonconformance control system is implemented whenever a nonconforming condition on any aspect of Laboratory analysis, testing, or results exist. The system takes graded actions based on the nature and severity of the nonconformance. Nonconforming items or processes are controlled to prevent inadvertent use. Nonconformances are documented and dispositioned. Notification is made to affected organizations, including clients. Procedure 1010 describes the procedures followed. Sample results are only reported after resolution.

12.2 Responsibility and Authority

Each Laboratory employee has the responsibility to report nonconformances and the authority to stop performing nonconforming work or using nonconforming equipment. Laboratory supervision can disposition and take corrective actions on minor problems. Any significant problem is documented by QA using the Laboratory's NCR system per Procedure 1010. QA conducts or assures the conduct of cause analyses, disposition of items or data, and initiation of corrective action if the nonconformance could recur.

12.3 10CFR21 Reporting

The QA Manager reviews NCRs for possible need of customer and/or NRC notification per the requirements of 10CFR21. Procedure 1011 is followed in this review and for any required reporting.

13.0 CORRECTIVE AND PREVENTIVE ACTIONS

13.1 General

The Laboratory takes corrective actions on significant nonconformances (see Section 12.0). It also initiates preventive and improvement actions per the Company Quality Policy (see Section 2.0). The procedures for Corrective Action/Preventive Action systems are contained in Procedure 1012.

13.2 Corrective Actions

Corrective actions are taken by Operations and Quality to promptly correct significant conditions adverse to quality. The condition is identified and cause analysis is performed to identify root causes. Solutions are evaluated and the optimum one selected that will prevent recurrence, can be implemented by the Laboratory, allows the Laboratory to meet its other goals, and is commensurate with the significance of the problem. All steps are documented, action plans developed for major efforts, and reports made to Management. QA verifies the implementation effectiveness. Procedure 1012 provides instructions and designates authorities and responsibilities.

13.3 Preventive Actions

Preventive actions are improvements intended to reduce the potential for nonconformances. Possible preventive actions are developed from suggestions from employees and from analysis of Laboratory technical and quality systems by management. If preventive actions or improvements are selected for investigation, the issues, investigation, recommendations, and implementation actions are documented. Follow up verifies effectiveness.

14.0 RESULTS ANALYSIS AND REPORTING

14.1 General

The Laboratory's role is to provide measurement-based information to clients that is technically valid, legally defensible, and of known quality.

14.2 Results Review

The results obtained from analytical efforts are collected and reviewed by the Operations Manager and the Program Manager. This review verifies the reasonableness and consistency of the results. It includes review of sample and the related QC activity data. Procedure 4002 describes the process. Any deficiencies are corrected by re-analyses, recalculations, or corrective actions per Sections 12.0 and 13.0. Use of the LIMS with its automatic data loading features (see Procedure 4017) minimizes the possibility of transcription or calculation errors.

14.3 Reports

Reports range from simple results reporting to elaborate analytical reports based on the client requirements and imposed specifications and standards. (See Procedure 4004.) Reports present results accurately, clearly, unambiguously, objectively, and as required by the applicable Method(s). Reports include reproduction restrictions, information on any deviations from methods, and any needed data qualifiers based on QC data. If any data is supplied by analytical subcontractors (see Section 8.0), it is clearly identified and attributed to that Laboratory by either name or accreditation number.

If results are faxed or transmitted electronically, confidentiality statements are included in case of receipt by other than the intended client.

Reports are approved by the Program Manager and Operations Manager and record copies kept in file (See Section 15.0).

15.0 RECORDS

15.1 General

The Laboratory collects generated data and information related to quality or technical data and maintains them as records. Records are identified, prepared, reviewed, placed in storage, and maintained as set forth in Procedure 1003.

15.2 Type of Records

All original observations, calculations, derived data, calibration data, and test reports are included. In addition QA data such as audits, management reviews, corrective and preventive actions, manuals, and procedures are included.

15.3 Storage and Retention

Records are stored in files after completion in the lab. Files are in specified locations and under the control of custodians. Filing systems provide for retrieval. Electronic files are kept on Company servers (with regular back up) or on media stored in fireproof file cabinets. Records are kept in Laboratory files for at least 2 years after the last entry and then in Company files for another year as a minimum. Some customers specify larger periods – up to 7 years – which is also met. Generic records supporting multiple customers are kept for the longest applicable period.

15.4 Destruction or Disposal

Records may be destroyed after the retention period and after client notification and acceptance, if required. If the Laboratory closes, records will go in to company storage in Huntsville unless otherwise directed by customers. If the Laboratory is sold, either the new owner will accept record ownership or the records will go into Company storage as stated above.

16.0 ASSESSMENTS

16.1 General

Assessments consist of internal audits and management reviews as set forth in Procedure 1013.

16.2 Audits

Internal audits are planned, performed at least annually on all areas of the quality system, and are performed by qualified people who are as independent as possible from the activity audited. (The Laboratory's small size inhibits full independence in some technical areas.) Audits are coordinated by the Quality Manager who assures audit plans and checklists are generated and the results documented. Reports include descriptions of any findings and provide the auditor's assessment of the effectiveness of the audited activity. Report data includes personnel contacted.

Audit findings are reviewed with management and corrective actions agreed to and scheduled. Follow up is performed by QA to verify accomplishment and effectiveness of the corrective action.

16.3 Management Reviews

The Annual Quality Assurance Report, prepared for some clients, is the Management Review vehicle. These reports cover audit results, corrective and preventive actions, external assessments, and QC and inter-laboratory performance checks. The report is reviewed with Management by the QA Manager for the continued suitability of the Quality Program and its effectiveness. Any needed improvements are defined, documented, and implemented. Follow ups are made to verify implementation and effectiveness.

APPENDIX D

LABORATORY ANALYTICAL REPORTS

TELEDYNE
BROWN ENGINEERING
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28597

Exelon

May 18, 2006

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville CT 06062

Case Narrative - L28597
EX001-3ESPBRAID-06

05/18/2006 15:08

Sample Receipt

The following samples were received on May 11, 2006 in good condition, unless otherwise noted.

WG-BW-050906-JL-009 (L28597-11) tritium bottle was broken during shipment. L28597-11 is not being reported for tritium. Sample were scheduled for total strontium, tritium, and gamma per client instructions.

Cross Reference Table

Client ID	Laboratory ID	Station ID(if applicable)
WG-BW-050906-MS002	L28597-1	
WG-BW-050906-MS-004	L28597-2	
WG-BW-050906-MS-006	L28597-3	
WG-BW-050906-MS-008	L28597-4	
WG-BW-050906-MS-010	L28597-5	
WG-BW-051006-MS-012	L28597-6	
WG-BW-050906-JL-001	L28597-7	
WG-BW-050906-JL-003	L28597-8	
WG-BW-050906-JL-005	L28597-9	
WG-BW-050906-JL-007	L28597-10	
WG-BW-051006-JL-009	L28597-11	
WG-BW-051006-JL-011	L28597-12	

Analytical Method Cross Reference Table

Radiological Parameter	TBE Knoxville Method	Reference Method
Gamma Spectrometry	TBE-2007	EPA 901.1
H-3	TBE-2010	EPA 906.0
TOTAL SR	TBE-2018	EPA 905.0

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28597
EX001-3ESPBRAID-06

05/18/2006 15:08

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG3975.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-050906-MS002	L28597-1	WG3975-1

H-3

Quality Control

Quality control samples were analyzed as WG3978.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-050906-JL-001	L28597-7	WG3978-5

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28597
EX001-3ESPBRAID-06

05/18/2006 15:08

TOTAL SR

Quality Control

Quality control samples were analyzed as WG3996.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-050906-MS002	L28597-1	WG3996-3

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

Keith Jeter
Operations Manager

Sample Receipt Summary

05/12/06 08:25

SR #: SR08324

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #: L28597

Initiated By: PMARSHALL
Init Date: 05/11/06 Receive Date: 05/11/06

Notification of Variance

Person Notified: Kathy Shaw Contacted By: R. Charles
Notify Date: 5/12/06
Notify Method: email
Notify Comment: see email

Client Response

Person Responding:
Response Date:
Response Method:
Response Comment

	Criteria	Yes	No	NA	Comment
1	Shipping container custody seals present and intact.			NA	
2	Sample container custody seals present and intact.			NA	
3	Sample containers received in good condition			N	
	WG-BW-050906-JL-009				H-3 bottle broken during shipment..complete sample lost.
4	Chain of custody received with samples			Y	
5	All samples listed on chain of custody received			Y	
6	Sample container labels present and legible.			Y	
7	Information on container labels correspond with chain of custody			Y	
8	Sample(s) properly preserved and in appropriate container(s)			NA	
9	Other (Describe)			N	
					pH at or below 2 on Gamma portion.

CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): Tedlyne Brown

REFERENCE NUMBER: 45316-20

PROJECT NAME: Braidwood Exelon

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Marcia Sivek PRINTED NAME: Marcia Sivek

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: Tritium	PARAMETERS: Strontium 89/90	REMARKS
1	5/09/06	1035	WG-BW-050906-MS-002	WATER	2	X	X	
2		1125	-004		2	X	X	
3		1215	-006		2	X	X	
4		1410	-008		2	X	X	
5		1510	-010		2	X	X	
6	5/10/06	930	WG-BW-051006-MS-012		2	X	X	

TOTAL NUMBER OF CONTAINERS: 12

RELINQUISHED BY: (1) Matt Borkowski	DATE: 5/10/06 TIME:	RECEIVED BY: (2)	DATE: TIME:
RELINQUISHED BY: (2)	DATE: TIME:	RECEIVED BY: (3)	DATE: TIME:
RELINQUISHED BY: (3)	DATE: TIME:	RECEIVED BY: (4)	DATE: TIME:

METHOD OF SHIPMENT: AIR BILL No.

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: BORKOWSKI, SIVEK

RECEIVED FOR LABORATORY BY: Pat Marshall DATE: 5/11/06 TIME: 1100

13610

1001-00(SOURCE)GN-CO004

CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

CHAIN-OF-CUSTODY RECORD

SHIPPED TO (Laboratory Name): Tealyne Brown

REFERENCE NUMBER: 45316 14841 - 20

PROJECT NAME: Braidwood Exelon

SAMPLER'S SIGNATURE: Julie Lyzwick **PRINTED NAME:** Julie Lyzwick

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: Tritium	PARAMETERS: Strontium 89/90	REMARKS
	5/9/06	1055	WG-BW-050906-JL-001	W	2	X	X	
	↓	1210	-003	W	2	X	X	
		1415	-005	W	2	X	X	
		1525	-007	W	2	X	X	
	5/10/06	920	WG-BW-051006-JL-009	W	2	X	X	
	↓	925	-011	W	2	X	X	
			TOTAL NUMBER OF CONTAINERS		12			

RELINQUISHED BY: (1) Julie Lyzwick	DATE: 5/10/06 TIME: 12:00	RECEIVED BY: (2)	DATE: TIME:
RELINQUISHED BY: (2)	DATE: TIME:	RECEIVED BY: (3)	DATE: TIME:
RELINQUISHED BY: (3)	DATE: TIME:	RECEIVED BY: (4)	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: J. Lyzwick, S. Spencer

RECEIVED FOR LABORATORY BY: Pat Marshall DATE: 5/11/06 TIME: 1100

13670

1001-00(SOURCE)GN-CO004

Charles, Rebecca

From: Charles, Rebecca
Sent: Friday, May 12, 2006 1:36 PM
To: 'Shaw, Kathy'; 'Zigmund.Karpa@exeloncorp.com'; 'Larry.Walton@exeloncorp.com'; 'rick.maldonado@exeloncorp.com'; 'scott.sklenar@exeloncorp.com'; 'Joyce.Tomlinson@exeloncorp.com'
Subject: Acknowledgment of receipt

The COC requests tritium and Sr 89/90. As previously instructed, we have scheduled these samples for Total Strontium, tritium, and gamma.

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

Charles, Rebecca

From: Charles, Rebecca
Sent: Friday, May 12, 2006 11:17 AM
To: 'Shaw, Kathy'; Julie Czech (jczech@craworld.com)
Cc: 'Larry.Walton@exeloncorp.com'; 'Zigmund.Karpa@exeloncorp.com'
Subject: sample receipt variance report

Sample WG-BW-050906-JL-009 received 5/11/06. The tritium bottle was broken in shipment. No sample remains.

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

Lost fraction Removed

REVISED 5-12-06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT
This is not an invoice

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, CT 06062

May 12, 2006

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on May 11, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by May 18, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865)934-0379

Project ID: EX001-3ESPBRAID-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#:860-747-1900, kshaw@craworld.com

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG-BW-050906-MS002	**L28597-1**		**05/09/06:1035**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-MS-004	**L28597-2**		**05/09/06:1125**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-MS-006	**L28597-3**		**05/09/06:1215**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-MS-008	**L28597-4**		**05/09/06:1410**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-MS-010	**L28597-5**		**05/09/06:1510**	

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-012	**L28597-6**		**05/10/06:0930**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-JL-001	**L28597-7**		**05/09/06:1055**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-JL-003	**L28597-8**		**05/09/06:1210**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-JL-005	**L28597-9**		**05/09/06:1415**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-050906-JL-007	**L28597-10**		**05/09/06:1525**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-009	**L28597-11**		**05/10/06:0920**	
WG	GELI	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-011	**L28597-12**		**05/10/06:0925**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		

End of document

Internal Chain of Custody

Internal Chain of Custody

****

Sample # L28597-1 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-1 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-2 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-2 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-3 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-3 Containernum 2

****

Sample # L28597-3 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-4 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-4 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-5 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-5 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb

****
Sample # L28597-5 Containernum 2

Relinquish Date			Received By	
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****
Sample # L28597-6 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****
Sample # L28597-6 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****
Sample # L28597-7 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****
Sample # L28597-7 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****
Sample # L28597-8 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK

****

Sample # L28597-8 Containernum 1

H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-8 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-9 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-9 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-10 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-10 Containernum 2

Prod	Analyst
GELI	DW

****

Sample # L28597-10 Containernum 2

SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-11 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-11 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

****

Sample # L28597-12 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian

****

Sample # L28597-12 Containernum 2

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK
H-3	EJ

Relinquish Date	Relinquish By		Received By	
05/11/2006 00:00			099999	Sample Custodian
05/12/2006 13:49	099999	Sample Custodian	030854	Donna Webb
05/15/2006 09:40	030854	Donna Webb	029965	Kelly Wright
05/15/2006 09:41	029965	Kelly Wright	030854	Donna Webb

05/18/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28597

****

L28597-1 **WG** **WG-BW-050906-MS002**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/13/06
Count Room	H-3	KOJ	05/17/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

****

L28597-2 **WG** **WG-BW-050906-MS-004**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/13/06
Count Room	H-3	KOJ	05/17/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

****

L28597-3 **WG** **WG-BW-050906-MS-006**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/13/06
Count Room	H-3	KOJ	05/17/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

****

L28597-4 **WG** **WG-BW-050906-MS-008**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/13/06
Count Room	H-3	KOJ	05/17/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

****

L28597-5 **WG** **WG-BW-050906-MS-010**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/13/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28597

L28597-5	**WG**	**WG-BW-050906-MS-010**		
Count Room	H-3		KOJ	05/17/06
Count Room	SR-90 (FAST)		KOJ	05/18/06

****

L28597-6	**WG**	**WG-BW-051006-MS-012**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/11/06
Aliquot	GELI		DW	05/12/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	
Count Room	GELI		KOJ	05/13/06
Count Room	H-3		KOJ	05/17/06
Count Room	SR-90 (FAST)		KOJ	05/18/06

****

L28597-7	**WG**	**WG-BW-050906-JL-001**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/11/06
Aliquot	GELI		DW	05/12/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	
Count Room	GELI		KOJ	05/13/06
Count Room	H-3		KOJ	05/17/06
Count Room	SR-90 (FAST)		KOJ	05/18/06

****

L28597-8	**WG**	**WG-BW-050906-JL-003**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/11/06
Aliquot	GELI		DW	05/12/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	
Count Room	GELI		KOJ	05/13/06
Count Room	H-3		KOJ	05/17/06
Count Room	SR-90 (FAST)		KOJ	05/18/06

****

L28597-9	**WG**	**WG-BW-050906-JL-005**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/11/06
Aliquot	GELI		DW	05/12/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	
Count Room	GELI		KOJ	05/14/06
Count Room	H-3		KOJ	05/17/06
Count Room	SR-90 (FAST)		KOJ	05/18/06

****

L28597-10	**WG**	**WG-BW-050906-JL-007**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/11/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28597

L28597-10	**WG**	**WG-BW-050906-JL-007**	
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/14/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

****

L28597-11	**WG**	**WG-BW-051006-JL-009**	
Process step	Prod	Analyst	Date
Login		RCHARLES	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/14/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

****

L28597-12	**WG**	**WG-BW-051006-JL-011**	
Process step	Prod	Analyst	Date
Login		RCHARLES	05/11/06
Aliquot	GELI	DW	05/12/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	
Count Room	GELI	KOJ	05/14/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/18/06

Analytical Results Summary

Report of Analysis

05/18/06 14:52

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-050906-MS002** Collect Start: 05/09/2006 10:35 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-1

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.88E+02**	1.21E+02	1.69E+02	pCi/L		10	ml		05/17/06	60	M	+		
TOTAL SR	2018	7.43E-01	6.08E-01	**1.04E+00**	pCi/L		450	ml	05/09/06 10:35	05/18/06	100	M	U		
MN-54	2007	8.72E-01	1.70E+00	**2.89E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
CO-58	2007	-9.43E-01	1.79E+00	**2.89E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
FE-59	2007	3.86E+00	3.64E+00	**6.36E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
CO-60	2007	6.51E-02	2.16E+00	**3.52E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
ZN-65	2007	5.14E-01	3.94E+00	**6.56E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
NB-95	2007	1.54E+00	1.87E+00	**3.15E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
ZR-95	2007	2.72E-01	3.27E+00	**5.33E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
CS-134	2007	3.23E+00	3.74E+00	**3.14E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
CS-137	2007	5.79E-01	1.91E+00	**3.18E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
BA-140	2007	4.73E+00	7.39E+00	**1.23E+01**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No
LA-140	2007	1.61E+00	2.48E+00	**4.25E+00**	pCi/L		3655.18	ml	05/09/06 10:35	05/13/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-MS-004** Collect Start: 05/09/2006 11:25 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-2

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values	
H-3	2010	**2.85E+02**	1.20E+02	1.68E+02	pCi/L		10	ml		05/17/06	60	M	+	
TOTAL SR	2018	3.75E-01	6.84E-01	**1.24E+00**	pCi/L		450	ml	05/09/06 11:25	05/18/06	100	M	U	
MN-54	2007	2.46E-01	1.66E+00	**2.77E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
CO-58	2007	1.06E-02	1.63E+00	**2.65E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
FE-59	2007	1.22E-01	3.37E+00	**5.58E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
CO-60	2007	1.15E+00	1.68E+00	**2.88E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
ZN-65	2007	8.08E+00	3.76E+00	**6.75E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
NB-95	2007	2.98E+00	1.92E+00	**2.89E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U*	No
ZR-95	2007	6.41E-01	3.11E+00	**4.76E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U*	No
CS-134	2007	8.25E+00	3.05E+00	**3.33E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
CS-137	2007	1.50E+00	1.77E+00	**3.02E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U*	No
BA-140	2007	4.55E+00	6.88E+00	**1.16E+01**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
LA-140	2007	-4.40E-01	2.29E+00	**3.75E+00**	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	U	No
TH-228	2007	**5.03E+00**	3.15E+00	4.63E+00	pCi/L		3606.78	ml	05/09/06 11:25	05/13/06	28800	Sec	+	Yes

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-MS-006**
Station:
Description:
LIMS Number: L28597-3

Collect Start: 05/09/2006 12:15
Collect Stop:
Receive Date: 05/11/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.35E+02	1.15E+02	**1.74E+02**	pCi/L		10	ml		05/17/06	60	M	U		
TOTAL SR	2018	-1.50E+00	1.02E+00	**1.79E+00**	pCi/L		450	ml	05/09/06 12:15	05/18/06	400	M	U		
MN-54	2007	1.31E+00	2.11E+00	**3.54E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
CO-58	2007	-1.37E+00	2.07E+00	**3.27E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
FE-59	2007	4.69E+00	4.22E+00	**7.32E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
CO-60	2007	2.50E-01	2.25E+00	**3.73E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
ZN-65	2007	7.83E+00	5.73E+00	**8.67E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
NB-95	2007	1.10E+00	2.69E+00	**3.81E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
ZR-95	2007	3.02E+00	4.01E+00	**6.54E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
CS-134	2007	7.87E+00	4.11E+00	**4.27E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
CS-137	2007	1.64E+00	2.30E+00	**3.91E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U*		No
BA-140	2007	2.45E+00	9.06E+00	**1.50E+01**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No
LA-140	2007	2.91E+00	2.83E+00	**5.01E+00**	pCi/L		3532.09	ml	05/09/06 12:15	05/13/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-MS-008** Collect Start: 05/09/2006 14:10 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-4

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**7.75E+02**	1.36E+02	1.51E+02	pCi/L		10	ml		05/17/06	60	M	+		
TOTAL SR	2018	-1.27E+00	5.88E-01	**1.06E+00**	pCi/L		450	ml	05/09/06 14:10	05/18/06	400	M	U		
MN-54	2007	4.50E-01	2.10E+00	**3.46E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
CO-58	2007	8.86E-01	2.10E+00	**3.49E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
FE-59	2007	1.70E+00	4.27E+00	**7.15E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
CO-60	2007	1.40E+00	2.26E+00	**3.87E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
ZN-65	2007	6.17E+00	5.77E+00	**8.58E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
NB-95	2007	2.94E+00	2.13E+00	**3.71E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
ZR-95	2007	-2.13E+00	3.84E+00	**6.13E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
CS-134	2007	7.62E+00	5.00E+00	**4.33E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
CS-137	2007	1.10E+00	2.26E+00	**3.82E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U*		No
BA-140	2007	3.31E+00	9.31E+00	**1.54E+01**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No
LA-140	2007	9.08E-01	3.16E+00	**5.26E+00**	pCi/L		3425.05	ml	05/09/06 14:10	05/13/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-MS-010** Collect Start: 05/09/2006 15:10 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-5

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values	
H-3	2010	**1.84E+02**	1.14E+02	1.68E+02	pCi/L		10	ml		05/17/06	60	M	+	
TOTAL SR	2018	-7.29E-01	6.07E-01	**1.05E+00**	pCi/L		450	ml	05/09/06 15:10	05/18/06	400	M	U	
MN-54	2007	1.06E+00	1.94E+00	**3.25E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
CO-58	2007	-7.72E-01	1.86E+00	**3.01E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
FE-59	2007	2.61E+00	3.71E+00	**6.31E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
CO-60	2007	-2.53E-01	1.93E+00	**3.17E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
ZN-65	2007	7.66E+00	4.90E+00	**7.47E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U*	No
NB-95	2007	3.44E+00	1.89E+00	**3.34E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U*	No
ZR-95	2007	-2.27E+00	3.21E+00	**5.18E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
CS-134	2007	3.05E+00	3.01E+00	**3.51E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
CS-137	2007	1.64E+00	2.03E+00	**3.42E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
BA-140	2007	1.57E+00	7.73E+00	**1.30E+01**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
LA-140	2007	1.97E+00	2.67E+00	**4.60E+00**	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	U	No
TH-228	2007	**5.59E+00**	3.31E+00	5.05E+00	pCi/L		3496.9	ml	05/09/06 15:10	05/13/06	28800	Sec	+	Yes

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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H = High recovery

No = Peak not identified in gamma spectrum
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Report of Analysis

05/18/06 14:52

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-012** Collect Start: 05/10/2006 09:30 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-6

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	4.80E+01	1.06E+02	**1.70E+02**	pCi/L		10	ml		05/17/06	60	M	U		
TOTAL SR	2018	-3.00E-01	3.01E-01	**5.16E-01**	pCi/L		450	ml	05/10/06 09:30	05/18/06	400	M	U		
MN-54	2007	6.31E-01	2.13E+00	**3.55E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
CO-58	2007	-1.11E-01	2.14E+00	**3.52E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
FE-59	2007	3.03E+00	4.22E+00	**7.20E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
CO-60	2007	4.33E-01	2.25E+00	**3.72E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
ZN-65	2007	1.05E+01	5.79E+00	**8.94E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U*		No
NB-95	2007	1.77E+00	2.54E+00	**3.68E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
ZR-95	2007	-1.82E+00	4.00E+00	**5.95E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
CS-134	2007	1.43E+01	5.31E+00	**4.83E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U*		No
CS-137	2007	3.84E+00	2.32E+00	**4.00E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
BA-140	2007	-2.73E+00	8.63E+00	**1.41E+01**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No
LA-140	2007	5.31E-02	2.78E+00	**4.59E+00**	pCi/L		3641.01	ml	05/10/06 09:30	05/13/06	28800	Sec	U		No

Flag Values
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U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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MDC - Minimum Detectable Concentration

Report of Analysis

05/18/06 14:52

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-050906-JL-001**
Station:
Description:
LIMS Number: L28597-7

Collect Start: 05/09/2006 10:55
Collect Stop:
Receive Date: 05/11/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.69E+02	1.22E+02	**1.82E+02**	pCi/L		10	ml		05/17/06	60	M	U		
TOTAL SR	2018	-3.61E-02	5.56E-01	**9.19E-01**	pCi/L		450	ml	05/09/06 10:55	05/18/06	400	M	U		
MN-54	2007	3.83E-01	2.31E+00	**3.86E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
CO-58	2007	-1.06E+00	2.52E+00	**4.10E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
FE-59	2007	6.05E+00	5.12E+00	**8.87E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
CO-60	2007	1.96E-01	2.47E+00	**4.08E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
ZN-65	2007	7.76E+00	5.50E+00	**9.61E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
NB-95	2007	2.51E+00	2.35E+00	**4.01E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
ZR-95	2007	-1.88E+00	4.07E+00	**6.45E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
CS-134	2007	1.03E+01	4.82E+00	**4.66E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U*		No
CS-137	2007	4.96E-01	2.57E+00	**4.24E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
BA-140	2007	1.42E+00	9.94E+00	**1.66E+01**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No
LA-140	2007	3.30E+00	3.30E+00	**5.87E+00**	pCi/L		3592.71	ml	05/09/06 10:55	05/13/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
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No = Peak not identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-JL-003** Collect Start: 05/09/2006 12:10 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-8

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**4.43E+02**	1.22E+02	1.57E+02	pCi/L		10	ml		05/17/06	60	M	+		
TOTAL SR	2018	-7.96E-01	1.06E+00	**1.81E+00**	pCi/L		450	ml	05/09/06 12:10	05/18/06	400	M	U		
MN-54	2007	8.80E-01	1.60E+00	**2.83E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
CO-58	2007	-1.26E+00	1.64E+00	**2.67E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
FE-59	2007	3.00E+00	3.04E+00	**5.47E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
CO-60	2007	-1.02E-01	1.58E+00	**2.74E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
ZN-65	2007	2.99E+00	3.49E+00	**6.20E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
NB-95	2007	3.58E-01	1.65E+00	**2.81E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
ZR-95	2007	1.32E+00	2.89E+00	**5.00E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
CS-134	2007	3.78E+00	2.77E+00	**2.94E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
CS-137	2007	-3.20E-01	1.67E+00	**2.82E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
BA-140	2007	-3.18E+00	6.88E+00	**1.16E+01**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	
LA-140	2007	4.60E-01	1.97E+00	**3.48E+00**	pCi/L		3650.39	ml	05/09/06 12:10	05/13/06	28800	Sec	U	No	

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
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Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-JL-005** Collect Start: 05/09/2006 14:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-9

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.18E+02	1.11E+02	**1.70E+02**	pCi/L		10	ml		05/17/06	60	M	U		
TOTAL SR	2018	7.68E-01	6.71E-01	**1.06E+00**	pCi/L		450	ml	05/09/06 14:15	05/18/06	400	M	U		
MN-54	2007	1.43E-01	2.12E+00	**3.46E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
CO-58	2007	-2.34E+00	2.12E+00	**3.26E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
FE-59	2007	1.78E+00	4.04E+00	**6.78E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
CO-60	2007	3.66E-01	2.16E+00	**3.60E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
ZN-65	2007	7.56E+00	5.59E+00	**8.46E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
NB-95	2007	5.58E-01	2.02E+00	**3.36E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
ZR-95	2007	9.82E-01	3.66E+00	**6.08E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
CS-134	2007	6.20E+00	4.63E+00	**3.96E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
CS-137	2007	5.28E-01	2.19E+00	**3.66E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
BA-140	2007	1.50E+00	9.48E+00	**1.56E+01**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No
LA-140	2007	7.72E-01	3.05E+00	**5.14E+00**	pCi/L		3611.89	ml	05/09/06 14:15	05/14/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-050906-JL-007** Collect Start: 05/09/2006 15:25 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-10

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**8.93E+02**	1.45E+02	1.49E+02	pCi/L		10	ml		05/18/06	60	M	+		
TOTAL SR	2018	-1.02E-02	4.64E-01	**7.66E-01**	pCi/L		450	ml	05/09/06 15:25	05/18/06	400	M	U		
MN-54	2007	8.75E-01	2.03E+00	**3.37E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
CO-58	2007	3.31E-01	2.09E+00	**3.44E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
FE-59	2007	5.58E+00	4.09E+00	**7.18E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
CO-60	2007	1.07E-01	2.25E+00	**3.73E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
ZN-65	2007	1.49E+01	5.42E+00	**8.93E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
NB-95	2007	2.36E+00	2.15E+00	**3.69E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U*		No
ZR-95	2007	-1.36E-01	3.77E+00	**6.18E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
CS-134	2007	1.24E+01	3.70E+00	**4.59E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
CS-137	2007	2.84E+00	2.12E+00	**3.70E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U*		No
BA-140	2007	5.93E+00	9.63E+00	**1.61E+01**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No
LA-140	2007	1.46E+00	3.10E+00	**5.23E+00**	pCi/L		3672.74	ml	05/09/06 15:25	05/14/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

05/18/06 14:52

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-009**
Station:
Description:
LIMS Number: L28597-11

Collect Start: 05/10/2006 09:20
Collect Stop:
Receive Date: 05/11/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values	
TOTAL SR	2018	-2.63E-01	9.18E-01	**1.53E+00**	pCi/L		450	ml	05/10/06 09:20	05/18/06	400	M	U	
MN-54	2007	1.13E+00	1.77E+00	**2.99E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
CO-58	2007	-5.90E-01	1.77E+00	**2.88E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
FE-59	2007	6.01E+00	3.64E+00	**6.43E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
CO-60	2007	1.23E+00	1.91E+00	**3.25E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
ZN-65	2007	5.68E+00	4.46E+00	**6.71E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
NB-95	2007	2.69E+00	1.74E+00	**3.06E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
ZR-95	2007	-2.09E+00	2.97E+00	**4.78E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
CS-134	2007	3.24E-01	3.11E+00	**3.12E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
CS-137	2007	1.72E+00	1.95E+00	**3.29E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
BA-140	2007	3.38E+00	7.30E+00	**1.24E+01**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No
LA-140	2007	-7.00E-01	2.61E+00	**4.25E+00**	pCi/L		3661.65	ml	05/10/06 09:20	05/14/06	28800	Sec	U	No

Comment: 1 Tritium sample lost in transit

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/18/06 14:52

L28597

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-051006-JL-011** Collect Start: 05/10/2006 09:25 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/11/2006 % Moisture:
LIMS Number: L28597-12

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	5.93E+01	9.34E+01	**1.46E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-6.58E-02	6.30E-01	**1.04E+00**	pCi/L		450	ml	05/10/06 09:25	05/18/06	400	M	U		
MN-54	2007	9.64E-01	2.01E+00	**3.37E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
CO-58	2007	1.08E+00	2.00E+00	**3.37E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
FE-59	2007	-1.30E+00	3.90E+00	**6.35E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
CO-60	2007	2.85E-01	1.97E+00	**3.25E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
ZN-65	2007	5.61E+00	4.34E+00	**7.60E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
NB-95	2007	4.39E-01	1.96E+00	**3.27E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
ZR-95	2007	-2.40E-01	3.45E+00	**5.70E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
CS-134	2007	3.89E+00	4.05E+00	**3.72E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
CS-137	2007	1.38E-01	2.19E+00	**3.57E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
BA-140	2007	-1.14E-01	8.65E+00	**1.43E+01**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No
LA-140	2007	9.53E-01	2.79E+00	**4.69E+00**	pCi/L		3738.23	ml	05/10/06 09:25	05/14/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
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High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

QC Results Summary

QC Summary Report for L28597

5/18/2006 3:49:14PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

H-3

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG3978-1	H-3	WO	05/17/2006 12:59	< 1.810E+00	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG3978-2	H-3	WO	05/18/2006 6:21	5.05E+002	4.240E+02	pCi/Total	84.0	70-130	+	P

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG3978-5 L28597-7	H-3	WG	05/17/2006 13:56	< 1.820E+02	< 1.710E+02	pCi/L		<30	**	NE

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28597

5/18/2006 3:49:14PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28597 **H-3**

Associated Samples for **WG3978**

SAMPLENUM	CLIENTID
L28597-1	WG-BW-050906-MS002
L28597-2	WG-BW-050906-MS-004
L28597-3	WG-BW-050906-MS-006
L28597-4	WG-BW-050906-MS-008
L28597-5	WG-BW-050906-MS-010
L28597-6	WG-BW-051006-MS-012
L28597-7	WG-BW-050906-JL-001
L28597-8	WG-BW-050906-JL-003
L28597-9	WG-BW-050906-JL-005
L28597-10	WG-BW-050906-JL-007
L28597-12	WG-BW-051006-JL-011

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28597

5/18/2006 3:49:14PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

TOTAL SR

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG3996-1	TOTAL SR	WO	05/18/2006 4:02	< 4.500E-01	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG3996-2	TOTAL SR	WO	05/18/2006 4:02	5.84E+001	6.640E+01	pCi/Total	113.8	70-130	+	P

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG3996-3 L28597-1	TOTAL SR	WG	05/18/2006 4:02	< 1.040E+00	< 1.770E+00	pCi/L		<30	**	NE

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28597

5/18/2006 3:49:14PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28597 **SR-90 (FAST)**

Associated Samples for **WG3996**

SAMPLENUM	CLIENTID
L28597-1	WG-BW-050906-MS002
L28597-2	WG-BW-050906-MS-004
L28597-3	WG-BW-050906-MS-006
L28597-4	WG-BW-050906-MS-008
L28597-5	WG-BW-050906-MS-010
L28597-6	WG-BW-051006-MS-012
L28597-7	WG-BW-050906-JL-001
L28597-8	WG-BW-050906-JL-003
L28597-9	WG-BW-050906-JL-005
L28597-10	WG-BW-050906-JL-007
L28597-11	WG-BW-051006-JL-009
L28597-12	WG-BW-051006-JL-011

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

Raw Data

Raw Data Sheet (rawdata)
May 18 2006, 03:06 pm

Work Order: *L28597* Customer: *Exelon*

Nuclide: *H-3* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28597-1		H-3															
WG-BW-050906-MS002				10 ml			0		17-may-06 15:00	LS7	179	60	1.67	60	.207		EJ
Activity: 2.88E+02 * Error: 1.21E+02				MDC: 1.69E+02													
L28597-2		H-3															
WG-BW-050906-MS-004				10 ml			0		17-may-06 16:03	LS7	179	60	1.67	60	.209		EJ
Activity: 2.85E+02 * Error: 1.2E+02				MDC: 1.68E+02													
L28597-3		H-3															
WG-BW-050906-MS-006				10 ml			0		17-may-06 17:06	LS7	136	60	1.67	60	.201		EJ
Activity: 1.35E+02 Error: 1.15E+02				MDC: 1.74E+02 *													
L28597-4		H-3															
WG-BW-050906-MS-008				10 ml			0		17-may-06 18:10	LS7	339	60	1.67	60	.232		EJ
Activity: 7.75E+02 * Error: 1.36E+02				MDC: 1.51E+02													
L28597-5		H-3															
WG-BW-050906-MS-010				10 ml			0		17-may-06 19:13	LS7	151	60	1.67	60	.209		EJ
Activity: 1.84E+02 * Error: 1.14E+02				MDC: 1.68E+02													
L28597-6		H-3															
WG-BW-051006-MS-012				10 ml			0		17-may-06 20:16	LS7	113	60	1.67	60	.207		EJ
Activity: 4.8E+01 Error: 1.06E+02				MDC: 1.7E+02 *													
L28597-7		H-3															
WG-BW-050906-JL-001				10 ml			0		17-may-06 21:20	LS7	143	60	1.67	60	.192		EJ
Activity: 1.69E+02 Error: 1.22E+02				MDC: 1.82E+02 *													
L28597-8		H-3															
WG-BW-050906-JL-003				10 ml			0		17-may-06 22:23	LS7	232	60	1.67	60	.224		EJ
Activity: 4.43E+02 * Error: 1.22E+02				MDC: 1.57E+02													
L28597-9		H-3															
WG-BW-050906-JL-005				10 ml			0		17-may-06 23:26	LS7	133	60	1.67	60	.206		EJ
Activity: 1.18E+02 Error: 1.11E+02				MDC: 1.7E+02 *													
L28597-10		H-3															
WG-BW-050906-JL-007				10 ml			0		18-may-06 01:34	LS7	327	60	1.32	60	.209		EJ
Activity: 8.93E+02 * Error: 1.45E+02				MDC: 1.49E+02													
L28597-12		H-3															
WG-BW-051006-JL-011				10 ml			0		18-may-06 02:38	LS7	96	60	1.32	60	.213		EJ
Activity: 5.93E+01 Error: 9.34E+01				MDC: 1.46E+02 *													

Work Order: *L28597* Customer: *Exelon*

Nuclide: *SR-90 (FAST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28597-1		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y1B	114	100	167	200	.351	.999	GK
WG-BW-050906-MS002			10:35	450 ml	15:50			117.20	15:23								
Activity: 7.43E-01		Error: 6.08E-01		MDC: 1.04E+00 *													
L28597-2		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y3A	98	100	170	200	.347	.999	GK
WG-BW-050906-MS-004			11:25	450 ml	15:50			100.00	15:23								
Activity: 3.75E-01		Error: 6.84E-01		MDC: 1.24E+00 *													
L28597-3		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y1C	232	400	300	400	.345	.999	GK
WG-BW-050906-MS-006			12:15	450 ml	15:50			32.80	04:06								
Activity: -1.5E+00		Error: 1.02E+00		MDC: 1.79E+00 *													
L28597-4		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y1D	207	400	305	400	.362	.999	GK
WG-BW-050906-MS-008			14:10	450 ml	15:50			53.23	04:06								
Activity: -1.27E+00		Error: 5.88E-01		MDC: 1.06E+00 *													
L28597-5		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y2A	226	400	280	400	.349	.999	GK
WG-BW-050906-MS-010			15:10	450 ml	15:50			53.23	04:06								
Activity: -7.29E-01		Error: 6.07E-01		MDC: 1.05E+00 *													
L28597-6		TOTAL SR	10-may-06		17-may-06		0		18-may-06	Y2B	267	400	315	400	.356	.999	GK
WG-BW-051006-MS-012			09:30	450 ml	15:50			112.63	04:06								
Activity: -3E-01		Error: 3.01E-01		MDC: 5.16E-01 *													
L28597-7		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y2C	265	400	268	400	.35	.999	GK
WG-BW-050906-JL-001			10:55	450 ml	15:50			59.41	04:06								
Activity: -3.61E-02		Error: 5.56E-01		MDC: 9.19E-01 *													
L28597-8		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y3A	256	400	291	400	.347	.999	GK
WG-BW-050906-JL-003			12:10	450 ml	15:50			31.72	04:06								
Activity: -7.96E-01		Error: 1.06E+00		MDC: 1.81E+00 *													
L28597-9		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y3B	350	400	292	400	.346	.999	GK
WG-BW-050906-JL-005			14:15	450 ml	15:50			54.57	04:06								
Activity: 7.68E-01		Error: 6.71E-01		MDC: 1.06E+00 *													
L28597-10		TOTAL SR	09-may-06		17-may-06		0		18-may-06	Y3D	261	400	262	400	.352	.999	GK
WG-BW-050906-JL-007			15:25	450 ml	15:50			70.16	04:06								
Activity: -1.02E-02		Error: 4.64E-01		MDC: 7.66E-01 *													
L28597-11		TOTAL SR	10-may-06		17-may-06		0		18-may-06	X2A	251	400	264	400	.354	.999	GK
WG-BW-051006-JL-009			09:20	450 ml	15:50			34.95	04:02								
Activity: -2.63E-01		Error: 9.18E-01		MDC: 1.53E+00 *													
L28597-12		TOTAL SR	10-may-06		17-may-06		0		18-may-06	X2B	284	400	289	400	.345	.999	GK
WG-BW-051006-JL-011			09:25	450 ml	15:50			55.11	04:02								
Activity: -6.58E-02		Error: 6.3E-01		MDC: 1.04E+00 *													

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 02:51:04.66
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 14-MAY-2006 18:50:50.56

LIMS No., Customer Name, Client ID: WG WG3975-1 EX BRAID

Sample ID : 07WG3975-1
Sample Type : WG
Quantity : 3.65520E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 10:35:00.0
Geometry : 0735L090904
BKGFILE : 07BG050506MT
Real Time : 0 08:00:05.68
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	6	66.29*	285	638	1.22	133.42	7.23E-01	9.90E-03	16.7	2.56E+00
2	1	139.70*	248	934	1.43	280.30	2.09E+00	8.61E-03	24.5	2.31E+00
3	1	198.49*	439	670	2.22	397.91	1.98E+00	1.52E-02	12.2	1.29E+01
4	3	241.83	106	545	1.51	484.61	1.80E+00	3.68E-03	41.7	1.09E+00
5	1	294.97*	121	498	1.29	590.93	1.61E+00	4.20E-03	39.4	2.47E+00
6	1	351.92*	119	407	1.16	704.84	1.43E+00	4.13E-03	34.9	2.49E+00
7	1	500.08	59	247	1.39	1001.22	1.13E+00	2.03E-03	51.5	7.21E-01
8	1	595.27	235	331	4.56	1191.62	9.97E-01	8.16E-03	17.2	1.23E+01
9	1	609.43*	119	268	1.71	1219.96	9.80E-01	4.14E-03	33.1	1.99E+00
10	1	911.00*	55	99	2.22	1823.10	7.31E-01	1.90E-03	43.7	2.31E+00
11	1	1120.26*	53	107	2.08	2241.54	6.26E-01	1.84E-03	47.4	1.49E+00
12	1	1764.81*	42	60	3.05	3530.16	4.54E-01	1.45E-03	51.0	1.26E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
AC-228	835.50	------	1.75	7.791E-01	------	Line Not Found	------
	911.07	55	27.70*	7.305E-01	6.937E+00	6.950E+00	87.36

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07WG3975-1

Acquisition date : 14-MAY-2006 18:50:50

Total number of lines in spectrum	12	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	2	16.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	6.937E+00	6.950E+00	6.071E+00	87.36	
Total Activity :			6.937E+00	6.950E+00			
Grand Total Activity :			6.937E+00	6.950E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07WG3975-1

Acquisition date : 14-MAY-2006 18:50:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	66.29	285	638	1.22	133.42	122	16	9.90E-03	33.5	7.23E-01	
1	139.70	248	934	1.43	280.30	276	10	8.61E-03	48.9	2.09E+00	
1	198.49	439	670	2.22	397.91	392	10	1.52E-02	24.5	1.98E+00	
3	241.83	106	545	1.51	484.61	474	16	3.68E-03	83.4	1.80E+00	T
1	294.97	121	498	1.29	590.93	586	11	4.20E-03	78.8	1.61E+00	
1	351.92	119	407	1.16	704.84	700	9	4.13E-03	69.8	1.43E+00	
1	500.08	59	247	1.39	1001.22	998	10	2.03E-03	****	1.13E+00	
1	595.27	235	331	4.56	1191.62	1187	14	8.16E-03	34.4	9.97E-01	
1	609.43	119	268	1.71	1219.96	1214	13	4.14E-03	66.1	9.80E-01	
1	1120.26	53	107	2.08	2241.54	2234	13	1.84E-03	94.9	6.26E-01	
1	1764.81	42	60	3.05	3530.16	3522	17	1.45E-03	****	4.54E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	2	16.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	6.937E+00	6.950E+00	6.071E+00	87.36	
	Total Activity :		6.937E+00	6.950E+00			

Grand Total Activity : 6.937E+00 6.950E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
AC-228	6.950E+00	6.071E+00	8.800E+00	0.000E+00	0.790

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	6.582E+00		1.343E+01	2.268E+01	0.000E+00	0.290
NA-24	-4.109E+02		8.074E+02	1.296E+03	0.000E+00	-0.317
K-40	3.960E+00		2.380E+01	4.363E+01	0.000E+00	0.091
CR-51	-1.897E+01		1.503E+01	2.343E+01	0.000E+00	-0.810
MN-54	-5.900E-01		1.555E+00	2.542E+00	0.000E+00	-0.232
CO-57	2.861E-01		1.373E+00	2.310E+00	0.000E+00	0.124
CO-58	-4.785E-01		1.584E+00	2.539E+00	0.000E+00	-0.188
FE-59	7.774E-01		3.368E+00	5.623E+00	0.000E+00	0.138
CO-60	4.601E-01		1.744E+00	2.924E+00	0.000E+00	0.157
ZN-65	5.324E+00		4.273E+00	6.409E+00	0.000E+00	0.831
SE-75	-9.697E-01		2.036E+00	3.303E+00	0.000E+00	-0.294
SR-85	1.819E+01		2.016E+00	3.990E+00	0.000E+00	4.560
Y-88	-2.627E+00		1.899E+00	2.799E+00	0.000E+00	-0.939
NB-94	2.652E-01		1.558E+00	2.583E+00	0.000E+00	0.103
NB-95	2.474E+00		1.644E+00	2.848E+00	0.000E+00	0.869
ZR-95	-5.879E+00		2.960E+00	4.439E+00	0.000E+00	-1.324
MO-99	-9.463E+00		4.685E+01	7.621E+01	0.000E+00	-0.124
RU-103	1.075E+00		2.017E+00	2.904E+00	0.000E+00	0.370
RU-106	5.600E+00		1.490E+01	2.420E+01	0.000E+00	0.231
AG-110m	-6.584E-01		1.494E+00	2.435E+00	0.000E+00	-0.270
SN-113	-5.615E-01		2.007E+00	3.270E+00	0.000E+00	-0.172
SB-124	-3.673E-01		3.686E+00	2.625E+00	0.000E+00	-0.140
SB-125	-8.221E-01		4.521E+00	7.328E+00	0.000E+00	-0.112
TE-129M	8.582E+00		1.944E+01	3.196E+01	0.000E+00	0.269
I-131	-2.579E+00		2.403E+00	3.846E+00	0.000E+00	-0.670
BA-133	2.646E+00		2.439E+00	3.591E+00	0.000E+00	0.737
CS-134	2.051E+00		3.652E+00	2.834E+00	0.000E+00	0.724
CS-136	-1.185E+00		2.047E+00	3.238E+00	0.000E+00	-0.366
CS-137	1.429E-01		1.653E+00	2.748E+00	0.000E+00	0.052
CE-139	4.867E-01		1.469E+00	2.424E+00	0.000E+00	0.201
BA-140	6.226E+00		7.267E+00	1.232E+01	0.000E+00	0.505
LA-140	1.059E+00		2.515E+00	4.259E+00	0.000E+00	0.249
CE-141	2.200E+00		3.012E+00	4.384E+00	0.000E+00	0.502
CE-144	3.956E+00		1.248E+01	1.807E+01	0.000E+00	0.219
EU-152	-6.476E+00		5.567E+00	7.777E+00	0.000E+00	-0.833
EU-154	9.263E-01		2.874E+00	4.842E+00	0.000E+00	0.191
RA-226	-1.711E+00		3.915E+01	6.254E+01	0.000E+00	-0.027
TH-228	5.616E+00		3.370E+00	5.159E+00	0.000E+00	1.089
TH-232	6.937E+00	+	6.060E+00	1.137E+01	0.000E+00	0.610
U-235	4.728E-01		1.287E+01	1.799E+01	0.000E+00	0.026
U-238	-1.941E+02		1.865E+02	2.827E+02	0.000E+00	-0.687
AM-241	8.502E+00		1.330E+01	1.982E+01	0.000E+00	0.429

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A,07WG3975-1       ,05/15/2006 02:51,05/09/2006 10:35,   3.655E+00,WG WG3975-1 EX
B,07WG3975-1       ,LIBD                ,06/23/2005 07:26,0735L090904
C,AC-228   ,YES,    6.950E+00,    6.071E+00,    8.800E+00,,     0.790
C,BE-7     ,NO ,    6.582E+00,    1.343E+01,    2.268E+01,,     0.290
C,NA-24    ,NO ,   -4.109E+02,    8.074E+02,    1.296E+03,,    -0.317
C,K-40     ,NO ,    3.960E+00,    2.380E+01,    4.363E+01,,     0.091
C,CR-51    ,NO ,   -1.897E+01,    1.503E+01,    2.343E+01,,    -0.810
C,MN-54    ,NO ,   -5.900E-01,    1.555E+00,    2.542E+00,,    -0.232
C,CO-57    ,NO ,    2.861E-01,    1.373E+00,    2.310E+00,,     0.124
C,CO-58    ,NO ,   -4.785E-01,    1.584E+00,    2.539E+00,,    -0.188
C,FE-59    ,NO ,    7.774E-01,    3.368E+00,    5.623E+00,,     0.138
C,CO-60    ,NO ,    4.601E-01,    1.744E+00,    2.924E+00,,     0.157
C,ZN-65    ,NO ,    5.324E+00,    4.273E+00,    6.409E+00,,     0.831
C,SE-75    ,NO ,   -9.697E-01,    2.036E+00,    3.303E+00,,    -0.294
C,SR-85    ,NO ,    1.819E+01,    2.016E+00,    3.990E+00,,     4.560
C,Y-88     ,NO ,   -2.627E+00,    1.899E+00,    2.799E+00,,    -0.939
C,NB-94    ,NO ,    2.652E-01,    1.558E+00,    2.583E+00,,     0.103
C,NB-95    ,NO ,    2.474E+00,    1.644E+00,    2.848E+00,,     0.869
C,ZR-95    ,NO ,   -5.879E+00,    2.960E+00,    4.439E+00,,    -1.324
C,MO-99    ,NO ,   -9.463E+00,    4.685E+01,    7.621E+01,,    -0.124
C,RU-103   ,NO ,    1.075E+00,    2.017E+00,    2.904E+00,,     0.370
C,RU-106   ,NO ,    5.600E+00,    1.490E+01,    2.420E+01,,     0.231
C,AG-110m  ,NO ,   -6.584E-01,    1.494E+00,    2.435E+00,,    -0.270
C,SN-113   ,NO ,   -5.615E-01,    2.007E+00,    3.270E+00,,    -0.172
C,SB-124   ,NO ,   -3.673E-01,    3.686E+00,    2.625E+00,,    -0.140
C,SB-125   ,NO ,   -8.221E-01,    4.521E+00,    7.328E+00,,    -0.112
C,TE-129M  ,NO ,    8.582E+00,    1.944E+01,    3.196E+01,,     0.269
C,I-131    ,NO ,   -2.579E+00,    2.403E+00,    3.846E+00,,    -0.670
C,BA-133   ,NO ,    2.646E+00,    2.439E+00,    3.591E+00,,     0.737
C,CS-134   ,NO ,    2.051E+00,    3.652E+00,    2.834E+00,,     0.724
C,CS-136   ,NO ,   -1.185E+00,    2.047E+00,    3.238E+00,,    -0.366
C,CS-137   ,NO ,    1.429E-01,    1.653E+00,    2.748E+00,,     0.052
C,CE-139   ,NO ,    4.867E-01,    1.469E+00,    2.424E+00,,     0.201
C,BA-140   ,NO ,    6.226E+00,    7.267E+00,    1.232E+01,,     0.505
C,LA-140   ,NO ,    1.059E+00,    2.515E+00,    4.259E+00,,     0.249
C,CE-141   ,NO ,    2.200E+00,    3.012E+00,    4.384E+00,,     0.502
C,CE-144   ,NO ,    3.956E+00,    1.248E+01,    1.807E+01,,     0.219
C,EU-152   ,NO ,   -6.476E+00,    5.567E+00,    7.777E+00,,    -0.833
C,EU-154   ,NO ,    9.263E-01,    2.874E+00,    4.842E+00,,     0.191
C,RA-226   ,NO ,   -1.711E+00,    3.915E+01,    6.254E+01,,    -0.027
C,TH-228   ,NO ,    5.616E+00,    3.370E+00,    5.159E+00,,     1.089
C,TH-232   ,NO ,    6.937E+00,    6.060E+00,    1.137E+01,,     0.610
C,U-235    ,NO ,    4.728E-01,    1.287E+01,    1.799E+01,,     0.026
C,U-238    ,NO ,   -1.941E+02,    1.865E+02,    2.827E+02,,    -0.687
C,AM-241   ,NO ,    8.502E+00,    1.330E+01,    1.982E+01,,     0.429
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Sec. Review: Analyst: KG LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:48:40.15
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:52:29.10

LIMS No., Customer Name, Client ID: WG L28597-1 EX BRAID

Sample ID : 04L28597-1
Sample Type : WG
Quantity : 3.65520E+00 L
Start Channel : 90 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 10:35:00.0
Geometry : 0435L090804
BKGFILE : 04BG050506MT
Real Time : 0 08:00:04.93
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	6	63.42*	78	871	1.42	127.40	5.54E-01	2.70E-03	72.0	2.51E+00
2	6	66.32*	231	778	1.41	133.20	6.47E-01	8.04E-03	22.7	
3	3	77.40*	68	668	1.11	155.38	9.99E-01	2.34E-03	70.5	1.73E+00
4	1	92.72*	55	663	1.28	186.01	1.39E+00	1.91E-03	90.5	1.57E+00
5	1	139.94*	156	726	0.88	280.47	1.82E+00	5.41E-03	32.2	2.84E+00
6	1	185.67*	57	522	1.19	371.94	1.73E+00	1.98E-03	77.7	9.35E-01
7	1	198.50*	208	591	1.07	397.61	1.68E+00	7.22E-03	23.0	9.63E-01
8	1	238.53*	67	454	1.40	477.67	1.52E+00	2.33E-03	63.2	3.19E+00
9	1	295.39*	113	529	1.80	591.40	1.32E+00	3.91E-03	44.9	3.05E+00
10	1	352.22*	202	400	1.29	705.05	1.17E+00	7.01E-03	23.6	3.91E+00
11	5	497.39	36	99	1.50	995.40	9.02E-01	1.25E-03	43.3	4.82E+00
12	5	500.19	45	170	1.36	1001.01	8.98E-01	1.55E-03	51.1	
13	1	596.04	113	232	1.54	1192.69	7.86E-01	3.92E-03	29.3	8.70E-01
14	1	609.31*	211	200	2.00	1219.23	7.73E-01	7.31E-03	17.4	3.59E+00
15	1	911.49*	19	121	2.39	1823.51	5.66E-01	6.44E-04	156.2	1.74E+00
16	1	969.78*	25	56	2.79	1940.06	5.39E-01	8.55E-04	71.1	2.07E+00
17	1	1460.94*	13	65	1.96	2922.07	3.92E-01	4.58E-04	164.0	8.72E-01
18	1	1764.27*	34	44	3.27	3528.43	3.43E-01	1.16E-03	52.9	1.52E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	13	10.67*	3.920E-01	8.100E+00	8.100E+00	327.98
RA-226	186.21	57	3.28*	1.727E+00	2.582E+01	2.582E+01	155.34
AC-228	835.50	------	1.75	6.054E-01	------ Line Not Found		------
	911.07	19	27.70*	5.655E-01	3.039E+00	3.043E+00	312.45
TH-228	238.63	67	44.60*	1.521E+00	2.542E+00	2.552E+00	126.31
	240.98	------	3.95	1.511E+00	------ Line Not Found		------
TH-232	583.14	------	30.25	7.993E-01	------ Line Not Found		------
	911.07	19	27.70*	5.655E-01	3.039E+00	3.039E+00	312.45
	969.11	25	16.60	5.386E-01	7.073E+00	7.073E+00	142.29
U-235	143.76	------	10.50*	1.822E+00	------ Line Not Found		------
	163.35	------	4.70	1.796E+00	------ Line Not Found		------
	185.71	57	54.00	1.727E+00	1.569E+00	1.569E+00	155.34

205.31	------	4.70	1.652E+00	------	Line Not Found ------

Nuclide Type: fission

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RU-103	497.08	36	89.00*	9.020E-01	1.152E+00	1.238E+00	86.53

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28597-1

Acquisition date : 13-MAY-2006 08:52:29

Total number of lines in spectrum	18	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	6	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.100E+00	8.100E+00	26.57E+00	327.98	
RA-226	1600.00Y	1.00	2.582E+01	2.582E+01	4.012E+01	155.34	
AC-228	5.75Y	1.00	3.039E+00	3.043E+00	9.507E+00	312.45	
TH-228	1.91Y	1.00	2.542E+00	2.552E+00	3.223E+00	126.31	
TH-232	1.41E+10Y	1.00	3.039E+00	3.039E+00	9.494E+00	312.45	
U-235	7.04E+08Y	1.00	1.569E+00	1.569E+00	2.437E+00	155.34	K
	Total Activity :		4.411E+01	4.413E+01			

Nuclide Type : fission

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RU-103	39.35D	1.07	1.152E+00	1.238E+00	1.071E+00	86.53	
	Total Activity :		1.152E+00	1.238E+00			

Grand Total Activity : 4.526E+01 4.536E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28597-1

Acquisition date : 13-MAY-2006 08:52:29

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	63.42	78	871	1.42	127.40	123	14	2.70E-03	****	5.54E-01	
6	66.32	231	778	1.41	133.20	123	14	8.04E-03	45.4	6.47E-01	
3	77.40	68	668	1.11	155.38	142	17	2.34E-03	****	9.99E-01	
1	92.72	55	663	1.28	186.01	183	8	1.91E-03	****	1.39E+00	
1	139.94	156	726	0.88	280.47	277	8	5.41E-03	64.4	1.82E+00	
1	198.50	208	591	1.07	397.61	393	9	7.22E-03	46.1	1.68E+00	
1	295.39	113	529	1.80	591.40	584	13	3.91E-03	89.8	1.32E+00	
1	352.22	202	400	1.29	705.05	698	14	7.01E-03	47.1	1.17E+00	
5	500.19	45	170	1.36	1001.01	993	13	1.55E-03	****	8.98E-01	
1	596.04	113	232	1.54	1192.69	1187	13	3.92E-03	58.7	7.86E-01	
1	609.31	211	200	2.00	1219.23	1212	14	7.31E-03	34.7	7.73E-01	
1	1764.27	34	44	3.27	3528.43	3519	16	1.16E-03	****	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	18	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	6	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.100E+00	8.100E+00	26.57E+00	327.98	
RA-226	1600.00Y	1.00	2.582E+01	2.582E+01	4.012E+01	155.34	
TH-228	1.91Y	1.00	2.542E+00	2.552E+00	3.223E+00	126.31	
TH-232	1.41E+10Y	1.00	4.938E+00	4.938E+00	6.906E+00	139.84	
Total Activity :			4.140E+01	4.141E+01			

Nuclide Type : fission

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RU-103	39.35D	1.07	1.152E+00	1.238E+00	1.071E+00	86.53	
Total Activity :			1.152E+00	1.238E+00			

Grand Total Activity : 4.256E+01 4.265E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	8.100E+00	2.657E+01	2.835E+01	0.000E+00	0.286
RU-103	1.238E+00	1.071E+00	2.909E+00	0.000E+00	0.426
RA-226	2.582E+01	4.012E+01	6.325E+01	0.000E+00	0.408
TH-228	2.552E+00	3.223E+00	4.843E+00	0.000E+00	0.527
TH-232	4.938E+00	6.906E+00	1.088E+01	0.000E+00	0.454

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-2.251E+00		1.494E+01	2.427E+01	0.000E+00	-0.093
NA-24	-1.388E+02		1.815E+02	2.865E+02	0.000E+00	-0.485
CR-51	-1.200E+01		1.594E+01	2.532E+01	0.000E+00	-0.474
MN-54	8.716E-01		1.703E+00	2.887E+00	0.000E+00	0.302
CO-57	-3.527E-01		1.540E+00	2.542E+00	0.000E+00	-0.139
CO-58	-9.434E-01		1.788E+00	2.891E+00	0.000E+00	-0.326
FE-59	3.862E+00		3.641E+00	6.357E+00	0.000E+00	0.608
CO-60	6.514E-02		2.156E+00	3.523E+00	0.000E+00	0.018
ZN-65	5.142E-01		3.944E+00	6.564E+00	0.000E+00	0.078
SE-75	-2.739E-01		2.268E+00	3.725E+00	0.000E+00	-0.074
SR-85	1.540E+01		2.216E+00	4.267E+00	0.000E+00	3.609
Y-88	-4.675E-01		2.135E+00	3.462E+00	0.000E+00	-0.135
NB-94	6.189E-01		1.729E+00	2.869E+00	0.000E+00	0.216
NB-95	1.541E+00		1.873E+00	3.152E+00	0.000E+00	0.489
ZR-95	2.717E-01		3.271E+00	5.333E+00	0.000E+00	0.051
MO-99	-2.571E+01		3.537E+01	5.543E+01	0.000E+00	-0.464
RU-106	1.350E+00		1.596E+01	2.642E+01	0.000E+00	0.051
AG-110m	2.442E+00		1.717E+00	2.991E+00	0.000E+00	0.816
SN-113	-9.249E-02		2.199E+00	3.641E+00	0.000E+00	-0.025
SB-124	5.935E-01		3.828E+00	2.915E+00	0.000E+00	0.204
SB-125	-4.868E+00		4.892E+00	7.773E+00	0.000E+00	-0.626
TE-129M	5.495E+00		2.066E+01	3.420E+01	0.000E+00	0.161
I-131	8.168E-01		2.328E+00	3.924E+00	0.000E+00	0.208
BA-133	4.461E+00		2.602E+00	3.992E+00	0.000E+00	1.118
CS-134	3.233E+00		3.737E+00	3.136E+00	0.000E+00	1.031
CS-136	-3.229E-01		2.064E+00	3.393E+00	0.000E+00	-0.095
CS-137	5.787E-01		1.911E+00	3.179E+00	0.000E+00	0.182
CE-139	7.444E-01		1.629E+00	2.686E+00	0.000E+00	0.277
BA-140	4.725E+00		7.394E+00	1.230E+01	0.000E+00	0.384
LA-140	1.608E+00		2.479E+00	4.249E+00	0.000E+00	0.378
CE-141	1.413E+00		3.378E+00	4.830E+00	0.000E+00	0.292
CE-144	1.560E+00		1.388E+01	2.059E+01	0.000E+00	0.076
EU-152	-1.323E+01		6.780E+00	8.460E+00	0.000E+00	-1.564
EU-154	4.395E-01		3.232E+00	5.377E+00	0.000E+00	0.082
AC-228	3.043E+00		9.507E+00	1.227E+01	0.000E+00	0.248
U-235	7.503E+00		1.421E+01	2.041E+01	0.000E+00	0.368
U-238	1.036E+02		1.979E+02	3.316E+02	0.000E+00	0.312
AM-241	1.885E+01		1.600E+01	2.365E+01	0.000E+00	0.797

A,04L28597-1 ,05/14/2006 17:48,05/09/2006 10:35, 3.655E+00,WG L28597-1 EX
B,04L28597-1 ,LIBD ,03/14/2005 09:04,0435L090804
C,K-40 ,YES, 8.100E+00, 2.657E+01, 2.835E+01,, 0.286
C,RU-103 ,YES, 1.238E+00, 1.071E+00, 2.909E+00,, 0.426
C,RA-226 ,YES, 2.582E+01, 4.012E+01, 6.325E+01,, 0.408
C,TH-228 ,YES, 2.552E+00, 3.223E+00, 4.843E+00,, 0.527
C,TH-232 ,YES, 4.938E+00, 6.906E+00, 1.088E+01,, 0.454
C,BE-7 ,NO , -2.251E+00, 1.494E+01, 2.427E+01,, -0.093
C,NA-24 ,NO , -1.388E+02, 1.815E+02, 2.865E+02,, -0.485
C,CR-51 ,NO , -1.200E+01, 1.594E+01, 2.532E+01,, -0.474
C,MN-54 ,NO , 8.716E-01, 1.703E+00, 2.887E+00,, 0.302
C,CO-57 ,NO , -3.527E-01, 1.540E+00, 2.542E+00,, -0.139
C,CO-58 ,NO , -9.434E-01, 1.788E+00, 2.891E+00,, -0.326
C,FE-59 ,NO , 3.862E+00, 3.641E+00, 6.357E+00,, 0.608
C,CO-60 ,NO , 6.514E-02, 2.156E+00, 3.523E+00,, 0.018
C,ZN-65 ,NO , 5.142E-01, 3.944E+00, 6.564E+00,, 0.078
C,SE-75 ,NO , -2.739E-01, 2.268E+00, 3.725E+00,, -0.074
C,SR-85 ,NO , 1.540E+01, 2.216E+00, 4.267E+00,, 3.609
C,Y-88 ,NO , -4.675E-01, 2.135E+00, 3.462E+00,, -0.135
C,NB-94 ,NO , 6.189E-01, 1.729E+00, 2.869E+00,, 0.216
C,NB-95 ,NO , 1.541E+00, 1.873E+00, 3.152E+00,, 0.489
C,ZR-95 ,NO , 2.717E-01, 3.271E+00, 5.333E+00,, 0.051
C,MO-99 ,NO , -2.571E+01, 3.537E+01, 5.543E+01,, -0.464
C,RU-106 ,NO , 1.350E+00, 1.596E+01, 2.642E+01,, 0.051
C,AG-110m ,NO , 2.442E+00, 1.717E+00, 2.991E+00,, 0.816
C,SN-113 ,NO , -9.249E-02, 2.199E+00, 3.641E+00,, -0.025
C,SB-124 ,NO , 5.935E-01, 3.828E+00, 2.915E+00,, 0.204
C,SB-125 ,NO , -4.868E+00, 4.892E+00, 7.773E+00,, -0.626
C,TE-129M ,NO , 5.495E+00, 2.066E+01, 3.420E+01,, 0.161
C,I-131 ,NO , 8.168E-01, 2.328E+00, 3.924E+00,, 0.208
C,BA-133 ,NO , 4.461E+00, 2.602E+00, 3.992E+00,, 1.118
C,CS-134 ,NO , 3.233E+00, 3.737E+00, 3.136E+00,, 1.031
C,CS-136 ,NO , -3.229E-01, 2.064E+00, 3.393E+00,, -0.095
C,CS-137 ,NO , 5.787E-01, 1.911E+00, 3.179E+00,, 0.182
C,CE-139 ,NO , 7.444E-01, 1.629E+00, 2.686E+00,, 0.277
C,BA-140 ,NO , 4.725E+00, 7.394E+00, 1.230E+01,, 0.384
C,LA-140 ,NO , 1.608E+00, 2.479E+00, 4.249E+00,, 0.378
C,CE-141 ,NO , 1.413E+00, 3.378E+00, 4.830E+00,, 0.292
C,CE-144 ,NO , 1.560E+00, 1.388E+01, 2.059E+01,, 0.076
C,EU-152 ,NO , -1.323E+01, 6.780E+00, 8.460E+00,, -1.564
C,EU-154 ,NO , 4.395E-01, 3.232E+00, 5.377E+00,, 0.082
C,AC-228 ,NO , 3.043E+00, 9.507E+00, 1.227E+01,, 0.248
C,U-235 ,NO , 7.503E+00, 1.421E+01, 2.041E+01,, 0.368
C,U-238 ,NO , 1.036E+02, 1.979E+02, 3.316E+02,, 0.312
C,AM-241 ,NO , 1.885E+01, 1.600E+01, 2.365E+01,, 0.797

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:49:32.24
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:52:47.42

LIMS No., Customer Name, Client ID: WG L28597-2 EX BRAID

Sample ID : 07L28597-2
Sample Type : WG
Quantity : 3.60680E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 11:25:00.0
Geometry : 0735L090904
BKGFILE : 07BG050506MT
Real Time : 0 08:00:05.79
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	7	66.22*	343	661	1.48	133.29	7.21E-01	1.19E-02	14.4	2.16E+00
2	1	139.75*	254	878	1.02	280.40	2.09E+00	8.83E-03	22.6	1.91E+00
3	1	185.75*	139	738	1.89	372.43	2.02E+00	4.82E-03	39.0	1.05E+01
4	1	198.53*	240	803	1.31	397.99	1.98E+00	8.33E-03	23.7	3.36E+00
5	1	238.61*	145	612	1.29	478.17	1.82E+00	5.04E-03	33.8	4.44E+00
6	1	242.14	100	549	1.00	485.25	1.80E+00	3.48E-03	41.7	1.61E+00
7	1	295.21*	180	492	1.00	591.41	1.61E+00	6.27E-03	24.8	7.07E-01
8	1	351.83*	331	538	1.27	704.67	1.43E+00	1.15E-02	16.7	1.12E+00
9	1	595.96	191	222	2.16	1193.01	9.96E-01	6.62E-03	17.2	9.39E-01
10	1	609.58*	339	242	1.54	1220.25	9.80E-01	1.18E-02	12.1	8.19E+00
11	1	768.59	52	183	2.81	1538.29	8.29E-01	1.81E-03	59.0	8.70E-01
12	1	1764.88*	41	54	2.93	3530.30	4.54E-01	1.44E-03	49.9	1.34E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	139	3.28*	2.021E+00	5.445E+01	5.445E+01	78.04
TH-228	238.63	145	44.60*	1.815E+00	4.668E+00	4.687E+00	67.64
	240.98	100	3.95	1.801E+00	3.668E+01	3.683E+01	83.36

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28597-2

Acquisition date : 13-MAY-2006 08:52:47

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	5.445E+01	5.445E+01	4.250E+01	78.04	
TH-228	1.91Y	1.00	4.668E+00	4.687E+00	3.170E+00	67.64	
	Total Activity :		5.912E+01	5.914E+01			

Grand Total Activity : 5.912E+01 5.914E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28597-2

Acquisition date : 13-MAY-2006 08:52:47

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
7	66.22	343	661	1.48	133.29	122	15	1.19E-02	28.8	7.21E-01	
1	139.75	254	878	1.02	280.40	276	9	8.83E-03	45.2	2.09E+00	
1	198.53	240	803	1.31	397.99	393	10	8.33E-03	47.4	1.98E+00	
1	295.21	180	492	1.00	591.41	587	9	6.27E-03	49.6	1.61E+00	
1	351.83	331	538	1.27	704.67	698	14	1.15E-02	33.5	1.43E+00	
1	595.96	191	222	2.16	1193.01	1187	12	6.62E-03	34.5	9.96E-01	
1	609.58	339	242	1.54	1220.25	1215	13	1.18E-02	24.3	9.80E-01	
1	768.59	52	183	2.81	1538.29	1531	15	1.81E-03	****	8.29E-01	
1	1764.88	41	54	2.93	3530.30	3522	16	1.44E-03	99.7	4.54E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	5.445E+01	5.445E+01	4.250E+01	78.04	
TH-228	1.91Y	1.00	5.006E+00	5.026E+00	3.153E+00	62.74	
	Total Activity :		5.946E+01	5.948E+01			

Grand Total Activity : 5.946E+01 5.948E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	5.445E+01	4.250E+01	5.730E+01	0.000E+00	0.950
TH-228	5.026E+00	3.153E+00	4.629E+00	0.000E+00	1.086

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	-5.601E+00	1.380E+01	2.266E+01	0.000E+00	-0.247
NA-24	-3.309E+01	1.638E+02	2.673E+02	0.000E+00	-0.124
K-40	-5.963E+00	2.353E+01	4.275E+01	0.000E+00	-0.139
CR-51	-1.003E+01	1.484E+01	2.353E+01	0.000E+00	-0.426
MN-54	2.455E-01	1.659E+00	2.771E+00	0.000E+00	0.089
CO-57	3.186E-01	1.436E+00	2.416E+00	0.000E+00	0.132
CO-58	1.061E-02	1.631E+00	2.653E+00	0.000E+00	0.004
FE-59	1.221E-01	3.370E+00	5.577E+00	0.000E+00	0.022
CO-60	1.147E+00	1.678E+00	2.878E+00	0.000E+00	0.399
ZN-65	8.082E+00	3.757E+00	6.752E+00	0.000E+00	1.197
SE-75	-8.322E-01	2.084E+00	3.388E+00	0.000E+00	-0.246
SR-85	1.925E+01	2.024E+00	4.035E+00	0.000E+00	4.770
Y-88	3.817E-01	1.920E+00	3.169E+00	0.000E+00	0.120
NB-94	-5.849E-01	1.607E+00	2.613E+00	0.000E+00	-0.224
NB-95	2.979E+00	1.919E+00	2.887E+00	0.000E+00	1.032
ZR-95	6.408E-01	3.109E+00	4.757E+00	0.000E+00	0.135
MO-99	-9.204E+00	3.360E+01	5.450E+01	0.000E+00	-0.169
RU-103	1.613E+00	1.686E+00	2.877E+00	0.000E+00	0.561
RU-106	-9.960E+00	1.546E+01	2.366E+01	0.000E+00	-0.421
AG-110m	4.909E-01	1.594E+00	2.673E+00	0.000E+00	0.184
SN-113	-2.803E+00	2.140E+00	3.381E+00	0.000E+00	-0.829
SB-124	1.889E+00	3.495E+00	2.723E+00	0.000E+00	0.694
SB-125	3.416E-01	4.622E+00	7.554E+00	0.000E+00	0.045
TE-129M	2.643E+01	1.918E+01	3.249E+01	0.000E+00	0.814
I-131	-6.399E-01	2.210E+00	3.624E+00	0.000E+00	-0.177
BA-133	6.840E+00	2.569E+00	3.993E+00	0.000E+00	1.713
CS-134	8.252E+00	3.047E+00	3.333E+00	0.000E+00	2.476
CS-136	-1.602E+00	1.931E+00	3.019E+00	0.000E+00	-0.531
CS-137	1.496E+00	1.770E+00	3.022E+00	0.000E+00	0.495
CE-139	-2.067E+00	1.479E+00	2.349E+00	0.000E+00	-0.880
BA-140	4.548E+00	6.882E+00	1.158E+01	0.000E+00	0.393
LA-140	-4.398E-01	2.294E+00	3.750E+00	0.000E+00	-0.117
CE-141	-2.788E-02	3.164E+00	4.501E+00	0.000E+00	-0.006
CE-144	-6.946E+00	1.309E+01	1.847E+01	0.000E+00	-0.376
EU-152	-1.354E+01	5.952E+00	7.639E+00	0.000E+00	-1.773
EU-154	-2.177E+00	2.988E+00	4.929E+00	0.000E+00	-0.442
AC-228	-8.186E-01	6.806E+00	1.115E+01	0.000E+00	-0.073
TH-232	-8.175E-01	6.797E+00	1.114E+01	0.000E+00	-0.073
U-235	-2.865E-01	1.362E+01	1.903E+01	0.000E+00	-0.015
U-238	-7.038E+01	1.899E+02	2.980E+02	0.000E+00	-0.236
AM-241	1.091E+00	1.426E+01	2.085E+01	0.000E+00	0.052

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A,07L28597-2       ,05/14/2006 17:49,05/09/2006 11:25,   3.607E+00,WG L28597-2 EX
B,07L28597-2       ,LIBD                ,06/23/2005 07:26,0735L090904
C,RA-226   ,YES,    5.445E+01,    4.250E+01,    5.730E+01,,     0.950
C,TH-228   ,YES,    5.026E+00,    3.153E+00,    4.629E+00,,     1.086
C,BE-7     ,NO ,   -5.601E+00,    1.380E+01,    2.266E+01,,    -0.247
C,NA-24    ,NO ,   -3.309E+01,    1.638E+02,    2.673E+02,,    -0.124
C,K-40     ,NO ,   -5.963E+00,    2.353E+01,    4.275E+01,,    -0.139
C,CR-51    ,NO ,   -1.003E+01,    1.484E+01,    2.353E+01,,    -0.426
C,MN-54    ,NO ,    2.455E-01,    1.659E+00,    2.771E+00,,     0.089
C,CO-57    ,NO ,    3.186E-01,    1.436E+00,    2.416E+00,,     0.132
C,CO-58    ,NO ,    1.061E-02,    1.631E+00,    2.653E+00,,     0.004
C,FE-59    ,NO ,    1.221E-01,    3.370E+00,    5.577E+00,,     0.022
C,CO-60    ,NO ,    1.147E+00,    1.678E+00,    2.878E+00,,     0.399
C,ZN-65    ,NO ,    8.082E+00,    3.757E+00,    6.752E+00,,     1.197
C,SE-75    ,NO ,   -8.322E-01,    2.084E+00,    3.388E+00,,    -0.246
C,SR-85    ,NO ,    1.925E+01,    2.024E+00,    4.035E+00,,     4.770
C,Y-88     ,NO ,    3.817E-01,    1.920E+00,    3.169E+00,,     0.120
C,NB-94    ,NO ,   -5.849E-01,    1.607E+00,    2.613E+00,,    -0.224
C,NB-95    ,NO ,    2.979E+00,    1.919E+00,    2.887E+00,,     1.032
C,ZR-95    ,NO ,    6.408E-01,    3.109E+00,    4.757E+00,,     0.135
C,MO-99    ,NO ,   -9.204E+00,    3.360E+01,    5.450E+01,,    -0.169
C,RU-103   ,NO ,    1.613E+00,    1.686E+00,    2.877E+00,,     0.561
C,RU-106   ,NO ,   -9.960E+00,    1.546E+01,    2.366E+01,,    -0.421
C,AG-110m  ,NO ,    4.909E-01,    1.594E+00,    2.673E+00,,     0.184
C,SN-113   ,NO ,   -2.803E+00,    2.140E+00,    3.381E+00,,    -0.829
C,SB-124   ,NO ,    1.889E+00,    3.495E+00,    2.723E+00,,     0.694
C,SB-125   ,NO ,    3.416E-01,    4.622E+00,    7.554E+00,,     0.045
C,TE-129M  ,NO ,    2.643E+01,    1.918E+01,    3.249E+01,,     0.814
C,I-131    ,NO ,   -6.399E-01,    2.210E+00,    3.624E+00,,    -0.177
C,BA-133   ,NO ,    6.840E+00,    2.569E+00,    3.993E+00,,     1.713
C,CS-134   ,NO ,    8.252E+00,    3.047E+00,    3.333E+00,,     2.476
C,CS-136   ,NO ,   -1.602E+00,    1.931E+00,    3.019E+00,,    -0.531
C,CS-137   ,NO ,    1.496E+00,    1.770E+00,    3.022E+00,,     0.495
C,CE-139   ,NO ,   -2.067E+00,    1.479E+00,    2.349E+00,,    -0.880
C,BA-140   ,NO ,    4.548E+00,    6.882E+00,    1.158E+01,,     0.393
C,LA-140   ,NO ,   -4.398E-01,    2.294E+00,    3.750E+00,,    -0.117
C,CE-141   ,NO ,   -2.788E-02,    3.164E+00,    4.501E+00,,    -0.006
C,CE-144   ,NO ,   -6.946E+00,    1.309E+01,    1.847E+01,,    -0.376
C,EU-152   ,NO ,   -1.354E+01,    5.952E+00,    7.639E+00,,    -1.773
C,EU-154   ,NO ,   -2.177E+00,    2.988E+00,    4.929E+00,,    -0.442
C,AC-228   ,NO ,   -8.186E-01,    6.806E+00,    1.115E+01,,    -0.073
C,TH-232   ,NO ,   -8.175E-01,    6.797E+00,    1.114E+01,,    -0.073
C,U-235    ,NO ,   -2.865E-01,    1.362E+01,    1.903E+01,,    -0.015
C,U-238    ,NO ,   -7.038E+01,    1.899E+02,    2.980E+02,,    -0.236
C,AM-241   ,NO ,    1.091E+00,    1.426E+01,    2.085E+01,,     0.052
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Sec. Review: Analyst: KDS LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:50:35.22
TBE10 12892256 HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:52:59.77

LIMS No., Customer Name, Client ID: WG L28597-3 EX BRAID

Sample ID : 10L28597-3
Sample Type : WG
Quantity : 3.53210E+00 L
Start Channel : 80 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 12:15:00.0
Geometry : 1035L091004
BKGFILE : 10BG050506MT
Real Time : 0 08:00:04.82
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.57*	256	1110	1.81	132.38	6.42E-01	8.88E-03	26.0	2.58E+00
2	1	92.73*	9	895	1.11	184.73	1.30E+00	3.09E-04	632.3	1.77E+00
3	1	139.76	287	838	1.53	278.86	1.68E+00	9.96E-03	19.1	1.85E+00
4	1	186.03*	10	714	1.51	371.47	1.59E+00	3.53E-04	511.0	1.41E+00
5	1	198.31*	147	681	1.61	396.04	1.55E+00	5.10E-03	35.6	9.69E-01
6	1	238.71*	31	702	0.89	476.90	1.40E+00	1.09E-03	164.3	1.87E+00
7	1	295.32*	156	657	1.86	590.19	1.21E+00	5.42E-03	37.0	2.51E+00
8	1	352.07*	347	341	1.48	703.77	1.07E+00	1.21E-02	12.8	2.51E+00
9	1	583.29*	19	182	1.22	1166.60	7.18E-01	6.77E-04	146.3	1.27E+00
10	1	595.86	113	169	1.20	1191.76	7.06E-01	3.93E-03	23.3	3.56E-01
11	1	609.10*	235	289	1.26	1218.26	6.94E-01	8.15E-03	17.8	2.90E+00
12	1	768.54	47	138	1.81	1537.44	5.79E-01	1.65E-03	51.7	6.46E-01
13	1	1120.89*	99	94	3.00	2242.93	4.33E-01	3.45E-03	28.8	2.74E+00
14	1	1237.97*	42	50	1.83	2477.37	4.01E-01	1.44E-03	38.8	1.17E+00
15	1	1407.68	43	23	2.42	2817.22	3.65E-01	1.50E-03	25.6	1.89E+00
16	1	1460.58*	22	53	2.30	2923.16	3.56E-01	7.53E-04	110.5	1.70E+00
17	1	1764.73*	41	54	2.65	3532.36	3.13E-01	1.43E-03	49.4	8.87E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	22	10.67*	3.559E-01	1.516E+01	1.516E+01	221.05
RA-226	186.21	10	3.28*	1.594E+00	5.165E+00	5.165E+00	1022.04
TH-228	238.63	31	44.60*	1.400E+00	1.336E+00	1.342E+00	328.52
	240.98	------	3.95	1.392E+00	------	Line Not Found	------
U-235	143.76	------	10.50*	1.683E+00	------	Line Not Found	------
	163.35	------	4.70	1.659E+00	------	Line Not Found	------
	185.71	10	54.00	1.594E+00	3.137E-01	3.137E-01	1022.04
	205.31	------	4.70	1.524E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28597-3

Acquisition date : 13-MAY-2006 08:52:59

Total number of lines in spectrum	17	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	5	29.41%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.516E+01	1.516E+01	3.352E+01	221.05	
RA-226	1600.00Y	1.00	5.165E+00	5.165E+00	52.79E+00	1022.04	
TH-228	1.91Y	1.00	1.336E+00	1.342E+00	4.408E+00	328.52	
U-235	7.04E+08Y	1.00	3.137E-01	3.137E-01	32.06E-01	1022.04	K
			---------	---------			
	Total Activity :		2.198E+01	2.198E+01			
	Grand Total Activity :		2.198E+01	2.198E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28597-3

Acquisition date : 13-MAY-2006 08:52:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.57	256	1110	1.81	132.38	128	10	8.88E-03	52.1	6.42E-01	
1	92.73	9	895	1.11	184.73	181	8	3.09E-04	****	1.30E+00	
1	139.76	287	838	1.53	278.86	275	9	9.96E-03	38.2	1.68E+00	
1	198.31	147	681	1.61	396.04	392	9	5.10E-03	71.3	1.55E+00	
1	295.32	156	657	1.86	590.19	583	14	5.42E-03	74.1	1.21E+00	
1	352.07	347	341	1.48	703.77	699	11	1.21E-02	25.6	1.07E+00	
1	583.29	19	182	1.22	1166.60	1162	10	6.77E-04	****	7.18E-01	T
1	595.86	113	169	1.20	1191.76	1188	10	3.93E-03	46.6	7.06E-01	
1	609.10	235	289	1.26	1218.26	1212	14	8.15E-03	35.6	6.94E-01	
1	768.54	47	138	1.81	1537.44	1532	12	1.65E-03	****	5.79E-01	
1	1120.89	99	94	3.00	2242.93	2232	22	3.45E-03	57.7	4.33E-01	
1	1237.97	42	50	1.83	2477.37	2472	10	1.44E-03	77.5	4.01E-01	
1	1407.68	43	23	2.42	2817.22	2813	10	1.50E-03	51.3	3.65E-01	T
1	1764.73	41	54	2.65	3532.36	3522	18	1.43E-03	98.8	3.13E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	17	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	5	29.41%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.516E+01	1.516E+01	3.352E+01	221.05	
RA-226	1600.00Y	1.00	5.165E+00	5.165E+00	52.79E+00	1022.04	
TH-228	1.91Y	1.00	1.336E+00	1.342E+00	4.408E+00	328.52	
	Total Activity :		2.166E+01	2.167E+01			

Grand Total Activity : 2.166E+01 2.167E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.516E+01	3.352E+01	3.527E+01	0.000E+00	0.430
RA-226	5.165E+00	5.279E+01	8.187E+01	0.000E+00	0.063
TH-228	1.342E+00	4.408E+00	6.095E+00	0.000E+00	0.220

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-3.205E+00		1.767E+01	2.891E+01	0.000E+00	-0.111
NA-24	-3.831E+02		2.056E+02	2.978E+02	0.000E+00	-1.286
CR-51	-1.474E+01		1.917E+01	3.071E+01	0.000E+00	-0.480
MN-54	1.309E+00		2.109E+00	3.538E+00	0.000E+00	0.370
CO-57	-2.008E-01		2.074E+00	3.435E+00	0.000E+00	-0.058
CO-58	-1.368E+00		2.072E+00	3.269E+00	0.000E+00	-0.419
FE-59	4.690E+00		4.222E+00	7.315E+00	0.000E+00	0.641
CO-60	2.495E-01		2.252E+00	3.734E+00	0.000E+00	0.067
ZN-65	7.834E+00		5.732E+00	8.668E+00	0.000E+00	0.904
SE-75	2.158E+00		2.814E+00	4.740E+00	0.000E+00	0.455
SR-85	1.612E+01		2.526E+00	4.829E+00	0.000E+00	3.337
Y-88	5.248E-02		2.288E+00	3.754E+00	0.000E+00	0.014
NB-94	4.605E-01		1.989E+00	3.311E+00	0.000E+00	0.139
NB-95	1.099E+00		2.688E+00	3.806E+00	0.000E+00	0.289
ZR-95	3.015E+00		4.007E+00	6.536E+00	0.000E+00	0.461
MO-99	-4.047E+00		4.222E+01	6.907E+01	0.000E+00	-0.059
RU-103	3.670E+00		2.266E+00	3.926E+00	0.000E+00	0.935
RU-106	-1.320E+01		2.028E+01	3.191E+01	0.000E+00	-0.414
AG-110m	6.481E-01		2.093E+00	3.508E+00	0.000E+00	0.185
SN-113	1.400E+00		2.716E+00	4.595E+00	0.000E+00	0.305
SB-124	-3.139E+00		5.267E+00	3.435E+00	0.000E+00	-0.914
SB-125	-3.040E-01		5.926E+00	9.807E+00	0.000E+00	-0.031
TE-129M	-2.072E+01		2.465E+01	3.950E+01	0.000E+00	-0.525
I-131	2.922E+00		2.956E+00	4.952E+00	0.000E+00	0.590
BA-133	9.135E+00		3.655E+00	5.541E+00	0.000E+00	1.649
CS-134	7.866E+00		4.108E+00	4.265E+00	0.000E+00	1.844
CS-136	-1.096E+00		2.407E+00	3.833E+00	0.000E+00	-0.286
CS-137	1.644E+00		2.299E+00	3.914E+00	0.000E+00	0.420
CE-139	3.709E-01		2.094E+00	3.441E+00	0.000E+00	0.108
BA-140	2.448E+00		9.060E+00	1.496E+01	0.000E+00	0.164
LA-140	2.911E+00		2.828E+00	5.014E+00	0.000E+00	0.581
CE-141	5.820E-01		4.408E+00	6.217E+00	0.000E+00	0.094
CE-144	-8.661E+00		1.875E+01	2.614E+01	0.000E+00	-0.331
EU-152	-7.793E+00		7.700E+00	1.054E+01	0.000E+00	-0.740
EU-154	-7.534E-01		4.329E+00	7.158E+00	0.000E+00	-0.105
AC-228	-2.206E-01		8.183E+00	1.323E+01	0.000E+00	-0.017
TH-232	-2.203E-01		8.172E+00	1.321E+01	0.000E+00	-0.017
U-235	1.769E+00		1.896E+01	2.648E+01	0.000E+00	0.067
U-238	1.338E+02		2.300E+02	3.903E+02	0.000E+00	0.343
AM-241	-4.704E+00		1.904E+01	2.871E+01	0.000E+00	-0.164

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A,10L28597-3       ,05/14/2006 17:50,05/09/2006 12:15,   3.532E+00,WG L28597-3 EX
B,10L28597-3       ,LIBD                ,06/09/2005 08:04,1035L091004
C,K-40     ,YES,    1.516E+01,   3.352E+01,   3.527E+01,,    0.430
C,RA-226   ,YES,    5.165E+00,   5.279E+01,   8.187E+01,,    0.063
C,TH-228   ,YES,    1.342E+00,   4.408E+00,   6.095E+00,,    0.220
C,BE-7     ,NO ,   -3.205E+00,   1.767E+01,   2.891E+01,,   -0.111
C,NA-24    ,NO ,   -3.831E+02,   2.056E+02,   2.978E+02,,   -1.286
C,CR-51    ,NO ,   -1.474E+01,   1.917E+01,   3.071E+01,,   -0.480
C,MN-54    ,NO ,    1.309E+00,   2.109E+00,   3.538E+00,,    0.370
C,CO-57    ,NO ,   -2.008E-01,   2.074E+00,   3.435E+00,,   -0.058
C,CO-58    ,NO ,   -1.368E+00,   2.072E+00,   3.269E+00,,   -0.419
C,FE-59    ,NO ,    4.690E+00,   4.222E+00,   7.315E+00,,    0.641
C,CO-60    ,NO ,    2.495E-01,   2.252E+00,   3.734E+00,,    0.067
C,ZN-65    ,NO ,    7.834E+00,   5.732E+00,   8.668E+00,,    0.904
C,SE-75    ,NO ,    2.158E+00,   2.814E+00,   4.740E+00,,    0.455
C,SR-85    ,NO ,    1.612E+01,   2.526E+00,   4.829E+00,,    3.337
C,Y-88     ,NO ,    5.248E-02,   2.288E+00,   3.754E+00,,    0.014
C,NB-94    ,NO ,    4.605E-01,   1.989E+00,   3.311E+00,,    0.139
C,NB-95    ,NO ,    1.099E+00,   2.688E+00,   3.806E+00,,    0.289
C,ZR-95    ,NO ,    3.015E+00,   4.007E+00,   6.536E+00,,    0.461
C,MO-99    ,NO ,   -4.047E+00,   4.222E+01,   6.907E+01,,   -0.059
C,RU-103   ,NO ,    3.670E+00,   2.266E+00,   3.926E+00,,    0.935
C,RU-106   ,NO ,   -1.320E+01,   2.028E+01,   3.191E+01,,   -0.414
C,AG-110m  ,NO ,    6.481E-01,   2.093E+00,   3.508E+00,,    0.185
C,SN-113   ,NO ,    1.400E+00,   2.716E+00,   4.595E+00,,    0.305
C,SB-124   ,NO ,   -3.139E+00,   5.267E+00,   3.435E+00,,   -0.914
C,SB-125   ,NO ,   -3.040E-01,   5.926E+00,   9.807E+00,,   -0.031
C,TE-129M  ,NO ,   -2.072E+01,   2.465E+01,   3.950E+01,,   -0.525
C,I-131    ,NO ,    2.922E+00,   2.956E+00,   4.952E+00,,    0.590
C,BA-133   ,NO ,    9.135E+00,   3.655E+00,   5.541E+00,,    1.649
C,CS-134   ,NO ,    7.866E+00,   4.108E+00,   4.265E+00,,    1.844
C,CS-136   ,NO ,   -1.096E+00,   2.407E+00,   3.833E+00,,   -0.286
C,CS-137   ,NO ,    1.644E+00,   2.299E+00,   3.914E+00,,    0.420
C,CE-139   ,NO ,    3.709E-01,   2.094E+00,   3.441E+00,,    0.108
C,BA-140   ,NO ,    2.448E+00,   9.060E+00,   1.496E+01,,    0.164
C,LA-140   ,NO ,    2.911E+00,   2.828E+00,   5.014E+00,,    0.581
C,CE-141   ,NO ,    5.820E-01,   4.408E+00,   6.217E+00,,    0.094
C,CE-144   ,NO ,   -8.661E+00,   1.875E+01,   2.614E+01,,   -0.331
C,EU-152   ,NO ,   -7.793E+00,   7.700E+00,   1.054E+01,,   -0.740
C,EU-154   ,NO ,   -7.534E-01,   4.329E+00,   7.158E+00,,   -0.105
C,AC-228   ,NO ,   -2.206E-01,   8.183E+00,   1.323E+01,,   -0.017
C,TH-232   ,NO ,   -2.203E-01,   8.172E+00,   1.321E+01,,   -0.017
C,U-235    ,NO ,    1.769E+00,   1.896E+01,   2.648E+01,,    0.067
C,U-238    ,NO ,    1.338E+02,   2.300E+02,   3.903E+02,,    0.343
C,AM-241   ,NO ,   -4.704E+00,   1.904E+01,   2.871E+01,,   -0.164
```

Sec. Review: Analyst: KD LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 02:52:20.84
TBE10 12892256 HpGe ********** Aquisition Date/Time: 14-MAY-2006 18:52:04.86

LIMS No., Customer Name, Client ID: WG L28597-9 EX BRAID

Sample ID : 10L28597-9
Sample Type : WG
Quantity : 3.61190E+00 L
Start Channel : 80 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 14:15:00.0
Geometry : 1035L091004
BKGFILE : 10BG050506MT
Real Time : 0 08:00:04.64
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.56*	126	924	1.30	132.36	6.41E-01	4.37E-03	45.2	8.63E-01
2	1	139.77	234	931	1.77	278.88	1.68E+00	8.11E-03	25.2	1.07E+00
3	1	185.76*	17	537	0.93	370.92	1.59E+00	5.78E-04	257.1	9.78E-01
4	1	198.30*	171	658	1.43	396.01	1.55E+00	5.94E-03	31.2	2.32E+00
5	1	238.60*	6	377	1.33	476.67	1.40E+00	2.06E-04	639.9	2.99E+00
6	1	241.77	83	284	0.86	483.02	1.39E+00	2.87E-03	31.8	5.63E+00
7	1	294.89*	166	419	1.62	589.34	1.21E+00	5.75E-03	25.6	9.50E-01
8	1	352.01*	145	354	1.29	703.66	1.07E+00	5.05E-03	28.7	1.10E+00
9	1	499.97	49	160	1.46	999.81	8.11E-01	1.72E-03	46.6	1.54E+00
10	1	596.14	123	246	2.05	1192.32	7.06E-01	4.28E-03	30.1	1.05E+00
11	1	609.04*	200	163	1.81	1218.15	6.94E-01	6.93E-03	16.3	4.86E+00
12	1	911.23*	7	69	1.96	1823.12	5.07E-01	2.35E-04	276.2	1.95E+00
13	1	1120.32*	50	70	2.04	2241.77	4.33E-01	1.73E-03	40.0	2.22E+00
14	1	1238.06*	42	85	3.48	2477.54	4.01E-01	1.46E-03	58.3	9.23E-01
15	1	1764.57*	22	30	2.34	3532.03	3.13E-01	7.50E-04	72.1	2.46E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	17	3.28*	1.594E+00	8.274E+00	8.274E+00	514.16
AC-228	835.50	------	1.75	5.422E-01	------	Line Not Found	------
	911.07	7	27.70*	5.069E-01	1.254E+00	1.256E+00	552.46
TH-228	238.63	6	44.60*	1.401E+00	2.472E-01	2.485E-01	1279.71
	240.98	83	3.95	1.389E+00	3.919E+01	3.940E+01	63.53
U-235	143.76	------	10.50*	1.683E+00	------	Line Not Found	------
	163.35	------	4.70	1.659E+00	------	Line Not Found	------
	185.71	17	54.00	1.594E+00	5.026E-01	5.026E-01	514.16
	205.31	------	4.70	1.524E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28597-9

Acquisition date : 14-MAY-2006 18:52:04

Total number of lines in spectrum	15	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	4	26.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	8.274E+00	8.274E+00	42.54E+00	514.16	
AC-228	5.75Y	1.00	1.254E+00	1.256E+00	6.939E+00	552.46	
TH-228	1.91Y	1.01	2.472E-01	2.485E-01	31.80E-01	1279.71	
U-235	7.04E+08Y	1.00	5.026E-01	5.026E-01	25.84E-01	514.16	K
	Total Activity :		1.028E+01	1.028E+01			

Grand Total Activity : 1.028E+01 1.028E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28597-9

Acquisition date : 14-MAY-2006 18:52:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.56	126	924	1.30	132.36	129	8	4.37E-03	90.4	6.41E-01	
1	139.77	234	931	1.77	278.88	274	10	8.11E-03	50.4	1.68E+00	
1	198.30	171	658	1.43	396.01	391	10	5.94E-03	62.4	1.55E+00	
1	294.89	166	419	1.62	589.34	585	10	5.75E-03	51.2	1.21E+00	
1	352.01	145	354	1.29	703.66	699	10	5.05E-03	57.5	1.07E+00	
1	499.97	49	160	1.46	999.81	996	8	1.72E-03	93.2	8.11E-01	
1	596.14	123	246	2.05	1192.32	1185	16	4.28E-03	60.2	7.06E-01	
1	609.04	200	163	1.81	1218.15	1212	11	6.93E-03	32.6	6.94E-01	
1	1120.32	50	70	2.04	2241.77	2236	12	1.73E-03	80.0	4.33E-01	
1	1238.06	42	85	3.48	2477.54	2465	20	1.46E-03	****	4.01E-01	
1	1764.57	22	30	2.34	3532.03	3526	14	7.50E-04	****	3.13E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	15	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	4	26.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	8.274E+00	8.274E+00	42.54E+00	514.16	
AC-228	5.75Y	1.00	1.254E+00	1.256E+00	6.939E+00	552.46	
TH-228	1.91Y	1.01	2.472E-01	2.485E-01	31.80E-01	1279.71	
	Total Activity :		9.775E+00	9.778E+00			

Grand Total Activity : 9.775E+00 9.778E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	8.274E+00	4.254E+01	7.883E+01	0.000E+00	0.105
AC-228	1.256E+00	6.939E+00	1.210E+01	0.000E+00	0.104
TH-228	2.485E-01	3.180E+00	5.902E+00	0.000E+00	0.042

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	7.817E+00		1.798E+01	3.005E+01	0.000E+00	0.260
NA-24	-2.718E+02		8.256E+02	1.328E+03	0.000E+00	-0.205
K-40	1.910E+01		2.961E+01	5.612E+01	0.000E+00	0.340
CR-51	-1.939E+01		1.926E+01	3.064E+01	0.000E+00	-0.633
MN-54	1.426E-01		2.116E+00	3.457E+00	0.000E+00	0.041
CO-57	-1.180E+00		1.973E+00	3.237E+00	0.000E+00	-0.364
CO-58	-2.335E+00		2.115E+00	3.263E+00	0.000E+00	-0.716
FE-59	1.784E+00		4.042E+00	6.776E+00	0.000E+00	0.263
CO-60	3.661E-01		2.160E+00	3.595E+00	0.000E+00	0.102
ZN-65	7.560E+00		5.594E+00	8.455E+00	0.000E+00	0.894
SE-75	-2.875E+00		2.659E+00	4.277E+00	0.000E+00	-0.672
SR-85	1.336E+01		2.498E+00	4.673E+00	0.000E+00	2.858
Y-88	-9.809E-02		2.187E+00	3.568E+00	0.000E+00	-0.027
NB-94	6.053E-01		1.962E+00	3.277E+00	0.000E+00	0.185
NB-95	5.583E-01		2.021E+00	3.356E+00	0.000E+00	0.166
ZR-95	9.824E-01		3.661E+00	6.080E+00	0.000E+00	0.162
MO-99	-6.210E+01		5.843E+01	9.128E+01	0.000E+00	-0.680
RU-103	2.829E+00		2.264E+00	3.877E+00	0.000E+00	0.730
RU-106	-3.301E+00		1.794E+01	2.959E+01	0.000E+00	-0.112
AG-110m	-1.685E-01		2.030E+00	3.351E+00	0.000E+00	-0.050
SN-113	9.963E-01		2.596E+00	4.376E+00	0.000E+00	0.228
SB-124	-4.339E-01		4.754E+00	3.363E+00	0.000E+00	-0.129
SB-125	-1.652E+00		5.754E+00	9.450E+00	0.000E+00	-0.175
TE-129M	1.008E+01		2.524E+01	4.222E+01	0.000E+00	0.239
I-131	-6.738E-01		3.205E+00	5.173E+00	0.000E+00	-0.130
BA-133	7.727E+00		3.399E+00	5.133E+00	0.000E+00	1.505
CS-134	6.204E+00		4.631E+00	3.962E+00	0.000E+00	1.566
CS-136	-1.709E+00		2.575E+00	4.057E+00	0.000E+00	-0.421
CS-137	5.282E-01		2.191E+00	3.663E+00	0.000E+00	0.144
CE-139	-1.607E+00		2.030E+00	3.270E+00	0.000E+00	-0.492
BA-140	1.501E+00		9.482E+00	1.559E+01	0.000E+00	0.096
LA-140	7.724E-01		3.048E+00	5.135E+00	0.000E+00	0.150
CE-141	7.085E-01		4.420E+00	6.239E+00	0.000E+00	0.114
CE-144	-4.404E+00		1.805E+01	2.532E+01	0.000E+00	-0.174
EU-152	-3.380E+00		7.373E+00	1.033E+01	0.000E+00	-0.327
EU-154	-1.827E+00		4.107E+00	6.756E+00	0.000E+00	-0.270
TH-232	1.254E+00	+	6.926E+00	1.322E+01	0.000E+00	0.095
U-235	1.078E+01		1.827E+01	2.587E+01	0.000E+00	0.417
U-238	5.766E+01		2.145E+02	3.584E+02	0.000E+00	0.161
AM-241	-4.394E+01		1.787E+01	2.634E+01	0.000E+00	-1.668

```
A,10L28597-9       ,05/15/2006 02:52,05/09/2006 14:15,   3.612E+00,WG L28597-9 EX
B,10L28597-9       ,LIBD                ,06/09/2005 08:04,1035L091004
C,RA-226  ,YES,   8.274E+00,   4.254E+01,   7.883E+01,,    0.105
C,AC-228  ,YES,   1.256E+00,   6.939E+00,   1.210E+01,,    0.104
C,TH-228  ,YES,   2.485E-01,   3.180E+00,   5.902E+00,,    0.042
C,BE-7    ,NO ,   7.817E+00,   1.798E+01,   3.005E+01,,    0.260
C,NA-24   ,NO ,  -2.718E+02,   8.256E+02,   1.328E+03,,   -0.205
C,K-40    ,NO ,   1.910E+01,   2.961E+01,   5.612E+01,,    0.340
C,CR-51   ,NO ,  -1.939E+01,   1.926E+01,   3.064E+01,,   -0.633
C,MN-54   ,NO ,   1.426E-01,   2.116E+00,   3.457E+00,,    0.041
C,CO-57   ,NO ,  -1.180E+00,   1.973E+00,   3.237E+00,,   -0.364
C,CO-58   ,NO ,  -2.335E+00,   2.115E+00,   3.263E+00,,   -0.716
C,FE-59   ,NO ,   1.784E+00,   4.042E+00,   6.776E+00,,    0.263
C,CO-60   ,NO ,   3.661E-01,   2.160E+00,   3.595E+00,,    0.102
C,ZN-65   ,NO ,   7.560E+00,   5.594E+00,   8.455E+00,,    0.894
C,SE-75   ,NO ,  -2.875E+00,   2.659E+00,   4.277E+00,,   -0.672
C,SR-85   ,NO ,   1.336E+01,   2.498E+00,   4.673E+00,,    2.858
C,Y-88    ,NO ,  -9.809E-02,   2.187E+00,   3.568E+00,,   -0.027
C,NB-94   ,NO ,   6.053E-01,   1.962E+00,   3.277E+00,,    0.185
C,NB-95   ,NO ,   5.583E-01,   2.021E+00,   3.356E+00,,    0.166
C,ZR-95   ,NO ,   9.824E-01,   3.661E+00,   6.080E+00,,    0.162
C,MO-99   ,NO ,  -6.210E+01,   5.843E+01,   9.128E+01,,   -0.680
C,RU-103  ,NO ,   2.829E+00,   2.264E+00,   3.877E+00,,    0.730
C,RU-106  ,NO ,  -3.301E+00,   1.794E+01,   2.959E+01,,   -0.112
C,AG-110m ,NO ,  -1.685E-01,   2.030E+00,   3.351E+00,,   -0.050
C,SN-113  ,NO ,   9.963E-01,   2.596E+00,   4.376E+00,,    0.228
C,SB-124  ,NO ,  -4.339E-01,   4.754E+00,   3.363E+00,,   -0.129
C,SB-125  ,NO ,  -1.652E+00,   5.754E+00,   9.450E+00,,   -0.175
C,TE-129M ,NO ,   1.008E+01,   2.524E+01,   4.222E+01,,    0.239
C,I-131   ,NO ,  -6.738E-01,   3.205E+00,   5.173E+00,,   -0.130
C,BA-133  ,NO ,   7.727E+00,   3.399E+00,   5.133E+00,,    1.505
C,CS-134  ,NO ,   6.204E+00,   4.631E+00,   3.962E+00,,    1.566
C,CS-136  ,NO ,  -1.709E+00,   2.575E+00,   4.057E+00,,   -0.421
C,CS-137  ,NO ,   5.282E-01,   2.191E+00,   3.663E+00,,    0.144
C,CE-139  ,NO ,  -1.607E+00,   2.030E+00,   3.270E+00,,   -0.492
C,BA-140  ,NO ,   1.501E+00,   9.482E+00,   1.559E+01,,    0.096
C,LA-140  ,NO ,   7.724E-01,   3.048E+00,   5.135E+00,,    0.150
C,CE-141  ,NO ,   7.085E-01,   4.420E+00,   6.239E+00,,    0.114
C,CE-144  ,NO ,  -4.404E+00,   1.805E+01,   2.532E+01,,   -0.174
C,EU-152  ,NO ,  -3.380E+00,   7.373E+00,   1.033E+01,,   -0.327
C,EU-154  ,NO ,  -1.827E+00,   4.107E+00,   6.756E+00,,   -0.270
C,TH-232  ,NO ,   1.254E+00,   6.926E+00,   1.322E+01,,    0.095
C,U-235   ,NO ,   1.078E+01,   1.827E+01,   2.587E+01,,    0.417
C,U-238   ,NO ,   5.766E+01,   2.145E+02,   3.584E+02,,    0.161
C,AM-241  ,NO ,  -4.394E+01,   1.787E+01,   2.634E+01,,   -1.668
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Sec. Review: Analyst: KD LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:51:24.51
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:53:09.70

LIMS No., Customer Name, Client ID: WG L28597-4 EX BRAID

Sample ID : 11L28597-4
Sample Type : WG
Quantity : 3.42510E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 14:10:00.0
Geometry : 1135L090204
BKGFILE : 11BG050506MT
Real Time : 0 08:00:10.83
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	66.48	150	812	1.12	132.15	6.07E-01	5.21E-03	31.6	
2	0	139.75	256	866	1.41	279.11	1.69E+00	8.88E-03	22.4	
3	0	198.34*	161	683	1.16	396.61	1.57E+00	5.60E-03	32.6	
4	0	238.60*	14	522	1.12	477.34	1.42E+00	4.92E-04	319.4	
5	0	295.15*	146	409	1.20	590.73	1.23E+00	5.08E-03	28.6	
6	0	351.78*	237	315	1.66	704.28	1.08E+00	8.22E-03	16.9	
7	0	582.73*	16	123	1.16	1167.24	7.27E-01	5.71E-04	143.0	
8	0	595.81	110	249	1.65	1193.45	7.15E-01	3.80E-03	32.0	
9	0	608.96*	242	205	1.55	1219.79	7.02E-01	8.41E-03	15.1	
10	0	911.12*	39	134	1.67	1825.27	5.14E-01	1.36E-03	78.3	
11	0	1120.54*	51	78	1.38	2244.72	4.37E-01	1.78E-03	44.0	
12	0	1239.95	90	84	5.75	2483.84	4.03E-01	3.12E-03	28.2	
13	0	1460.31*	4	88	2.08	2925.00	3.54E-01	1.24E-04	763.5	
14	0	1762.40*	46	31	1.70	3529.58	3.04E-01	1.61E-03	33.8	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	4	10.67*	3.540E-01	2.593E+00	2.593E+00	1526.95
AC-228	835.50	------	1.75	5.493E-01	------ Line Not Found		------
	911.07	39	27.70*	5.136E-01	7.518E+00	7.528E+00	156.69
TH-228	238.63	14	44.60*	1.421E+00	6.129E-01	6.153E-01	638.84
	240.98	------	3.95	1.413E+00	------ Line Not Found		------
TH-232	583.14	16	30.25	7.270E-01	2.048E+00	2.048E+00	286.10
	911.07	39	27.70*	5.136E-01	7.518E+00	7.518E+00	156.69
	969.11	------	16.60	4.895E-01	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28597-4

Acquisition date : 13-MAY-2006 08:53:09

Total number of lines in spectrum	14	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	4	28.57%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.593E+00	2.593E+00	39.59E+00	1526.95	
AC-228	5.75Y	1.00	7.518E+00	7.528E+00	11.80E+00	156.69	
TH-228	1.91Y	1.00	6.129E-01	6.153E-01	39.31E-01	638.84	
TH-232	1.41E+10Y	1.00	7.518E+00	7.518E+00	11.78E+00	156.69	
	Total Activity :		1.824E+01	1.825E+01			
	Grand Total Activity :		1.824E+01	1.825E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28597-4

Acquisition date : 13-MAY-2006 08:53:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	66.48	150	812	1.12	132.15	130	6	5.21E-03	63.2	6.07E-01	
0	139.75	256	866	1.41	279.11	275	10	8.88E-03	44.8	1.69E+00	
0	198.34	161	683	1.16	396.61	392	10	5.60E-03	65.3	1.57E+00	
0	295.15	146	409	1.20	590.73	586	10	5.08E-03	57.1	1.23E+00	
0	351.78	237	315	1.66	704.28	699	10	8.22E-03	33.8	1.08E+00	
0	595.81	110	249	1.65	1193.45	1187	14	3.80E-03	64.0	7.15E-01	
0	608.96	242	205	1.55	1219.79	1214	14	8.41E-03	30.2	7.02E-01	
0	1120.54	51	78	1.38	2244.72	2239	14	1.78E-03	87.9	4.37E-01	
0	1239.95	90	84	5.75	2483.84	2474	21	3.12E-03	56.4	4.03E-01	
0	1762.40	46	31	1.70	3529.58	3522	14	1.61E-03	67.6	3.04E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	14	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	4	28.57%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.593E+00	2.593E+00	39.59E+00	1526.95	
AC-228	5.75Y	1.00	5.470E+00	5.478E+00	13.17E+00	240.51	
TH-228	1.91Y	1.00	6.129E-01	6.153E-01	39.31E-01	638.84	
TH-232	1.41E+10Y	1.00	2.048E+00	2.048E+00	5.859E+00	286.10	
Total Activity :			1.072E+01	1.073E+01			

Grand Total Activity : 1.072E+01 1.073E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	2.593E+00	3.959E+01	3.981E+01	0.000E+00	0.065
AC-228	5.478E+00	1.317E+01	1.211E+01	0.000E+00	0.452
TH-228	6.153E-01	3.931E+00	6.078E+00	0.000E+00	0.101

TH-232	2.048E+00	5.859E+00	1.480E+01	0.000E+00	0.138

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-6.491E+00		1.846E+01	2.993E+01	0.000E+00	-0.217
NA-24	-4.400E+01		1.841E+02	2.988E+02	0.000E+00	-0.147
CR-51	-3.094E+00		1.955E+01	3.168E+01	0.000E+00	-0.098
MN-54	4.501E-01		2.099E+00	3.456E+00	0.000E+00	0.130
CO-57	4.755E-01		2.039E+00	3.362E+00	0.000E+00	0.141
CO-58	8.860E-01		2.095E+00	3.490E+00	0.000E+00	0.254
FE-59	1.697E+00		4.272E+00	7.149E+00	0.000E+00	0.237
CO-60	1.400E+00		2.256E+00	3.868E+00	0.000E+00	0.362
ZN-65	6.166E+00		5.772E+00	8.579E+00	0.000E+00	0.719
SE-75	-6.907E-01		2.779E+00	4.537E+00	0.000E+00	-0.152
SR-85	1.557E+01		2.564E+00	4.866E+00	0.000E+00	3.200
Y-88	8.288E-01		2.757E+00	4.630E+00	0.000E+00	0.179
NB-94	3.263E-01		2.062E+00	3.419E+00	0.000E+00	0.095
NB-95	2.944E+00		2.129E+00	3.706E+00	0.000E+00	0.794
ZR-95	-2.128E+00		3.835E+00	6.125E+00	0.000E+00	-0.347
MO-99	-5.486E-01		4.238E+01	6.954E+01	0.000E+00	-0.008
RU-103	1.417E+00		2.350E+00	3.929E+00	0.000E+00	0.361
RU-106	5.111E+00		2.076E+01	3.389E+01	0.000E+00	0.151
AG-110m	9.716E-01		2.041E+00	3.443E+00	0.000E+00	0.282
SN-113	1.714E+00		2.726E+00	4.609E+00	0.000E+00	0.372
SB-124	-8.125E-01		5.043E+00	3.516E+00	0.000E+00	-0.231
SB-125	-5.821E+00		5.954E+00	9.506E+00	0.000E+00	-0.612
TE-129M	9.924E+00		2.560E+01	4.267E+01	0.000E+00	0.233
I-131	-2.416E-01		2.910E+00	4.834E+00	0.000E+00	-0.050
BA-133	1.049E+01		3.521E+00	5.435E+00	0.000E+00	1.929
CS-134	7.617E+00		5.002E+00	4.330E+00	0.000E+00	1.759
CS-136	-1.615E+00		2.496E+00	3.937E+00	0.000E+00	-0.410
CS-137	1.099E+00		2.262E+00	3.815E+00	0.000E+00	0.288
CE-139	7.849E-01		2.147E+00	3.509E+00	0.000E+00	0.224
BA-140	3.308E+00		9.313E+00	1.539E+01	0.000E+00	0.215
LA-140	9.080E-01		3.163E+00	5.257E+00	0.000E+00	0.173
CE-141	-2.456E+00		4.414E+00	6.023E+00	0.000E+00	-0.408
CE-144	6.410E+00		1.840E+01	2.590E+01	0.000E+00	0.247
EU-152	-2.162E+00		8.003E+00	1.084E+01	0.000E+00	-0.199
EU-154	1.286E+00		4.241E+00	7.000E+00	0.000E+00	0.184
RA-226	-6.815E+01		5.259E+01	8.361E+01	0.000E+00	-0.815
U-235	1.384E+01		1.865E+01	2.645E+01	0.000E+00	0.523
U-238	-9.838E+01		2.395E+02	3.722E+02	0.000E+00	-0.264
AM-241	-1.007E+01		2.976E+01	4.552E+01	0.000E+00	-0.221

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A,11L28597-4       ,05/14/2006 17:51,05/09/2006 14:10,   3.425E+00,WG L28597-4 EX
B,11L28597-4       ,LIBD                ,09/01/2005 07:43,1135L090204
C,K-40     ,YES,    2.593E+00,    3.959E+01,    3.981E+01,,     0.065
C,AC-228   ,YES,    5.478E+00,    1.317E+01,    1.211E+01,,     0.452
C,TH-228   ,YES,    6.153E-01,    3.931E+00,    6.078E+00,,     0.101
C,TH-232   ,YES,    2.048E+00,    5.859E+00,    1.480E+01,,     0.138
C,BE-7     ,NO ,   -6.491E+00,    1.846E+01,    2.993E+01,,    -0.217
C,NA-24    ,NO ,   -4.400E+01,    1.841E+02,    2.988E+02,,    -0.147
C,CR-51    ,NO ,   -3.094E+00,    1.955E+01,    3.168E+01,,    -0.098
C,MN-54    ,NO ,    4.501E-01,    2.099E+00,    3.456E+00,,     0.130
C,CO-57    ,NO ,    4.755E-01,    2.039E+00,    3.362E+00,,     0.141
C,CO-58    ,NO ,    8.860E-01,    2.095E+00,    3.490E+00,,     0.254
C,FE-59    ,NO ,    1.697E+00,    4.272E+00,    7.149E+00,,     0.237
C,CO-60    ,NO ,    1.400E+00,    2.256E+00,    3.868E+00,,     0.362
C,ZN-65    ,NO ,    6.166E+00,    5.772E+00,    8.579E+00,,     0.719
C,SE-75    ,NO ,   -6.907E-01,    2.779E+00,    4.537E+00,,    -0.152
C,SR-85    ,NO ,    1.557E+01,    2.564E+00,    4.866E+00,,     3.200
C,Y-88     ,NO ,    8.288E-01,    2.757E+00,    4.630E+00,,     0.179
C,NB-94    ,NO ,    3.263E-01,    2.062E+00,    3.419E+00,,     0.095
C,NB-95    ,NO ,    2.944E+00,    2.129E+00,    3.706E+00,,     0.794
C,ZR-95    ,NO ,   -2.128E+00,    3.835E+00,    6.125E+00,,    -0.347
C,MO-99    ,NO ,   -5.486E-01,    4.238E+01,    6.954E+01,,    -0.008
C,RU-103   ,NO ,    1.417E+00,    2.350E+00,    3.929E+00,,     0.361
C,RU-106   ,NO ,    5.111E+00,    2.076E+01,    3.389E+01,,     0.151
C,AG-110m  ,NO ,    9.716E-01,    2.041E+00,    3.443E+00,,     0.282
C,SN-113   ,NO ,    1.714E+00,    2.726E+00,    4.609E+00,,     0.372
C,SB-124   ,NO ,   -8.125E-01,    5.043E+00,    3.516E+00,,    -0.231
C,SB-125   ,NO ,   -5.821E+00,    5.954E+00,    9.506E+00,,    -0.612
C,TE-129M  ,NO ,    9.924E+00,    2.560E+01,    4.267E+01,,     0.233
C,I-131    ,NO ,   -2.416E-01,    2.910E+00,    4.834E+00,,    -0.050
C,BA-133   ,NO ,    1.049E+01,    3.521E+00,    5.435E+00,,     1.929
C,CS-134   ,NO ,    7.617E+00,    5.002E+00,    4.330E+00,,     1.759
C,CS-136   ,NO ,   -1.615E+00,    2.496E+00,    3.937E+00,,    -0.410
C,CS-137   ,NO ,    1.099E+00,    2.262E+00,    3.815E+00,,     0.288
C,CE-139   ,NO ,    7.849E-01,    2.147E+00,    3.509E+00,,     0.224
C,BA-140   ,NO ,    3.308E+00,    9.313E+00,    1.539E+01,,     0.215
C,LA-140   ,NO ,    9.080E-01,    3.163E+00,    5.257E+00,,     0.173
C,CE-141   ,NO ,   -2.456E+00,    4.414E+00,    6.023E+00,,    -0.408
C,CE-144   ,NO ,    6.410E+00,    1.840E+01,    2.590E+01,,     0.247
C,EU-152   ,NO ,   -2.162E+00,    8.003E+00,    1.084E+01,,    -0.199
C,EU-154   ,NO ,    1.286E+00,    4.241E+00,    7.000E+00,,     0.184
C,RA-226   ,NO ,   -6.815E+01,    5.259E+01,    8.361E+01,,    -0.815
C,U-235    ,NO ,    1.384E+01,    1.865E+01,    2.645E+01,,     0.523
C,U-238    ,NO ,   -9.838E+01,    2.395E+02,    3.722E+02,,    -0.264
C,AM-241   ,NO ,   -1.007E+01,    2.976E+01,    4.552E+01,,    -0.221
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:52:21.02
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:53:21.61

LIMS No., Customer Name, Client ID: WG L28597-5 EX BRAID

Sample ID : 13L28597-5
Sample Type : WG
Quantity : 3.49690E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 15:10:00.0
Geometry : 1335L090904
BKGFILE : 13BG050506MT
Real Time : 0 08:00:08.83
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	3	63.34*	46	892	1.09	126.63	6.22E-01	1.61E-03	116.9	1.53E+00
2	3	65.25*	86	866	1.10	130.46	6.87E-01	2.98E-03	63.8	
3	3	66.75*	138	725	0.98	133.45	7.39E-01	4.78E-03	34.4	
4	1	77.26*	81	1005	0.88	154.46	1.09E+00	2.82E-03	72.6	2.03E+00
5	1	87.44*	43	556	0.99	174.80	1.39E+00	1.49E-03	93.4	2.44E+00
6	1	139.78*	321	1184	1.71	279.40	2.02E+00	1.11E-02	22.1	2.40E+00
7	1	185.68*	37	843	1.00	371.12	1.95E+00	1.28E-03	159.2	1.77E+00
8	1	198.43*	354	1006	2.14	396.61	1.90E+00	1.23E-02	18.4	6.89E+00
9	4	238.67*	152	548	1.39	477.03	1.73E+00	5.29E-03	31.3	2.99E-01
10	4	241.81*	127	685	1.64	483.31	1.72E+00	4.40E-03	42.0	
11	1	295.18*	259	478	1.03	589.97	1.52E+00	8.99E-03	17.7	1.47E+00
12	1	351.96*	418	289	1.21	703.48	1.34E+00	1.45E-02	9.6	1.86E+00
13	1	583.27*	10	254	1.23	1165.92	9.26E-01	3.58E-04	332.1	8.88E-01
14	1	595.98	127	201	1.44	1191.32	9.11E-01	4.41E-03	22.1	8.39E-01
15	1	609.54*	368	265	1.40	1218.44	8.96E-01	1.28E-02	11.0	7.03E+00
16	1	768.75	60	127	1.76	1536.82	7.54E-01	2.07E-03	36.9	6.97E-01
17	1	911.58*	26	104	1.87	1822.49	6.64E-01	9.14E-04	90.8	1.72E+00
18	1	1120.82*	124	66	2.44	2241.07	5.69E-01	4.30E-03	19.4	5.48E+00
19	1	1238.70*	78	94	4.53	2476.95	5.29E-01	2.72E-03	32.7	2.70E+00
20	1	1378.75*	34	59	2.19	2757.21	4.89E-01	1.18E-03	53.2	1.89E+00
21	1	1765.24*	47	72	1.75	3530.90	4.11E-01	1.64E-03	49.3	1.83E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	37	3.28*	1.946E+00	1.554E+01	1.554E+01	318.34
AC-228	835.50	------	1.75	7.084E-01	------	Line Not Found	------
	911.07	26	27.70*	6.638E-01	3.844E+00	3.849E+00	181.61
TH-228	238.63	152	44.60*	1.733E+00	5.287E+00	5.308E+00	62.56
	240.98	127	3.95	1.720E+00	5.003E+01	5.022E+01	83.97
TH-232	583.14	10	30.25	9.260E-01	9.891E-01	9.891E-01	664.24
	911.07	26	27.70*	6.638E-01	3.844E+00	3.844E+00	181.61
	969.11	------	16.60	6.342E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	2.023E+00	------	Line Not Found	------

163.35	------	4.70	2.011E+00	------	Line Not Found	------
185.71	37	54.00	1.946E+00	9.439E-01	9.439E-01	318.34
205.31	------	4.70	1.871E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28597-5

Acquisition date : 13-MAY-2006 08:53:21

Total number of lines in spectrum	21	
Number of unidentified lines	16	
Number of lines tentatively identified by NID	5	23.81%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	1.554E+01	1.554E+01	4.947E+01	318.34	
AC-228	5.75Y	1.00	3.844E+00	3.849E+00	6.990E+00	181.61	
TH-228	1.91Y	1.00	5.287E+00	5.308E+00	3.321E+00	62.56	
TH-232	1.41E+10Y	1.00	3.844E+00	3.844E+00	6.981E+00	181.61	
U-235	7.04E+08Y	1.00	9.439E-01	9.439E-01	30.05E-01	318.34	K
	Total Activity :		2.946E+01	2.948E+01			

Grand Total Activity : 2.946E+01 2.948E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28597-5

Acquisition date : 13-MAY-2006 08:53:21

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	63.34	46	892	1.09	126.63	122	15	1.61E-03	****	6.22E-01	
3	65.25	86	866	1.10	130.46	122	15	2.98E-03	****	6.87E-01	
3	66.75	138	725	0.98	133.45	122	15	4.78E-03	68.8	7.39E-01	
1	77.26	81	1005	0.88	154.46	153	8	2.82E-03	****	1.09E+00	
1	87.44	43	556	0.99	174.80	173	5	1.49E-03	****	1.39E+00	
1	139.78	321	1184	1.71	279.40	274	11	1.11E-02	44.2	2.02E+00	
1	198.43	354	1006	2.14	396.61	390	11	1.23E-02	36.7	1.90E+00	
1	295.18	259	478	1.03	589.97	585	9	8.99E-03	35.4	1.52E+00	
1	351.96	418	289	1.21	703.48	700	8	1.45E-02	19.3	1.34E+00	
1	595.98	127	201	1.44	1191.32	1187	9	4.41E-03	44.1	9.11E-01	
1	609.54	368	265	1.40	1218.44	1213	11	1.28E-02	22.1	8.96E-01	
1	768.75	60	127	1.76	1536.82	1533	9	2.07E-03	73.8	7.54E-01	
1	1120.82	124	66	2.44	2241.07	2237	14	4.30E-03	38.7	5.69E-01	
1	1238.70	78	94	4.53	2476.95	2469	17	2.72E-03	65.3	5.29E-01	
1	1378.75	34	59	2.19	2757.21	2750	12	1.18E-03	****	4.89E-01	
1	1765.24	47	72	1.75	3530.90	3521	18	1.64E-03	98.6	4.11E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	21	
Number of unidentified lines	16	
Number of lines tentatively identified by NID	5	23.81%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	1.554E+01	1.554E+01	4.947E+01	318.34	
AC-228	5.75Y	1.00	2.855E+00	2.858E+00	9.598E+00	335.81	
TH-228	1.91Y	1.00	5.563E+00	5.585E+00	3.310E+00	59.27	
TH-232	1.41E+10Y	1.00	9.891E-01	9.891E-01	65.70E-01	664.24	
	Total Activity :		2.495E+01	2.497E+01			

Grand Total Activity : 2.495E+01 2.497E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	1.554E+01	4.947E+01	7.032E+01	0.000E+00	0.221
AC-228	2.858E+00	9.598E+00	1.091E+01	0.000E+00	0.262
TH-228	5.585E+00	3.310E+00	5.051E+00	0.000E+00	1.106
TH-232	9.891E-01	6.570E+00	1.269E+01	0.000E+00	0.078

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.898E+01		1.608E+01	2.522E+01	0.000E+00	-0.753
NA-24	2.806E+01		1.681E+02	2.359E+02	0.000E+00	0.119
K-40	1.513E+01		2.737E+01	5.289E+01	0.000E+00	0.286
CR-51	-7.319E+00		1.663E+01	2.674E+01	0.000E+00	-0.274
MN-54	1.061E+00		1.935E+00	3.254E+00	0.000E+00	0.326
CO-57	7.252E-01		1.635E+00	2.750E+00	0.000E+00	0.264
CO-58	-7.718E-01		1.856E+00	3.012E+00	0.000E+00	-0.256
FE-59	2.613E+00		3.713E+00	6.309E+00	0.000E+00	0.414
CO-60	-2.532E-01		1.934E+00	3.172E+00	0.000E+00	-0.080
ZN-65	7.664E+00		4.902E+00	7.473E+00	0.000E+00	1.025
SE-75	-1.803E+00		2.367E+00	3.834E+00	0.000E+00	-0.470
SR-85	1.850E+01		2.339E+00	4.481E+00	0.000E+00	4.128
Y-88	-2.021E+00		2.256E+00	3.476E+00	0.000E+00	-0.581
NB-94	-9.184E-01		1.832E+00	2.926E+00	0.000E+00	-0.314
NB-95	3.436E+00		1.888E+00	3.341E+00	0.000E+00	1.028
ZR-95	-2.268E+00		3.210E+00	5.180E+00	0.000E+00	-0.438
MO-99	1.996E+01		3.612E+01	6.136E+01	0.000E+00	0.325
RU-103	5.235E-01		1.967E+00	3.227E+00	0.000E+00	0.162
RU-106	-4.586E+00		1.733E+01	2.823E+01	0.000E+00	-0.162
AG-110m	1.906E-01		1.838E+00	3.020E+00	0.000E+00	0.063
SN-113	1.343E+00		2.320E+00	3.906E+00	0.000E+00	0.344
SB-124	-2.121E+00		4.463E+00	3.095E+00	0.000E+00	-0.685
SB-125	-1.402E+00		5.079E+00	8.288E+00	0.000E+00	-0.169
TE-129M	8.441E+00		2.229E+01	3.691E+01	0.000E+00	0.229
I-131	3.065E-01		2.487E+00	4.158E+00	0.000E+00	0.074
BA-133	6.149E+00		2.897E+00	4.447E+00	0.000E+00	1.383
CS-134	3.049E+00		3.012E+00	3.512E+00	0.000E+00	0.868
CS-136	-2.660E-01		2.157E+00	3.540E+00	0.000E+00	-0.075
CS-137	1.643E+00		2.032E+00	3.424E+00	0.000E+00	0.480
CE-139	8.608E-01		1.738E+00	2.874E+00	0.000E+00	0.300
BA-140	1.568E+00		7.730E+00	1.295E+01	0.000E+00	0.121
LA-140	1.966E+00		2.667E+00	4.603E+00	0.000E+00	0.427
CE-141	2.980E+00		3.620E+00	5.253E+00	0.000E+00	0.567
CE-144	-6.211E+00		1.515E+01	2.140E+01	0.000E+00	-0.290
EU-152	-6.211E+00		6.323E+00	8.990E+00	0.000E+00	-0.691
EU-154	-5.008E-01		3.457E+00	5.750E+00	0.000E+00	-0.087
U-235	1.140E+01		1.578E+01	2.254E+01	0.000E+00	0.506
U-238	4.454E+01		2.248E+02	3.611E+02	0.000E+00	0.123
AM-241	2.328E+01		1.642E+01	2.458E+01	0.000E+00	0.947

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A,13L28597-5       ,05/14/2006 17:52,05/09/2006 15:10,   3.497E+00,WG L28597-5 EX
B,13L28597-5       ,LIBD                ,08/05/2005 08:16,1335L090904
C,RA-226   ,YES,    1.554E+01,    4.947E+01,    7.032E+01,,     0.221
C,AC-228   ,YES,    2.858E+00,    9.598E+00,    1.091E+01,,     0.262
C,TH-228   ,YES,    5.585E+00,    3.310E+00,    5.051E+00,,     1.106
C,TH-232   ,YES,    9.891E-01,    6.570E+00,    1.269E+01,,     0.078
C,BE-7     ,NO ,   -1.898E+01,    1.608E+01,    2.522E+01,,    -0.753
C,NA-24    ,NO ,    2.806E+01,    1.681E+02,    2.359E+02,,     0.119
C,K-40     ,NO ,    1.513E+01,    2.737E+01,    5.289E+01,,     0.286
C,CR-51    ,NO ,   -7.319E+00,    1.663E+01,    2.674E+01,,    -0.274
C,MN-54    ,NO ,    1.061E+00,    1.935E+00,    3.254E+00,,     0.326
C,CO-57    ,NO ,    7.252E-01,    1.635E+00,    2.750E+00,,     0.264
C,CO-58    ,NO ,   -7.718E-01,    1.856E+00,    3.012E+00,,    -0.256
C,FE-59    ,NO ,    2.613E+00,    3.713E+00,    6.309E+00,,     0.414
C,CO-60    ,NO ,   -2.532E-01,    1.934E+00,    3.172E+00,,    -0.080
C,ZN-65    ,NO ,    7.664E+00,    4.902E+00,    7.473E+00,,     1.025
C,SE-75    ,NO ,   -1.803E+00,    2.367E+00,    3.834E+00,,    -0.470
C,SR-85    ,NO ,    1.850E+01,    2.339E+00,    4.481E+00,,     4.128
C,Y-88     ,NO ,   -2.021E+00,    2.256E+00,    3.476E+00,,    -0.581
C,NB-94    ,NO ,   -9.184E-01,    1.832E+00,    2.926E+00,,    -0.314
C,NB-95    ,NO ,    3.436E+00,    1.888E+00,    3.341E+00,,     1.028
C,ZR-95    ,NO ,   -2.268E+00,    3.210E+00,    5.180E+00,,    -0.438
C,MO-99    ,NO ,    1.996E+01,    3.612E+01,    6.136E+01,,     0.325
C,RU-103   ,NO ,    5.235E-01,    1.967E+00,    3.227E+00,,     0.162
C,RU-106   ,NO ,   -4.586E+00,    1.733E+01,    2.823E+01,,    -0.162
C,AG-110m  ,NO ,    1.906E-01,    1.838E+00,    3.020E+00,,     0.063
C,SN-113   ,NO ,    1.343E+00,    2.320E+00,    3.906E+00,,     0.344
C,SB-124   ,NO ,   -2.121E+00,    4.463E+00,    3.095E+00,,    -0.685
C,SB-125   ,NO ,   -1.402E+00,    5.079E+00,    8.288E+00,,    -0.169
C,TE-129M  ,NO ,    8.441E+00,    2.229E+01,    3.691E+01,,     0.229
C,I-131    ,NO ,    3.065E-01,    2.487E+00,    4.158E+00,,     0.074
C,BA-133   ,NO ,    6.149E+00,    2.897E+00,    4.447E+00,,     1.383
C,CS-134   ,NO ,    3.049E+00,    3.012E+00,    3.512E+00,,     0.868
C,CS-136   ,NO ,   -2.660E-01,    2.157E+00,    3.540E+00,,    -0.075
C,CS-137   ,NO ,    1.643E+00,    2.032E+00,    3.424E+00,,     0.480
C,CE-139   ,NO ,    8.608E-01,    1.738E+00,    2.874E+00,,     0.300
C,BA-140   ,NO ,    1.568E+00,    7.730E+00,    1.295E+01,,     0.121
C,LA-140   ,NO ,    1.966E+00,    2.667E+00,    4.603E+00,,     0.427
C,CE-141   ,NO ,    2.980E+00,    3.620E+00,    5.253E+00,,     0.567
C,CE-144   ,NO ,   -6.211E+00,    1.515E+01,    2.140E+01,,    -0.290
C,EU-152   ,NO ,   -6.211E+00,    6.323E+00,    8.990E+00,,    -0.691
C,EU-154   ,NO ,   -5.008E-01,    3.457E+00,    5.750E+00,,    -0.087
C,U-235    ,NO ,    1.140E+01,    1.578E+01,    2.254E+01,,     0.506
C,U-238    ,NO ,    4.454E+01,    2.248E+02,    3.611E+02,,     0.123
C,AM-241   ,NO ,    2.328E+01,    1.642E+01,    2.458E+01,,     0.947
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Sec. Review: KES Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:53:05.78
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:53:33.43

LIMS No., Customer Name, Client ID: WG L28597-6 EX BRAID

Sample ID : 14L28597-6
Sample Type : WG
Quantity : 3.64100E+00 L
Start Channel : 90 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 09:30:00.
Geometry : 1435L091304
BKGFILE : 14BG050506MT
Real Time : 0 08:00:05.06
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.16*	310	1084	1.64	133.44	4.48E-01	1.07E-02	20.7	6.83E-01
2	1	92.52*	112	1160	1.88	186.37	1.15E+00	3.89E-03	63.0	2.39E+00
3	1	139.94	346	1254	1.97	281.54	1.67E+00	1.20E-02	21.2	1.89E+00
4	1	185.73*	109	870	1.93	373.42	1.64E+00	3.77E-03	55.0	1.04E+00
5	1	198.66*	539	1095	4.04	399.35	1.60E+00	1.87E-02	13.9	4.29E+00
6	1	238.74*	90	626	1.41	479.72	1.47E+00	3.12E-03	54.7	7.23E-01
7	1	242.01	183	568	1.40	486.28	1.46E+00	6.36E-03	23.7	
8	1	295.40*	368	677	1.59	593.29	1.29E+00	1.28E-02	16.1	8.55E-01
9	1	352.08*	545	506	1.50	706.87	1.14E+00	1.89E-02	9.9	1.89E+00
10	1	582.79*	159	335	5.82	1168.56	7.92E-01	5.51E-03	31.0	2.26E+00
11	1	596.06	143	312	2.74	1195.09	7.79E-01	4.97E-03	28.0	1.16E+00
12	1	609.49*	506	284	1.61	1221.92	7.66E-01	1.76E-02	9.2	3.64E+00
13	1	768.70	50	216	1.90	1539.94	6.43E-01	1.74E-03	68.2	1.01E+00
14	1	968.85*	15	81	1.91	1939.14	5.38E-01	5.19E-04	123.3	3.47E+00
15	1	1120.13*	142	83	2.83	2240.42	4.81E-01	4.93E-03	18.1	1.59E+00
16	1	1461.73*	13	89	2.48	2919.36	3.93E-01	4.55E-04	225.0	1.23E+00
17	1	1766.67*	57	66	2.07	3523.81	3.43E-01	1.99E-03	37.6	6.18E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	13	10.67*	3.926E-01	8.061E+00	8.061E+00	450.03
RA-226	186.21	109	3.28*	1.641E+00	5.204E+01	5.204E+01	110.03
TH-228	238.63	90	44.60*	1.468E+00	3.542E+00	3.553E+00	109.34
	240.98	183	3.95	1.457E+00	8.198E+01	8.223E+01	47.44
TH-232	583.14	159	30.25	7.917E-01	1.709E+01	1.709E+01	62.06
	911.07	------	27.70*	5.646E-01	------ Line Not Found		------
	969.11	15	16.60	5.384E-01	4.310E+00	4.310E+00	246.58
U-235	143.76	------	10.50*	1.680E+00	------ Line Not Found		------
	163.35	------	4.70	1.685E+00	------ Line Not Found		------
	185.71	109	54.00	1.641E+00	3.161E+00	3.161E+00	110.03
	205.31	------	4.70	1.582E+00	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L28597-6 Acquisition date : 13-MAY-2006 08:53:33

Total number of lines in spectrum	17	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	6	35.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.061E+00	8.061E+00	36.28E+00	450.03	
RA-226	1600.00Y	1.00	5.204E+01	5.204E+01	5.726E+01	110.03	
TH-228	1.91Y	1.00	3.542E+00	3.553E+00	3.885E+00	109.34	
TH-232	1.41E+10Y	1.00	1.709E+01	1.709E+01	1.060E+01	62.06	K
U-235	7.04E+08Y	1.00	3.161E+00	3.161E+00	3.478E+00	110.03	K
			---------	---------			
	Total Activity :		8.389E+01	8.391E+01			
	Grand Total Activity :		8.389E+01	8.391E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 14L28597-6

Acquisition date : 13-MAY-2006 08:53:33

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.16	310	1084	1.64	133.44	129	9	1.07E-02	41.4	4.48E-01	
1	92.52	112	1160	1.88	186.37	181	11	3.89E-03	****	1.15E+00	
1	139.94	346	1254	1.97	281.54	275	12	1.20E-02	42.3	1.67E+00	
1	198.66	539	1095	4.04	399.35	393	14	1.87E-02	27.8	1.60E+00	
1	295.40	368	677	1.59	593.29	588	13	1.28E-02	32.2	1.29E+00	
1	352.08	545	506	1.50	706.87	701	12	1.89E-02	19.8	1.14E+00	
1	596.06	143	312	2.74	1195.09	1188	15	4.97E-03	56.1	7.79E-01	
1	609.49	506	284	1.61	1221.92	1215	15	1.76E-02	18.5	7.66E-01	
1	768.70	50	216	1.90	1539.94	1533	16	1.74E-03	****	6.43E-01	
1	1120.13	142	83	2.83	2240.42	2232	16	4.93E-03	36.3	4.81E-01	
1	1766.67	57	66	2.07	3523.81	3518	16	1.99E-03	75.2	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	17	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	6	35.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.061E+00	8.061E+00	36.28E+00	450.03	
RA-226	1600.00Y	1.00	5.204E+01	5.204E+01	5.726E+01	110.03	
TH-228	1.91Y	1.00	3.542E+00	3.553E+00	3.885E+00	109.34	
TH-232	1.41E+10Y	1.00	1.071E+01	1.071E+01	0.751E+01	70.06	
	Total Activity :		7.436E+01	7.437E+01			

Grand Total Activity : 7.436E+01 7.437E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	8.061E+00	3.628E+01	3.473E+01	0.000E+00	0.232
RA-226	5.204E+01	5.726E+01	8.603E+01	0.000E+00	0.605
TH-228	3.553E+00	3.885E+00	6.480E+00	0.000E+00	0.548
TH-232	1.071E+01	7.507E+00	1.340E+01	0.000E+00	0.800

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	8.095E+00		1.822E+01	3.062E+01	0.000E+00	0.264
NA-24	-7.572E+01		7.766E+01	1.198E+02	0.000E+00	-0.632
CR-51	-4.874E+00		1.977E+01	3.237E+01	0.000E+00	-0.151
MN-54	6.308E-01		2.132E+00	3.552E+00	0.000E+00	0.178
CO-57	2.274E-01		2.253E+00	3.746E+00	0.000E+00	0.061
CO-58	-1.113E-01		2.141E+00	3.524E+00	0.000E+00	-0.032
FE-59	3.030E+00		4.218E+00	7.203E+00	0.000E+00	0.421
CO-60	4.332E-01		2.252E+00	3.718E+00	0.000E+00	0.117
ZN-65	1.049E+01		5.787E+00	8.944E+00	0.000E+00	1.173
SE-75	-1.934E+00		2.949E+00	4.829E+00	0.000E+00	-0.401
SR-85	1.797E+01		2.523E+00	4.829E+00	0.000E+00	3.721
Y-88	-6.008E-01		2.263E+00	3.618E+00	0.000E+00	-0.166
NB-94	3.395E-01		2.047E+00	3.345E+00	0.000E+00	0.101
NB-95	1.765E+00		2.543E+00	3.684E+00	0.000E+00	0.479
ZR-95	-1.820E+00		4.003E+00	5.953E+00	0.000E+00	-0.306
MO-99	3.245E+01		3.309E+01	5.695E+01	0.000E+00	0.570
RU-103	4.175E-01		2.261E+00	3.763E+00	0.000E+00	0.111
RU-106	2.227E+01		2.074E+01	3.341E+01	0.000E+00	0.666
AG-110m	-2.734E-02		2.119E+00	3.453E+00	0.000E+00	-0.008
SN-113	-1.184E+00		2.919E+00	4.709E+00	0.000E+00	-0.251
SB-124	-9.891E-01		5.250E+00	3.561E+00	0.000E+00	-0.278
SB-125	-1.481E+00		6.341E+00	1.023E+01	0.000E+00	-0.145
TE-129M	1.235E+01		2.516E+01	4.239E+01	0.000E+00	0.291
I-131	-9.128E-01		2.831E+00	4.594E+00	0.000E+00	-0.199
BA-133	2.231E+01		3.820E+00	6.305E+00	0.000E+00	3.538
CS-134	1.431E+01		5.310E+00	4.833E+00	0.000E+00	2.962
CS-136	-7.380E-01		2.411E+00	3.925E+00	0.000E+00	-0.188
CS-137	3.840E+00		2.315E+00	4.001E+00	0.000E+00	0.960
CE-139	-5.522E-01		2.228E+00	3.643E+00	0.000E+00	-0.152
BA-140	-2.730E+00		8.629E+00	1.407E+01	0.000E+00	-0.194
LA-140	5.305E-02		2.784E+00	4.588E+00	0.000E+00	0.012
CE-141	1.810E+00		4.573E+00	6.474E+00	0.000E+00	0.279
CE-144	-6.569E+00		2.031E+01	2.834E+01	0.000E+00	-0.232
EU-152	-7.798E+00		8.209E+00	1.098E+01	0.000E+00	-0.710
EU-154	5.716E-01		4.737E+00	7.875E+00	0.000E+00	0.073
AC-228	2.190E+00		8.140E+00	1.341E+01	0.000E+00	0.163
U-235	3.059E+01		2.000E+01	2.913E+01	0.000E+00	1.050
U-238	1.413E+02		2.243E+02	3.764E+02	0.000E+00	0.376
AM-241	-3.154E+01		3.584E+01	4.890E+01	0.000E+00	-0.645

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A,14L28597-6       ,05/14/2006 17:53,05/10/2006 09:30,   3.641E+00,WG L28597-6 EX
B,14L28597-6       ,LIBD                ,06/22/2005 08:57,1435L091304
C,K-40     ,YES,    8.061E+00,   3.628E+01,   3.473E+01,,     0.232
C,RA-226   ,YES,    5.204E+01,   5.726E+01,   8.603E+01,,     0.605
C,TH-228   ,YES,    3.553E+00,   3.885E+00,   6.480E+00,,     0.548
C,TH-232   ,YES,    1.071E+01,   7.507E+00,   1.340E+01,,     0.800
C,BE-7     ,NO ,    8.095E+00,   1.822E+01,   3.062E+01,,     0.264
C,NA-24    ,NO ,   -7.572E+01,   7.766E+01,   1.198E+02,,    -0.632
C,CR-51    ,NO ,   -4.874E+00,   1.977E+01,   3.237E+01,,    -0.151
C,MN-54    ,NO ,    6.308E-01,   2.132E+00,   3.552E+00,,     0.178
C,CO-57    ,NO ,    2.274E-01,   2.253E+00,   3.746E+00,,     0.061
C,CO-58    ,NO ,   -1.113E-01,   2.141E+00,   3.524E+00,,    -0.032
C,FE-59    ,NO ,    3.030E+00,   4.218E+00,   7.203E+00,,     0.421
C,CO-60    ,NO ,    4.332E-01,   2.252E+00,   3.718E+00,,     0.117
C,ZN-65    ,NO ,    1.049E+01,   5.787E+00,   8.944E+00,,     1.173
C,SE-75    ,NO ,   -1.934E+00,   2.949E+00,   4.829E+00,,    -0.401
C,SR-85    ,NO ,    1.797E+01,   2.523E+00,   4.829E+00,,     3.721
C,Y-88     ,NO ,   -6.008E-01,   2.263E+00,   3.618E+00,,    -0.166
C,NB-94    ,NO ,    3.395E-01,   2.047E+00,   3.345E+00,,     0.101
C,NB-95    ,NO ,    1.765E+00,   2.543E+00,   3.684E+00,,     0.479
C,ZR-95    ,NO ,   -1.820E+00,   4.003E+00,   5.953E+00,,    -0.306
C,MO-99    ,NO ,    3.245E+01,   3.309E+01,   5.695E+01,,     0.570
C,RU-103   ,NO ,    4.175E-01,   2.261E+00,   3.763E+00,,     0.111
C,RU-106   ,NO ,    2.227E+01,   2.074E+01,   3.341E+01,,     0.666
C,AG-110m  ,NO ,   -2.734E-02,   2.119E+00,   3.453E+00,,    -0.008
C,SN-113   ,NO ,   -1.184E+00,   2.919E+00,   4.709E+00,,    -0.251
C,SB-124   ,NO ,   -9.891E-01,   5.250E+00,   3.561E+00,,    -0.278
C,SB-125   ,NO ,   -1.481E+00,   6.341E+00,   1.023E+01,,    -0.145
C,TE-129M  ,NO ,    1.235E+01,   2.516E+01,   4.239E+01,,     0.291
C,I-131    ,NO ,   -9.128E-01,   2.831E+00,   4.594E+00,,    -0.199
C,BA-133   ,NO ,    2.231E+01,   3.820E+00,   6.305E+00,,     3.538
C,CS-134   ,NO ,    1.431E+01,   5.310E+00,   4.833E+00,,     2.962
C,CS-136   ,NO ,   -7.380E-01,   2.411E+00,   3.925E+00,,    -0.188
C,CS-137   ,NO ,    3.840E+00,   2.315E+00,   4.001E+00,,     0.960
C,CE-139   ,NO ,   -5.522E-01,   2.228E+00,   3.643E+00,,    -0.152
C,BA-140   ,NO ,   -2.730E+00,   8.629E+00,   1.407E+01,,    -0.194
C,LA-140   ,NO ,    5.305E-02,   2.784E+00,   4.588E+00,,     0.012
C,CE-141   ,NO ,    1.810E+00,   4.573E+00,   6.474E+00,,     0.279
C,CE-144   ,NO ,   -6.569E+00,   2.031E+01,   2.834E+01,,    -0.232
C,EU-152   ,NO ,   -7.798E+00,   8.209E+00,   1.098E+01,,    -0.710
C,EU-154   ,NO ,    5.716E-01,   4.737E+00,   7.875E+00,,     0.073
C,AC-228   ,NO ,    2.190E+00,   8.140E+00,   1.341E+01,,     0.163
C,U-235    ,NO ,    3.059E+01,   2.000E+01,   2.913E+01,,     1.050
C,U-238    ,NO ,    1.413E+02,   2.243E+02,   3.764E+02,,     0.376
C,AM-241   ,NO ,   -3.154E+01,   3.584E+01,   4.890E+01,,    -0.645
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Sec. Review: KD Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 02:56:32.90
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 14-MAY-2006 18:56:15.42

LIMS No., Customer Name, Client ID: WG L28597-12 EX BRAID

Sample ID : 14L28597-12			Smple Date: 10-MAY-2006 09:25:00.
Sample Type : WG			Geometry : 1435L091304
Quantity : 3.73820E+00 L			BKGFILE : 14BG050506MT
Start Channel : 90	Energy Tol : 1.30000		Real Time : 0 08:00:04.68
End Channel : 4090	Pk Srch Sens: 5.00000		Live time : 0 08:00:00.00
MDA Constant : 0.00	Library Used: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.06*	284	1145	1.54	133.25	4.45E-01	9.87E-03	23.6	2.71E+00
2	1	92.38*	75	995	1.61	186.08	1.14E+00	2.62E-03	85.0	8.20E-01
3	1	139.96	285	907	1.67	281.59	1.67E+00	9.91E-03	20.5	4.22E+00
4	1	185.96*	89	1110	2.60	373.87	1.64E+00	3.08E-03	81.2	2.79E+00
5	1	198.37*	198	908	1.53	398.76	1.60E+00	6.87E-03	31.4	1.28E+00
6	1	353.07*	184	645	6.23	708.85	1.14E+00	6.38E-03	37.7	4.33E+00
7	1	583.20*	7	192	1.81	1169.38	7.91E-01	2.29E-04	462.3	1.38E+00
8	1	596.11	113	231	1.49	1195.19	7.78E-01	3.92E-03	27.5	1.99E+00
9	1	609.13*	111	270	1.70	1221.22	7.66E-01	3.86E-03	37.1	1.09E+00
10	1	911.91*	9	148	1.65	1825.65	5.64E-01	2.99E-04	340.4	1.60E+00
11	1	1154.84	43	79	2.36	2309.51	4.70E-01	1.49E-03	43.8	3.04E+00
12	1	1461.52*	17	55	2.09	2918.94	3.93E-01	5.75E-04	147.8	1.14E+00
13	1	1766.79*	5	42	2.49	3524.05	3.43E-01	1.80E-04	312.4	3.13E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	17	10.67*	3.926E-01	9.918E+00	9.918E+00	295.58
RA-226	186.21	89	3.28*	1.640E+00	4.136E+01	4.136E+01	162.47
AC-228	835.50	------	1.75	6.034E-01	------	Line Not Found	------
	911.07	9	27.70*	5.642E-01	1.383E+00	1.385E+00	680.77
TH-232	583.14	7	30.25	7.913E-01	6.911E-01	6.911E-01	924.59
	911.07	9	27.70*	5.642E-01	1.383E+00	1.383E+00	680.77
	969.11	------	16.60	5.383E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	1.680E+00	------	Line Not Found	------
	163.35	------	4.70	1.685E+00	------	Line Not Found	------
	185.71	89	54.00	1.640E+00	2.512E+00	2.512E+00	162.47
	205.31	------	4.70	1.582E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L28597-12

Acquisition date : 14-MAY-2006 18:56:15

Total number of lines in spectrum	13	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	4	30.77%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	9.918E+00	9.918E+00	29.32E+00	295.58	
RA-226	1600.00Y	1.00	4.136E+01	4.136E+01	6.720E+01	162.47	
AC-228	5.75Y	1.00	1.383E+00	1.385E+00	9.427E+00	680.77	
TH-232	1.41E+10Y	1.00	1.383E+00	1.383E+00	9.413E+00	680.77	
U-235	7.04E+08Y	1.00	2.512E+00	2.512E+00	4.082E+00	162.47	K
	Total Activity :		5.656E+01	5.656E+01			
	Grand Total Activity :		5.656E+01	5.656E+01			

Flags: "K" = Keyline not found
"M" = Manually accepted
"E" = Manually edited
"A" = Nuclide specific abn. limit

Unidentified Energy Lines Page : 3
Sample ID : 14L28597-12 Acquisition date : 14-MAY-2006 18:56:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.06	284	1145	1.54	133.25	128	10	9.87E-03	47.3	4.45E-01	
1	92.38	75	995	1.61	186.08	181	10	2.62E-03	****	1.14E+00	
1	139.96	285	907	1.67	281.59	276	10	9.91E-03	41.0	1.67E+00	
1	198.37	198	908	1.53	398.76	393	11	6.87E-03	62.7	1.60E+00	
1	353.07	184	645	6.23	708.85	699	22	6.38E-03	75.3	1.14E+00	
1	596.11	113	231	1.49	1195.19	1189	11	3.92E-03	55.0	7.78E-01	
1	609.13	111	270	1.70	1221.22	1215	15	3.86E-03	74.1	7.66E-01	
1	1154.84	43	79	2.36	2309.51	2303	12	1.49E-03	87.6	4.70E-01	
1	1766.79	5	42	2.49	3524.05	3518	12	1.80E-04	****	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	13	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	4	30.77%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	9.918E+00	9.918E+00	29.32E+00	295.58	
RA-226	1600.00Y	1.00	4.136E+01	4.136E+01	6.720E+01	162.47	
AC-228	5.75Y	1.00	6.916E-01	6.926E-01	113.9E-01	1645.08	
TH-232	1.41E+10Y	1.00	6.911E-01	6.911E-01	63.90E-01	924.59	
	Total Activity :		5.266E+01	5.266E+01			
	Grand Total Activity :		5.266E+01	5.266E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	9.918E+00	2.932E+01	3.293E+01	0.000E+00	0.301
RA-226	4.136E+01	6.720E+01	8.066E+01	0.000E+00	0.513
AC-228	6.926E-01	1.139E+01	1.149E+01	0.000E+00	0.060
TH-232	6.911E-01	6.390E+00	1.326E+01	0.000E+00	0.052

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	2.281E+01		1.758E+01	3.029E+01	0.000E+00	0.753
NA-24	-1.032E+02		3.212E+02	5.134E+02	0.000E+00	-0.201
CR-51	-1.472E+01		1.907E+01	3.081E+01	0.000E+00	-0.478
MN-54	9.637E-01		2.009E+00	3.373E+00	0.000E+00	0.286
CO-57	-1.557E+00		2.069E+00	3.387E+00	0.000E+00	-0.460
CO-58	1.080E+00		1.996E+00	3.368E+00	0.000E+00	0.321
FE-59	-1.300E+00		3.901E+00	6.349E+00	0.000E+00	-0.205
CO-60	2.851E-01		1.973E+00	3.252E+00	0.000E+00	0.088
ZN-65	5.609E+00		4.343E+00	7.599E+00	0.000E+00	0.738
SE-75	-5.979E-01		2.799E+00	4.627E+00	0.000E+00	-0.129
SR-85	1.432E+01		2.314E+00	4.394E+00	0.000E+00	3.260
Y-88	-5.714E-01		2.109E+00	3.366E+00	0.000E+00	-0.170
NB-94	9.948E-01		1.989E+00	3.292E+00	0.000E+00	0.302
NB-95	4.391E-01		1.959E+00	3.273E+00	0.000E+00	0.134
ZR-95	-2.399E-01		3.448E+00	5.695E+00	0.000E+00	-0.042
MO-99	5.836E-01		4.560E+01	7.567E+01	0.000E+00	0.008
RU-103	3.194E+00		2.226E+00	3.840E+00	0.000E+00	0.832
RU-106	-3.537E+00		1.970E+01	3.011E+01	0.000E+00	-0.117
AG-110m	1.429E+00		1.979E+00	3.316E+00	0.000E+00	0.431
SN-113	-1.157E+00		2.706E+00	4.360E+00	0.000E+00	-0.265
SB-124	-1.420E+00		4.974E+00	3.320E+00	0.000E+00	-0.428
SB-125	6.917E+00		5.895E+00	9.915E+00	0.000E+00	0.698
TE-129M	2.124E+01		2.372E+01	4.048E+01	0.000E+00	0.525
I-131	7.160E-01		3.504E+00	5.031E+00	0.000E+00	0.142
BA-133	5.221E+00		3.399E+00	4.982E+00	0.000E+00	1.048
CS-134	3.891E+00		4.045E+00	3.721E+00	0.000E+00	1.046
CS-136	-1.733E+00		2.421E+00	3.868E+00	0.000E+00	-0.448
CS-137	1.383E-01		2.186E+00	3.570E+00	0.000E+00	0.039
CE-139	4.093E-01		2.052E+00	3.382E+00	0.000E+00	0.121
BA-140	-1.136E-01		8.654E+00	1.426E+01	0.000E+00	-0.008
LA-140	9.529E-01		2.789E+00	4.692E+00	0.000E+00	0.203
CE-141	3.423E-01		4.329E+00	6.081E+00	0.000E+00	0.056
CE-144	-5.896E+00		1.876E+01	2.618E+01	0.000E+00	-0.225
EU-152	-6.880E+00		7.736E+00	1.036E+01	0.000E+00	-0.664
EU-154	-3.806E+00		4.328E+00	7.070E+00	0.000E+00	-0.538
TH-228	2.901E+00		4.061E+00	6.606E+00	0.000E+00	0.439
U-235	3.249E+00		1.849E+01	2.605E+01	0.000E+00	0.125
U-238	-7.848E+01		2.238E+02	3.582E+02	0.000E+00	-0.219
AM-241	1.290E+01		3.288E+01	4.638E+01	0.000E+00	0.278

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A,14L28597-12     ,05/15/2006 02:56,05/10/2006 09:25,   3.738E+00,WG L28597-12 E
B,14L28597-12     ,LIBD                ,06/22/2005 08:57,1435L091304
C,K-40    ,YES,    9.918E+00,   2.932E+01,   3.293E+01,,    0.301
C,RA-226  ,YES,    4.136E+01,   6.720E+01,   8.066E+01,,    0.513
C,AC-228  ,YES,    6.926E-01,   1.139E+01,   1.149E+01,,    0.060
C,TH-232  ,YES,    6.911E-01,   6.390E+00,   1.326E+01,,    0.052
C,BE-7    ,NO ,    2.281E+01,   1.758E+01,   3.029E+01,,    0.753
C,NA-24   ,NO ,   -1.032E+02,   3.212E+02,   5.134E+02,,   -0.201
C,CR-51   ,NO ,   -1.472E+01,   1.907E+01,   3.081E+01,,   -0.478
C,MN-54   ,NO ,    9.637E-01,   2.009E+00,   3.373E+00,,    0.286
C,CO-57   ,NO ,   -1.557E+00,   2.069E+00,   3.387E+00,,   -0.460
C,CO-58   ,NO ,    1.080E+00,   1.996E+00,   3.368E+00,,    0.321
C,FE-59   ,NO ,   -1.300E+00,   3.901E+00,   6.349E+00,,   -0.205
C,CO-60   ,NO ,    2.851E-01,   1.973E+00,   3.252E+00,,    0.088
C,ZN-65   ,NO ,    5.609E+00,   4.343E+00,   7.599E+00,,    0.738
C,SE-75   ,NO ,   -5.979E-01,   2.799E+00,   4.627E+00,,   -0.129
C,SR-85   ,NO ,    1.432E+01,   2.314E+00,   4.394E+00,,    3.260
C,Y-88    ,NO ,   -5.714E-01,   2.109E+00,   3.366E+00,,   -0.170
C,NB-94   ,NO ,    9.948E-01,   1.989E+00,   3.292E+00,,    0.302
C,NB-95   ,NO ,    4.391E-01,   1.959E+00,   3.273E+00,,    0.134
C,ZR-95   ,NO ,   -2.399E-01,   3.448E+00,   5.695E+00,,   -0.042
C,MO-99   ,NO ,    5.836E-01,   4.560E+01,   7.567E+01,,    0.008
C,RU-103  ,NO ,    3.194E+00,   2.226E+00,   3.840E+00,,    0.832
C,RU-106  ,NO ,   -3.537E+00,   1.970E+01,   3.011E+01,,   -0.117
C,AG-110m ,NO ,    1.429E+00,   1.979E+00,   3.316E+00,,    0.431
C,SN-113  ,NO ,   -1.157E+00,   2.706E+00,   4.360E+00,,   -0.265
C,SB-124  ,NO ,   -1.420E+00,   4.974E+00,   3.320E+00,,   -0.428
C,SB-125  ,NO ,    6.917E+00,   5.895E+00,   9.915E+00,,    0.698
C,TE-129M ,NO ,    2.124E+01,   2.372E+01,   4.048E+01,,    0.525
C,I-131   ,NO ,    7.160E-01,   3.504E+00,   5.031E+00,,    0.142
C,BA-133  ,NO ,    5.221E+00,   3.399E+00,   4.982E+00,,    1.048
C,CS-134  ,NO ,    3.891E+00,   4.045E+00,   3.721E+00,,    1.046
C,CS-136  ,NO ,   -1.733E+00,   2.421E+00,   3.868E+00,,   -0.448
C,CS-137  ,NO ,    1.383E-01,   2.186E+00,   3.570E+00,,    0.039
C,CE-139  ,NO ,    4.093E-01,   2.052E+00,   3.382E+00,,    0.121
C,BA-140  ,NO ,   -1.136E-01,   8.654E+00,   1.426E+01,,   -0.008
C,LA-140  ,NO ,    9.529E-01,   2.789E+00,   4.692E+00,,    0.203
C,CE-141  ,NO ,    3.423E-01,   4.329E+00,   6.081E+00,,    0.056
C,CE-144  ,NO ,   -5.896E+00,   1.876E+01,   2.618E+01,,   -0.225
C,EU-152  ,NO ,   -6.880E+00,   7.736E+00,   1.036E+01,,   -0.664
C,EU-154  ,NO ,   -3.806E+00,   4.328E+00,   7.070E+00,,   -0.538
C,TH-228  ,NO ,    2.901E+00,   4.061E+00,   6.606E+00,,    0.439
C,U-235   ,NO ,    3.249E+00,   1.849E+01,   2.605E+01,,    0.125
C,U-238   ,NO ,   -7.848E+01,   2.238E+02,   3.582E+02,,   -0.219
C,AM-241  ,NO ,    1.290E+01,   3.288E+01,   4.638E+01,,    0.278
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:54:05.31
TBE15 P-10635B HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:53:43.16

LIMS No., Customer Name, Client ID: WG L28597-7 EX BRAID

Sample ID	: 15L28597-7			Smple Date	: 9-MAY-2006 10:55:00.0
Sample Type	: WG			Geometry	: 1535L090104
Quantity	: 3.59270E+00 L			BKGFILE	: 15BG050506MT
Start Channel	: 40	Energy Tol	: 1.70000	Real Time	: 0 08:00:03.10
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 08:00:00.00
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.97	183	1009	1.59	119.95	4.51E-01	6.35E-03	32.1	3.79E-01
2	1	93.39*	160	1234	2.15	173.10	1.08E+00	5.55E-03	47.7	1.55E+00
3	1	140.52	159	850	1.15	267.93	1.48E+00	5.53E-03	33.8	1.96E+00
4	1	198.94*	111	637	0.96	385.44	1.36E+00	3.85E-03	42.9	4.78E-01
5	5	242.49	128	622	1.60	473.04	1.21E+00	4.45E-03	37.4	3.10E+00
6	1	295.52*	227	446	1.70	579.69	1.05E+00	7.89E-03	20.1	3.32E+00
7	1	351.99*	377	331	1.50	693.26	9.16E-01	1.31E-02	11.4	5.25E+00
8	1	596.34	98	196	2.51	1184.52	5.97E-01	3.41E-03	30.3	1.43E+00
9	1	609.19*	336	229	1.76	1210.35	5.86E-01	1.17E-02	12.4	8.16E-01
10	1	1763.84*	68	42	2.81	3528.65	2.54E-01	2.35E-03	25.8	2.94E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L28597-7

Acquisition date : 13-MAY-2006 08:53:43

Total number of lines in spectrum	10	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	1	10.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28597-7

Acquisition date : 13-MAY-2006 08:53:43

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.97	183	1009	1.59	119.95	116	9	6.35E-03	64.3	4.51E-01	
1	93.39	160	1234	2.15	173.10	167	13	5.55E-03	95.5	1.08E+00	
1	140.52	159	850	1.15	267.93	263	9	5.53E-03	67.5	1.48E+00	
1	198.94	111	637	0.96	385.44	382	8	3.85E-03	85.9	1.36E+00	
5	242.49	128	622	1.60	473.04	463	15	4.45E-03	74.9	1.21E+00	T
1	295.52	227	446	1.70	579.69	575	11	7.89E-03	40.3	1.05E+00	
1	351.99	377	331	1.50	693.26	689	11	1.31E-02	22.8	9.16E-01	
1	596.34	98	196	2.51	1184.52	1180	12	3.41E-03	60.7	5.97E-01	
1	609.19	336	229	1.76	1210.35	1203	17	1.17E-02	24.8	5.86E-01	
1	1763.84	68	42	2.81	3528.65	3522	15	2.35E-03	51.6	2.54E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 10
Number of unidentified lines 9
Number of lines tentatively identified by NID 1 10.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	2.837E+00		2.065E+01	3.364E+01	0.000E+00	0.084
NA-24	-2.609E+02		2.352E+02	3.566E+02	0.000E+00	-0.732
K-40	-1.284E+01		3.359E+01	6.181E+01	0.000E+00	-0.208
CR-51	-4.643E+00		2.168E+01	3.566E+01	0.000E+00	-0.130
MN-54	3.829E-01		2.310E+00	3.861E+00	0.000E+00	0.099
CO-57	-5.862E-01		2.323E+00	3.779E+00	0.000E+00	-0.155
CO-58	-1.056E+00		2.515E+00	4.099E+00	0.000E+00	-0.258
FE-59	6.051E+00		5.124E+00	8.870E+00	0.000E+00	0.682
CO-60	1.962E-01		2.468E+00	4.084E+00	0.000E+00	0.048
ZN-65	7.756E+00		5.498E+00	9.613E+00	0.000E+00	0.807
SE-75	5.431E-01		3.021E+00	5.062E+00	0.000E+00	0.107
SR-85	1.632E+01		2.740E+00	5.272E+00	0.000E+00	3.096
Y-88	-5.221E-01		2.810E+00	4.552E+00	0.000E+00	-0.115
NB-94	2.742E+00		2.313E+00	3.970E+00	0.000E+00	0.691
NB-95	2.508E+00		2.347E+00	4.010E+00	0.000E+00	0.625
ZR-95	-1.881E+00		4.066E+00	6.447E+00	0.000E+00	-0.292
MO-99	-9.231E+00		4.816E+01	7.762E+01	0.000E+00	-0.119
RU-103	1.571E+00		2.452E+00	4.174E+00	0.000E+00	0.376

RU-106	3.435E+00	2.207E+01	3.547E+01	0.000E+00	0.097
AG-110m	1.716E+00	2.263E+00	3.835E+00	0.000E+00	0.448
SN-113	-1.445E+00	3.059E+00	4.931E+00	0.000E+00	-0.293
SB-124	-1.944E+00	5.383E+00	3.740E+00	0.000E+00	-0.520
SB-125	-3.995E+00	6.724E+00	1.073E+01	0.000E+00	-0.372
TE-129M	-1.741E+01	2.959E+01	4.703E+01	0.000E+00	-0.370
I-131	3.940E-01	3.309E+00	5.459E+00	0.000E+00	0.072
BA-133	1.430E+01	3.945E+00	6.312E+00	0.000E+00	2.266
CS-134	1.027E+01	4.819E+00	4.662E+00	0.000E+00	2.204
CS-136	-1.136E+00	2.790E+00	4.540E+00	0.000E+00	-0.250
CS-137	4.964E-01	2.566E+00	4.240E+00	0.000E+00	0.117
CE-139	1.252E+00	2.259E+00	3.760E+00	0.000E+00	0.333
BA-140	1.421E+00	9.942E+00	1.658E+01	0.000E+00	0.086
LA-140	3.298E+00	3.300E+00	5.866E+00	0.000E+00	0.562
CE-141	-6.537E-01	4.853E+00	6.741E+00	0.000E+00	-0.097
CE-144	-2.264E+00	1.993E+01	2.819E+01	0.000E+00	-0.080
EU-152	5.037E+00	8.320E+00	1.232E+01	0.000E+00	0.409
EU-154	-7.905E-01	4.838E+00	7.880E+00	0.000E+00	-0.100
RA-226	-5.793E+01	5.911E+01	9.304E+01	0.000E+00	-0.623
AC-228	-3.713E+00	9.526E+00	1.489E+01	0.000E+00	-0.249
TH-228	2.198E+00	5.299E+00	7.401E+00	0.000E+00	0.297
TH-232	-3.708E+00	9.513E+00	1.487E+01	0.000E+00	-0.249
U-235	8.807E+00	2.069E+01	2.922E+01	0.000E+00	0.301
U-238	9.869E+01	2.692E+02	4.500E+02	0.000E+00	0.219
AM-241	-3.576E+01	2.909E+01	4.414E+01	0.000E+00	-0.810

A,15L28597-7 ,05/14/2006 17:54,05/09/2006 10:55, 3.593E+00,WG L28597-7 EX
B,15L28597-7 ,LIBD ,03/09/2005 13:29,1535L090104

C,BE-7	,NO ,	2.837E+00,	2.065E+01,	3.364E+01,,	0.084
C,NA-24	,NO ,	-2.609E+02,	2.352E+02,	3.566E+02,,	-0.732
C,K-40	,NO ,	-1.284E+01,	3.359E+01,	6.181E+01,,	-0.208
C,CR-51	,NO ,	-4.643E+00,	2.168E+01,	3.566E+01,,	-0.130
C,MN-54	,NO ,	3.829E-01,	2.310E+00,	3.861E+00,,	0.099
C,CO-57	,NO ,	-5.862E-01,	2.323E+00,	3.779E+00,,	-0.155
C,CO-58	,NO ,	-1.056E+00,	2.515E+00,	4.099E+00,,	-0.258
C,FE-59	,NO ,	6.051E+00,	5.124E+00,	8.870E+00,,	0.682
C,CO-60	,NO ,	1.962E-01,	2.468E+00,	4.084E+00,,	0.048
C,ZN-65	,NO ,	7.756E+00,	5.498E+00,	9.613E+00,,	0.807
C,SE-75	,NO ,	5.431E-01,	3.021E+00,	5.062E+00,,	0.107
C,SR-85	,NO ,	1.632E+01,	2.740E+00,	5.272E+00,,	3.096
C,Y-88	,NO ,	-5.221E-01,	2.810E+00,	4.552E+00,,	-0.115
C,NB-94	,NO ,	2.742E+00,	2.313E+00,	3.970E+00,,	0.691
C,NB-95	,NO ,	2.508E+00,	2.347E+00,	4.010E+00,,	0.625
C,ZR-95	,NO ,	-1.881E+00,	4.066E+00,	6.447E+00,,	-0.292
C,MO-99	,NO ,	-9.231E+00,	4.816E+01,	7.762E+01,,	-0.119
C,RU-103	,NO ,	1.571E+00,	2.452E+00,	4.174E+00,,	0.376
C,RU-106	,NO ,	3.435E+00,	2.207E+01,	3.547E+01,,	0.097
C,AG-110m	,NO ,	1.716E+00,	2.263E+00,	3.835E+00,,	0.448
C,SN-113	,NO ,	-1.445E+00,	3.059E+00,	4.931E+00,,	-0.293
C,SB-124	,NO ,	-1.944E+00,	5.383E+00,	3.740E+00,,	-0.520
C,SB-125	,NO ,	-3.995E+00,	6.724E+00,	1.073E+01,,	-0.372
C,TE-129M	,NO ,	-1.741E+01,	2.959E+01,	4.703E+01,,	-0.370
C,I-131	,NO ,	3.940E-01,	3.309E+00,	5.459E+00,,	0.072
C,BA-133	,NO ,	1.430E+01,	3.945E+00,	6.312E+00,,	2.266
C,CS-134	,NO ,	1.027E+01,	4.819E+00,	4.662E+00,,	2.204
C,CS-136	,NO ,	-1.136E+00,	2.790E+00,	4.540E+00,,	-0.250
C,CS-137	,NO ,	4.964E-01,	2.566E+00,	4.240E+00,,	0.117
C,CE-139	,NO ,	1.252E+00,	2.259E+00,	3.760E+00,,	0.333
C,BA-140	,NO ,	1.421E+00,	9.942E+00,	1.658E+01,,	0.086
C,LA-140	,NO ,	3.298E+00,	3.300E+00,	5.866E+00,,	0.562
C,CE-141	,NO ,	-6.537E-01,	4.853E+00,	6.741E+00,,	-0.097
C,CE-144	,NO ,	-2.264E+00,	1.993E+01,	2.819E+01,,	-0.080
C,EU-152	,NO ,	5.037E+00,	8.320E+00,	1.232E+01,,	0.409
C,EU-154	,NO ,	-7.905E-01,	4.838E+00,	7.880E+00,,	-0.100
C,RA-226	,NO ,	-5.793E+01,	5.911E+01,	9.304E+01,,	-0.623
C,AC-228	,NO ,	-3.713E+00,	9.526E+00,	1.489E+01,,	-0.249
C,TH-228	,NO ,	2.198E+00,	5.299E+00,	7.401E+00,,	0.297
C,TH-232	,NO ,	-3.708E+00,	9.513E+00,	1.487E+01,,	-0.249
C,U-235	,NO ,	8.807E+00,	2.069E+01,	2.922E+01,,	0.301
C,U-238	,NO ,	9.869E+01,	2.692E+02,	4.500E+02,,	0.219
C,AM-241	,NO ,	-3.576E+01,	2.909E+01,	4.414E+01,,	-0.810

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 14-MAY-2006 17:54:57.48
TBE23 03017322 HpGe ********** Aquisition Date/Time: 13-MAY-2006 08:54:01.69

LIMS No., Customer Name, Client ID: WG L28597-8 EX BRAID

Sample ID : 23L28597-8
Sample Type : WG
Quantity : 3.65040E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 12:10:00.0
Geometry : 2335L090704
BKGFILE : 23BG050506MT
Real Time : 0 08:00:20.12
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	10	33.72*	48	41	1.00	67.61	9.28E-02	1.67E-03	58.5	3.94E+00
2	10	37.03*	114	386	2.39	74.22	1.50E-01	3.97E-03	50.2	
3	10	39.34*	34	635	2.40	78.83	1.98E-01	1.17E-03	171.8	
4	10	41.79*	131	555	2.09	83.73	2.57E-01	4.55E-03	31.4	
5	0	53.13	111	584	1.04	106.39	6.00E-01	3.87E-03	37.2	
6	1	63.35*	83	673	1.07	126.81	9.43E-01	2.87E-03	57.8	2.79E+00
7	1	64.95	108	672	1.07	129.99	9.95E-01	3.76E-03	41.1	
8	1	66.41*	106	670	1.08	132.92	1.04E+00	3.68E-03	42.3	
9	0	92.62*	83	1199	1.06	185.29	1.69E+00	2.89E-03	85.9	
10	0	140.31*	109	1035	1.26	280.58	2.05E+00	3.78E-03	56.3	
11	0	198.15*	208	750	1.72	396.17	1.90E+00	7.21E-03	26.9	
12	0	238.41*	96	589	1.18	476.62	1.73E+00	3.34E-03	51.9	
13	0	294.71*	36	486	1.13	589.15	1.50E+00	1.24E-03	128.0	
14	0	351.74*	90	320	1.39	703.12	1.32E+00	3.12E-03	41.0	
15	0	500.11	79	161	2.35	999.72	1.00E+00	2.74E-03	31.3	
16	0	596.04	124	217	1.17	1191.52	8.73E-01	4.30E-03	25.4	
17	0	609.35*	123	184	1.34	1218.12	8.59E-01	4.27E-03	27.7	
18	0	911.82*	1	89	1.41	1823.03	6.38E-01	1.83E-05	*****	
19	0	1460.81*	11	58	2.21	2921.58	4.59E-01	3.78E-04	233.6	
20	0	1765.05*	12	51	1.80	3530.72	4.00E-01	4.12E-04	167.1	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	11	10.67*	4.594E-01	5.703E+00	5.703E+00	467.17
AC-228	835.50	------	1.75	6.790E-01	------	Line Not Found	------
	911.07	1	27.70*	6.379E-01	7.685E-02	7.695E-02	8224.01
TH-228	238.63	96	44.60*	1.725E+00	3.210E+00	3.223E+00	103.75
	240.98	------	3.95	1.714E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28597-8

Acquisition date : 13-MAY-2006 08:54:01

Total number of lines in spectrum	20	
Number of unidentified lines	17	
Number of lines tentatively identified by NID	3	15.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.703E+00	5.703E+00	26.64E+00	467.17	
AC-228	5.75Y	1.00	7.685E-02	7.695E-02	632.9E-02	8224.01	
TH-228	1.91Y	1.00	3.210E+00	3.223E+00	3.344E+00	103.75	
	Total Activity :		8.991E+00	9.004E+00			

Grand Total Activity : 8.991E+00 9.004E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28597-8

Acquisition date : 13-MAY-2006 08:54:01

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
10	33.72	48	41	1.00	67.61	65	23	1.67E-03	****	9.28E-02	
10	37.03	114	386	2.39	74.22	65	23	3.97E-03	****	1.50E-01	
10	39.34	34	635	2.40	78.83	65	23	1.17E-03	****	1.98E-01	
10	41.79	131	555	2.09	83.73	65	23	4.55E-03	62.8	2.57E-01	
0	53.13	111	584	1.04	106.39	103	7	3.87E-03	74.4	6.00E-01	
1	63.35	83	673	1.07	126.81	123	14	2.87E-03	****	9.43E-01	
1	64.95	108	672	1.07	129.99	123	14	3.76E-03	82.1	9.95E-01	
1	66.41	106	670	1.08	132.92	123	14	3.68E-03	84.5	1.04E+00	
0	92.62	83	1199	1.06	185.29	181	10	2.89E-03	****	1.69E+00	
0	140.31	109	1035	1.26	280.58	274	9	3.78E-03	****	2.05E+00	
0	198.15	208	750	1.72	396.17	391	10	7.21E-03	53.7	1.90E+00	
0	294.71	36	486	1.13	589.15	584	10	1.24E-03	****	1.50E+00	
0	351.74	90	320	1.39	703.12	698	9	3.12E-03	82.1	1.32E+00	
0	500.11	79	161	2.35	999.72	995	9	2.74E-03	62.7	1.00E+00	
0	596.04	124	217	1.17	1191.52	1186	12	4.30E-03	50.8	8.73E-01	
0	609.35	123	184	1.34	1218.12	1213	13	4.27E-03	55.4	8.59E-01	
0	1765.05	12	51	1.80	3530.72	3521	20	4.12E-04	****	4.00E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	20	
Number of unidentified lines	17	
Number of lines tentatively identified by NID	3	15.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.703E+00	5.703E+00	26.64E+00	467.17	
AC-228	5.75Y	1.00	7.685E-02	7.695E-02	632.9E-02	8224.01	
TH-228	1.91Y	1.00	3.210E+00	3.223E+00	3.344E+00	103.75	
	Total Activity :		8.991E+00	9.004E+00			

Grand Total Activity : 8.991E+00 9.004E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA

K-40	5.703E+00	2.664E+01	2.561E+01	0.000E+00	0.223
AC-228	7.695E-02	6.329E+00	9.461E+00	0.000E+00	0.008
TH-228	3.223E+00	3.344E+00	5.015E+00	0.000E+00	0.643

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.850E-01		1.418E+01	2.378E+01	0.000E+00	-0.008
NA-24	-8.423E+01		1.327E+02	2.212E+02	0.000E+00	-0.381
CR-51	-7.333E+00		1.480E+01	2.489E+01	0.000E+00	-0.295
MN-54	8.798E-01		1.598E+00	2.828E+00	0.000E+00	0.311
CO-57	9.148E-01		1.691E+00	2.806E+00	0.000E+00	0.326
CO-58	-1.259E+00		1.640E+00	2.665E+00	0.000E+00	-0.472
FE-59	2.999E+00		3.035E+00	5.469E+00	0.000E+00	0.548
CO-60	-1.016E-01		1.579E+00	2.735E+00	0.000E+00	-0.037
ZN-65	2.989E+00		3.485E+00	6.196E+00	0.000E+00	0.482
SE-75	-1.895E+00		2.233E+00	3.626E+00	0.000E+00	-0.523
SR-85	9.932E+00		1.977E+00	3.725E+00	0.000E+00	2.666
Y-88	6.802E-01		1.661E+00	3.007E+00	0.000E+00	0.226
NB-94	1.470E+00		1.542E+00	2.721E+00	0.000E+00	0.540
NB-95	3.577E-01		1.645E+00	2.810E+00	0.000E+00	0.127
ZR-95	1.323E+00		2.892E+00	4.999E+00	0.000E+00	0.265
MO-99	1.497E+01		3.146E+01	5.459E+01	0.000E+00	0.274
RU-103	9.820E-01		2.112E+00	3.060E+00	0.000E+00	0.321
RU-106	-1.878E+00		1.481E+01	2.483E+01	0.000E+00	-0.076
AG-110m	1.034E-01		1.494E+00	2.559E+00	0.000E+00	0.040
SN-113	-1.262E+00		2.095E+00	3.477E+00	0.000E+00	-0.363
SB-124	2.152E+00		3.206E+00	2.736E+00	0.000E+00	0.787
SB-125	2.438E+00		4.684E+00	8.024E+00	0.000E+00	0.304
TE-129M	-7.059E+00		1.992E+01	3.304E+01	0.000E+00	-0.214
I-131	3.229E+00		2.231E+00	3.945E+00	0.000E+00	0.818
BA-133	1.477E+00		2.543E+00	3.762E+00	0.000E+00	0.393
CS-134	3.776E+00		2.767E+00	2.943E+00	0.000E+00	1.283
CS-136	9.485E-01		1.882E+00	3.258E+00	0.000E+00	0.291
CS-137	-3.202E-01		1.666E+00	2.819E+00	0.000E+00	-0.114
CE-139	2.078E-02		1.669E+00	2.818E+00	0.000E+00	0.007
BA-140	-3.183E+00		6.884E+00	1.164E+01	0.000E+00	-0.273
LA-140	4.603E-01		1.974E+00	3.482E+00	0.000E+00	0.132
CE-141	1.401E+00		3.464E+00	5.087E+00	0.000E+00	0.275
CE-144	6.652E+00		1.514E+01	2.144E+01	0.000E+00	0.310
EU-152	-2.861E+00		5.801E+00	8.211E+00	0.000E+00	-0.348
EU-154	3.427E+00		3.524E+00	5.893E+00	0.000E+00	0.582
RA-226	-8.960E+00		4.369E+01	7.312E+01	0.000E+00	-0.123
TH-232	7.685E-02	+	6.320E+00	1.022E+01	0.000E+00	0.008
U-235	1.309E+01		1.507E+01	2.204E+01	0.000E+00	0.594
U-238	-2.237E+00		1.846E+02	3.109E+02	0.000E+00	-0.007
AM-241	9.395E+00		1.169E+01	1.448E+01	0.000E+00	0.649

A,23L28597-8 ,05/14/2006 17:54,05/09/2006 12:10, 3.650E+00,WG L28597-8 EX
B,23L28597-8 ,LIBD ,06/24/2005 07:59,2335L090704

C,K-40	,YES,	5.703E+00,	2.664E+01,	2.561E+01,,	0.223
C,AC-228	,YES,	7.695E-02,	6.329E+00,	9.461E+00,,	0.008
C,TH-228	,YES,	3.223E+00,	3.344E+00,	5.015E+00,,	0.643
C,BE-7	,NO ,	-1.850E-01,	1.418E+01,	2.378E+01,,	-0.008
C,NA-24	,NO ,	-8.423E+01,	1.327E+02,	2.212E+02,,	-0.381
C,CR-51	,NO ,	-7.333E+00,	1.480E+01,	2.489E+01,,	-0.295
C,MN-54	,NO ,	8.798E-01,	1.598E+00,	2.828E+00,,	0.311
C,CO-57	,NO ,	9.148E-01,	1.691E+00,	2.806E+00,,	0.326
C,CO-58	,NO ,	-1.259E+00,	1.640E+00,	2.665E+00,,	-0.472
C,FE-59	,NO ,	2.999E+00,	3.035E+00,	5.469E+00,,	0.548
C,CO-60	,NO ,	-1.016E-01,	1.579E+00,	2.735E+00,,	-0.037
C,ZN-65	,NO ,	2.989E+00,	3.485E+00,	6.196E+00,,	0.482
C,SE-75	,NO ,	-1.895E+00,	2.233E+00,	3.626E+00,,	-0.523
C,SR-85	,NO ,	9.932E+00,	1.977E+00,	3.725E+00,,	2.666
C,Y-88	,NO ,	6.802E-01,	1.661E+00,	3.007E+00,,	0.226
C,NB-94	,NO ,	1.470E+00,	1.542E+00,	2.721E+00,,	0.540
C,NB-95	,NO ,	3.577E-01,	1.645E+00,	2.810E+00,,	0.127
C,ZR-95	,NO ,	1.323E+00,	2.892E+00,	4.999E+00,,	0.265
C,MO-99	,NO ,	1.497E+01,	3.146E+01,	5.459E+01,,	0.274
C,RU-103	,NO ,	9.820E-01,	2.112E+00,	3.060E+00,,	0.321
C,RU-106	,NO ,	-1.878E+00,	1.481E+01,	2.483E+01,,	-0.076
C,AG-110m	,NO ,	1.034E-01,	1.494E+00,	2.559E+00,,	0.040
C,SN-113	,NO ,	-1.262E+00,	2.095E+00,	3.477E+00,,	-0.363
C,SB-124	,NO ,	2.152E+00,	3.206E+00,	2.736E+00,,	0.787
C,SB-125	,NO ,	2.438E+00,	4.684E+00,	8.024E+00,,	0.304
C,TE-129M	,NO ,	-7.059E+00,	1.992E+01,	3.304E+01,,	-0.214
C,I-131	,NO ,	3.229E+00,	2.231E+00,	3.945E+00,,	0.818
C,BA-133	,NO ,	1.477E+00,	2.543E+00,	3.762E+00,,	0.393
C,CS-134	,NO ,	3.776E+00,	2.767E+00,	2.943E+00,,	1.283
C,CS-136	,NO ,	9.485E-01,	1.882E+00,	3.258E+00,,	0.291
C,CS-137	,NO ,	-3.202E-01,	1.666E+00,	2.819E+00,,	-0.114
C,CE-139	,NO ,	2.078E-02,	1.669E+00,	2.818E+00,,	0.007
C,BA-140	,NO ,	-3.183E+00,	6.884E+00,	1.164E+01,,	-0.273
C,LA-140	,NO ,	4.603E-01,	1.974E+00,	3.482E+00,,	0.132
C,CE-141	,NO ,	1.401E+00,	3.464E+00,	5.087E+00,,	0.275
C,CE-144	,NO ,	6.652E+00,	1.514E+01,	2.144E+01,,	0.310
C,EU-152	,NO ,	-2.861E+00,	5.801E+00,	8.211E+00,,	-0.348
C,EU-154	,NO ,	3.427E+00,	3.524E+00,	5.893E+00,,	0.582
C,RA-226	,NO ,	-8.960E+00,	4.369E+01,	7.312E+01,,	-0.123
C,TH-232	,NO ,	7.685E-02,	6.320E+00,	1.022E+01,,	0.008
C,U-235	,NO ,	1.309E+01,	1.507E+01,	2.204E+01,,	0.594
C,U-238	,NO ,	-2.237E+00,	1.846E+02,	3.109E+02,,	-0.007
C,AM-241	,NO ,	9.395E+00,	1.169E+01,	1.448E+01,,	0.649

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 02:53:28.48
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 14-MAY-2006 18:53:08.49

LIMS No., Customer Name, Client ID: WG L28597-10 EX BRAID

Sample ID : 11L28597-10
Sample Type : WG
Quantity : 3.67270E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 9-MAY-2006 15:25:00.0
Geometry : 1135L090204
BKGFILE : 11BG050506MT
Real Time : 0 08:00:10.81
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	139.95	160	790	1.43	279.49	1.69E+00	5.56E-03	31.5	0.00E+00
2	0	185.32*	67	636	0.85	370.48	1.62E+00	2.34E-03	74.7	
3	0	198.40*	216	716	1.23	396.73	1.57E+00	7.48E-03	25.2	
4	1	238.56*	73	547	1.44	477.26	1.42E+00	2.54E-03	63.7	1.51E+00
5	1	242.05	175	527	1.44	484.24	1.41E+00	6.08E-03	24.9	
6	0	295.26*	246	502	1.32	590.94	1.23E+00	8.54E-03	19.5	
7	0	351.79*	476	382	1.48	704.30	1.08E+00	1.65E-02	10.2	
8	0	495.47	17	214	1.03	992.32	8.26E-01	5.82E-04	167.3	
9	0	583.07*	37	174	1.09	1167.92	7.27E-01	1.29E-03	78.3	
10	0	595.67	106	217	1.81	1193.17	7.15E-01	3.68E-03	31.0	
11	0	609.10*	394	278	1.48	1220.08	7.02E-01	1.37E-02	11.3	
12	0	727.23	46	81	1.70	1456.82	6.12E-01	1.59E-03	37.1	
13	0	911.66*	24	92	1.60	1826.33	5.13E-01	8.34E-04	98.5	
14	0	1120.82*	65	99	1.56	2245.28	4.37E-01	2.25E-03	39.7	
15	0	1378.04	55	41	2.05	2760.32	3.71E-01	1.89E-03	28.6	
16	0	1384.58	33	24	1.50	2773.42	3.69E-01	1.15E-03	34.4	
17	0	1762.29*	74	26	1.89	3529.36	3.04E-01	2.58E-03	22.5	
18	0	1961.38	25	32	0.68	3927.64	2.79E-01	8.52E-04	52.0	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	67	3.28*	1.617E+00	3.245E+01	3.245E+01	149.40
AC-228	835.50	------	1.75	5.493E-01	------	Line Not Found	------
	911.07	24	27.70*	5.133E-01	4.314E+00	4.322E+00	196.92
TH-228	238.63	73	44.60*	1.421E+00	2.943E+00	2.959E+00	127.48
	240.98	175	3.95	1.409E+00	8.037E+01	8.079E+01	49.88
TH-232	583.14	37	30.25	7.267E-01	4.335E+00	4.335E+00	156.58
	911.07	24	27.70*	5.133E-01	4.314E+00	4.314E+00	196.92
	969.11	------	16.60	4.895E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	1.695E+00	------	Line Not Found	------
	163.35	------	4.70	1.678E+00	------	Line Not Found	------
	185.71	67	54.00	1.617E+00	1.971E+00	1.971E+00	149.40
	205.31	------	4.70	1.546E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28597-10

Acquisition date : 14-MAY-2006 18:53:08

Total number of lines in spectrum	18	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	6	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	3.245E+01	3.245E+01	4.849E+01	149.40	
AC-228	5.75Y	1.00	4.314E+00	4.322E+00	8.510E+00	196.92	
TH-228	1.91Y	1.01	2.943E+00	2.959E+00	3.772E+00	127.48	
TH-232	1.41E+10Y	1.00	4.314E+00	4.314E+00	8.495E+00	196.92	
U-235	7.04E+08Y	1.00	1.971E+00	1.971E+00	2.945E+00	149.40	K
	Total Activity :		4.600E+01	4.602E+01			

Grand Total Activity : 4.600E+01 4.602E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28597-10

Acquisition date : 14-MAY-2006 18:53:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	139.95	160	790	1.43	279.49	275	8	5.56E-03	62.9	1.69E+00	
0	198.40	216	716	1.23	396.73	392	10	7.48E-03	50.3	1.57E+00	
0	295.26	246	502	1.32	590.94	586	11	8.54E-03	38.9	1.23E+00	
0	351.79	476	382	1.48	704.30	698	13	1.65E-02	20.4	1.08E+00	
0	495.47	17	214	1.03	992.32	988	10	5.82E-04	****	8.26E-01	
0	595.67	106	217	1.81	1193.17	1185	14	3.68E-03	62.0	7.15E-01	
0	609.10	394	278	1.48	1220.08	1212	16	1.37E-02	22.6	7.02E-01	
0	727.23	46	81	1.70	1456.82	1454	8	1.59E-03	74.2	6.12E-01	
0	1120.82	65	99	1.56	2245.28	2242	12	2.25E-03	79.4	4.37E-01	
0	1378.04	55	41	2.05	2760.32	2752	14	1.89E-03	57.1	3.71E-01	
0	1384.58	33	24	1.50	2773.42	2767	12	1.15E-03	68.8	3.69E-01	T
0	1762.29	74	26	1.89	3529.36	3521	18	2.58E-03	45.0	3.04E-01	
0	1961.38	25	32	0.68	3927.64	3918	13	8.52E-04	****	2.79E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	18	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	6	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	3.245E+01	3.245E+01	4.849E+01	149.40	
TH-228	1.91Y	1.01	2.943E+00	2.959E+00	3.772E+00	127.48	
TH-232	1.41E+10Y	1.00	4.327E+00	4.327E+00	5.303E+00	122.56	
	Total Activity :		3.972E+01	3.974E+01			

Grand Total Activity : 3.972E+01 3.974E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	3.245E+01	4.849E+01	7.742E+01	0.000E+00	0.419

TH-228	2.959E+00	3.772E+00	6.157E+00	0.000E+00	0.481
TH-232	4.327E+00	5.303E+00	1.174E+01	0.000E+00	0.368

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	5.434E+00		1.838E+01	3.047E+01	0.000E+00	0.178
NA-24	-3.098E+02		9.670E+02	1.297E+03	0.000E+00	-0.239
K-40	1.673E+01		2.785E+01	5.235E+01	0.000E+00	0.319
CR-51	-1.617E+01		1.961E+01	3.121E+01	0.000E+00	-0.518
MN-54	8.749E-01		2.027E+00	3.371E+00	0.000E+00	0.260
CO-57	-1.459E+00		1.991E+00	3.223E+00	0.000E+00	-0.453
CO-58	3.307E-01		2.094E+00	3.443E+00	0.000E+00	0.096
FE-59	5.575E+00		4.088E+00	7.180E+00	0.000E+00	0.776
CO-60	1.065E-01		2.249E+00	3.725E+00	0.000E+00	0.029
ZN-65	1.488E+01		5.419E+00	8.932E+00	0.000E+00	1.666
SE-75	1.083E+00		2.742E+00	4.549E+00	0.000E+00	0.238
SR-85	1.553E+01		2.370E+00	4.557E+00	0.000E+00	3.408
Y-88	-3.308E-01		2.355E+00	3.833E+00	0.000E+00	-0.086
NB-94	-1.485E+00		1.969E+00	3.142E+00	0.000E+00	-0.473
NB-95	2.357E+00		2.151E+00	3.688E+00	0.000E+00	0.639
ZR-95	-1.357E-01		3.773E+00	6.176E+00	0.000E+00	-0.022
MO-99	-5.172E+01		5.864E+01	9.254E+01	0.000E+00	-0.559
RU-103	2.079E+00		2.233E+00	3.773E+00	0.000E+00	0.551
RU-106	5.066E+00		1.915E+01	3.129E+01	0.000E+00	0.162
AG-110m	2.963E-01		1.963E+00	3.267E+00	0.000E+00	0.091
SN-113	6.012E-01		2.565E+00	4.287E+00	0.000E+00	0.140
SB-124	2.604E+00		4.569E+00	3.561E+00	0.000E+00	0.731
SB-125	-1.718E+00		5.761E+00	9.422E+00	0.000E+00	-0.182
TE-129M	7.103E+00		2.597E+01	4.310E+01	0.000E+00	0.165
I-131	-2.533E+00		3.096E+00	5.031E+00	0.000E+00	-0.503
BA-133	1.102E+01		3.438E+00	5.322E+00	0.000E+00	2.070
CS-134	1.239E+01		3.697E+00	4.586E+00	0.000E+00	2.702
CS-136	-4.747E-01		2.532E+00	4.091E+00	0.000E+00	-0.116
CS-137	2.836E+00		2.123E+00	3.702E+00	0.000E+00	0.766
CE-139	3.386E-01		2.049E+00	3.335E+00	0.000E+00	0.102
BA-140	5.931E+00		9.627E+00	1.606E+01	0.000E+00	0.369
LA-140	1.459E+00		3.104E+00	5.226E+00	0.000E+00	0.279
CE-141	-2.875E+00		4.438E+00	6.043E+00	0.000E+00	-0.476
CE-144	-8.459E+00		1.826E+01	2.512E+01	0.000E+00	-0.337
EU-152	-4.328E+00		7.762E+00	1.039E+01	0.000E+00	-0.417
EU-154	-1.879E+00		4.132E+00	6.722E+00	0.000E+00	-0.280
AC-228	4.322E+00		8.510E+00	1.375E+01	0.000E+00	0.314
U-235	-1.091E+01		1.847E+01	2.522E+01	0.000E+00	-0.432
U-238	1.833E+02		2.281E+02	3.789E+02	0.000E+00	0.484
AM-241	1.585E+01		2.676E+01	4.360E+01	0.000E+00	0.363

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A,11L28597-10      ,05/15/2006 02:53,05/09/2006 15:25,   3.673E+00,WG L28597-10 E
B,11L28597-10      ,LIBD                ,09/01/2005 07:43,1135L090204
C,RA-226   ,YES,    3.245E+01,    4.849E+01,    7.742E+01,,     0.419
C,TH-228   ,YES,    2.959E+00,    3.772E+00,    6.157E+00,,     0.481
C,TH-232   ,YES,    4.327E+00,    5.303E+00,    1.174E+01,,     0.368
C,BE-7     ,NO ,    5.434E+00,    1.838E+01,    3.047E+01,,     0.178
C,NA-24    ,NO ,   -3.098E+02,    9.670E+02,    1.297E+03,,    -0.239
C,K-40     ,NO ,    1.673E+01,    2.785E+01,    5.235E+01,,     0.319
C,CR-51    ,NO ,   -1.617E+01,    1.961E+01,    3.121E+01,,    -0.518
C,MN-54    ,NO ,    8.749E-01,    2.027E+00,    3.371E+00,,     0.260
C,CO-57    ,NO ,   -1.459E+00,    1.991E+00,    3.223E+00,,    -0.453
C,CO-58    ,NO ,    3.307E-01,    2.094E+00,    3.443E+00,,     0.096
C,FE-59    ,NO ,    5.575E+00,    4.088E+00,    7.180E+00,,     0.776
C,CO-60    ,NO ,    1.065E-01,    2.249E+00,    3.725E+00,,     0.029
C,ZN-65    ,NO ,    1.488E+01,    5.419E+00,    8.932E+00,,     1.666
C,SE-75    ,NO ,    1.083E+00,    2.742E+00,    4.549E+00,,     0.238
C,SR-85    ,NO ,    1.553E+01,    2.370E+00,    4.557E+00,,     3.408
C,Y-88     ,NO ,   -3.308E-01,    2.355E+00,    3.833E+00,,    -0.086
C,NB-94    ,NO ,   -1.485E+00,    1.969E+00,    3.142E+00,,    -0.473
C,NB-95    ,NO ,    2.357E+00,    2.151E+00,    3.688E+00,,     0.639
C,ZR-95    ,NO ,   -1.357E-01,    3.773E+00,    6.176E+00,,    -0.022
C,MO-99    ,NO ,   -5.172E+01,    5.864E+01,    9.254E+01,,    -0.559
C,RU-103   ,NO ,    2.079E+00,    2.233E+00,    3.773E+00,,     0.551
C,RU-106   ,NO ,    5.066E+00,    1.915E+01,    3.129E+01,,     0.162
C,AG-110m  ,NO ,    2.963E-01,    1.963E+00,    3.267E+00,,     0.091
C,SN-113   ,NO ,    6.012E-01,    2.565E+00,    4.287E+00,,     0.140
C,SB-124   ,NO ,    2.604E+00,    4.569E+00,    3.561E+00,,     0.731
C,SB-125   ,NO ,   -1.718E+00,    5.761E+00,    9.422E+00,,    -0.182
C,TE-129M  ,NO ,    7.103E+00,    2.597E+01,    4.310E+01,,     0.165
C,I-131    ,NO ,   -2.533E+00,    3.096E+00,    5.031E+00,,    -0.503
C,BA-133   ,NO ,    1.102E+01,    3.438E+00,    5.322E+00,,     2.070
C,CS-134   ,NO ,    1.239E+01,    3.697E+00,    4.586E+00,,     2.702
C,CS-136   ,NO ,   -4.747E-01,    2.532E+00,    4.091E+00,,    -0.116
C,CS-137   ,NO ,    2.836E+00,    2.123E+00,    3.702E+00,,     0.766
C,CE-139   ,NO ,    3.386E-01,    2.049E+00,    3.335E+00,,     0.102
C,BA-140   ,NO ,    5.931E+00,    9.627E+00,    1.606E+01,,     0.369
C,LA-140   ,NO ,    1.459E+00,    3.104E+00,    5.226E+00,,     0.279
C,CE-141   ,NO ,   -2.875E+00,    4.438E+00,    6.043E+00,,    -0.476
C,CE-144   ,NO ,   -8.459E+00,    1.826E+01,    2.512E+01,,    -0.337
C,EU-152   ,NO ,   -4.328E+00,    7.762E+00,    1.039E+01,,    -0.417
C,EU-154   ,NO ,   -1.879E+00,    4.132E+00,    6.722E+00,,    -0.280
C,AC-228   ,NO ,    4.322E+00,    8.510E+00,    1.375E+01,,     0.314
C,U-235    ,NO ,   -1.091E+01,    1.847E+01,    2.522E+01,,    -0.432
C,U-238    ,NO ,    1.833E+02,    2.281E+02,    3.789E+02,,     0.484
C,AM-241   ,NO ,    1.585E+01,    2.676E+01,    4.360E+01,,     0.363
```

Sec. Review: Analyst: KG LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 02:54:32.60
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 14-MAY-2006 18:54:08.69

LIMS No., Customer Name, Client ID: WG L28597-11 EX BRAID

Sample ID : 13L28597-11
Sample Type : WG
Quantity : 3.66160E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 09:20:00.
Geometry : 1335L090904
BKGFILE : 13BG050506MT
Real Time : 0 08:00:08.63
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	46.46*	52	523	0.98	92.92	1.45E-01	1.81E-03	78.2	2.19E+00
2	3	63.43*	27	856	1.09	126.82	6.25E-01	9.28E-04	198.6	1.52E+00
3	3	66.23*	106	865	1.10	132.42	7.21E-01	3.69E-03	49.2	
4	1	92.77*	31	1033	1.11	185.45	1.52E+00	1.08E-03	212.2	2.28E+00
5	1	139.92*	178	879	1.04	279.69	2.02E+00	6.19E-03	31.0	1.72E+00
6	1	143.96*	66	989	1.21	287.75	2.02E+00	2.29E-03	90.8	1.87E+00
7	1	174.99	118	651	1.23	349.76	1.98E+00	4.11E-03	36.6	1.47E+00
8	1	185.88*	48	645	1.12	371.53	1.95E+00	1.68E-03	106.6	5.67E+00
9	1	198.46*	277	704	1.69	396.68	1.90E+00	9.63E-03	18.9	3.14E+00
10	1	238.52*	74	699	1.08	476.73	1.73E+00	2.57E-03	73.4	1.31E+00
11	1	326.50	99	510	2.04	652.58	1.42E+00	3.43E-03	45.4	6.61E-01
12	1	351.81*	23	447	1.18	703.18	1.34E+00	8.04E-04	184.6	2.42E+00
13	1	583.32*	40	231	1.96	1166.01	9.26E-01	1.38E-03	84.0	2.13E+00
14	1	596.01	107	240	1.58	1191.38	9.11E-01	3.71E-03	28.7	1.60E+00
15	1	609.47*	129	295	1.44	1218.30	8.96E-01	4.47E-03	30.8	2.69E+00
16	1	727.51*	32	108	2.48	1454.34	7.85E-01	1.10E-03	75.2	1.27E+00
17	1	1120.41*	21	117	1.45	2240.25	5.69E-01	7.13E-04	112.3	1.64E+00
18	1	1461.43*	28	60	2.54	2922.70	4.69E-01	9.67E-04	99.0	2.49E+00
19	1	1765.37*	44	33	2.83	3531.16	4.11E-01	1.54E-03	38.7	7.62E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	28	10.67*	4.687E-01	1.428E+01	1.428E+01	198.07
RA-226	186.21	48	3.28*	1.946E+00	1.938E+01	1.938E+01	213.15
TH-228	238.63	74	44.60*	1.733E+00	2.458E+00	2.470E+00	146.84
	240.98	------	3.95	1.723E+00	------ Line Not Found		------
U-235	143.76	66	10.50*	2.024E+00	7.958E+00	7.958E+00	181.61
	163.35	------	4.70	2.011E+00	------ Line Not Found		------
	185.71	48	54.00	1.946E+00	1.177E+00	1.177E+00	213.15
	205.31	------	4.70	1.871E+00	------ Line Not Found		------

Nuclide Type: fission

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
CE-141	145.44	66	48.40*	2.024E+00	1.726E+00	1.903E+00	181.61

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28597-11

Acquisition date : 14-MAY-2006 18:54:08

Total number of lines in spectrum	19	
Number of unidentified lines	14	
Number of lines tentatively identified by NID	5	26.32%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.428E+01	1.428E+01	2.828E+01	198.07	
RA-226	1600.00Y	1.00	1.938E+01	1.938E+01	4.131E+01	213.15	
TH-228	1.91Y	1.00	2.458E+00	2.470E+00	3.626E+00	146.84	
U-235	7.04E+08Y	1.00	7.958E+00	7.958E+00	14.45E+00	181.61	
	Total Activity :		4.407E+01	4.408E+01			

Nuclide Type : fission

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CE-141	32.50D	1.10	1.726E+00	1.903E+00	3.456E+00	181.61	
	Total Activity :		1.726E+00	1.903E+00			

Grand Total Activity : 4.580E+01 4.599E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28597-11

Acquisition date : 14-MAY-2006 18:54:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	46.46	52	523	0.98	92.92	90	6	1.81E-03	****	1.45E-01	
3	63.43	27	856	1.09	126.82	123	14	9.28E-04	****	6.25E-01	
3	66.23	106	865	1.10	132.42	123	14	3.69E-03	98.5	7.21E-01	
1	92.77	31	1033	1.11	185.45	181	9	1.08E-03	****	1.52E+00	
1	139.92	178	879	1.04	279.69	276	8	6.19E-03	62.0	2.02E+00	
1	174.99	118	651	1.23	349.76	347	7	4.11E-03	73.3	1.98E+00	
1	198.46	277	704	1.69	396.68	393	9	9.63E-03	37.9	1.90E+00	
1	326.50	99	510	2.04	652.58	647	11	3.43E-03	90.7	1.42E+00	
1	351.81	23	447	1.18	703.18	698	9	8.04E-04	****	1.34E+00	
1	583.32	40	231	1.96	1166.01	1160	11	1.38E-03	****	9.26E-01	T
1	596.01	107	240	1.58	1191.38	1187	10	3.71E-03	57.3	9.11E-01	
1	609.47	129	295	1.44	1218.30	1212	12	4.47E-03	61.6	8.96E-01	
1	727.51	32	108	2.48	1454.34	1449	11	1.10E-03	****	7.85E-01	
1	1120.41	21	117	1.45	2240.25	2237	10	7.13E-04	****	5.69E-01	
1	1765.37	44	33	2.83	3531.16	3523	15	1.54E-03	77.3	4.11E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	19	
Number of unidentified lines	14	
Number of lines tentatively identified by NID	5	26.32%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.428E+01	1.428E+01	2.828E+01	198.07	
RA-226	1600.00Y	1.00	1.938E+01	1.938E+01	4.131E+01	213.15	
TH-228	1.91Y	1.00	2.458E+00	2.470E+00	3.626E+00	146.84	
U-235	7.04E+08Y	1.00	7.958E+00	7.958E+00	14.45E+00	181.61	
	Total Activity :		4.407E+01	4.408E+01			

Nuclide Type : fission

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CE-141	32.50D	1.10	1.726E+00	1.903E+00	3.456E+00	181.61	
	Total Activity :		1.726E+00	1.903E+00			

Grand Total Activity : 4.580E+01 4.599E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.428E+01	2.828E+01	2.869E+01	0.000E+00	0.498
CE-141	1.903E+00	3.456E+00	4.871E+00	0.000E+00	0.391
RA-226	1.938E+01	4.131E+01	6.458E+01	0.000E+00	0.300
TH-228	2.470E+00	3.626E+00	4.791E+00	0.000E+00	0.516
U-235	7.958E+00	1.445E+01	2.009E+01	0.000E+00	0.396

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	9.166E+00		1.495E+01	2.490E+01	0.000E+00	0.368
NA-24	5.586E+01		2.932E+02	4.884E+02	0.000E+00	0.114
CR-51	2.478E+00		1.832E+01	2.548E+01	0.000E+00	0.097
MN-54	1.129E+00		1.771E+00	2.991E+00	0.000E+00	0.378
CO-57	1.193E+00		1.556E+00	2.634E+00	0.000E+00	0.453
CO-58	-5.902E-01		1.766E+00	2.876E+00	0.000E+00	-0.205
FE-59	6.011E+00		3.636E+00	6.425E+00	0.000E+00	0.936
CO-60	1.228E+00		1.906E+00	3.254E+00	0.000E+00	0.377
ZN-65	5.680E+00		4.461E+00	6.713E+00	0.000E+00	0.846
SE-75	-9.235E-01		2.195E+00	3.584E+00	0.000E+00	-0.258
SR-85	1.669E+01		2.206E+00	4.212E+00	0.000E+00	3.962
Y-88	-7.198E-01		2.024E+00	3.230E+00	0.000E+00	-0.223
NB-94	-6.828E-01		1.781E+00	2.858E+00	0.000E+00	-0.239
NB-95	2.686E+00		1.740E+00	3.057E+00	0.000E+00	0.879
ZR-95	-2.087E+00		2.965E+00	4.779E+00	0.000E+00	-0.437
MO-99	-5.411E+00		3.842E+01	6.275E+01	0.000E+00	-0.086
RU-103	3.760E-01		1.835E+00	3.005E+00	0.000E+00	0.125
RU-106	4.753E+00		1.594E+01	2.651E+01	0.000E+00	0.179
AG-110m	9.612E-01		1.757E+00	2.936E+00	0.000E+00	0.327
SN-113	2.249E+00		2.190E+00	3.735E+00	0.000E+00	0.602
SB-124	-2.742E+00		4.323E+00	2.931E+00	0.000E+00	-0.936
SB-125	1.478E+00		4.847E+00	8.053E+00	0.000E+00	0.184
TE-129M	-3.376E+00		2.097E+01	3.414E+01	0.000E+00	-0.099
I-131	-2.479E+00		2.499E+00	4.050E+00	0.000E+00	-0.612
BA-133	3.005E+00		2.686E+00	3.987E+00	0.000E+00	0.754
CS-134	3.235E-01		3.109E+00	3.123E+00	0.000E+00	0.104
CS-136	-9.198E-01		2.082E+00	3.368E+00	0.000E+00	-0.273
CS-137	1.720E+00		1.948E+00	3.292E+00	0.000E+00	0.522
CE-139	-4.486E-01		1.617E+00	2.633E+00	0.000E+00	-0.170
BA-140	3.382E+00		7.302E+00	1.235E+01	0.000E+00	0.274
LA-140	-6.998E-01		2.607E+00	4.252E+00	0.000E+00	-0.165
CE-144	5.673E+00		1.377E+01	2.069E+01	0.000E+00	0.274
EU-152	-1.148E+01		6.703E+00	8.565E+00	0.000E+00	-1.340
EU-154	1.177E+00		3.299E+00	5.539E+00	0.000E+00	0.213
AC-228	-8.680E-01		7.340E+00	1.186E+01	0.000E+00	-0.073
TH-232	-8.667E-01		7.329E+00	1.184E+01	0.000E+00	-0.073
U-238	1.089E+02		2.092E+02	3.402E+02	0.000E+00	0.320
AM-241	1.843E+01		1.493E+01	2.227E+01	0.000E+00	0.828

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A,13L28597-11      ,05/15/2006 02:54,05/10/2006 09:20,   3.662E+00,WG L28597-11 E
B,13L28597-11      ,LIBD                ,08/05/2005 08:16,1335L090904
C,K-40     ,YES,    1.428E+01,    2.828E+01,    2.869E+01,,     0.498
C,CE-141   ,YES,    1.903E+00,    3.456E+00,    4.871E+00,,     0.391
C,RA-226   ,YES,    1.938E+01,    4.131E+01,    6.458E+01,,     0.300
C,TH-228   ,YES,    2.470E+00,    3.626E+00,    4.791E+00,,     0.516
C,U-235    ,YES,    7.958E+00,    1.445E+01,    2.009E+01,,     0.396
C,BE-7     ,NO ,    9.166E+00,    1.495E+01,    2.490E+01,,     0.368
C,NA-24    ,NO ,    5.586E+01,    2.932E+02,    4.884E+02,,     0.114
C,CR-51    ,NO ,    2.478E+00,    1.832E+01,    2.548E+01,,     0.097
C,MN-54    ,NO ,    1.129E+00,    1.771E+00,    2.991E+00,,     0.378
C,CO-57    ,NO ,    1.193E+00,    1.556E+00,    2.634E+00,,     0.453
C,CO-58    ,NO ,   -5.902E-01,    1.766E+00,    2.876E+00,,    -0.205
C,FE-59    ,NO ,    6.011E+00,    3.636E+00,    6.425E+00,,     0.936
C,CO-60    ,NO ,    1.228E+00,    1.906E+00,    3.254E+00,,     0.377
C,ZN-65    ,NO ,    5.680E+00,    4.461E+00,    6.713E+00,,     0.846
C,SE-75    ,NO ,   -9.235E-01,    2.195E+00,    3.584E+00,,    -0.258
C,SR-85    ,NO ,    1.669E+01,    2.206E+00,    4.212E+00,,     3.962
C,Y-88     ,NO ,   -7.198E-01,    2.024E+00,    3.230E+00,,    -0.223
C,NB-94    ,NO ,   -6.828E-01,    1.781E+00,    2.858E+00,,    -0.239
C,NB-95    ,NO ,    2.686E+00,    1.740E+00,    3.057E+00,,     0.879
C,ZR-95    ,NO ,   -2.087E+00,    2.965E+00,    4.779E+00,,    -0.437
C,MO-99    ,NO ,   -5.411E+00,    3.842E+01,    6.275E+01,,    -0.086
C,RU-103   ,NO ,    3.760E-01,    1.835E+00,    3.005E+00,,     0.125
C,RU-106   ,NO ,    4.753E+00,    1.594E+01,    2.651E+01,,     0.179
C,AG-110m  ,NO ,    9.612E-01,    1.757E+00,    2.936E+00,,     0.327
C,SN-113   ,NO ,    2.249E+00,    2.190E+00,    3.735E+00,,     0.602
C,SB-124   ,NO ,   -2.742E+00,    4.323E+00,    2.931E+00,,    -0.936
C,SB-125   ,NO ,    1.478E+00,    4.847E+00,    8.053E+00,,     0.184
C,TE-129M  ,NO ,   -3.376E+00,    2.097E+01,    3.414E+01,,    -0.099
C,I-131    ,NO ,   -2.479E+00,    2.499E+00,    4.050E+00,,    -0.612
C,BA-133   ,NO ,    3.005E+00,    2.686E+00,    3.987E+00,,     0.754
C,CS-134   ,NO ,    3.235E-01,    3.109E+00,    3.123E+00,,     0.104
C,CS-136   ,NO ,   -9.198E-01,    2.082E+00,    3.368E+00,,    -0.273
C,CS-137   ,NO ,    1.720E+00,    1.948E+00,    3.292E+00,,     0.522
C,CE-139   ,NO ,   -4.486E-01,    1.617E+00,    2.633E+00,,    -0.170
C,BA-140   ,NO ,    3.382E+00,    7.302E+00,    1.235E+01,,     0.274
C,LA-140   ,NO ,   -6.998E-01,    2.607E+00,    4.252E+00,,    -0.165
C,CE-144   ,NO ,    5.673E+00,    1.377E+01,    2.069E+01,,     0.274
C,EU-152   ,NO ,   -1.148E+01,    6.703E+00,    8.565E+00,,    -1.340
C,EU-154   ,NO ,    1.177E+00,    3.299E+00,    5.539E+00,,     0.213
C,AC-228   ,NO ,   -8.680E-01,    7.340E+00,    1.186E+01,,    -0.073
C,TH-232   ,NO ,   -8.667E-01,    7.329E+00,    1.184E+01,,    -0.073
C,U-238    ,NO ,    1.089E+02,    2.092E+02,    3.402E+02,,     0.320
C,AM-241   ,NO ,    1.843E+01,    1.493E+01,    2.227E+01,,     0.828
```

TELEDYNE
BROWN ENGINEERING
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28609

Exelon

May 19, 2006

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville CT 06062

Case Narrative - L28609
EX001-3ESPBRAID-06

05/19/2006 16:09

Sample Receipt

The following samples were received on May 12, 2006 in good condition, unless otherwise noted.

Sample WG-BW-051006-028 (L28609-8)tritium portion was broken during shipment and no sample remained for analysis. The label for WG-BW-051006-026 gamma portion was lost during shipment.
WG-BW-051006-JL-023 (l28609-15) was dropped by the laboratory and no results are being reported for this sample.

Cross Reference Table

Client ID	Laboratory ID	Station ID(if applicable)
WG-BW-051006-MS-014	L28609-1	
WG-BW-051006-MS-016	L28609-2	
WG-BW-051006-MS-018	L28609-3	
WG-BW-051006-MS-020	L28609-4	
WG-BW-051006-MS-022	L28609-5	
WG-BW-051006-MS-024	L28609-6	
WG-BW-051006-MS-026	L28609-7	
WG-BW-051006-MS-028	L28609-8	
WG-BW-051106-MS-030	L28609-9	
WG-BW-051006-JL-013	L28609-10	
WG-BW-051006-JL-015	L28609-11	
WG-BW-051006-JL-017	L28609-12	
WG-BW-051006-JL-019	L28609-13	
WG-BW-051006-JL-021	L28609-14	
WG-BW-051006-JL-023	L28609-15	
WG-BW-051006-JL-025	L28609-16	
WG-BW-051106-JL-027	L28609-17	
WG-BW-051106-JL-029	L28609-18	
WG-BW-051106-JL-031	L28609-19	
WG-BW-051106-JL-035	L28609-20	

Analytical Method Cross Reference Table

Radiological Parameter	TBE Knoxville Method	Reference Method
Gamma Spectrometry	TBE-2007	EPA 901.1
H-3	TBE-2010	EPA 906.0
SAMPLE	NA	
TOTAL SR	TBE-2018	EPA 905.0

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28609
EX001-3ESPBRAID-06

05/19/2006 16:09

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG3983.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-051006-MS-014	L28609-1	WG3983-1

H-3

Quality Control

Quality control samples were analyzed as WG3978,WG3994.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-050906-JL-001	L28597-7	WG3978-5

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28609
EX001-3ESPBRAID-06

05/19/2006 16:09

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4000.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-051006-MS-014	L28609-1	WG4000-3

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

Keith Jeter
Operations Manager

Sample Receipt Summary

05/12/06 12:07

SR #: SR08343

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #: L28609

Initiated By: PMARSHALL
Init Date: 05/12/06 Receive Date: 05/12/06

Notification of Variance

Person Notified: Kathy Shaw Contacted By: R. Charles
Notify Date: 5/12/06
Notify Method: email
Notify Comment: attached

Client Response

Person Responding:
Response Date:
Response Method:
Response Comment

	Criteria	Yes	No	NA	Comment
1	Shipping container custody seals present and intact.			NA	
2	Sample container custody seals present and intact.			NA	
3	Sample containers received in good condition		N		
	WG-BW-051006-MS-028				Bottle arrived broken designated for tritium
	WG-BW-051006-MS-026				label for gamma portion lost during shippment
4	Chain of custody received with samples		Y		
5	All samples listed on chain of custody received		Y		
6	Sample container labels present and legible.		Y		
7	Information on container labels correspond with chain of custody		Y		
8	Sample(s) properly preserved and in appropriate container(s)			NA	
9	Other (Describe)			NA	

Charles, Rebecca

From: Shaw, Kathy [kshaw@craworld.com]
Sent: Wednesday, May 17, 2006 10:16 AM
To: Charles, Rebecca
Cc: Reid, James
Subject: FW: Sample receipt variance

Hi Rebecca,

We will re-collect the lost sample, please do not report any parameters already analyzed for it.

Thanks,
Kathy

From: Cruickshank , David
Sent: Wednesday, May 17, 2006 9:58 AM
To: Shaw, Kathy; Reid, James
Cc: Borkowski, Matthew
Subject: RE: Sample receipt variance

Kathy,

We will re-collect.
We will sample the well as if it hasn't been sampled before and will collect all the parameters and the split sample again. So the lab needs to throw out WAG-BW-051006-JL-023 and replace it with the sample being collected either today or tomorrow.

Thanks,

Dave

From: Shaw, Kathy
Sent: Wednesday, May 17, 2006 7:59 AM
To: Reid, James
Cc: Cruickshank , David
Subject: FW: Sample receipt variance

Will you re-collect?

From: Charles, Rebecca [mailto:Rebecca.Charles@tbe.com]
Sent: Wednesday, May 17, 2006 8:53 AM
To: Shaw, Kathy
Cc: Larry.Walton@exeloncorp.com
Subject: RE: Sample receipt variance

WG-BW-051006-JL-023

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

-----Original Message-----
From: Shaw, Kathy [mailto:kshaw@craworld.com]
Sent: Tuesday, May 16, 2006 5:53 PM
To: Charles, Rebecca
Subject: RE: Sample receipt variance

What is our sample ID?

From: Charles, Rebecca [mailto:Rebecca.Charles@tbe.com]
Sent: Tuesday, May 16, 2006 5:27 PM
To: Shaw, Kathy
Cc: Larry.Walton@exeloncorp.com
Subject: RE: Sample receipt variance

Kathy,

The cubitainer portion for L28609-15 was dropped and spilled in the laboratory. We probably have enough sample left for the Sr-90 analysis, but cannot meet the required MDCs for the gamma with the small amount of sample remaining.

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

-----Original Message-----
From: Shaw, Kathy [mailto:kshaw@craworld.com]
Sent: Tuesday, May 16, 2006 5:15 PM
To: Charles, Rebecca
Subject: RE: Sample receipt variance

We don't know, maybe they will be sending another sample.

From: Charles, Rebecca [mailto:Rebecca.Charles@tbe.com]
Sent: Tuesday, May 16, 2006 5:14 PM

TWO COOLERS

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): TEALYNG BROWN

REFERENCE NUMBER: 45136-20

PROJECT NAME: Braidwood Exelon

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Julie Luzwick **PRINTED NAME:** Julie Luzwick

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: Tritium	PARAMETERS: Strontium 89/90	REMARKS
	5/10/06	1115	WA-BW-051006-JL-013	W	2	X	X	
		1210	-015	W	2	X	X	
		1400	-017	W	2	X	X	
		1430	-019	W	2	X	X	
		1600	-021	W	2	X	X	
		1635	-023	W	2	X	X	
		1725	-025	W	2	X	X	
	5/11/06	925	WA-BW-051106-JL-027	W	2	X	X	
		1000	-029	W	2	X	X	
		1005	-031	W	2	X	X	
			~~-033~~					
		1505	-035	W	2	X	X	

TOTAL NUMBER OF CONTAINERS 22

RELINQUISHED BY: ① Julie Luzwick	DATE: 5/11/06 TIME: 1300	RECEIVED BY: ② R. Charles	DATE: 5/12/06 TIME: 11:00
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: J. Luzwick, S. Spencer

RECEIVED FOR LABORATORY BY: 13673

DATE: TIME:

1001-00(SOURCE)GN-CO004

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): TEDLYNE BROWN

REFERENCE NUMBER: 45136-20

PROJECT NAME: BRAIDWOOD EXELON

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Matt Borkowski **PRINTED NAME:** BORKOWSKI

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: TRITIUM	PARAMETERS: STRONTIUM 89/90	REMARKS
1	5/10/06	1505	WG-BW-051006-MS-024	WATER	2	X	X	
2	↓	1605	↓ -026	↓	2	X	X	
3	↓	1640	↓ -028		2	X	X	
4	5/11/06	915	WG-BW-051106-MS-030		2	X	X	
			TOTAL NUMBER OF CONTAINERS		8			

RELINQUISHED BY: ① Matt Borkowski	DATE: 5/11/06 TIME: 1330	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: BORKOWSKI, SIVEK

RECEIVED FOR LABORATORY BY: Pat Marshall 12416
DATE: 5/12/06 TIME: 1100

1001-00(SOURCE)GN-CO004

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): TED LYNE BROWN

REFERENCE NUMBER: BRAIDWOOD EXELON

PROJECT NAME: 45136-20

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Matt Borkowski **PRINTED NAME:** M. BORKOWSKI

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: TRITIUM	PARAMETERS: STRONTIUM 89/90	REMARKS
1	5/10/06	1010	WG-BW-051006-MS-014	WATER	2	X	X	
2		1050	-016		2	X	X	
3		1135	-018		2	X	X	
4		1345	-020		26 MS	X	X	MS/MSD
5		1400	-022		2	X	X	
~~6~~			~~-024~~		~~2~~	~~X~~	~~X~~	
			TOTAL NUMBER OF CONTAINERS		10			

RELINQUISHED BY: (1) Matt Borkowski	DATE: 5/11/06 TIME: 1330	RECEIVED BY: (2)	DATE: TIME:
RELINQUISHED BY: (2)	DATE: TIME:	RECEIVED BY: (3)	DATE: TIME:
RELINQUISHED BY: (3)	DATE: TIME:	RECEIVED BY: (4)	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: BORKOWSKI, SIVEK

RECEIVED FOR LABORATORY BY: Pat Marshall 12417
DATE: 5/12/06 TIME: 1100

1001-00(SOURCE)GN-CO004

CONESTOGA-ROVERS & ASSOCIATES

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

L28614 S.28

PAGE 1 OF 1

ID # Nº D 1754

SSOW Ref. Code:

Required Client Information:

Company: CRA, Inc.	Report To:
Address: 14496 Sheldon Rd.	Copy To:
Suite 200	Invoice To:
Plymouth, MI 48170	P.O.:
Phone: 734-453-5123	Project Name: Exelon LaSalle
Fax: 734-453-5201	Project Number: 45136-24
Email:	

Laboratory:	Teledyne Brown
Laboratory Location:	Knoxville TN
Laboratory Contact:	
Requested Due Date:	TAT:
QA/QC Requirements:	

Analysis and Method

Preservative

Valid Matrix Codes: WG Groundwater; WB Borehole Water; WS Surface Water; SO Soil; SE Sediment; See Back for Additional Codes

	Sample Identification:	Matrix Code	Date Collected	Time Collected	# Containers	Unpreserved	HCl	H2SO4	HNO3	NaOH	Other:	Tritium	★	Remarks/Lab ID
1.	GW-45136-050906-BW-001	WG	5/9/06	1055	2				✓			X	X	★-strontium 89/90
2.	GW-45136-050506-BW-002		5/5/06	1045	2				✓			X	X	Gamma Spec:
3.	-003			1355	2				✓			X	X	Mn-54
4.	-004			1600	2				✓			X	X	Fe-59
5.	GW-45136-050906-BW-005		5/9/06	0915	2				✓			X	X	Co-58
6.														Co-60
7.														Zn-65
8.														Zr-Nb-95
9.														I-131
10.														Cs-134
11.														Cs-137
12.														Ba-La-140
13.														
14.														
15.														
	TOTAL NUMBER OF CONTAINERS													

SHIPMENT METHOD	NO. OF COOLERS	RELINQUISHED BY / AFFILIATION	DATE	TIME	RECEIVED BY / AFFILIATION	DATE	TIME
	2	Dennis Hoyt ERH	5/11/06	9:30 CST	EXELON SHIPPING	5/11/06	9:30 CST
AIRBILL NO.		[illegible] Exelon	5/11/06	3:00 CST	Pat Marshall (TBC	5/12/06	1100

Sample Condition

Temp in °C	
Received on Ice	Y / N
Sealed Cooler	Y / N
Samples Intact	Y / N

Additional Comments:

Sampler Name: Dennis Hoyt

Sampler Signature: DENNIS HOYT Date: 5/11/06

Distribution: WHITE - Fully Executed Copy YELLOW - Receiving Laboratory Copy PINK - Shipper GOLDENROD - Sampler Copy

REV. 0 (6/04)

L28609 12 of 158

REVISED
5-12-06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

H-3 removed Item #8

ACKNOWLEDGEMENT

This is not an invoice

May 12, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on May 12, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by May 19, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865)934-0379

Project ID: EX001-3ESPBRAID-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#:860-747-1900, kshaw@craworld.com

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG-BW-051006-MS-014	**L28609-1**		**05/10/06:1010**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-016	**L28609-2**		**05/10/06:1050**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-018	**L28609-3**		**05/10/06:1135**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-020	**L28609-4**		**05/10/06:1345**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-022	**L28609-5**		**05/10/06:1400**	

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-024	**L28609-6**		**05/10/06:1505**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-026	**L28609-7**		**05/10/06:1605**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-MS-028	**L28609-8**		**05/10/06:1640**	
WG	GELI	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-030	**L28609-9**		**05/11/06:0915**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-013	**L28609-10**		**05/10/06:1115**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-015	**L28609-11**		**05/10/06:1210**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-017	**L28609-12**		**05/10/06:1400**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-019	**L28609-13**		**05/10/06:1430**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-021	**L28609-14**		**05/10/06:1600**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-023	**L28609-15**		**05/10/06:1635**	

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051006-JL-025	**L28609-16**		**05/10/06:1725**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-JL-027	**L28609-17**		**05/11/06:0925**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-JL-029	**L28609-18**		**05/11/06:1000**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-JL-031	**L28609-19**		**05/11/06:1005**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-JL-035	**L28609-20**		**05/11/06:1205**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		

End of document

Internal Chain of Custody

05/19/06 15:51 Teledyne Brown Engineering

Internal Chain of Custody

****

Sample # L28609-1 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-1 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-2 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-2 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-3 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By

Internal Chain of Custody

****

Sample # L28609-3 Containernum 1

Relinquish Date	Received By	
05/12/2006 00:00	099999	Sample Custodian

****

Sample # L28609-3 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-4 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****

Sample # L28609-4 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-4 Containernum 3

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****

Sample # L28609-4 Containernum 4

Prod	Analyst
GELI	DW

****
Sample # L28609-4 Containernum 4

H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****
Sample # L28609-4 Containernum 5

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****
Sample # L28609-4 Containernum 6

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****
Sample # L28609-5 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****
Sample # L28609-5 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian
05/15/2006 12:53	099999 Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854 Donna Webb	029728	Lauren Larsen
05/17/2006 15:36	029728 Lauren Larsen	030854	Donna Webb
05/17/2006 15:37	030854 Donna Webb	099999	Sample Custodian

****
Sample # L28609-6 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ

****
Sample # L28609-6 Containernum 1

SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-6 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-7 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-7 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-8 Containernum 1

Prod	Analyst
GELI	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****
Sample # L28609-8 Containernum 2

Prod	Analyst

****
Sample # L28609-8 Containernum 2

GELI	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-9 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-9 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-10 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-10 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-10 Containernum 2

Relinquish Date			Received By	
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-11 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-11 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-12 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-12 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-13 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-13 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-14 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-14 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-15 Containernum 1

Prod	Analyst
SAMPLE	

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****
Sample # L28609-15 Containernum 2

****

Sample # L28609-15 Containernum 2

Prod	Analyst
SAMPLE	

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen

****

Sample # L28609-16 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-16 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28609-17 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****

Sample # L28609-17 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb

****
Sample # L28609-17 Containernum 2

Relinquish Date			Received By	
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-18 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-18 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-19 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian

****
Sample # L28609-19 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28609-20 Containernum 1

Prod	Analyst
GELI	DW

****

Sample # L28609-20 Containernum 1

H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By	Received By	
05/12/2006 00:00		099999	Sample Custodian

****

Sample # L28609-20 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/12/2006 00:00			099999	Sample Custodian
05/15/2006 12:53	099999	Sample Custodian	030854	Donna Webb
05/15/2006 12:55	030854	Donna Webb	029728	Lauren Larsen
05/17/2006 15:34	029728	Lauren Larsen	030854	Donna Webb
05/17/2006 15:36	030854	Donna Webb	099999	Sample Custodian

05/19/06 Teledyne Brown Engineering Internal Chain of Custody Supplemental Sheet

L28609

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L28609-1 WG WG-BW-051006-MS-014

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	ILL	05/15/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-2 WG WG-BW-051006-MS-016

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	ILL	05/15/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-3 WG WG-BW-051006-MS-018

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	ILL	05/15/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-4 WG WG-BW-051006-MS-020

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	KOJ	05/15/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-5 WG WG-BW-051006-MS-022

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	KOJ	05/15/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28609

L28609-5	**WG**	**WG-BW-051006-MS-022**		
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-6	**WG**	**WG-BW-051006-MS-024**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		KOJ	05/15/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-7	**WG**	**WG-BW-051006-MS-026**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		KOJ	05/15/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-8	**WG**	**WG-BW-051006-MS-028**		
Process step	Prod		Analyst	Date
Login			RCHARLES	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		ILL	05/16/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-9	**WG**	**WG-BW-051106-MS-030**		
Process step	Prod		Analyst	Date
Login			RCHARLES	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		ILL	05/16/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-10	**WG**	**WG-BW-051006-JL-013**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06

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Internal Chain of Custody
Supplemental Sheet

L28609

L28609-10	**WG**	**WG-BW-051006-JL-013**		
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		ILL	05/16/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-11	**WG**	**WG-BW-051006-JL-015**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		ILL	05/16/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-12	**WG**	**WG-BW-051006-JL-017**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		KPW	05/16/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-13	**WG**	**WG-BW-051006-JL-019**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		KPW	05/16/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-14	**WG**	**WG-BW-051006-JL-021**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90 (FAST)		GK	05/18/06
Count Room	GELI		KPW	05/16/06
Count Room	H-3		KOJ	05/18/06
Count Room	SR-90 (FAST)		KOJ	05/19/06

****

L28609-15 **WG** **WG-BW-051006-JL-023**

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28609

L28609-15 WG WG-BW-051006-JL-023

Process step	Prod	Analyst	Date
Login		RCHARLES	05/12/06
Aliquot	SAMPLE		
Count Room	SAMPLE		

****

L28609-16 WG WG-BW-051006-JL-025

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	KPW	05/16/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-17 WG WG-BW-051106-JL-027

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	KPW	05/16/06
Count Room	H-3	KOJ	05/18/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-18 WG WG-BW-051106-JL-029

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	KPW	05/16/06
Count Room	H-3	KOJ	05/19/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-19 WG WG-BW-051106-JL-031

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/12/06
Aliquot	GELI	DW	05/15/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/18/06
Count Room	GELI	KPW	05/16/06
Count Room	H-3	KOJ	05/19/06
Count Room	SR-90 (FAST)	KOJ	05/19/06

****

L28609-20 WG WG-BW-051106-JL-035

05/19/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28609

L28609-20	**WG**	**WG-BW-051106-JL-035**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/12/06
Aliquot	GELI		DW	05/15/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90	(FAST)	GK	05/18/06
Count Room	GELI		KPW	05/16/06
Count Room	H-3		KOJ	05/19/06
Count Room	SR-90	(FAST)	KOJ	05/19/06

Analytical Results Summary

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-014** Collect Start: 05/10/2006 10:10 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-1

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	4.30E+00	1.09E+02	**1.79E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-2.92E-01	3.49E-01	**5.96E-01**	pCi/L		450	ml	05/10/06 10:10	05/19/06	400	M	U		
MN-54	2007	7.40E-02	2.28E+00	**4.04E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
CO-58	2007	-1.06E+00	2.58E+00	**4.30E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
FE-59	2007	7.75E-01	4.72E+00	**8.35E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
CO-60	2007	1.60E+00	2.23E+00	**4.26E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
ZN-65	2007	9.93E+00	6.53E+00	**1.10E+01**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
NB-95	2007	1.96E-01	2.49E+00	**4.32E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
ZR-95	2007	-5.78E-01	4.45E+00	**7.61E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
CS-134	2007	2.55E+00	3.25E+00	**5.00E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
CS-137	2007	1.80E+00	2.55E+00	**4.62E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
BA-140	2007	2.50E+00	1.12E+01	**1.97E+01**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No
LA-140	2007	-1.32E+00	3.65E+00	**6.21E+00**	pCi/L		3729.78	ml	05/10/06 10:10	05/15/06	12600	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-016** Collect Start: 05/10/2006 10:50 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-2

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	-9.56E+01	1.03E+02	**1.81E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-8.55E-01	6.41E-01	**1.12E+00**	pCi/L		450	ml	05/10/06 10:50	05/19/06	400	M	U		
MN-54	2007	1.21E+00	2.66E+00	**4.53E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
CO-58	2007	-1.26E+00	2.66E+00	**4.19E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
FE-59	2007	1.80E+00	5.63E+00	**9.49E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
CO-60	2007	-1.42E+00	2.68E+00	**4.24E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
ZN-65	2007	6.18E+00	6.31E+00	**1.10E+01**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
NB-95	2007	4.59E-01	2.80E+00	**4.62E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
ZR-95	2007	-7.54E-01	4.92E+00	**7.99E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
CS-134	2007	6.19E+00	4.92E+00	**5.05E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
CS-137	2007	3.18E+00	2.66E+00	**4.70E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
BA-140	2007	-2.57E+00	1.15E+01	**1.88E+01**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No
LA-140	2007	4.72E+00	3.83E+00	**7.00E+00**	pCi/L		3458.86	ml	05/10/06 10:50	05/15/06	12646	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-018** (WG)
Station:
Description:
LIMS Number: L28609-3

Collect Start: 05/10/2006 11:35
Collect Stop:
Receive Date: 05/12/2006

Matrix: Ground Water
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	6.41E+01	1.12E+02	**1.78E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-1.23E-01	6.20E-01	**1.03E+00**	pCi/L		450	ml	05/10/06 11:35	05/19/06	400	M	U		
MN-54	2007	-1.36E+00	2.89E+00	**4.58E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
CO-58	2007	4.54E-01	3.20E+00	**5.37E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
FE-59	2007	3.70E+00	6.06E+00	**1.06E+01**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
CO-60	2007	-1.53E+00	4.07E+00	**6.69E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
ZN-65	2007	3.80E+00	7.38E+00	**1.28E+01**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
NB-95	2007	2.01E+00	3.28E+00	**5.59E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
ZR-95	2007	-1.21E+00	5.79E+00	**9.23E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
CS-134	2007	1.86E+00	4.82E+00	**5.18E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
CS-137	2007	1.22E-01	3.47E+00	**5.71E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
BA-140	2007	6.36E+00	1.41E+01	**2.35E+01**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No
LA-140	2007	2.88E+00	4.39E+00	**7.83E+00**	pCi/L		3660.84	ml	05/10/06 11:35	05/15/06	9000	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-020** Collect Start: 05/10/2006 13:45 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-4

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	2.36E+01	1.10E+02	**1.79E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-3.25E-01	3.83E-01	**6.51E-01**	pCi/L		450	ml	05/10/06 13:45	05/19/06	400	M	U		
MN-54	2007	-3.99E-01	3.39E+00	**5.53E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
CO-58	2007	-2.75E+00	3.34E+00	**5.16E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
FE-59	2007	3.17E+00	6.64E+00	**1.14E+01**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
CO-60	2007	-1.43E+00	3.52E+00	**5.59E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
ZN-65	2007	1.19E+01	8.23E+00	**1.34E+01**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
NB-95	2007	1.49E+00	3.47E+00	**5.91E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
ZR-95	2007	1.69E+00	5.79E+00	**9.81E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
CS-134	2007	8.49E+00	6.41E+00	**6.22E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
CS-137	2007	6.95E-01	3.22E+00	**5.35E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
BA-140	2007	9.88E+00	1.43E+01	**2.48E+01**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No
LA-140	2007	4.10E+00	4.35E+00	**7.99E+00**	pCi/L		3726.07	ml	05/10/06 13:45	05/15/06	8400	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-022** Collect Start: 05/10/2006 14:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-5

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	-8.54E+01	1.02E+02	**1.78E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-2.04E-01	4.01E-01	**6.75E-01**	pCi/L		450	ml	05/10/06 14:00	05/19/06	400	M	U		
MN-54	2007	3.43E-01	1.57E+00	**2.57E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
CO-58	2007	-1.53E+00	1.53E+00	**2.41E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
FE-59	2007	1.68E+00	3.18E+00	**5.32E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
CO-60	2007	3.01E-01	1.61E+00	**2.67E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
ZN-65	2007	6.31E+00	4.22E+00	**6.28E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
NB-95	2007	8.34E-01	1.59E+00	**2.64E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
ZR-95	2007	-2.45E-01	2.79E+00	**4.56E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
CS-134	2007	7.54E+00	2.78E+00	**3.19E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U*		No
CS-137	2007	1.08E+00	1.60E+00	**2.71E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
BA-140	2007	-1.43E-01	6.92E+00	**1.13E+01**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No
LA-140	2007	2.62E+00	2.39E+00	**4.17E+00**	pCi/L		3651.92	ml	05/10/06 14:00	05/15/06	50820	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-024** Collect Start: 05/10/2006 15:05 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-6

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values	
H-3	2010	5.15E+01	1.12E+02	**1.79E+02**	pCi/L		10	ml		05/18/06	60	M	U	
TOTAL SR	2018	-1.42E-01	5.03E-01	**8.38E-01**	pCi/L		450	ml	05/10/06 15:05	05/19/06	400	M	U	
K-40	2007	**1,52E+02**	2.75E+01	2.48E+01	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	+	Yes
MN-54	2007	6.61E-01	1.60E+00	**2.65E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
CO-58	2007	4.82E-01	1.64E+00	**2.70E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
FE-59	2007	6.21E+00	3.74E+00	**5.67E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U*	No
CO-60	2007	-9.01E-01	1.59E+00	**2.54E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
ZN-65	2007	1.02E+01	4.07E+00	**6.40E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U*	No
NB-95	2007	1.85E+00	1.60E+00	**2.72E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
ZR-95	2007	7.88E-01	2.75E+00	**4.55E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
CS-134	2007	8.34E+00	3.01E+00	**3.16E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U*	No
CS-137	2007	1.29E+00	1.70E+00	**2.87E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
BA-140	2007	3.71E+00	7.19E+00	**1.19E+01**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
LA-140	2007	7.17E-01	2.36E+00	**3.92E+00**	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	U	No
RA-226	2007	**9.94E+01**	3.95E+01	6.01E+01	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	+	Yes
TH-228	2007	**1.05E+01**	2.69E+00	4.53E+00	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	+	Yes
TH-232	2007	**1.30E+01**	4.91E+00	1.07E+01	pCi/L		3574.92	ml	05/10/06 15:05	05/15/06	51000	Sec	+	Yes

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-026** (WG)
Station:
Description:
LIMS Number: L28609-7

Collect Start: 05/10/2006 16:05
Collect Stop:
Receive Date: 05/12/2006

Matrix: Ground Water
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	-4.28E+00	1.08E+02	**1.79E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	2.77E-01	3.08E-01	**4.88E-01**	pCi/L		450	ml	05/10/06 16:05	05/19/06	400	M	U		
MN-54	2007	1.72E-01	1.64E+00	**2.73E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
CO-58	2007	-1.84E-01	1.66E+00	**2.75E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
FE-59	2007	3.34E+00	3.41E+00	**5.79E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
CO-60	2007	1.44E+00	1.62E+00	**2.80E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
ZN-65	2007	8.35E+00	4.43E+00	**6.77E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U*		No
NB-95	2007	3.43E+00	1.77E+00	**3.07E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U*		No
ZR-95	2007	-1.47E+00	3.01E+00	**4.79E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
CS-134	2007	3.54E+00	3.22E+00	**3.10E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
CS-137	2007	9.18E-01	1.82E+00	**3.03E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
BA-140	2007	9.80E-01	7.32E+00	**1.22E+01**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No
LA-140	2007	1.11E-01	2.41E+00	**4.01E+00**	pCi/L		3817.7	ml	05/10/06 16:05	05/15/06	51300	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-MS-028** Collect Start: 05/10/2006 16:40 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-8

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
TOTAL SR	2018	-1.49E-01	3.04E-01	**5.12E-01**	pCi/L		450	ml	05/10/06 16:40	05/19/06	400	M	U		
MN-54	2007	9.32E-01	3.11E+00	**5.30E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
CO-58	2007	2.20E-01	3.72E+00	**6.07E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
FE-59	2007	-2.12E+00	7.09E+00	**1.14E+01**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
CO-60	2007	-7.98E-01	3.30E+00	**5.30E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
ZN-65	2007	3.60E+00	8.11E+00	**1.39E+01**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
NB-95	2007	1.60E+00	3.34E+00	**5.67E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
ZR-95	2007	-2.52E+00	5.88E+00	**9.28E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
CS-134	2007	1.36E+01	4.94E+00	**6.46E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U*		No
CS-137	2007	1.60E+00	3.23E+00	**5.55E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
BA-140	2007	1.37E+01	1.59E+01	**2.76E+01**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No
LA-140	2007	-2.53E+00	5.30E+00	**8.27E+00**	pCi/L		3592.27	ml	05/10/06 16:40	05/16/06	7200	Sec	U		No

Comment: 1 Tritium aliquot lost in shipment

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-MS-030**
Station:
Description:
LIMS Number: L28609-9

Collect Start: 05/11/2006 09:15
Collect Stop:
Receive Date: 05/12/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**1.96E+02**	1.24E+02	1.83E+02	pCi/L		10	ml		05/18/06	60	M	+		
TOTAL SR	2018	-3.07E-01	3.89E-01	**6.62E-01**	pCi/L		450	ml	05/11/06 09:15	05/19/06	400	M	U		
MN-54	2007	5.99E-01	2.87E+00	**5.13E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
CO-58	2007	-3.74E+00	3.13E+00	**4.91E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
FE-59	2007	5.71E+00	6.60E+00	**1.21E+01**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
CO-60	2007	2.43E+00	3.00E+00	**5.71E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
ZN-65	2007	3.47E+00	6.40E+00	**1.16E+01**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
NB-95	2007	1.88E+00	3.01E+00	**5.41E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
ZR-95	2007	-6.86E-02	4.90E+00	**8.49E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
CS-134	2007	3.20E+00	4.53E+00	**5.63E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
CS-137	2007	6.09E-01	3.24E+00	**5.67E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
BA-140	2007	-6.84E+00	1.33E+01	**2.26E+01**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No
LA-140	2007	4.16E+00	3.86E+00	**7.68E+00**	pCi/L		3497.32	ml	05/11/06 09:15	05/16/06	10885	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-013** Collect Start: 05/10/2006 11:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-10

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**7.19E+02**	1.50E+02	1.81E+02	pCi/L		10	ml		05/18/06	60	M	+		
TOTAL SR	2018	-2.37E-01	8.31E-01	**1.38E+00**	pCi/L		450	ml	05/10/06 11:15	05/19/06	400	M	U		
K-40	2007	**1.20E+02**	5.52E+01	5.14E+01	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	+		Yes
MN-54	2007	2.17E+00	2.91E+00	**5.09E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
CO-58	2007	-2.39E+00	3.26E+00	**5.10E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
FE-59	2007	1.06E+00	6.24E+00	**1.05E+01**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
CO-60	2007	-3.18E-01	3.36E+00	**5.73E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
ZN-65	2007	7.73E+00	8.45E+00	**1.31E+01**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
NB-95	2007	-6.03E-01	3.39E+00	**5.42E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
ZR-95	2007	5.26E+00	5.61E+00	**9.78E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
CS-134	2007	5.45E+00	5.06E+00	**5.92E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
CS-137	2007	3.21E+00	3.49E+00	**5.03E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		Yes
BA-140	2007	3.55E+00	1.50E+01	**2.46E+01**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No
LA-140	2007	-1.67E-02	5.23E+00	**8.55E+00**	pCi/L		3654.51	ml	05/10/06 11:15	05/16/06	10048	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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H = High recovery

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No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-015** Collect Start: 05/10/2006 12:10 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-11

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**1.04E+03**	1.72E+02	1.91E+02	pCi/L		10	ml		05/18/06	54.61	M	+		
TOTAL SR	2018	-8.07E-01	9.36E-01	**1.59E+00**	pCi/L		450	ml	05/10/06 12:10	05/19/06	400	M	U		
K-40	2007	**1.05E+02**	5.30E+01	3.75E+01	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	+		Yes
MN-54	2007	3.46E+00	2.88E+00	**5.00E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
CO-58	2007	-6.30E-01	3.06E+00	**4.93E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
FE-59	2007	-1.60E+00	6.09E+00	**9.81E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
CO-60	2007	-1.98E+00	2.87E+00	**4.48E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
ZN-65	2007	4.82E+00	7.79E+00	**1.13E+01**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
NB-95	2007	1.74E+00	2.73E+00	**4.63E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
ZR-95	2007	-1.66E+00	4.94E+00	**7.93E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
CS-134	2007	7.99E+00	4.64E+00	**5.39E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U*		No
CS-137	2007	1.96E+00	3.00E+00	**5.12E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
BA-140	2007	3.12E+00	1.31E+01	**2.15E+01**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No
LA-140	2007	1.20E+00	4.85E+00	**8.06E+00**	pCi/L		3548.08	ml	05/10/06 12:10	05/16/06	17749	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-017** Collect Start: 05/10/2006 14:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-12

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	-3.48E+01	1.01E+02	**1.71E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	3.37E-01	1.02E+00	**1.65E+00**	pCi/L		450	ml	05/10/06 14:00	05/19/06	400	M	U		
MN-54	2007	-1.77E-01	2.74E+00	**4.44E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
CO-58	2007	2.48E+00	2.89E+00	**4.96E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
FE-59	2007	3.03E+00	5.49E+00	**9.33E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
CO-60	2007	1.22E+00	2.79E+00	**4.76E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
ZN-65	2007	7.86E+00	6.34E+00	**1.12E+01**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
NB-95	2007	2.16E-01	3.00E+00	**4.94E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
ZR-95	2007	2.90E+00	5.31E+00	**8.97E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
CS-134	2007	6.97E+00	4.95E+00	**5.57E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
CS-137	2007	-1.36E+00	2.90E+00	**4.68E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
BA-140	2007	3.96E+00	1.34E+01	**2.23E+01**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No
LA-140	2007	-3.04E-01	4.53E+00	**7.46E+00**	pCi/L		3602.18	ml	05/10/06 14:00	05/16/06	17182	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-019** Collect Start: 05/10/2006 14:30 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-13

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.15E+02	1.11E+02	**1.71E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-2.36E-01	9.46E-01	**1.57E+00**	pCi/L		450	ml	05/10/06 14:30	05/19/06	400	M	U		
MN-54	2007	7.80E-01	2.92E+00	**4.93E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
CO-58	2007	-1.63E-01	3.25E+00	**5.38E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
FE-59	2007	1.02E+00	6.20E+00	**1.02E+01**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
CO-60	2007	1.21E+00	3.28E+00	**5.56E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
ZN-65	2007	1.17E+01	7.61E+00	**1.22E+01**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
NB-95	2007	1.73E+00	2.97E+00	**5.01E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
ZR-95	2007	1.12E+00	5.34E+00	**8.80E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
CS-134	2007	6.58E-01	3.28E+00	**5.45E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
CS-137	2007	1.16E+00	3.21E+00	**5.37E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
BA-140	2007	-1.26E+00	1.44E+01	**2.38E+01**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No
LA-140	2007	2.36E+00	4.83E+00	**8.38E+00**	pCi/L		3736.77	ml	05/10/06 14:30	05/16/06	16634	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-021** Collect Start: 05/10/2006 16:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-14

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
H-3	2010	6.52E+01	1.07E+02	**1.70E+02**	pCi/L		10	ml		05/18/06	60	M	U			
TOTAL SR	2018	5.92E-01	5.57E-01	**8.78E-01**	pCi/L		450	ml	05/10/06 16:00	05/19/06	400	M	U			
MN-54	2007	-3.36E-01	2.87E+00	**4.69E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
CO-58	2007	-5.78E-02	3.19E+00	**5.26E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
FE-59	2007	-1.85E-01	6.25E+00	**1.03E+01**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
CO-60	2007	-1.73E-01	2.95E+00	**4.85E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
ZN-65	2007	1.08E+01	7.99E+00	**1.25E+01**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
NB-95	2007	4.39E+00	3.05E+00	**5.45E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
ZR-95	2007	5.61E-01	5.29E+00	**8.84E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
CS-134	2007	3.41E+00	6.66E+00	**5.39E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
CS-137	2007	5.59E-02	3.38E+00	**5.53E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
BA-140	2007	8.66E+00	1.36E+01	**2.33E+01**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	
LA-140	2007	-1.92E+00	4.56E+00	**7.28E+00**	pCi/L		3572.28	ml	05/10/06 16:00	05/16/06	12066	Sec	U		No	

Sample ID: **WG-BW-051006-JL-023** Collect Start: 05/10/2006 16:35 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-15

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values			
SAMPLE	NA												U			

Comment: 1 Sample spilled at laboratory. Analysis cancelled

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
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U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051006-JL-025** Collect Start: 05/10/2006 17:25 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-16

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	-5.54E+01	1.00E+02	**1.71E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	9.26E-01	7.56E-01	**1.18E+00**	pCi/L		450	ml	05/10/06 17:25	05/19/06	400	M	U		
K-40	2007	**7.38E+01**	3.50E+01	3.16E+01	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	+		Yes
MN-54	2007	3.05E-01	1.87E+00	**3.11E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
CO-58	2007	5.53E-01	1.97E+00	**3.24E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
FE-59	2007	2.06E+00	3.82E+00	**6.43E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
CO-60	2007	-1.46E-01	2.04E+00	**3.37E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
ZN-65	2007	4.65E+01	5.87E+00	**1.08E+01**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U*		No
NB-95	2007	8.66E+00	2.52E+00	**3.96E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U*		No
ZR-95	2007	4.30E-01	3.63E+00	**5.52E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
CS-134	2007	4.39E+01	4.09E+00	**5.73E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U*		No
CS-137	2007	2.39E+00	1.95E+00	**3.35E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
BA-140	2007	6.47E+00	8.40E+00	**1.41E+01**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
LA-140	2007	3.60E-02	3.11E+00	**5.14E+00**	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	U		No
TH-228	2007	**2.13E+01**	3.07E+00	5.22E+00	pCi/L		3544.22	ml	05/10/06 17:25	05/16/06	32000	Sec	+		Yes

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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-JL-027** Collect Start: 05/11/2006 09:25 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-17

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.78E+01	1.01E+02	**1.65E+02**	pCi/L		10	ml		05/18/06	60	M	U		
TOTAL SR	2018	-1.29E+00	9.54E-01	**1.66E+00**	pCi/L		450	ml	05/11/06 09:25	05/19/06	400	M	U		
MN-54	2007	5.80E-01	2.94E+00	**4.93E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
CO-58	2007	-2.58E+00	2.88E+00	**4.42E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
FE-59	2007	3.87E+00	6.25E+00	**1.09E+01**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
CO-60	2007	1.09E+00	2.84E+00	**6.49E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		Yes
ZN-65	2007	-9.83E-03	8.42E+00	**1.17E+01**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
NB-95	2007	2.45E+00	3.20E+00	**5.47E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
ZR-95	2007	-1.13E+00	5.46E+00	**8.73E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
CS-134	2007	7.34E+00	5.51E+00	**5.43E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
CS-137	2007	1.30E+00	3.29E+00	**5.55E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
BA-140	2007	-4.94E+00	1.33E+01	**2.10E+01**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No
LA-140	2007	-4.51E+00	4.97E+00	**7.32E+00**	pCi/L		3480.01	ml	05/11/06 09:25	05/16/06	11480	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
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H = High recovery

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Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-JL-029** Collect Start: 05/11/2006 10:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-18

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**3.11E+02**	1.18E+02	1.63E+02	pCi/L		10	ml		05/19/06	60	M	+		
TOTAL SR	2018	-1.00E-01	9.18E-01	**1.52E+00**	pCi/L		450	ml	05/11/06 10:00	05/19/06	400	M	U		
MN-54	2007	2.27E-01	2.75E+00	**4.86E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
CO-58	2007	-1.72E-01	2.46E+00	**4.23E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
FE-59	2007	2.31E+00	5.03E+00	**9.15E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
CO-60	2007	-1.05E+00	2.76E+00	**4.75E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
ZN-65	2007	5.87E+00	6.73E+00	**1.08E+01**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
NB-95	2007	4.25E-01	2.91E+00	**5.04E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
ZR-95	2007	-1.03E+00	4.93E+00	**8.37E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
CS-134	2007	6.22E+00	3.68E+00	**5.97E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U*		No
CS-137	2007	6.60E-01	2.91E+00	**5.11E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
BA-140	2007	8.73E+00	1.22E+01	**2.22E+01**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No
LA-140	2007	2.60E+00	3.60E+00	**6.91E+00**	pCi/L		3630.49	ml	05/11/06 10:00	05/16/06	11540	Sec	U		No

Flag Values
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U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-JL-031** Collect Start: 05/11/2006 10:05 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-19

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**4.41E+02**	1.31E+02	1.73E+02	pCi/L		10	ml		05/19/06	60	M	+		
TOTAL SR	2018	-5.31E-01	1.00E+00	**1.68E+00**	pCi/L		450	ml	05/11/06 10:05	05/19/06	400	M	U		
MN-54	2007	9.84E-01	3.42E+00	**5.74E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
CO-58	2007	3.26E+00	3.52E+00	**6.13E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
FE-59	2007	9.83E-01	6.49E+00	**1.09E+01**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
CO-60	2007	-1.58E+00	3.57E+00	**5.60E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
ZN-65	2007	1.18E+01	8.85E+00	**1.40E+01**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
NB-95	2007	1.38E+00	3.55E+00	**6.01E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
ZR-95	2007	-2.88E+00	6.12E+00	**9.83E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
CS-134	2007	6.39E+00	4.89E+00	**7.30E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
CS-137	2007	-4.30E-01	3.61E+00	**5.84E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
BA-140	2007	-1.72E+00	1.55E+01	**2.53E+01**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No
LA-140	2007	5.16E+00	4.65E+00	**8.51E+00**	pCi/L		3661	ml	05/11/06 10:05	05/16/06	11174	Sec	U		No

Flag Values
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High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

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Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/19/06 15:37

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28609

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-JL-035** Collect Start: 05/11/2006 12:05 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/12/2006 % Moisture:
LIMS Number: L28609-20

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	-2.93E+01	1.04E+02	**1.74E+02**	pCi/L		10	ml		05/19/06	60	M	U		
TOTAL SR	2018	-2.92E-01	9.68E-01	**1.62E+00**	pCi/L		450	ml	05/11/06 12:05	05/19/06	400	M	U		
MN-54	2007	2.23E+00	2.31E+00	**3.99E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
CO-58	2007	1.63E+00	2.27E+00	**3.89E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
FE-59	2007	1.32E+00	4.85E+00	**8.01E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
CO-60	2007	-8.17E-01	2.35E+00	**3.78E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
ZN-65	2007	1.56E+01	6.01E+00	**9.82E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U*		No
NB-95	2007	-2.54E-01	2.41E+00	**3.89E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
ZR-95	2007	8.83E-01	4.10E+00	**6.73E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
CS-134	2007	9.95E+00	4.27E+00	**4.23E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U*		No
CS-137	2007	1.49E+00	2.44E+00	**4.10E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
BA-140	2007	3.13E-01	1.01E+01	**1.68E+01**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No
LA-140	2007	2.46E+00	3.64E+00	**6.30E+00**	pCi/L		3603.96	ml	05/11/06 12:05	05/16/06	32000	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report for L28609

5/19/2006 3:50:36PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

H-3

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG3994-1	H-3	WO	05/17/2006 21:45	< 1.590E+00	pCi/Total	U	P
WG3978-1		WO	05/17/2006 12:59	< 1.810E+00	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG3978-2	H-3	WO	05/18/2006 6:21	5.05E+002	4.240E+02	pCi/Total	84.0	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000										
WG3994-2		WO	05/18/2006 0:03	5.05E+002	4.460E+02	pCi/Total	88.4	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000										

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG3978-5 L28597-7	H-3	WG	05/17/2006 13:56	< 1.820E+02	< 1.710E+02	pCi/L		<30	**	NE

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28609

5/19/2006 3:50:36PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28609 **H-3**

Associated Samples for **WG3978**

SAMPLENUM	CLIENTID
L28609-1	WG-BW-051006-MS-014
L28609-2	WG-BW-051006-MS-016
L28609-3	WG-BW-051006-MS-018

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28609

5/19/2006 3:50:36PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

TOTAL SR

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG4000-1	TOTAL SR	WO	05/19/2006 2:51	< 6.330E-01	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG4000-2	TOTAL SR	WO	05/19/2006 2:51	5.84E+001	5.910E+01	pCi/Total	101.2	70-130	+	P

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG4000-3	TOTAL SR	WG	05/19/2006 2:51	< 5.960E-01	< 7.250E-01	pCi/L		<30	**	NE
L28609-1										

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28609

5/19/2006 3:50:36PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28609 **SR-90 (FAST)**

Associated Samples for **WG4000**

SAMPLENUM	CLIENTID
L28609-1	WG-BW-051006-MS-014
L28609-2	WG-BW-051006-MS-016
L28609-3	WG-BW-051006-MS-018
L28609-4	WG-BW-051006-MS-020
L28609-5	WG-BW-051006-MS-022
L28609-6	WG-BW-051006-MS-024
L28609-7	WG-BW-051006-MS-026
L28609-8	WG-BW-051006-MS-028
L28609-9	WG-BW-051106-MS-030
L28609-10	WG-BW-051006-JL-013
L28609-11	WG-BW-051006-JL-015
L28609-12	WG-BW-051006-JL-017
L28609-13	WG-BW-051006-JL-019
L28609-14	WG-BW-051006-JL-021
L28609-16	WG-BW-051006-JL-025
L28609-17	WG-BW-051106-JL-027
L28609-18	WG-BW-051106-JL-029
L28609-19	WG-BW-051106-JL-031
L28609-20	WG-BW-051106-JL-035

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

Raw Data

Raw Data Sheet (rawdata)
May 19 2006, 03:51 pm

Work Order: *L28609* Customer: *Exelon*

Nuclide: *H-3* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28609-1		H-3					0		18-may-06 07:44	LS7	116	60	1.92	60	.21		EJ
WG-BW-051006-MS-014				10 ml													
Activity: 4.3E+00		Error: 1.09E+02		MDC: 1.79E+02 *													
L28609-2		H-3					0		18-may-06 08:47	LS7	89	60	1.92	60	.208		EJ
WG-BW-051006-MS-016				10 ml													
Activity: -9.56E+01		Error: 1.03E+02		MDC: 1.81E+02 *													
L28609-3		H-3					0		18-may-06 09:51	LS7	133	60	1.92	60	.211		EJ
WG-BW-051006-MS-018				10 ml													
Activity: 6.41E+01		Error: 1.12E+02		MDC: 1.78E+02 *													
L28609-4		H-3					0		18-may-06 10:54	LS7	122	60	1.92	60	.21		EJ
WG-BW-051006-MS-020				10 ml													
Activity: 2.36E+01		Error: 1.1E+02		MDC: 1.79E+02 *													
L28609-5		H-3					0		18-may-06 11:57	LS7	91	60	1.92	60	.211		EJ
WG-BW-051006-MS-022				10 ml													
Activity: -8.54E+01		Error: 1.02E+02		MDC: 1.78E+02 *													
L28609-6		H-3					0		18-may-06 13:01	LS7	130	60	1.92	60	.21		EJ
WG-BW-051006-MS-024				10 ml													
Activity: 5.15E+01		Error: 1.12E+02		MDC: 1.79E+02 *													
L28609-7		H-3					0		18-may-06 14:04	LS7	114	60	1.92	60	.211		EJ
WG-BW-051006-MS-026				10 ml													
Activity: -4.28E+00		Error: 1.08E+02		MDC: 1.79E+02 *													
L28609-9		H-3					0		18-may-06 15:08	LS7	169	60	1.92	60	.205		EJ
WG-BW-051106-MS-030				10 ml													
Activity: 1.96E+02 *		Error: 1.24E+02		MDC: 1.83E+02													
L28609-10		H-3					0		18-may-06 16:11	LS7	314	60	1.92	60	.208		EJ
WG-BW-051006-JL-013				10 ml													
Activity: 7.19E+02 *		Error: 1.5E+02		MDC: 1.81E+02													
L28609-11		H-3					0		18-may-06 18:18	LS7	364	54.61	1.92	60	.206		EJ
WG-BW-051006-JL-015				10 ml													
Activity: 1.04E+03 *		Error: 1.72E+02		MDC: 1.91E+02													
L28609-12		H-3					0		18-may-06 19:16	LS7	105	60	1.92	60	.22		EJ
WG-BW-051006-JL-017				10 ml													
Activity: -3.48E+01		Error: 1.01E+02		MDC: 1.71E+02 *													
L28609-13		H-3					0		18-may-06 20:20	LS7	149	60	1.92	60	.22		EJ
WG-BW-051006-JL-019				10 ml													
Activity: 1.15E+02		Error: 1.11E+02		MDC: 1.71E+02 *													
L28609-14		H-3					0		18-may-06 21:24	LS7	134	60	1.92	60	.221		EJ
WG-BW-051006-JL-021				10 ml													
Activity: 6.52E+01		Error: 1.07E+02		MDC: 1.7E+02 *													
L28609-16		H-3					0		18-may-06 22:27	LS7	99	60	1.92	60	.22		EJ
WG-BW-051006-JL-025				10 ml													
Activity: -5.54E+01		Error: 1E+02		MDC: 1.71E+02 *													
L28609-17		H-3					0		18-may-06 23:31	LS7	121	60	1.92	60	.228		EJ
WG-BW-051106-JL-027				10 ml													
Activity: 1.78E+01		Error: 1.01E+02		MDC: 1.65E+02 *													
L28609-18		H-3					0		19-may-06 00:34	LS7	211	60	1.92	60	.231		EJ
WG-BW-051106-JL-029				10 ml													
Activity: 3.11E+02 *		Error: 1.18E+02		MDC: 1.63E+02													

Raw Data Sheet (rawdata)
May 19 2006, 03:51 pm

Work Order: *L28609* Customer: *Exelon*

Nuclide: *H-3* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28609-19		H-3					0		19-may-06 01:38	LS7	242	60	1.92	60	.217		EJ
WG-BW-051106-JL-031				10 ml													
Activity: 4.41E+02 * Error: 1.31E+02				MDC: 1.73E+02													
L28609-20		H-3					0		19-may-06 02:42	LS7	107	60	1.92	60	.216		EJ
WG-BW-051106-JL-035				10 ml													
Activity: -2.93E+01 Error: 1.04E+02				MDC: 1.74E+02 *													

Work Order: *L28609* Customer: *Exelon*

Nuclide: *SR-90 (FAST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28609-1		TOTAL SR	10-may-06				0		19-may-06	Y3A	252	400	291	400	.347	.999	GK
WG-BW-051006-MS-014			10:10	450 ml				96.24	02:51								
Activity: -2.92E-01	Error: 3.49E-01		MDC: 5.96E-01 *														
L28609-2		TOTAL SR	10-may-06				0		19-may-06	Y3B	231	400	292	400	.346	.999	GK
WG-BW-051006-MS-016			10:50	450 ml				51.61	02:51								
Activity: -8.55E-01	Error: 6.41E-01		MDC: 1.12E+00 *														
L28609-3		TOTAL SR	10-may-06				0		19-may-06	Y3D	253	400	262	400	.352	.999	GK
WG-BW-051006-MS-018			11:35	450 ml				52.15	02:51								
Activity: -1.23E-01	Error: 6.2E-01		MDC: 1.03E+00 *														
L28609-4		TOTAL SR	10-may-06				0		19-may-06	X1B	299	400	342	400	.343	.999	GK
WG-BW-051006-MS-020			13:45	450 ml				96.51	02:47								
Activity: -3.25E-01	Error: 3.83E-01		MDC: 6.51E-01 *														
L28609-5		TOTAL SR	10-may-06				0		19-may-06	X1C	265	400	289	400	.354	.999	GK
WG-BW-051006-MS-022			14:00	450 ml				83.06	02:47								
Activity: -2.04E-01	Error: 4.01E-01		MDC: 6.75E-01 *														
L28609-6		TOTAL SR	10-may-06				0		19-may-06	X1D	298	400	312	400	.344	.999	GK
WG-BW-051006-MS-024			15:05	450 ml				71.51	02:47								
Activity: -1.42E-01	Error: 5.03E-01		MDC: 8.38E-01 *														
L28609-7		TOTAL SR	10-may-06				0		19-may-06	X2A	307	400	264	400	.354	.999	GK
WG-BW-051006-MS-026			16:05	450 ml				109.68	02:47								
Activity: 2.77E-01	Error: 3.08E-01		MDC: 4.88E-01 *														
L28609-8		TOTAL SR	10-may-06				0		19-may-06	X2B	266	400	289	400	.345	.999	GK
WG-BW-051006-MS-028			16:40	450 ml				112.37	02:47								
Activity: -1.49E-01	Error: 3.04E-01		MDC: 5.12E-01 *														
L28609-9		TOTAL SR	11-may-06				0		19-may-06	X2C	241	400	277	400	.344	.999	GK
WG-BW-051106-MS-030			09:15	450 ml				85.22	02:47								
Activity: -3.07E-01	Error: 3.89E-01		MDC: 6.62E-01 *														
L28609-10		TOTAL SR	10-may-06				0		19-may-06	X2D	293	400	307	400	.343	.999	GK
WG-BW-051006-JL-013			11:15	450 ml				43.01	02:47								
Activity: -2.37E-01	Error: 8.31E-01		MDC: 1.38E+00 *														
L28609-11		TOTAL SR	10-may-06				0		19-may-06	X3A	318	400	363	400	.335	.999	GK
WG-BW-051006-JL-015			12:10	450 ml				41.67	02:47								
Activity: -8.07E-01	Error: 9.36E-01		MDC: 1.59E+00 *														
L28609-12		TOTAL SR	10-may-06				0		19-may-06	X3B	338	400	321	400	.343	.999	GK
WG-BW-051006-JL-017			14:00	450 ml				36.83	02:47								
Activity: 3.37E-01	Error: 1.02E+00		MDC: 1.65E+00 *														
L28609-13		TOTAL SR	10-may-06				0		19-may-06	X3C	282	400	294	400	.345	.999	GK
WG-BW-051006-JL-019			14:30	450 ml				36.83	02:47								
Activity: -2.36E-01	Error: 9.46E-01		MDC: 1.57E+00 *														
L28609-14		TOTAL SR	10-may-06				0		19-may-06	X4A	337	400	284	400	.358	.999	GK
WG-BW-051006-JL-021			16:00	450 ml				62.63	02:47								
Activity: 5.92E-01	Error: 5.57E-01		MDC: 8.78E-01 *														
L28609-16		TOTAL SR	10-may-06				0		19-may-06	X4C	362	400	299	400	.35	.999	GK
WG-BW-051006-JL-025			17:25	450 ml				48.66	02:47								
Activity: 9.26E-01	Error: 7.56E-01		MDC: 1.18E+00 *														
L28609-17		TOTAL SR	11-may-06				0		19-may-06	X4D	273	400	340	400	.353	.999	GK
WG-BW-051106-JL-027			09:25	450 ml				36.83	02:47								
Activity: -1.29E+00	Error: 9.54E-01		MDC: 1.66E+00 *														

Raw Data Sheet (rawdata)
May 19 2006, 03:51 pm

Work Order: *L28609* Customer: *Exelon*

Nuclide: *SR-90 (FAST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28609-18		TOTAL SR	11-may-06				0		19-may-06	X2A	259	400	264	400	.354	.999	GK
WG-BW-051106-JL-029			10:00	450 ml				35.22	16:19								
Activity: -1E-01	Error: 9.18E-01		MDC: 1.52E+00 *														
L28609-19		TOTAL SR	11-may-06				0		19-may-06	X2B	264	400	289	400	.345	.999	GK
WG-BW-051106-JL-031			10:05	450 ml				34.14	16:19								
Activity: -5.31E-01	Error: 1E+00		MDC: 1.68E+00 *														
L28609-20		TOTAL SR	11-may-06				0		19-may-06	X2C	263	400	277	400	.344	.999	GK
WG-BW-051106-JL-035			12:05	450 ml				34.95	16:19								
Activity: -2.92E-01	Error: 9.68E-01		MDC: 1.62E+00 *														

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 16:48:42.91
TBE23 03017322 HpGe ********** Aquisition Date/Time: 15-MAY-2006 13:18:23.35

LIMS No., Customer Name, Client ID: L28609-1 WG BRAID

Sample ID	: 23L28609-1			Smple Date	: 10-MAY-2006 10:10:00.
Sample Type	: WG			Geometry	: 2335L090704
Quantity	: 3.72980E+00 L			BKGFILE	: 23BG050506MT
Start Channel	: 50	Energy Tol	: 1.50000	Real Time	: 0 03:30:08.88
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 03:30:00.00
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	10	33.80*	38	12	1.17	67.76	9.40E-02	2.99E-03	42.5	5.31E+00
2	10	35.62*	40	108	2.16	71.40	1.24E-01	3.21E-03	87.1	
3	10	37.67*	3	127	1.48	75.50	1.62E-01	2.78E-04	789.0	
4	10	41.43*	7	146	0.93	83.00	2.48E-01	5.27E-04	304.5	
5	10	42.44*	56	306	2.43	85.02	2.74E-01	4.46E-03	55.2	
6	0	63.32*	49	430	1.10	126.74	9.42E-01	3.87E-03	78.7	
7	0	92.97*	121	585	1.12	185.98	1.70E+00	9.58E-03	43.2	
8	0	198.19*	107	287	1.13	396.23	1.90E+00	8.49E-03	31.2	
9	0	238.00*	55	243	1.06	475.80	1.73E+00	4.40E-03	55.6	
10	0	295.27*	42	212	1.03	590.26	1.50E+00	3.35E-03	69.9	
11	0	351.69*	104	152	1.06	703.03	1.32E+00	8.23E-03	25.6	
12	0	609.09*	78	83	1.44	1217.61	8.59E-01	6.15E-03	27.2	
13	0	1120.03*	39	33	1.34	2239.57	5.53E-01	3.07E-03	36.6	
14	0	1460.44*	56	30	1.79	2920.84	4.60E-01	4.42E-03	34.7	
15	0	1598.04	17	5	1.16	3196.29	4.31E-01	1.32E-03	35.0	
16	0	1743.26	13	14	4.96	3487.08	4.04E-01	1.03E-03	67.1	
17	0	1764.62*	18	18	1.04	3529.85	4.00E-01	1.44E-03	63.9	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	56	10.67*	4.595E-01	6.533E+01	6.533E+01	69.32
TH-228	238.63	55	44.60*	1.727E+00	4.140E+00	4.161E+00	111.30
	240.98	------	3.95	1.714E+00	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28609-1

Acquisition date : 15-MAY-2006 13:18:23

Total number of lines in spectrum	17	
Number of unidentified lines	15	
Number of lines tentatively identified by NID	2	11.76%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.533E+01	6.533E+01	4.529E+01	69.32	
TH-228	1.91Y	1.01	4.140E+00	4.161E+00	4.632E+00	111.30	
	Total Activity :		6.947E+01	6.949E+01			

Grand Total Activity : 6.947E+01 6.949E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28609-1

Acquisition date : 15-MAY-2006 13:18:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
10	33.80	38	12	1.17	67.76	65	26	2.99E-03	84.9	9.40E-02	
10	35.62	40	108	2.16	71.40	65	26	3.21E-03	****	1.24E-01	
10	37.67	3	127	1.48	75.50	65	26	2.78E-04	****	1.62E-01	
10	41.43	7	146	0.93	83.00	65	26	5.27E-04	****	2.48E-01	
10	42.44	56	306	2.43	85.02	65	26	4.46E-03	****	2.74E-01	
0	63.32	49	430	1.10	126.74	123	8	3.87E-03	****	9.42E-01	
0	92.97	121	585	1.12	185.98	181	12	9.58E-03	86.3	1.70E+00	
0	198.19	107	287	1.13	396.23	392	9	8.49E-03	62.3	1.90E+00	
0	295.27	42	212	1.03	590.26	586	10	3.35E-03	****	1.50E+00	
0	351.69	104	152	1.06	703.03	697	10	8.23E-03	51.2	1.32E+00	
0	609.09	78	83	1.44	1217.61	1212	10	6.15E-03	54.4	8.59E-01	
0	1120.03	39	33	1.34	2239.57	2235	13	3.07E-03	73.2	5.53E-01	
0	1598.04	17	5	1.16	3196.29	3192	8	1.32E-03	69.9	4.31E-01	
0	1743.26	13	14	4.96	3487.08	3477	14	1.03E-03	****	4.04E-01	
0	1764.62	18	18	1.04	3529.85	3523	15	1.44E-03	****	4.00E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	17	
Number of unidentified lines	15	
Number of lines tentatively identified by NID	2	11.76%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.533E+01	6.533E+01	4.529E+01	69.32	
TH-228	1.91Y	1.01	4.140E+00	4.161E+00	4.632E+00	111.30	
			---------	---------			
	Total Activity :		6.947E+01	6.949E+01			

Grand Total Activity : 6.947E+01 6.949E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	6.533E+01	4.529E+01	3.705E+01	0.000E+00	1.763
TH-228	4.161E+00	4.632E+00	7.557E+00	0.000E+00	0.551

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	6.977E+00		2.183E+01	3.772E+01	0.000E+00	0.185
NA-24	-3.839E+02		7.787E+02	1.322E+03	0.000E+00	-0.290
CR-51	-8.663E+00		2.250E+01	3.818E+01	0.000E+00	-0.227
MN-54	7.400E-02		2.282E+00	4.037E+00	0.000E+00	0.018
CO-57	9.942E-01		2.559E+00	4.279E+00	0.000E+00	0.232
CO-58	-1.058E+00		2.579E+00	4.301E+00	0.000E+00	-0.246
FE-59	7.753E-01		4.723E+00	8.353E+00	0.000E+00	0.093
CO-60	1.597E+00		2.233E+00	4.264E+00	0.000E+00	0.374
ZN-65	9.933E+00		6.529E+00	1.101E+01	0.000E+00	0.902
SE-75	-1.440E+00		3.386E+00	5.585E+00	0.000E+00	-0.258
SR-85	1.138E+01		2.936E+00	5.700E+00	0.000E+00	1.997
Y-88	-2.160E+00		2.342E+00	3.770E+00	0.000E+00	-0.573
NB-94	-1.424E+00		2.366E+00	3.928E+00	0.000E+00	-0.363
NB-95	1.959E-01		2.494E+00	4.316E+00	0.000E+00	0.045
ZR-95	-5.778E-01		4.453E+00	7.606E+00	0.000E+00	-0.076
MO-99	3.182E+01		6.530E+01	1.164E+02	0.000E+00	0.273
RU-103	3.861E-01		2.648E+00	4.530E+00	0.000E+00	0.085
RU-106	2.783E+00		2.202E+01	3.856E+01	0.000E+00	0.072
AG-110m	1.154E+00		2.336E+00	4.172E+00	0.000E+00	0.277
SN-113	-5.213E-01		3.287E+00	5.582E+00	0.000E+00	-0.093
SB-124	-3.491E+00		3.302E+00	4.432E+00	0.000E+00	-0.788
SB-125	-5.463E+00		6.870E+00	1.127E+01	0.000E+00	-0.485
TE-129M	-1.474E+01		3.047E+01	5.059E+01	0.000E+00	-0.291
I-131	7.136E-01		3.687E+00	6.388E+00	0.000E+00	0.112
BA-133	5.021E+00		3.853E+00	6.073E+00	0.000E+00	0.827
CS-134	2.547E+00		3.253E+00	5.000E+00	0.000E+00	0.509
CS-136	6.764E-01		3.135E+00	5.466E+00	0.000E+00	0.124
CS-137	1.801E+00		2.554E+00	4.619E+00	0.000E+00	0.390
CE-139	-1.331E+00		2.542E+00	4.261E+00	0.000E+00	-0.312
BA-140	2.496E+00		1.117E+01	1.971E+01	0.000E+00	0.127
LA-140	-1.324E+00		3.652E+00	6.208E+00	0.000E+00	-0.213
CE-141	-3.271E+00		4.873E+00	8.178E+00	0.000E+00	-0.400
CE-144	-3.273E+01		2.064E+01	3.250E+01	0.000E+00	-1.007
EU-152	-1.825E+00		8.848E+00	1.277E+01	0.000E+00	-0.143
EU-154	-4.326E+00		5.393E+00	8.718E+00	0.000E+00	-0.496
RA-226	1.439E+01		6.398E+01	1.119E+02	0.000E+00	0.129
AC-228	-6.525E+00		9.131E+00	1.562E+01	0.000E+00	-0.418
TH-232	-6.514E+00		9.116E+00	1.559E+01	0.000E+00	-0.418
U-235	-1.187E+01		2.051E+01	3.429E+01	0.000E+00	-0.346
U-238	7.227E+01		2.863E+02	5.149E+02	0.000E+00	0.140
AM-241	9.208E+00		1.475E+01	2.214E+01	0.000E+00	0.416

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A,23L28609-1       ,05/15/2006 16:48,05/10/2006 10:10,   3.730E+00,L28609-1 WG BR
B,23L28609-1       ,LIBD                ,06/24/2005 07:59,2335L090704
C,K-40     ,YES,    6.533E+01,   4.529E+01,   3.705E+01,,     1.763
C,TH-228   ,YES,    4.161E+00,   4.632E+00,   7.557E+00,,     0.551
C,BE-7     ,NO ,    6.977E+00,   2.183E+01,   3.772E+01,,     0.185
C,NA-24    ,NO ,   -3.839E+02,   7.787E+02,   1.322E+03,,    -0.290
C,CR-51    ,NO ,   -8.663E+00,   2.250E+01,   3.818E+01,,    -0.227
C,MN-54    ,NO ,    7.400E-02,   2.282E+00,   4.037E+00,,     0.018
C,CO-57    ,NO ,    9.942E-01,   2.559E+00,   4.279E+00,,     0.232
C,CO-58    ,NO ,   -1.058E+00,   2.579E+00,   4.301E+00,,    -0.246
C,FE-59    ,NO ,    7.753E-01,   4.723E+00,   8.353E+00,,     0.093
C,CO-60    ,NO ,    1.597E+00,   2.233E+00,   4.264E+00,,     0.374
C,ZN-65    ,NO ,    9.933E+00,   6.529E+00,   1.101E+01,,     0.902
C,SE-75    ,NO ,   -1.440E+00,   3.386E+00,   5.585E+00,,    -0.258
C,SR-85    ,NO ,    1.138E+01,   2.936E+00,   5.700E+00,,     1.997
C,Y-88     ,NO ,   -2.160E+00,   2.342E+00,   3.770E+00,,    -0.573
C,NB-94    ,NO ,   -1.424E+00,   2.366E+00,   3.928E+00,,    -0.363
C,NB-95    ,NO ,    1.959E-01,   2.494E+00,   4.316E+00,,     0.045
C,ZR-95    ,NO ,   -5.778E-01,   4.453E+00,   7.606E+00,,    -0.076
C,MO-99    ,NO ,    3.182E+01,   6.530E+01,   1.164E+02,,     0.273
C,RU-103   ,NO ,    3.861E-01,   2.648E+00,   4.530E+00,,     0.085
C,RU-106   ,NO ,    2.783E+00,   2.202E+01,   3.856E+01,,     0.072
C,AG-110m  ,NO ,    1.154E+00,   2.336E+00,   4.172E+00,,     0.277
C,SN-113   ,NO ,   -5.213E-01,   3.287E+00,   5.582E+00,,    -0.093
C,SB-124   ,NO ,   -3.491E+00,   3.302E+00,   4.432E+00,,    -0.788
C,SB-125   ,NO ,   -5.463E+00,   6.870E+00,   1.127E+01,,    -0.485
C,TE-129M  ,NO ,   -1.474E+01,   3.047E+01,   5.059E+01,,    -0.291
C,I-131    ,NO ,    7.136E-01,   3.687E+00,   6.388E+00,,     0.112
C,BA-133   ,NO ,    5.021E+00,   3.853E+00,   6.073E+00,,     0.827
C,CS-134   ,NO ,    2.547E+00,   3.253E+00,   5.000E+00,,     0.509
C,CS-136   ,NO ,    6.764E-01,   3.135E+00,   5.466E+00,,     0.124
C,CS-137   ,NO ,    1.801E+00,   2.554E+00,   4.619E+00,,     0.390
C,CE-139   ,NO ,   -1.331E+00,   2.542E+00,   4.261E+00,,    -0.312
C,BA-140   ,NO ,    2.496E+00,   1.117E+01,   1.971E+01,,     0.127
C,LA-140   ,NO ,   -1.324E+00,   3.652E+00,   6.208E+00,,    -0.213
C,CE-141   ,NO ,   -3.271E+00,   4.873E+00,   8.178E+00,,    -0.400
C,CE-144   ,NO ,   -3.273E+01,   2.064E+01,   3.250E+01,,    -1.007
C,EU-152   ,NO ,   -1.825E+00,   8.848E+00,   1.277E+01,,    -0.143
C,EU-154   ,NO ,   -4.326E+00,   5.393E+00,   8.718E+00,,    -0.496
C,RA-226   ,NO ,    1.439E+01,   6.398E+01,   1.119E+02,,     0.129
C,AC-228   ,NO ,   -6.525E+00,   9.131E+00,   1.562E+01,,    -0.418
C,TH-232   ,NO ,   -6.514E+00,   9.116E+00,   1.559E+01,,    -0.418
C,U-235    ,NO ,   -1.187E+01,   2.051E+01,   3.429E+01,,    -0.346
C,U-238    ,NO ,    7.227E+01,   2.863E+02,   5.149E+02,,     0.140
C,AM-241   ,NO ,    9.208E+00,   1.475E+01,   2.214E+01,,     0.416
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 16:49:19.47
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 15-MAY-2006 13:18:26.64

LIMS No., Customer Name, Client ID: L28609-2 WG BRAID

Sample ID	: 07L28609-2			Smple Date	: 10-MAY-2006 10:50:00.
Sample Type	: WG			Geometry	: 0735L090904
Quantity	: 3.45890E+00 L			BKGFILE	: 07BG050506MT
Start Channel	: 40	Energy Tol	: 1.30000	Real Time	: 0 03:30:48.85
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 03:30:46.29
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.26*	115	455	1.11	133.37	7.22E-01	9.09E-03	35.6	1.38E+00
2	1	139.57*	137	426	2.41	280.04	2.08E+00	1.08E-02	31.2	4.56E+00
3	1	198.37*	139	353	2.01	397.68	1.98E+00	1.10E-02	28.1	8.68E-01
4	1	295.27*	122	121	1.02	591.53	1.61E+00	9.62E-03	18.4	2.18E+00
5	1	351.98*	138	165	1.28	704.97	1.43E+00	1.09E-02	20.9	2.50E+00
6	1	595.89	50	113	1.09	1192.88	9.96E-01	3.96E-03	43.5	5.58E-01
7	1	609.32*	153	86	1.63	1219.72	9.81E-01	1.21E-02	16.0	1.35E+00
8	1	1764.77*	38	24	4.06	3530.08	4.54E-01	3.04E-03	38.0	1.44E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28609-2

Acquisition date : 15-MAY-2006 13:18:26

Total number of lines in spectrum	8	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28609-2

Acquisition date : 15-MAY-2006 13:18:26

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.26	115	455	1.11	133.37	129	9	9.09E-03	71.2	7.22E-01	
1	139.57	137	426	2.41	280.04	276	11	1.08E-02	62.3	2.08E+00	
1	198.37	139	353	2.01	397.68	392	11	1.10E-02	56.2	1.98E+00	
1	295.27	122	121	1.02	591.53	588	7	9.62E-03	36.8	1.61E+00	
1	351.98	138	165	1.28	704.97	700	10	1.09E-02	41.8	1.43E+00	
1	595.89	50	113	1.09	1192.88	1188	11	3.96E-03	87.0	9.96E-01	
1	609.32	153	86	1.63	1219.72	1214	12	1.21E-02	31.9	9.81E-01	
1	1764.77	38	24	4.06	3530.08	3523	19	3.04E-03	76.1	4.54E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	8	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	7.428E+00		2.121E+01	3.588E+01	0.000E+00	0.207
NA-24	-1.373E+02		8.926E+02	1.454E+03	0.000E+00	-0.094
K-40	6.173E+00		3.521E+01	6.770E+01	0.000E+00	0.091
CR-51	-4.651E+00		2.490E+01	3.994E+01	0.000E+00	-0.116
MN-54	1.213E+00		2.661E+00	4.533E+00	0.000E+00	0.268
CO-57	8.816E-01		2.212E+00	3.749E+00	0.000E+00	0.235
CO-58	-1.263E+00		2.660E+00	4.190E+00	0.000E+00	-0.301
FE-59	1.798E+00		5.628E+00	9.489E+00	0.000E+00	0.189
CO-60	-1.422E+00		2.681E+00	4.235E+00	0.000E+00	-0.336
ZN-65	6.182E+00		6.306E+00	1.101E+01	0.000E+00	0.561
SE-75	-2.644E+00		3.205E+00	5.092E+00	0.000E+00	-0.519
SR-85	1.641E+01		3.192E+00	6.186E+00	0.000E+00	2.653
Y-88	-1.903E+00		3.028E+00	4.619E+00	0.000E+00	-0.412
NB-94	-1.362E+00		2.527E+00	4.040E+00	0.000E+00	-0.337
NB-95	4.585E-01		2.803E+00	4.624E+00	0.000E+00	0.099
ZR-95	-7.536E-01		4.924E+00	7.987E+00	0.000E+00	-0.094
MO-99	-4.507E+01		7.068E+01	1.114E+02	0.000E+00	-0.404
RU-103	2.305E+00		2.726E+00	4.695E+00	0.000E+00	0.491
RU-106	-2.730E+01		2.328E+01	3.506E+01	0.000E+00	-0.779
			2.449E+00	4.022E+00	0.000E+00	-0.104

SN-113	-1.144E+00	3.277E+00	5.300E+00	0.000E+00	-0.216
SB-124	-4.738E-01	5.956E+00	4.231E+00	0.000E+00	-0.112
SB-125	3.930E+00	6.777E+00	1.137E+01	0.000E+00	0.345
TE-129M	-1.061E+01	3.115E+01	4.958E+01	0.000E+00	-0.214
I-131	-8.857E-01	3.794E+00	6.209E+00	0.000E+00	-0.143
BA-133	9.441E+00	3.815E+00	6.185E+00	0.000E+00	1.527
CS-134	6.188E+00	4.917E+00	5.048E+00	0.000E+00	1.226
CS-136	-2.081E+00	3.216E+00	4.991E+00	0.000E+00	-0.417
CS-137	3.181E+00	2.659E+00	4.698E+00	0.000E+00	0.677
CE-139	-7.198E-01	2.430E+00	3.944E+00	0.000E+00	-0.183
BA-140	-2.569E+00	1.154E+01	1.876E+01	0.000E+00	-0.137
LA-140	4.717E+00	3.832E+00	7.004E+00	0.000E+00	0.673
CE-141	4.535E-02	4.831E+00	6.877E+00	0.000E+00	0.007
CE-144	1.154E+01	1.999E+01	2.940E+01	0.000E+00	0.392
EU-152	-4.734E+00	8.656E+00	1.224E+01	0.000E+00	-0.387
EU-154	2.114E-01	4.598E+00	7.707E+00	0.000E+00	0.027
RA-226	-2.322E+01	6.221E+01	1.016E+02	0.000E+00	-0.229
AC-228	-5.856E+00	1.037E+01	1.704E+01	0.000E+00	-0.344
TH-228	4.062E+00	4.871E+00	8.482E+00	0.000E+00	0.479
TH-232	-5.846E+00	1.035E+01	1.701E+01	0.000E+00	-0.344
U-235	9.587E+00	2.038E+01	2.960E+01	0.000E+00	0.324
U-238	1.152E+02	2.841E+02	4.770E+02	0.000E+00	0.241
AM-241	-5.983E+00	2.121E+01	3.321E+01	0.000E+00	-0.180

A,07L28609-2 ,05/15/2006 16:49,05/10/2006 10:50, 3.459E+00,L28609-2 WG BR
B,07L28609-2 ,LIBD ,06/23/2005 07:26,0735L090904

C,BE-7	,NO ,	7.428E+00,	2.121E+01,	3.588E+01,,	0.207
C,NA-24	,NO ,	-1.373E+02,	8.926E+02,	1.454E+03,,	-0.094
C,K-40	,NO ,	6.173E+00,	3.521E+01,	6.770E+01,,	0.091
C,CR-51	,NO ,	-4.651E+00,	2.490E+01,	3.994E+01,,	-0.116
C,MN-54	,NO ,	1.213E+00,	2.661E+00,	4.533E+00,,	0.268
C,CO-57	,NO ,	8.816E-01,	2.212E+00,	3.749E+00,,	0.235
C,CO-58	,NO ,	-1.263E+00,	2.660E+00,	4.190E+00,,	-0.301
C,FE-59	,NO ,	1.798E+00,	5.628E+00,	9.489E+00,,	0.189
C,CO-60	,NO ,	-1.422E+00,	2.681E+00,	4.235E+00,,	-0.336
C,ZN-65	,NO ,	6.182E+00,	6.306E+00,	1.101E+01,,	0.561
C,SE-75	,NO ,	-2.644E+00,	3.205E+00,	5.092E+00,,	-0.519
C,SR-85	,NO ,	1.641E+01,	3.192E+00,	6.186E+00,,	2.653
C,Y-88	,NO ,	-1.903E+00,	3.028E+00,	4.619E+00,,	-0.412
C,NB-94	,NO ,	-1.362E+00,	2.527E+00,	4.040E+00,,	-0.337
C,NB-95	,NO ,	4.585E-01,	2.803E+00,	4.624E+00,,	0.099
C,ZR-95	,NO ,	-7.536E-01,	4.924E+00,	7.987E+00,,	-0.094
C,MO-99	,NO ,	-4.507E+01,	7.068E+01,	1.114E+02,,	-0.404
C,RU-103	,NO ,	2.305E+00,	2.726E+00,	4.695E+00,,	0.491
C,RU-106	,NO ,	-2.730E+01,	2.328E+01,	3.506E+01,,	-0.779
C,AG-110m	,NO ,	-4.176E-01,	2.449E+00,	4.022E+00,,	-0.104
C,SN-113	,NO ,	-1.144E+00,	3.277E+00,	5.300E+00,,	-0.216
C,SB-124	,NO ,	-4.738E-01,	5.956E+00,	4.231E+00,,	-0.112
C,SB-125	,NO ,	3.930E+00,	6.777E+00,	1.137E+01,,	0.345
C,TE-129M	,NO ,	-1.061E+01,	3.115E+01,	4.958E+01,,	-0.214
C,I-131	,NO ,	-8.857E-01,	3.794E+00,	6.209E+00,,	-0.143
C,BA-133	,NO ,	9.441E+00,	3.815E+00,	6.185E+00,,	1.527
C,CS-134	,NO ,	6.188E+00,	4.917E+00,	5.048E+00,,	1.226
C,CS-136	,NO ,	-2.081E+00,	3.216E+00,	4.991E+00,,	-0.417
C,CS-137	,NO ,	3.181E+00,	2.659E+00,	4.698E+00,,	0.677
C,CE-139	,NO ,	-7.198E-01,	2.430E+00,	3.944E+00,,	-0.183
C,BA-140	,NO ,	-2.569E+00,	1.154E+01,	1.876E+01,,	-0.137
C,LA-140	,NO ,	4.717E+00,	3.832E+00,	7.004E+00,,	0.673
C,CE-141	,NO ,	4.535E-02,	4.831E+00,	6.877E+00,,	0.007
C,CE-144	,NO ,	1.154E+01,	1.999E+01,	2.940E+01,,	0.392
C,EU-152	,NO ,	-4.734E+00,	8.656E+00,	1.224E+01,,	-0.387
C,EU-154	,NO ,	2.114E-01,	4.598E+00,	7.707E+00,,	0.027
C,RA-226	,NO ,	-2.322E+01,	6.221E+01,	1.016E+02,,	-0.229
C,AC-228	,NO ,	-5.856E+00,	1.037E+01,	1.704E+01,,	-0.344
C,TH-228	,NO ,	4.062E+00,	4.871E+00,	8.482E+00,,	0.479
C,TH-232	,NO ,	-5.846E+00,	1.035E+01,	1.701E+01,,	-0.344
C,U-235	,NO ,	9.587E+00,	2.038E+01,	2.960E+01,,	0.324
C,U-238	,NO ,	1.152E+02,	2.841E+02,	4.770E+02,,	0.241
C,AM-241	,NO ,	-5.983E+00,	2.121E+01,	3.321E+01,,	-0.180

Sec. Review: Analyst: KD LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 16:52:04.60
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 15-MAY-2006 14:21:56.04

LIMS No., Customer Name, Client ID: WG L28609-3 BRAIDWOOD

Sample ID : 04L28609-3
Sample Type : WG
Quantity : 3.66080E+00 L
Start Channel : 90 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 11:35:00.
Geometry : 0435L090804
BKGFILE : 04BG050506MT
Real Time : 0 02:30:01.54
Live time : 0 02:30:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.22*	77	283	1.53	133.00	6.44E-01	8.55E-03	42.0	1.84E+00
2	1	92.87*	6	196	1.11	186.31	1.40E+00	6.11E-04	478.3	7.33E-01
3	1	140.34*	59	243	1.85	281.26	1.82E+00	6.57E-03	52.2	1.89E+00
4	1	198.36*	61	206	1.73	397.32	1.68E+00	6.74E-03	49.1	2.06E+00
5	1	238.75*	22	160	2.02	478.11	1.52E+00	2.50E-03	112.4	3.38E+00
6	1	241.98*	34	77	1.46	484.56	1.51E+00	3.73E-03	47.8	6.78E+00
7	1	295.34*	40	121	1.38	591.30	1.32E+00	4.41E-03	54.4	1.43E+00
8	1	352.05*	88	97	1.79	704.72	1.17E+00	9.79E-03	25.9	1.02E+00
9	1	596.63	22	61	1.62	1193.87	7.85E-01	2.44E-03	67.1	3.07E+00
10	1	609.50*	67	47	1.79	1219.61	7.73E-01	7.47E-03	25.2	1.41E+00
11	1	912.13*	11	23	2.23	1824.79	5.65E-01	1.21E-03	110.9	9.26E-01
12	1	1765.23*	15	17	2.45	3530.36	3.43E-01	1.69E-03	64.9	4.66E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
AC-228	835.50	------	1.75	6.054E-01	------	Line Not Found	------
	911.07	11	27.70*	5.652E-01	5.719E+00	5.729E+00	221.84
TH-228	238.63	22	44.60*	1.520E+00	2.718E+00	2.732E+00	224.76
	240.98	34	3.95	1.507E+00	4.620E+01	4.644E+01	95.55

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28609-3

Acquisition date : 15-MAY-2006 14:21:56

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	5.719E+00	5.729E+00	12.71E+00	221.84	
TH-228	1.91Y	1.01	2.718E+00	2.732E+00	6.140E+00	224.76	
			---------	---------			
Total Activity :			8.437E+00	8.461E+00			
Grand Total Activity :			8.437E+00	8.461E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28609-3

Acquisition date : 15-MAY-2006 14:21:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.22	77	283	1.53	133.00	130	9	8.55E-03	84.1	6.44E-01	
1	92.87	6	196	1.11	186.31	183	8	6.11E-04	****	1.40E+00	
1	140.34	59	243	1.85	281.26	277	10	6.57E-03	****	1.82E+00	
1	198.36	61	206	1.73	397.32	391	11	6.74E-03	98.2	1.68E+00	
1	295.34	40	121	1.38	591.30	587	9	4.41E-03	****	1.32E+00	
1	352.05	88	97	1.79	704.72	699	12	9.79E-03	51.9	1.17E+00	
1	596.63	22	61	1.62	1193.87	1189	9	2.44E-03	****	7.85E-01	
1	609.50	67	47	1.79	1219.61	1215	12	7.47E-03	50.5	7.73E-01	
1	1765.23	15	17	2.45	3530.36	3525	15	1.69E-03	****	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	5.719E+00	5.729E+00	12.71E+00	221.84	
TH-228	1.91Y	1.01	3.535E+00	3.553E+00	6.082E+00	171.18	
	Total Activity :		9.254E+00	9.282E+00			

Grand Total Activity : 9.254E+00 9.282E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
AC-228	5.729E+00	1.271E+01	1.845E+01	0.000E+00	0.310
TH-228	3.553E+00	6.082E+00	9.442E+00	0.000E+00	0.376

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	2.308E+00	2.542E+01	4.182E+01	0.000E+00	0.055
NA-24	-6.291E+01	1.127E+03	1.858E+03	0.000E+00	-0.034
K-40	3.382E+00	4.109E+01	7.897E+01	0.000E+00	0.043
CR-51	2.785E+00	2.822E+01	4.615E+01	0.000E+00	0.060
MN-54	-1.356E+00	2.894E+00	4.575E+00	0.000E+00	-0.296
CO-57	-6.880E-01	2.837E+00	4.665E+00	0.000E+00	-0.147
CO-58	4.540E-01	3.201E+00	5.370E+00	0.000E+00	0.085
FE-59	3.700E+00	6.059E+00	1.064E+01	0.000E+00	0.348
CO-60	-1.531E+00	4.073E+00	6.691E+00	0.000E+00	-0.229
ZN-65	3.803E+00	7.376E+00	1.275E+01	0.000E+00	0.298
SE-75	-1.558E+00	3.975E+00	6.420E+00	0.000E+00	-0.243
SR-85	1.814E+01	4.007E+00	7.895E+00	0.000E+00	2.298
Y-88	2.020E-01	3.680E+00	6.111E+00	0.000E+00	0.033
NB-94	1.777E+00	3.224E+00	5.481E+00	0.000E+00	0.324
NB-95	2.013E+00	3.277E+00	5.591E+00	0.000E+00	0.360
ZR-95	-1.211E+00	5.789E+00	9.228E+00	0.000E+00	-0.131
MO-99	1.384E+02	7.891E+01	1.479E+02	0.000E+00	0.935
RU-103	2.230E+00	3.430E+00	5.829E+00	0.000E+00	0.382
RU-106	-1.010E+01	3.057E+01	4.846E+01	0.000E+00	-0.209
AG-110m	-1.461E+00	3.174E+00	5.027E+00	0.000E+00	-0.291
SN-113	4.541E+00	3.599E+00	6.439E+00	0.000E+00	0.705
SB-124	-1.417E+00	7.291E+00	5.120E+00	0.000E+00	-0.277
SB-125	-4.518E+00	8.288E+00	1.315E+01	0.000E+00	-0.343
TE-129M	-8.467E+00	3.699E+01	5.968E+01	0.000E+00	-0.142
I-131	2.359E+00	4.582E+00	7.857E+00	0.000E+00	0.300
BA-133	2.622E+00	5.094E+00	7.530E+00	0.000E+00	0.348
CS-134	1.855E+00	4.819E+00	5.177E+00	0.000E+00	0.358
CS-136	1.453E+00	3.952E+00	6.751E+00	0.000E+00	0.215
CS-137	1.218E-01	3.468E+00	5.709E+00	0.000E+00	0.021
CE-139	-5.740E-01	2.896E+00	4.686E+00	0.000E+00	-0.122
BA-140	6.363E+00	1.405E+01	2.354E+01	0.000E+00	0.270
LA-140	2.876E+00	4.393E+00	7.834E+00	0.000E+00	0.367
CE-141	-2.776E+00	6.298E+00	8.662E+00	0.000E+00	-0.320
CE-144	-1.356E+01	2.488E+01	3.577E+01	0.000E+00	-0.379
EU-152	2.796E+00	1.092E+01	1.535E+01	0.000E+00	0.182
EU-154	7.512E-02	5.963E+00	9.896E+00	0.000E+00	0.008
RA-226	4.209E+01	7.464E+01	1.259E+02	0.000E+00	0.334
TH-232	5.719E+00 +	1.269E+01	2.134E+01	0.000E+00	0.268
U-235	1.122E+01	2.564E+01	3.710E+01	0.000E+00	0.302
U-238	3.182E+02	3.588E+02	6.332E+02	0.000E+00	0.502
AM-241	-1.934E+01	2.712E+01	4.195E+01	0.000E+00	-0.461

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A,04L28609-3       ,05/15/2006 16:52,05/10/2006 11:35,   3.661E+00,WG L28609-3 BR
B,04L28609-3       ,LIBD                ,03/14/2005 09:04,0435L090804
C,AC-228   ,YES,    5.729E+00,   1.271E+01,   1.845E+01,,    0.310
C,TH-228   ,YES,    3.553E+00,   6.082E+00,   9.442E+00,,    0.376
C,BE-7     ,NO ,    2.308E+00,   2.542E+01,   4.182E+01,,    0.055
C,NA-24    ,NO ,   -6.291E+01,   1.127E+03,   1.858E+03,,   -0.034
C,K-40     ,NO ,    3.382E+00,   4.109E+01,   7.897E+01,,    0.043
C,CR-51    ,NO ,    2.785E+00,   2.822E+01,   4.615E+01,,    0.060
C,MN-54    ,NO ,   -1.356E+00,   2.894E+00,   4.575E+00,,   -0.296
C,CO-57    ,NO ,   -6.880E-01,   2.837E+00,   4.665E+00,,   -0.147
C,CO-58    ,NO ,    4.540E-01,   3.201E+00,   5.370E+00,,    0.085
C,FE-59    ,NO ,    3.700E+00,   6.059E+00,   1.064E+01,,    0.348
C,CO-60    ,NO ,   -1.531E+00,   4.073E+00,   6.691E+00,,   -0.229
C,ZN-65    ,NO ,    3.803E+00,   7.376E+00,   1.275E+01,,    0.298
C,SE-75    ,NO ,   -1.558E+00,   3.975E+00,   6.420E+00,,   -0.243
C,SR-85    ,NO ,    1.814E+01,   4.007E+00,   7.895E+00,,    2.298
C,Y-88     ,NO ,    2.020E-01,   3.680E+00,   6.111E+00,,    0.033
C,NB-94    ,NO ,    1.777E+00,   3.224E+00,   5.481E+00,,    0.324
C,NB-95    ,NO ,    2.013E+00,   3.277E+00,   5.591E+00,,    0.360
C,ZR-95    ,NO ,   -1.211E+00,   5.789E+00,   9.228E+00,,   -0.131
C,MO-99    ,NO ,    1.384E+02,   7.891E+01,   1.479E+02,,    0.935
C,RU-103   ,NO ,    2.230E+00,   3.430E+00,   5.829E+00,,    0.382
C,RU-106   ,NO ,   -1.010E+01,   3.057E+01,   4.846E+01,,   -0.209
C,AG-110m  ,NO ,   -1.461E+00,   3.174E+00,   5.027E+00,,   -0.291
C,SN-113   ,NO ,    4.541E+00,   3.599E+00,   6.439E+00,,    0.705
C,SB-124   ,NO ,   -1.417E+00,   7.291E+00,   5.120E+00,,   -0.277
C,SB-125   ,NO ,   -4.518E+00,   8.288E+00,   1.315E+01,,   -0.343
C,TE-129M  ,NO ,   -8.467E+00,   3.699E+01,   5.968E+01,,   -0.142
C,I-131    ,NO ,    2.359E+00,   4.582E+00,   7.857E+00,,    0.300
C,BA-133   ,NO ,    2.622E+00,   5.094E+00,   7.530E+00,,    0.348
C,CS-134   ,NO ,    1.855E+00,   4.819E+00,   5.177E+00,,    0.358
C,CS-136   ,NO ,    1.453E+00,   3.952E+00,   6.751E+00,,    0.215
C,CS-137   ,NO ,    1.218E-01,   3.468E+00,   5.709E+00,,    0.021
C,CE-139   ,NO ,   -5.740E-01,   2.896E+00,   4.686E+00,,   -0.122
C,BA-140   ,NO ,    6.363E+00,   1.405E+01,   2.354E+01,,    0.270
C,LA-140   ,NO ,    2.876E+00,   4.393E+00,   7.834E+00,,    0.367
C,CE-141   ,NO ,   -2.776E+00,   6.298E+00,   8.662E+00,,   -0.320
C,CE-144   ,NO ,   -1.356E+01,   2.488E+01,   3.577E+01,,   -0.379
C,EU-152   ,NO ,    2.796E+00,   1.092E+01,   1.535E+01,,    0.182
C,EU-154   ,NO ,    7.512E-02,   5.963E+00,   9.896E+00,,    0.008
C,RA-226   ,NO ,    4.209E+01,   7.464E+01,   1.259E+02,,    0.334
C,TH-232   ,NO ,    5.719E+00,   1.269E+01,   2.134E+01,,    0.268
C,U-235    ,NO ,    1.122E+01,   2.564E+01,   3.710E+01,,    0.302
C,U-238    ,NO ,    3.182E+02,   3.588E+02,   6.332E+02,,    0.502
C,AM-241   ,NO ,   -1.934E+01,   2.712E+01,   4.195E+01,,   -0.461
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 15-MAY-2006 16:53:36.14
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 15-MAY-2006 14:33:20.01

LIMS No., Customer Name, Client ID: WG L28609-4 EX BRAID

Sample ID	: 13L28609-4		Smple Date: 10-MAY-2006 13:45:00.
Sample Type	: WG		Geometry : 1335L090904
Quantity	: 3.72610E+00 L		BKGFILE : 13BG050506MT
Start Channel	: 25	Energy Tol : 1.50000	Real Time : 0 02:20:02.60
End Channel	: 4090	Pk Srch Sens: 5.00000	Live time : 0 02:20:00.00
MDA Constant	: 0.00	Library Used: LIBD	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	53.16	100	199	1.85	106.30	3.01E-01	1.19E-02	27.2	2.24E+00
2	1	63.33*	15	441	2.09	126.62	6.21E-01	1.79E-03	269.3	1.53E+00
3	2	77.21*	17	262	1.03	154.36	1.09E+00	2.01E-03	165.8	2.66E+00
4	1	92.58*	12	266	1.01	185.07	1.52E+00	1.40E-03	269.9	8.34E-01
5	1	198.69*	73	231	1.34	397.12	1.90E+00	8.69E-03	39.8	3.71E+00
6	1	238.77*	35	152	1.23	477.22	1.73E+00	4.20E-03	64.9	1.67E+00
7	1	241.77*	46	145	1.24	483.22	1.72E+00	5.44E-03	48.0	
8	1	295.03*	37	175	1.13	589.68	1.52E+00	4.46E-03	70.4	1.09E+00
9	1	351.80*	110	141	1.37	703.16	1.34E+00	1.31E-02	24.7	4.62E-01
10	1	582.91*	23	66	1.89	1165.19	9.26E-01	2.69E-03	77.6	3.03E+00
11	1	597.27	77	69	6.80	1193.91	9.10E-01	9.15E-03	27.1	1.87E+00
12	1	609.17*	110	71	1.50	1217.71	8.97E-01	1.30E-02	18.7	2.60E+00
13	1	743.13	28	25	1.92	1485.59	7.73E-01	3.37E-03	38.6	1.86E+00
14	1	1120.32*	20	29	2.38	2240.08	5.69E-01	2.40E-03	65.5	1.31E+00
15	1	1461.26*	5	30	2.02	2922.35	4.69E-01	6.11E-04	302.5	4.22E-01
16	1	1764.81*	19	8	2.18	3530.05	4.11E-01	2.25E-03	50.0	1.24E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	5	10.67*	4.687E-01	8.862E+00	8.862E+00	605.06
TH-228	238.63	35	44.60*	1.732E+00	3.940E+00	3.960E+00	129.75
	240.98	46	3.95	1.720E+00	5.808E+01	5.838E+01	96.02

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28609-4

Acquisition date : 15-MAY-2006 14:33:20

Total number of lines in spectrum	16	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	4	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.862E+00	8.862E+00	53.62E+00	605.06	
TH-228	1.91Y	1.01	3.940E+00	3.960E+00	5.138E+00	129.75	
			---------	---------			
	Total Activity :		1.280E+01	1.282E+01			
	Grand Total Activity :		1.280E+01	1.282E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28609-4

Acquisition date : 15-MAY-2006 14:33:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	53.16	100	199	1.85	106.30	102	9	1.19E-02	54.5	3.01E-01	
1	63.33	15	441	2.09	126.62	122	10	1.79E-03	****	6.21E-01	
2	77.21	17	262	1.03	154.36	147	12	2.01E-03	****	1.09E+00	
1	92.58	12	266	1.01	185.07	181	8	1.40E-03	****	1.52E+00	
1	198.69	73	231	1.34	397.12	392	9	8.69E-03	79.6	1.90E+00	
1	295.03	37	175	1.13	589.68	585	10	4.46E-03	****	1.52E+00	
1	351.80	110	141	1.37	703.16	697	12	1.31E-02	49.4	1.34E+00	
1	582.91	23	66	1.89	1165.19	1160	11	2.69E-03	****	9.26E-01	T
1	597.27	77	69	6.80	1193.91	1186	16	9.15E-03	54.1	9.10E-01	
1	609.17	110	71	1.50	1217.71	1212	11	1.30E-02	37.4	8.97E-01	
1	743.13	28	25	1.92	1485.59	1481	10	3.37E-03	77.3	7.73E-01	
1	1120.32	20	29	2.38	2240.08	2233	14	2.40E-03	****	5.69E-01	
1	1764.81	19	8	2.18	3530.05	3522	16	2.25E-03	****	4.11E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	16	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	4	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.862E+00	8.862E+00	53.62E+00	605.06	
TH-228	1.91Y	1.01	4.391E+00	4.414E+00	5.117E+00	115.93	
			---------	---------			
	Total Activity :		1.325E+01	1.328E+01			

Grand Total Activity : 1.325E+01 1.328E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	8.862E+00	5.362E+01	5.541E+01	0.000E+00	0.160
TH-228	4.414E+00	5.117E+00	9.116E+00	0.000E+00	0.484

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	1.851E+01		2.897E+01	4.900E+01	0.000E+00	0.378
NA-24	-2.974E+02		9.765E+02	1.560E+03	0.000E+00	-0.191
CR-51	-4.531E+01		3.121E+01	4.725E+01	0.000E+00	-0.959
MN-54	-3.989E-01		3.386E+00	5.529E+00	0.000E+00	-0.072
CO-57	-9.795E-01		3.030E+00	5.001E+00	0.000E+00	-0.196
CO-58	-2.749E+00		3.335E+00	5.159E+00	0.000E+00	-0.533
FE-59	3.172E+00		6.638E+00	1.136E+01	0.000E+00	0.279
CO-60	-1.432E+00		3.524E+00	5.592E+00	0.000E+00	-0.256
ZN-65	1.194E+01		8.226E+00	1.340E+01	0.000E+00	0.891
SE-75	1.429E+00		4.215E+00	7.053E+00	0.000E+00	0.203
SR-85	1.703E+01		3.987E+00	7.673E+00	0.000E+00	2.219
Y-88	8.500E-01		3.520E+00	5.934E+00	0.000E+00	0.143
NB-94	-3.750E+00		3.368E+00	5.063E+00	0.000E+00	-0.741
NB-95	1.489E+00		3.466E+00	5.914E+00	0.000E+00	0.252
ZR-95	1.685E+00		5.788E+00	9.811E+00	0.000E+00	0.172
MO-99	8.324E+01		9.968E+01	1.524E+02	0.000E+00	0.546
RU-103	1.207E-01		3.572E+00	5.822E+00	0.000E+00	0.021
RU-106	-3.468E+01		3.127E+01	4.762E+01	0.000E+00	-0.728
AG-110m	2.307E+00		2.875E+00	4.991E+00	0.000E+00	0.462
SN-113	2.514E+00		4.076E+00	6.969E+00	0.000E+00	0.361
SB-124	3.036E+00		6.535E+00	5.427E+00	0.000E+00	0.559
SB-125	1.630E+00		8.931E+00	1.485E+01	0.000E+00	0.110
TE-129M	5.875E+00		3.962E+01	6.540E+01	0.000E+00	0.090
I-131	1.558E-01		4.842E+00	8.080E+00	0.000E+00	0.019
BA-133	4.300E+00		5.290E+00	7.931E+00	0.000E+00	0.542
CS-134	8.494E+00		6.406E+00	6.220E+00	0.000E+00	1.366
CS-136	-1.147E+00		4.162E+00	6.724E+00	0.000E+00	-0.171
CS-137	6.949E-01		3.217E+00	5.351E+00	0.000E+00	0.130
CE-139	7.869E-01		3.046E+00	5.036E+00	0.000E+00	0.156
BA-140	9.875E+00		1.433E+01	2.484E+01	0.000E+00	0.398
LA-140	4.103E+00		4.352E+00	7.989E+00	0.000E+00	0.514
CE-141	-6.932E+00		5.877E+00	9.322E+00	0.000E+00	-0.744
CE-144	-1.837E+01		2.355E+01	3.807E+01	0.000E+00	-0.482
EU-152	-1.323E+01		1.232E+01	1.556E+01	0.000E+00	-0.850
EU-154	-1.938E+00		6.348E+00	1.048E+01	0.000E+00	-0.185
RA-226	1.609E+01		7.995E+01	1.377E+02	0.000E+00	0.117
AC-228	1.151E+00		1.261E+01	2.169E+01	0.000E+00	0.053
TH-232	1.149E+00		1.259E+01	2.166E+01	0.000E+00	0.053
U-235	-3.149E+01		2.460E+01	3.897E+01	0.000E+00	-0.808
U-238	8.896E+01		3.578E+02	6.114E+02	0.000E+00	0.146
AM-241	-8.656E+00		3.389E+01	4.180E+01	0.000E+00	-0.207

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A,13L28609-4       ,05/15/2006 16:53,05/10/2006 13:45,   3.726E+00,WG L28609-4 EX
B,13L28609-4       ,LIBD                ,08/05/2005 08:16,1335L090904
C,K-40     ,YES,    8.862E+00,   5.362E+01,   5.541E+01,,    0.160
C,TH-228   ,YES,    4.414E+00,   5.117E+00,   9.116E+00,,    0.484
C,BE-7     ,NO ,    1.851E+01,   2.897E+01,   4.900E+01,,    0.378
C,NA-24    ,NO ,   -2.974E+02,   9.765E+02,   1.560E+03,,   -0.191
C,CR-51    ,NO ,   -4.531E+01,   3.121E+01,   4.725E+01,,   -0.959
C,MN-54    ,NO ,   -3.989E-01,   3.386E+00,   5.529E+00,,   -0.072
C,CO-57    ,NO ,   -9.795E-01,   3.030E+00,   5.001E+00,,   -0.196
C,CO-58    ,NO ,   -2.749E+00,   3.335E+00,   5.159E+00,,   -0.533
C,FE-59    ,NO ,    3.172E+00,   6.638E+00,   1.136E+01,,    0.279
C,CO-60    ,NO ,   -1.432E+00,   3.524E+00,   5.592E+00,,   -0.256
C,ZN-65    ,NO ,    1.194E+01,   8.226E+00,   1.340E+01,,    0.891
C,SE-75    ,NO ,    1.429E+00,   4.215E+00,   7.053E+00,,    0.203
C,SR-85    ,NO ,    1.703E+01,   3.987E+00,   7.673E+00,,    2.219
C,Y-88     ,NO ,    8.500E-01,   3.520E+00,   5.934E+00,,    0.143
C,NB-94    ,NO ,   -3.750E+00,   3.368E+00,   5.063E+00,,   -0.741
C,NB-95    ,NO ,    1.489E+00,   3.466E+00,   5.914E+00,,    0.252
C,ZR-95    ,NO ,    1.685E+00,   5.788E+00,   9.811E+00,,    0.172
C,MO-99    ,NO ,    8.324E+01,   9.968E+01,   1.524E+02,,    0.546
C,RU-103   ,NO ,    1.207E-01,   3.572E+00,   5.822E+00,,    0.021
C,RU-106   ,NO ,   -3.468E+01,   3.127E+01,   4.762E+01,,   -0.728
C,AG-110m  ,NO ,    2.307E+00,   2.875E+00,   4.991E+00,,    0.462
C,SN-113   ,NO ,    2.514E+00,   4.076E+00,   6.969E+00,,    0.361
C,SB-124   ,NO ,    3.036E+00,   6.535E+00,   5.427E+00,,    0.559
C,SB-125   ,NO ,    1.630E+00,   8.931E+00,   1.485E+01,,    0.110
C,TE-129M  ,NO ,    5.875E+00,   3.962E+01,   6.540E+01,,    0.090
C,I-131    ,NO ,    1.558E-01,   4.842E+00,   8.080E+00,,    0.019
C,BA-133   ,NO ,    4.300E+00,   5.290E+00,   7.931E+00,,    0.542
C,CS-134   ,NO ,    8.494E+00,   6.406E+00,   6.220E+00,,    1.366
C,CS-136   ,NO ,   -1.147E+00,   4.162E+00,   6.724E+00,,   -0.171
C,CS-137   ,NO ,    6.949E-01,   3.217E+00,   5.351E+00,,    0.130
C,CE-139   ,NO ,    7.869E-01,   3.046E+00,   5.036E+00,,    0.156
C,BA-140   ,NO ,    9.875E+00,   1.433E+01,   2.484E+01,,    0.398
C,LA-140   ,NO ,    4.103E+00,   4.352E+00,   7.989E+00,,    0.514
C,CE-141   ,NO ,   -6.932E+00,   5.877E+00,   9.322E+00,,   -0.744
C,CE-144   ,NO ,   -1.837E+01,   2.355E+01,   3.807E+01,,   -0.482
C,EU-152   ,NO ,   -1.323E+01,   1.232E+01,   1.556E+01,,   -0.850
C,EU-154   ,NO ,   -1.938E+00,   6.348E+00,   1.048E+01,,   -0.185
C,RA-226   ,NO ,    1.609E+01,   7.995E+01,   1.377E+02,,    0.117
C,AC-228   ,NO ,    1.151E+00,   1.261E+01,   2.169E+01,,    0.053
C,TH-232   ,NO ,    1.149E+00,   1.259E+01,   2.166E+01,,    0.053
C,U-235    ,NO ,   -3.149E+01,   2.460E+01,   3.897E+01,,   -0.808
C,U-238    ,NO ,    8.896E+01,   3.578E+02,   6.114E+02,,    0.146
C,AM-241   ,NO ,   -8.656E+00,   3.389E+01,   4.180E+01,,   -0.207
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 07:28:34.66
TBE10 12892256 HpGe ********** Aquisition Date/Time: 15-MAY-2006 17:21:16.96

LIMS No., Customer Name, Client ID: WG L28609-5 EX BRAID

Sample ID : 10L28609-5
Sample Type : WG
Quantity : 3.65190E+00 L
Start Channel : 80 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 14:00:00.
Geometry : 1035L091004
BKGFILE : 10BG050506MT
Real Time : 0 14:07:08.27
Live time : 0 14:07:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.21*	267	1667	1.41	131.65	6.31E-01	5.25E-03	29.4	1.99E+00
2	1	87.37*	95	1178	1.12	174.00	1.19E+00	1.87E-03	62.6	3.04E+00
3	1	92.58*	59	1636	1.61	184.43	1.30E+00	1.17E-03	136.2	1.01E+00
4	1	139.90	331	1461	0.89	279.13	1.68E+00	6.52E-03	20.7	7.80E-01
5	1	185.68*	45	1087	1.34	370.75	1.59E+00	8.86E-04	143.0	8.37E-01
6	1	198.39*	293	1122	1.63	396.18	1.55E+00	5.77E-03	24.0	3.11E+00
7	1	238.67*	82	767	1.40	476.80	1.40E+00	1.62E-03	71.0	1.85E+00
8	1	242.14	203	749	1.40	483.74	1.39E+00	3.99E-03	24.9	
9	1	295.20*	317	931	1.38	589.95	1.21E+00	6.24E-03	21.1	1.50E+00
10	1	351.90*	401	654	1.34	703.43	1.07E+00	7.90E-03	15.2	1.69E+00
11	1	499.80	121	307	1.65	999.48	8.11E-01	2.39E-03	27.6	2.80E-01
12	1	583.25*	7	295	1.99	1166.51	7.18E-01	1.29E-04	598.4	1.63E+00
13	1	595.86	203	328	1.35	1191.76	7.06E-01	4.00E-03	18.7	5.37E-01
14	1	609.07*	412	360	1.51	1218.20	6.94E-01	8.10E-03	12.2	2.36E+00
15	1	1120.06*	131	129	2.20	2241.26	4.33E-01	2.57E-03	22.7	1.34E+00
16	1	1237.90*	27	138	2.07	2477.22	4.01E-01	5.24E-04	100.1	1.61E+00
17	1	1460.68*	14	131	2.27	2923.36	3.56E-01	2.85E-04	262.9	1.56E+00
18	1	1764.33*	47	107	1.61	3531.56	3.13E-01	9.18E-04	60.0	8.75E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	14	10.67*	3.559E-01	5.557E+00	5.557E+00	525.70
RA-226	186.21	45	3.28*	1.595E+00	1.254E+01	1.254E+01	286.03
TH-228	238.63	82	44.60*	1.401E+00	1.920E+00	1.931E+00	141.97
	240.98	203	3.95	1.388E+00	5.383E+01	5.412E+01	49.72
U-235	143.76	------	10.50*	1.683E+00	------	Line Not Found	------
	163.35	------	4.70	1.659E+00	------	Line Not Found	------
	185.71	45	54.00	1.595E+00	7.616E-01	7.616E-01	286.03
	205.31	------	4.70	1.524E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28609-5

Acquisition date : 15-MAY-2006 17:21:16

Total number of lines in spectrum	18	
Number of unidentified lines	13	
Number of lines tentatively identified by NID	5	27.78%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.557E+00	5.557E+00	29.21E+00	525.70	
RA-226	1600.00Y	1.00	1.254E+01	1.254E+01	3.586E+01	286.03	
TH-228	1.91Y	1.01	1.920E+00	1.931E+00	2.741E+00	141.97	
U-235	7.04E+08Y	1.00	7.616E-01	7.616E-01	21.78E-01	286.03	K
			---------	---------			
	Total Activity :		2.078E+01	2.079E+01			

Grand Total Activity : 2.078E+01 2.079E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28609-5

Acquisition date : 15-MAY-2006 17:21:16

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.21	267	1667	1.41	131.65	128	8	5.25E-03	58.8	6.31E-01	
1	87.37	95	1178	1.12	174.00	172	6	1.87E-03	****	1.19E+00	
1	92.58	59	1636	1.61	184.43	180	9	1.17E-03	****	1.30E+00	
1	139.90	331	1461	0.89	279.13	275	8	6.52E-03	41.5	1.68E+00	
1	198.39	293	1122	1.63	396.18	392	9	5.77E-03	47.9	1.55E+00	
1	295.20	317	931	1.38	589.95	584	12	6.24E-03	42.3	1.21E+00	
1	351.90	401	654	1.34	703.43	699	11	7.90E-03	30.4	1.07E+00	
1	499.80	121	307	1.65	999.48	996	9	2.39E-03	55.2	8.11E-01	
1	583.25	7	295	1.99	1166.51	1161	11	1.29E-04	****	7.18E-01	T
1	595.86	203	328	1.35	1191.76	1186	11	4.00E-03	37.4	7.06E-01	
1	609.07	412	360	1.51	1218.20	1212	12	8.10E-03	24.4	6.94E-01	
1	1120.06	131	129	2.20	2241.26	2236	14	2.57E-03	45.3	4.33E-01	
1	1237.90	27	138	2.07	2477.22	2470	12	5.24E-04	****	4.01E-01	
1	1764.33	47	107	1.61	3531.56	3521	17	9.18E-04	****	3.13E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	18	
Number of unidentified lines	13	
Number of lines tentatively identified by NID	5	27.78%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.557E+00	5.557E+00	29.21E+00	525.70	
RA-226	1600.00Y	1.00	1.254E+01	1.254E+01	3.586E+01	286.03	
TH-228	1.91Y	1.01	1.920E+00	1.931E+00	2.741E+00	141.97	
			---------	---------			
	Total Activity :		2.002E+01	2.003E+01			

Grand Total Activity : 2.002E+01 2.003E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	5.557E+00	2.921E+01	2.316E+01	0.000E+00	0.240
RA-226	1.254E+01	3.586E+01	5.912E+01	0.000E+00	0.212
TH-228	1.931E+00	2.741E+00	4.492E+00	0.000E+00	0.430

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-7.628E+00		1.319E+01	2.139E+01	0.000E+00	-0.357
NA-24	-9.531E+02		6.826E+02	1.046E+03	0.000E+00	-0.911
CR-51	-8.201E+00		1.463E+01	2.367E+01	0.000E+00	-0.347
MN-54	3.428E-01		1.568E+00	2.574E+00	0.000E+00	0.133
CO-57	1.360E-01		1.497E+00	2.487E+00	0.000E+00	0.055
CO-58	-1.526E+00		1.534E+00	2.409E+00	0.000E+00	-0.633
FE-59	1.682E+00		3.184E+00	5.319E+00	0.000E+00	0.316
CO-60	3.011E-01		1.605E+00	2.667E+00	0.000E+00	0.113
ZN-65	6.305E+00		4.221E+00	6.277E+00	0.000E+00	1.004
SE-75	1.391E+00		2.038E+00	3.413E+00	0.000E+00	0.408
SR-85	1.552E+01		1.847E+00	3.532E+00	0.000E+00	4.393
Y-88	-8.202E-01		1.717E+00	2.732E+00	0.000E+00	-0.300
NB-94	-4.709E-01		1.478E+00	2.413E+00	0.000E+00	-0.195
NB-95	8.336E-01		1.585E+00	2.644E+00	0.000E+00	0.315
ZR-95	-2.445E-01		2.788E+00	4.559E+00	0.000E+00	-0.054
MO-99	-2.599E+01		4.445E+01	7.157E+01	0.000E+00	-0.363
RU-103	1.889E+00		2.022E+00	2.909E+00	0.000E+00	0.649
RU-106	-4.555E+00		1.418E+01	2.335E+01	0.000E+00	-0.195
AG-110m	6.913E-01		1.469E+00	2.469E+00	0.000E+00	0.280
SN-113	-4.854E-01		1.953E+00	3.236E+00	0.000E+00	-0.150
SB-124	3.791E-01		3.673E+00	2.668E+00	0.000E+00	0.142
SB-125	1.614E+00		4.283E+00	7.165E+00	0.000E+00	0.225
TE-129M	-1.489E+01		1.853E+01	2.994E+01	0.000E+00	-0.497
I-131	-8.177E-01		2.448E+00	3.947E+00	0.000E+00	-0.207
BA-133	8.097E+00		2.532E+00	3.843E+00	0.000E+00	2.107
CS-134	7.541E+00		2.784E+00	3.191E+00	0.000E+00	2.363
CS-136	-7.272E-01		1.963E+00	3.159E+00	0.000E+00	-0.230
CS-137	1.077E+00		1.601E+00	2.706E+00	0.000E+00	0.398
CE-139	-9.151E-01		1.526E+00	2.475E+00	0.000E+00	-0.370
BA-140	-1.427E-01		6.922E+00	1.131E+01	0.000E+00	-0.013
LA-140	2.622E+00		2.390E+00	4.168E+00	0.000E+00	0.629
CE-141	1.376E+00		3.280E+00	4.650E+00	0.000E+00	0.296
CE-144	6.471E+00		1.364E+01	1.945E+01	0.000E+00	0.333
EU-152	-9.673E+00		5.573E+00	7.527E+00	0.000E+00	-1.285
EU-154	1.388E-01		3.116E+00	5.171E+00	0.000E+00	0.027
AC-228	-1.861E+00		6.307E+00	9.614E+00	0.000E+00	-0.194
TH-232	-1.857E+00		6.296E+00	9.597E+00	0.000E+00	-0.194
U-235	6.637E+00		1.404E+01	1.946E+01	0.000E+00	0.341
U-238	5.753E+01		1.692E+02	2.824E+02	0.000E+00	0.204
AM-241	-2.214E+01		1.369E+01	2.014E+01	0.000E+00	-1.099

A,10L28609-5 ,05/16/2006 07:28,05/10/2006 14:00, 3.652E+00,WG L28609-5 EX
B,10L28609-5 ,LIBD ,06/09/2005 08:04,1035L091004
C,K-40 ,YES, 5.557E+00, 2.921E+01, 2.316E+01,, 0.240
C,RA-226 ,YES, 1.254E+01, 3.586E+01, 5.912E+01,, 0.212
C,TH-228 ,YES, 1.931E+00, 2.741E+00, 4.492E+00,, 0.430
C,BE-7 ,NO , -7.628E+00, 1.319E+01, 2.139E+01,, -0.357
C,NA-24 ,NO , -9.531E+02, 6.826E+02, 1.046E+03,, -0.911
C,CR-51 ,NO , -8.201E+00, 1.463E+01, 2.367E+01,, -0.347
C,MN-54 ,NO , 3.428E-01, 1.568E+00, 2.574E+00,, 0.133
C,CO-57 ,NO , 1.360E-01, 1.497E+00, 2.487E+00,, 0.055
C,CO-58 ,NO , -1.526E+00, 1.534E+00, 2.409E+00,, -0.633
C,FE-59 ,NO , 1.682E+00, 3.184E+00, 5.319E+00,, 0.316
C,CO-60 ,NO , 3.011E-01, 1.605E+00, 2.667E+00,, 0.113
C,ZN-65 ,NO , 6.305E+00, 4.221E+00, 6.277E+00,, 1.004
C,SE-75 ,NO , 1.391E+00, 2.038E+00, 3.413E+00,, 0.408
C,SR-85 ,NO , 1.552E+01, 1.847E+00, 3.532E+00,, 4.393
C,Y-88 ,NO , -8.202E-01, 1.717E+00, 2.732E+00,, -0.300
C,NB-94 ,NO , -4.709E-01, 1.478E+00, 2.413E+00,, -0.195
C,NB-95 ,NO , 8.336E-01, 1.585E+00, 2.644E+00,, 0.315
C,ZR-95 ,NO , -2.445E-01, 2.788E+00, 4.559E+00,, -0.054
C,MO-99 ,NO , -2.599E+01, 4.445E+01, 7.157E+01,, -0.363
C,RU-103 ,NO , 1.889E+00, 2.022E+00, 2.909E+00,, 0.649
C,RU-106 ,NO , -4.555E+00, 1.418E+01, 2.335E+01,, -0.195
C,AG-110m ,NO , 6.913E-01, 1.469E+00, 2.469E+00,, 0.280
C,SN-113 ,NO , -4.854E-01, 1.953E+00, 3.236E+00,, -0.150
C,SB-124 ,NO , 3.791E-01, 3.673E+00, 2.668E+00,, 0.142
C,SB-125 ,NO , 1.614E+00, 4.283E+00, 7.165E+00,, 0.225
C,TE-129M ,NO , -1.489E+01, 1.853E+01, 2.994E+01,, -0.497
C,I-131 ,NO , -8.177E-01, 2.448E+00, 3.947E+00,, -0.207
C,BA-133 ,NO , 8.097E+00, 2.532E+00, 3.843E+00,, 2.107
C,CS-134 ,NO , 7.541E+00, 2.784E+00, 3.191E+00,, 2.363
C,CS-136 ,NO , -7.272E-01, 1.963E+00, 3.159E+00,, -0.230
C,CS-137 ,NO , 1.077E+00, 1.601E+00, 2.706E+00,, 0.398
C,CE-139 ,NO , -9.151E-01, 1.526E+00, 2.475E+00,, -0.370
C,BA-140 ,NO , -1.427E-01, 6.922E+00, 1.131E+01,, -0.013
C,LA-140 ,NO , 2.622E+00, 2.390E+00, 4.168E+00,, 0.629
C,CE-141 ,NO , 1.376E+00, 3.280E+00, 4.650E+00,, 0.296
C,CE-144 ,NO , 6.471E+00, 1.364E+01, 1.945E+01,, 0.333
C,EU-152 ,NO , -9.673E+00, 5.573E+00, 7.527E+00,, -1.285
C,EU-154 ,NO , 1.388E-01, 3.116E+00, 5.171E+00,, 0.027
C,AC-228 ,NO , -1.861E+00, 6.307E+00, 9.614E+00,, -0.194
C,TH-232 ,NO , -1.857E+00, 6.296E+00, 9.597E+00,, -0.194
C,U-235 ,NO , 6.637E+00, 1.404E+01, 1.946E+01,, 0.341
C,U-238 ,NO , 5.753E+01, 1.692E+02, 2.824E+02,, 0.204
C,AM-241 ,NO , -2.214E+01, 1.369E+01, 2.014E+01,, -1.099

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 07:33:02.28
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 15-MAY-2006 17:22:42.95

LIMS No., Customer Name, Client ID: WG L28609-6 EX BRAID

Sample ID : 11L28609-6
Sample Type : WG
Quantity : 3.57490E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 15:05:00.
Geometry : 1135L090204
BKGFILE : 11BG050506MT
Real Time : 0 14:10:19.14
Live time : 0 14:10:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	10	63.62	991	3745	2.79	126.41	5.24E-01	1.94E-02	13.2	1.03E+00
2	10	66.52	312	1267	1.07	132.22	6.08E-01	6.13E-03	21.2	
3	0	75.01	212	1322	1.19	149.25	8.53E-01	4.16E-03	28.0	
4	0	92.60	285	1590	1.52	184.54	1.27E+00	5.60E-03	25.9	
5	0	140.07	368	1417	1.17	279.73	1.69E+00	7.21E-03	19.2	
6	0	185.85	355	1319	1.31	371.56	1.62E+00	6.97E-03	19.9	
7	0	198.32	414	1367	1.19	396.56	1.57E+00	8.12E-03	18.0	
8	3	238.55	430	890	1.46	477.23	1.42E+00	8.42E-03	13.4	8.23E-01
9	3	241.65	175	765	1.40	483.46	1.41E+00	3.44E-03	28.9	
10	0	295.44	422	904	1.55	591.32	1.23E+00	8.28E-03	15.1	
11	0	351.84	676	576	1.19	704.40	1.08E+00	1.33E-02	7.7	
12	0	510.89	907	625	2.78	1023.23	8.06E-01	1.78E-02	7.0	
13	0	583.12	192	301	1.55	1168.01	7.27E-01	3.77E-03	18.9	
14	0	595.80	227	378	1.35	1193.43	7.15E-01	4.46E-03	18.8	
15	0	609.00	574	319	1.40	1219.89	7.02E-01	1.13E-02	7.3	
16	0	911.38	138	281	1.79	1825.77	5.13E-01	2.70E-03	29.3	
17	0	1095.24	50	123	1.77	2194.05	4.45E-01	9.87E-04	43.5	
18	0	1119.96	154	178	1.99	2243.57	4.37E-01	3.02E-03	21.1	
19	0	1407.57	37	94	1.51	2819.44	3.65E-01	7.17E-04	55.4	
20	0	1460.23	386	155	1.82	2924.85	3.54E-01	7.57E-03	9.1	
21	0	1762.86	173	95	1.72	3530.50	3.04E-01	3.39E-03	15.4	

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	386	10.67*	3.540E-01	1.515E+02	1.515E+02	18.17
RA-226	186.21	355	3.28*	1.615E+00	9.941E+01	9.941E+01	39.77
AC-228	835.50	------	1.75	5.493E-01	------	Line Not Found	------
	911.07	138	27.70*	5.134E-01	1.433E+01	1.436E+01	58.70
TH-228	238.63	430	44.60*	1.421E+00	1.005E+01	1.010E+01	26.73
	240.98	175	3.95	1.410E+00	4.663E+01	4.688E+01	57.81
TH-232	583.14	192	30.25	7.267E-01	1.297E+01	1.297E+01	37.84
	911.07	138	27.70*	5.134E-01	1.433E+01	1.433E+01	58.70
	969.11	------	16.60	4.895E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	1.695E+00	------	Line Not Found	------
	163.35	------	4.70	1.678E+00	------	Line Not Found	------

185.71	355	54.00	1.615E+00	6.038E+00	6.038E+00	39.77
205.31	------	4.70	1.546E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28609-6

Acquisition date : 15-MAY-2006 17:22:42

Total number of lines in spectrum	21	
Number of unidentified lines	14	
Number of lines tentatively identified by NID	7	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.515E+02	1.515E+02	0.275E+02	18.17	
RA-226	1600.00Y	1.00	9.941E+01	9.941E+01	3.954E+01	39.77	
AC-228	5.75Y	1.00	1.433E+01	1.436E+01	0.843E+01	58.70	
TH-228	1.91Y	1.01	1.005E+01	1.010E+01	0.270E+01	26.73	
TH-232	1.41E+10Y	1.00	1.433E+01	1.433E+01	0.841E+01	58.70	
U-235	7.04E+08Y	1.00	6.038E+00	6.038E+00	2.401E+00	39.77	K
			---------	---------			
Total Activity :			2.956E+02	2.957E+02			

Grand Total Activity : 2.956E+02 2.957E+02

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28609-6

Acquisition date : 15-MAY-2006 17:22:42

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
10	63.62	991	3745	2.79	126.41	120	16	1.94E-02	26.4	5.24E-01	
10	66.52	312	1267	1.07	132.22	120	16	6.13E-03	42.4	6.08E-01	
0	75.01	212	1322	1.19	149.25	146	6	4.16E-03	56.0	8.53E-01	
0	92.60	285	1590	1.52	184.54	181	9	5.60E-03	51.9	1.27E+00	
0	140.07	368	1417	1.17	279.73	276	9	7.21E-03	38.4	1.69E+00	
0	198.32	414	1367	1.19	396.56	391	11	8.12E-03	36.0	1.57E+00	
0	295.44	422	904	1.55	591.32	586	12	8.28E-03	30.1	1.23E+00	
0	351.84	676	576	1.19	704.40	699	10	1.33E-02	15.4	1.08E+00	
0	510.89	907	625	2.78	1023.23	1015	16	1.78E-02	14.0	8.06E-01	
0	595.80	227	378	1.35	1193.43	1187	13	4.46E-03	37.6	7.15E-01	
0	609.00	574	319	1.40	1219.89	1214	11	1.13E-02	14.7	7.02E-01	
0	1095.24	50	123	1.77	2194.05	2189	10	9.87E-04	87.0	4.45E-01	
0	1119.96	154	178	1.99	2243.57	2236	16	3.02E-03	42.2	4.37E-01	
0	1407.57	37	94	1.51	2819.44	2814	12	7.17E-04	****	3.65E-01	T
0	1762.86	173	95	1.72	3530.50	3522	18	3.39E-03	30.9	3.04E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	21	
Number of unidentified lines	14	
Number of lines tentatively identified by NID	7	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.515E+02	1.515E+02	0.275E+02	18.17	
RA-226	1600.00Y	1.00	9.941E+01	9.941E+01	3.954E+01	39.77	
AC-228	5.75Y	1.00	1.360E+00	1.363E+00	9.759E+00	716.22	
TH-228	1.91Y	1.01	1.040E+01	1.046E+01	0.269E+01	25.68	
TH-232	1.41E+10Y	1.00	1.297E+01	1.297E+01	0.491E+01	37.84	
	Total Activity :		2.756E+02	2.757E+02			

Grand Total Activity : 2.756E+02 2.757E+02

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.515E+02	2.752E+01	2.480E+01	0.000E+00	6.108
RA-226	9.941E+01	3.954E+01	6.013E+01	0.000E+00	1.653
AC-228	1.363E+00	9.759E+00	9.593E+00	0.000E+00	0.142
TH-228	1.046E+01	2.686E+00	4.533E+00	0.000E+00	2.307
TH-232	1.297E+01	4.909E+00	1.070E+01	0.000E+00	1.213

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-3.358E-01		1.353E+01	2.219E+01	0.000E+00	-0.015
NA-24	-4.484E+02		6.738E+02	1.076E+03	0.000E+00	-0.417
CR-51	-7.421E+00		1.487E+01	2.396E+01	0.000E+00	-0.310
MN-54	6.611E-01		1.602E+00	2.647E+00	0.000E+00	0.250
CO-57	-8.051E-01		1.503E+00	2.448E+00	0.000E+00	-0.329
CO-58	4.820E-01		1.635E+00	2.696E+00	0.000E+00	0.179
FE-59	6.213E+00		3.744E+00	5.666E+00	0.000E+00	1.097
CO-60	-9.011E-01		1.585E+00	2.544E+00	0.000E+00	-0.354
ZN-65	1.020E+01		4.073E+00	6.402E+00	0.000E+00	1.593
SE-75	-8.375E-01		2.074E+00	3.382E+00	0.000E+00	-0.248
SR-85	1.786E+01		2.007E+00	3.550E+00	0.000E+00	5.031
Y-88	-1.923E+00		1.929E+00	2.997E+00	0.000E+00	-0.641
NB-94	-6.789E-01		1.565E+00	2.544E+00	0.000E+00	-0.267
NB-95	1.848E+00		1.598E+00	2.720E+00	0.000E+00	0.679
ZR-95	7.879E-01		2.746E+00	4.548E+00	0.000E+00	0.173
MO-99	1.423E+01		4.427E+01	7.347E+01	0.000E+00	0.194
RU-103	6.588E-01		1.738E+00	2.875E+00	0.000E+00	0.229
RU-106	-1.041E+00		1.454E+01	2.407E+01	0.000E+00	-0.043
AG-110m	-5.870E-01		1.550E+00	2.534E+00	0.000E+00	-0.232
SN-113	5.755E-01		2.019E+00	3.372E+00	0.000E+00	0.171
SB-124	1.498E+00		3.442E+00	2.595E+00	0.000E+00	0.577
SB-125	3.871E+00		4.378E+00	7.386E+00	0.000E+00	0.524
TE-129M	-1.710E+00		1.918E+01	3.147E+01	0.000E+00	-0.054
I-131	-7.878E-01		2.409E+00	3.984E+00	0.000E+00	-0.198
BA-133	9.159E+00		2.606E+00	3.963E+00	0.000E+00	2.311
CS-134	8.335E+00		3.012E+00	3.164E+00	0.000E+00	2.634
CS-136	-1.307E+00		2.027E+00	3.228E+00	0.000E+00	-0.405
CS-137	1.293E+00		1.698E+00	2.871E+00	0.000E+00	0.450
CE-139	7.227E-01		1.586E+00	2.590E+00	0.000E+00	0.279
BA-140	3.713E+00		7.191E+00	1.190E+01	0.000E+00	0.312
LA-140	7.166E-01		2.364E+00	3.915E+00	0.000E+00	0.183
CE-141	-3.832E+00		3.429E+00	4.643E+00	0.000E+00	-0.825
CE-144	-2.010E+01		1.381E+01	1.864E+01	0.000E+00	-1.079
EU-152	-6.549E+00		5.984E+00	7.912E+00	0.000E+00	-0.828
EU-154	4.933E-01		3.118E+00	5.128E+00	0.000E+00	0.096
U-235	-5.266E+00		1.398E+01	1.925E+01	0.000E+00	-0.274
U-238	7.722E+01		1.720E+02	2.884E+02	0.000E+00	0.268
AM-241	-1.072E+01		2.430E+01	3.333E+01	0.000E+00	-0.322

A,11L28609-6 ,05/16/2006 07:33,05/10/2006 15:05, 3.575E+00,WG L28609-6 EX
B,11L28609-6 ,LIBD ,09/01/2005 07:43,1135L090204

C,K-40	,YES,	1.515E+02,	2.752E+01,	2.480E+01,,	6.108
C,RA-226	,YES,	9.941E+01,	3.954E+01,	6.013E+01,,	1.653
C,AC-228	,YES,	1.363E+00,	9.759E+00,	9.593E+00,,	0.142
C,TH-228	,YES,	1.046E+01,	2.686E+00,	4.533E+00,,	2.307
C,TH-232	,YES,	1.297E+01,	4.909E+00,	1.070E+01,,	1.213
C,BE-7	,NO ,	-3.358E-01,	1.353E+01,	2.219E+01,,	-0.015
C,NA-24	,NO ,	-4.484E+02,	6.738E+02,	1.076E+03,,	-0.417
C,CR-51	,NO ,	-7.421E+00,	1.487E+01,	2.396E+01,,	-0.310
C,MN-54	,NO ,	6.611E-01,	1.602E+00,	2.647E+00,,	0.250
C,CO-57	,NO ,	-8.051E-01,	1.503E+00,	2.448E+00,,	-0.329
C,CO-58	,NO ,	4.820E-01,	1.635E+00,	2.696E+00,,	0.179
C,FE-59	,NO ,	6.213E+00,	3.744E+00,	5.666E+00,,	1.097
C,CO-60	,NO ,	-9.011E-01,	1.585E+00,	2.544E+00,,	-0.354
C,ZN-65	,NO ,	1.020E+01,	4.073E+00,	6.402E+00,,	1.593
C,SE-75	,NO ,	-8.375E-01,	2.074E+00,	3.382E+00,,	-0.248
C,SR-85	,NO ,	1.786E+01,	2.007E+00,	3.550E+00,,	5.031
C,Y-88	,NO ,	-1.923E+00,	1.929E+00,	2.997E+00,,	-0.641
C,NB-94	,NO ,	-6.789E-01,	1.565E+00,	2.544E+00,,	-0.267
C,NB-95	,NO ,	1.848E+00,	1.598E+00,	2.720E+00,,	0.679
C,ZR-95	,NO ,	7.879E-01,	2.746E+00,	4.548E+00,,	0.173
C,MO-99	,NO ,	1.423E+01,	4.427E+01,	7.347E+01,,	0.194
C,RU-103	,NO ,	6.588E-01,	1.738E+00,	2.875E+00,,	0.229
C,RU-106	,NO ,	-1.041E+00,	1.454E+01,	2.407E+01,,	-0.043
C,AG-110m	,NO ,	-5.870E-01,	1.550E+00,	2.534E+00,,	-0.232
C,SN-113	,NO ,	5.755E-01,	2.019E+00,	3.372E+00,,	0.171
C,SB-124	,NO ,	1.498E+00,	3.442E+00,	2.595E+00,,	0.577
C,SB-125	,NO ,	3.871E+00,	4.378E+00,	7.386E+00,,	0.524
C,TE-129M	,NO ,	-1.710E+00,	1.918E+01,	3.147E+01,,	-0.054
C,I-131	,NO ,	-7.878E-01,	2.409E+00,	3.984E+00,,	-0.198
C,BA-133	,NO ,	9.159E+00,	2.606E+00,	3.963E+00,,	2.311
C,CS-134	,NO ,	8.335E+00,	3.012E+00,	3.164E+00,,	2.634
C,CS-136	,NO ,	-1.307E+00,	2.027E+00,	3.228E+00,,	-0.405
C,CS-137	,NO ,	1.293E+00,	1.698E+00,	2.871E+00,,	0.450
C,CE-139	,NO ,	7.227E-01,	1.586E+00,	2.590E+00,,	0.279
C,BA-140	,NO ,	3.713E+00,	7.191E+00,	1.190E+01,,	0.312
C,LA-140	,NO ,	7.166E-01,	2.364E+00,	3.915E+00,,	0.183
C,CE-141	,NO ,	-3.832E+00,	3.429E+00,	4.643E+00,,	-0.825
C,CE-144	,NO ,	-2.010E+01,	1.381E+01,	1.864E+01,,	-1.079
C,EU-152	,NO ,	-6.549E+00,	5.984E+00,	7.912E+00,,	-0.828
C,EU-154	,NO ,	4.933E-01,	3.118E+00,	5.128E+00,,	0.096
C,U-235	,NO ,	-5.266E+00,	1.398E+01,	1.925E+01,,	-0.274
C,U-238	,NO ,	7.722E+01,	1.720E+02,	2.884E+02,,	0.268
C,AM-241	,NO ,	-1.072E+01,	2.430E+01,	3.333E+01,,	-0.322

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 07:39:18.84
TBE15 P-10635B HpGe ********** Aquisition Date/Time: 15-MAY-2006 17:24:00.79

LIMS No., Customer Name, Client ID: WG L28609-7 EX BRAID

Sample ID	: 15L28609-7			Smple Date	: 10-MAY-2006 16:05:00.
Sample Type	: WG			Geometry	: 1535L090104
Quantity	: 3.81770E+00 L			BKGFILE	: 15BG050506MT
Start Channel	: 40	Energy Tol	: 1.70000	Real Time	: 0 14:15:05.30
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 14:15:00.00
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	53.82	305	1500	1.84	93.48	1.59E-01	5.94E-03	23.5	1.53E+00
2	3	67.01	290	1378	1.18	120.02	4.52E-01	5.64E-03	22.0	1.20E+00
3	1	140.60	274	1426	1.11	268.08	1.48E+00	5.35E-03	24.4	3.04E+00
4	1	199.07*	165	1071	1.19	385.70	1.36E+00	3.21E-03	38.9	1.73E+00
5	1	242.55	173	718	1.22	473.16	1.21E+00	3.37E-03	26.6	1.94E+00
6	1	295.58*	287	838	1.43	579.82	1.05E+00	5.58E-03	20.9	1.37E+00
7	1	352.20*	445	571	1.36	693.68	9.15E-01	8.68E-03	12.5	6.03E-01
8	1	596.01	152	357	1.76	1183.86	5.97E-01	2.96E-03	26.3	1.23E+00
9	1	609.25*	236	554	1.61	1210.48	5.86E-01	4.60E-03	25.6	2.77E+00
10	1	1119.64*	102	152	2.14	2235.85	3.58E-01	1.98E-03	31.8	1.13E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L28609-7

Acquisition date : 15-MAY-2006 17:24:00

Total number of lines in spectrum	10	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	1	10.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28609-7

Acquisition date : 15-MAY-2006 17:24:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	53.82	305	1500	1.84	93.48	90	9	5.94E-03	46.9	1.59E-01	
3	67.01	290	1378	1.18	120.02	110	14	5.64E-03	43.9	4.52E-01	
1	140.60	274	1426	1.11	268.08	264	8	5.35E-03	48.9	1.48E+00	
1	199.07	165	1071	1.19	385.70	382	8	3.21E-03	77.8	1.36E+00	
1	242.55	173	718	1.22	473.16	470	7	3.37E-03	53.3	1.21E+00	T
1	295.58	287	838	1.43	579.82	575	10	5.58E-03	41.7	1.05E+00	
1	352.20	445	571	1.36	693.68	689	10	8.68E-03	25.0	9.15E-01	
1	596.01	152	357	1.76	1183.86	1178	12	2.96E-03	52.7	5.97E-01	
1	609.25	236	554	1.61	1210.48	1204	17	4.60E-03	51.1	5.86E-01	
1	1119.64	102	152	2.14	2235.85	2227	16	1.98E-03	63.7	3.58E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 10
Number of unidentified lines 9
Number of lines tentatively identified by NID 1 10.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	1.258E+00		1.465E+01	2.380E+01	0.000E+00	0.053
NA-24	-7.371E+02		6.358E+02	9.785E+02	0.000E+00	-0.753
K-40	1.510E+01		2.613E+01	4.698E+01	0.000E+00	0.321
CR-51	-2.952E+00		1.546E+01	2.547E+01	0.000E+00	-0.116
MN-54	1.715E-01		1.639E+00	2.728E+00	0.000E+00	0.063
CO-57	-4.544E-01		1.627E+00	2.589E+00	0.000E+00	-0.176
CO-58	-1.843E-01		1.661E+00	2.747E+00	0.000E+00	-0.067
FE-59	3.344E+00		3.408E+00	5.787E+00	0.000E+00	0.578
CO-60	1.440E+00		1.624E+00	2.800E+00	0.000E+00	0.514
ZN-65	8.354E+00		4.434E+00	6.767E+00	0.000E+00	1.234
SE-75	1.102E+00		2.151E+00	3.622E+00	0.000E+00	0.304
SR-85	1.494E+01		1.941E+00	3.723E+00	0.000E+00	4.014
Y-88	-1.308E-01		1.920E+00	3.143E+00	0.000E+00	-0.042
NB-94	-3.309E-01		1.616E+00	2.619E+00	0.000E+00	-0.126
NB-95	3.428E+00		1.770E+00	3.066E+00	0.000E+00	1.118
ZR-95	-1.465E+00		3.006E+00	4.794E+00	0.000E+00	-0.306
MO-99	-9.459E+00		4.580E+01	7.394E+01	0.000E+00	-0.128
RU-103	3.336E+00		1.805E+00	3.146E+00	0.000E+00	1.060

RU-106	1.552E+00	1.613E+01	2.538E+01	0.000E+00	0.061
AG-110m	-1.188E-01	1.645E+00	2.690E+00	0.000E+00	-0.044
SN-113	-1.510E-02	2.166E+00	3.546E+00	0.000E+00	-0.004
SB-124	-2.706E+00	4.017E+00	2.730E+00	0.000E+00	-0.991
SB-125	-1.297E-01	4.671E+00	7.608E+00	0.000E+00	-0.017
TE-129M	1.915E+01	2.034E+01	3.388E+01	0.000E+00	0.565
I-131	-2.230E-01	2.599E+00	4.263E+00	0.000E+00	-0.052
BA-133	1.089E+01	2.739E+00	4.296E+00	0.000E+00	2.535
CS-134	3.543E+00	3.216E+00	3.101E+00	0.000E+00	1.143
CS-136	-1.110E+00	2.086E+00	3.395E+00	0.000E+00	-0.327
CS-137	9.177E-01	1.819E+00	3.030E+00	0.000E+00	0.303
CE-139	2.179E+00	1.583E+00	2.660E+00	0.000E+00	0.819
BA-140	9.799E-01	7.322E+00	1.219E+01	0.000E+00	0.080
LA-140	1.114E-01	2.407E+00	4.008E+00	0.000E+00	0.028
CE-141	-5.891E-01	3.525E+00	4.800E+00	0.000E+00	-0.123
CE-144	-5.543E+00	1.340E+01	1.955E+01	0.000E+00	-0.284
EU-152	-3.315E+00	5.867E+00	8.340E+00	0.000E+00	-0.397
EU-154	-5.265E-01	3.385E+00	5.393E+00	0.000E+00	-0.098
RA-226	-1.954E+01	4.295E+01	6.596E+01	0.000E+00	-0.296
AC-228	1.709E+00	7.245E+00	1.105E+01	0.000E+00	0.155
TH-228	1.856E+00	3.655E+00	4.995E+00	0.000E+00	0.372
TH-232	1.706E+00	7.232E+00	1.103E+01	0.000E+00	0.155
U-235	1.612E+01	1.465E+01	2.052E+01	0.000E+00	0.786
U-238	1.590E+02	1.936E+02	3.276E+02	0.000E+00	0.485
AM-241	-1.902E+01	3.615E+01	3.076E+01	0.000E+00	-0.618

A,15L28609-7 ,05/16/2006 07:39,05/10/2006 16:05, 3.818E+00,WG L28609-7 EX
B,15L28609-7 ,LIBD ,03/09/2005 13:29,1535L090104

C,BE-7	,NO ,	1.258E+00,	1.465E+01,	2.380E+01,,	0.053
C,NA-24	,NO ,	-7.371E+02,	6.358E+02,	9.785E+02,,	-0.753
C,K-40	,NO ,	1.510E+01,	2.613E+01,	4.698E+01,,	0.321
C,CR-51	,NO ,	-2.952E+00,	1.546E+01,	2.547E+01,,	-0.116
C,MN-54	,NO ,	1.715E-01,	1.639E+00,	2.728E+00,,	0.063
C,CO-57	,NO ,	-4.544E-01,	1.627E+00,	2.589E+00,,	-0.176
C,CO-58	,NO ,	-1.843E-01,	1.661E+00,	2.747E+00,,	-0.067
C,FE-59	,NO ,	3.344E+00,	3.408E+00,	5.787E+00,,	0.578
C,CO-60	,NO ,	1.440E+00,	1.624E+00,	2.800E+00,,	0.514
C,ZN-65	,NO ,	8.354E+00,	4.434E+00,	6.767E+00,,	1.234
C,SE-75	,NO ,	1.102E+00,	2.151E+00,	3.622E+00,,	0.304
C,SR-85	,NO ,	1.494E+01,	1.941E+00,	3.723E+00,,	4.014
C,Y-88	,NO ,	-1.308E-01,	1.920E+00,	3.143E+00,,	-0.042
C,NB-94	,NO ,	-3.309E-01,	1.616E+00,	2.619E+00,,	-0.126
C,NB-95	,NO ,	3.428E+00,	1.770E+00,	3.066E+00,,	1.118
C,ZR-95	,NO ,	-1.465E+00,	3.006E+00,	4.794E+00,,	-0.306
C,MO-99	,NO ,	-9.459E+00,	4.580E+01,	7.394E+01,,	-0.128
C,RU-103	,NO ,	3.336E+00,	1.805E+00,	3.146E+00,,	1.060
C,RU-106	,NO ,	1.552E+00,	1.613E+01,	2.538E+01,,	0.061
C,AG-110m	,NO ,	-1.188E-01,	1.645E+00,	2.690E+00,,	-0.044
C,SN-113	,NO ,	-1.510E-02,	2.166E+00,	3.546E+00,,	-0.004
C,SB-124	,NO ,	-2.706E+00,	4.017E+00,	2.730E+00,,	-0.991
C,SB-125	,NO ,	-1.297E-01,	4.671E+00,	7.608E+00,,	-0.017
C,TE-129M	,NO ,	1.915E+01,	2.034E+01,	3.388E+01,,	0.565
C,I-131	,NO ,	-2.230E-01,	2.599E+00,	4.263E+00,,	-0.052
C,BA-133	,NO ,	1.089E+01,	2.739E+00,	4.296E+00,,	2.535
C,CS-134	,NO ,	3.543E+00,	3.216E+00,	3.101E+00,,	1.143
C,CS-136	,NO ,	-1.110E+00,	2.086E+00,	3.395E+00,,	-0.327
C,CS-137	,NO ,	9.177E-01,	1.819E+00,	3.030E+00,,	0.303
C,CE-139	,NO ,	2.179E+00,	1.583E+00,	2.660E+00,,	0.819
C,BA-140	,NO ,	9.799E-01,	7.322E+00,	1.219E+01,,	0.080
C,LA-140	,NO ,	1.114E-01,	2.407E+00,	4.008E+00,,	0.028
C,CE-141	,NO ,	-5.891E-01,	3.525E+00,	4.800E+00,,	-0.123
C,CE-144	,NO ,	-5.543E+00,	1.340E+01,	1.955E+01,,	-0.284
C,EU-152	,NO ,	-3.315E+00,	5.867E+00,	8.340E+00,,	-0.397
C,EU-154	,NO ,	-5.265E-01,	3.385E+00,	5.393E+00,,	-0.098
C,RA-226	,NO ,	-1.954E+01,	4.295E+01,	6.596E+01,,	-0.296
C,AC-228	,NO ,	1.709E+00,	7.245E+00,	1.105E+01,,	0.155
C,TH-228	,NO ,	1.856E+00,	3.655E+00,	4.995E+00,,	0.372
C,TH-232	,NO ,	1.706E+00,	7.232E+00,	1.103E+01,,	0.155
C,U-235	,NO ,	1.612E+01,	1.465E+01,	2.052E+01,,	0.786
C,U-238	,NO ,	1.590E+02,	1.936E+02,	3.276E+02,,	0.485
C,AM-241	,NO ,	-1.902E+01,	3.615E+01,	3.076E+01,,	-0.618

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 14:17:32.61
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 16-MAY-2006 12:17:19.07

LIMS No., Customer Name, Client ID: L28609-8 WG BRAID

Sample ID	: 07L28609-8			Smple Date	: 10-MAY-2006 16:40:00.
Sample Type	: WG			Geometry	: 0735L090904
Quantity	: 3.59230E+00 L			BKGFILE	: 07BG050506MT
Start Channel	: 40	Energy Tol	: 1.30000	Real Time	: 0 02:00:01.44
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 02:00:00.00
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	139.67*	62	201	2.32	280.25	2.09E+00	8.57E-03	41.9	3.67E+00
2	1	198.39*	86	186	2.01	397.72	1.98E+00	1.19E-02	32.2	1.16E+00
3	1	351.87*	51	131	1.02	704.75	1.43E+00	7.07E-03	49.6	1.83E+00
4	1	595.83	44	53	1.51	1192.75	9.96E-01	6.16E-03	41.4	2.05E+00
5	1	609.27*	108	54	1.99	1219.64	9.81E-01	1.49E-02	18.0	1.34E+00
6	1	1238.07	33	8	3.43	2477.12	5.81E-01	4.63E-03	23.0	1.39E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28609-8 Acquisition date : 16-MAY-2006 12:17:19

Total number of lines in spectrum	6	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28609-8

Acquisition date : 16-MAY-2006 12:17:19

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	139.67	62	201	2.32	280.25	277	8	8.57E-03	83.9	2.09E+00	
1	198.39	86	186	2.01	397.72	393	10	1.19E-02	64.4	1.98E+00	
1	351.87	51	131	1.02	704.75	698	12	7.07E-03	99.3	1.43E+00	
1	595.83	44	53	1.51	1192.75	1187	16	6.16E-03	82.8	9.96E-01	
1	609.27	108	54	1.99	1219.64	1214	13	1.49E-02	35.9	9.81E-01	
1	1238.07	33	8	3.43	2477.12	2473	11	4.63E-03	46.0	5.81E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 6
Number of unidentified lines 6
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-4.473E+00		2.854E+01	4.700E+01	0.000E+00	-0.095
NA-24	-3.126E+03		2.378E+03	3.327E+03	0.000E+00	-0.940
K-40	-2.193E+00		4.668E+01	8.868E+01	0.000E+00	-0.025
CR-51	-1.133E+01		3.032E+01	4.796E+01	0.000E+00	-0.236
MN-54	9.318E-01		3.112E+00	5.295E+00	0.000E+00	0.176
CO-57	3.490E-01		2.985E+00	5.021E+00	0.000E+00	0.070
CO-58	2.196E-01		3.717E+00	6.072E+00	0.000E+00	0.036
FE-59	-2.117E+00		7.093E+00	1.141E+01	0.000E+00	-0.186
CO-60	-7.979E-01		3.297E+00	5.300E+00	0.000E+00	-0.151
ZN-65	3.595E+00		8.112E+00	1.385E+01	0.000E+00	0.259
SE-75	-2.582E+00		4.271E+00	6.802E+00	0.000E+00	-0.380
SR-85	1.778E+01		4.285E+00	8.331E+00	0.000E+00	2.134
Y-88	1.001E+00		3.846E+00	6.481E+00	0.000E+00	0.154
NB-94	-1.155E+00		3.266E+00	5.245E+00	0.000E+00	-0.220
NB-95	1.602E+00		3.340E+00	5.671E+00	0.000E+00	0.283
ZR-95	-2.517E+00		5.881E+00	9.275E+00	0.000E+00	-0.271
MO-99	-1.001E+02		1.036E+02	1.559E+02	0.000E+00	-0.642
RU-103	-1.333E+00		3.646E+00	5.905E+00	0.000E+00	-0.226
RU-106	-1.889E+01		2.939E+01	4.439E+01	0.000E+00	-0.426
AG-110m	2.137E+00		3.025E+00	5.282E+00	0.000E+00	0.405
SN-113	-4.145E+00		4.119E+00	6.342E+00	0.000E+00	-0.654
SB-124	6.151E+00		4.851E+00	5.116E+00	0.000E+00	1.202

SB-125	-2.166E+00	9.349E+00	1.502E+01	0.000E+00	-0.144
TE-129M	1.023E+01	4.308E+01	7.082E+01	0.000E+00	0.145
I-131	1.428E+00	5.164E+00	8.673E+00	0.000E+00	0.165
BA-133	3.064E+00	5.370E+00	7.898E+00	0.000E+00	0.388
CS-134	1.360E+01	4.944E+00	6.463E+00	0.000E+00	2.105
CS-136	1.197E+00	4.429E+00	7.358E+00	0.000E+00	0.163
CS-137	1.596E+00	3.225E+00	5.553E+00	0.000E+00	0.287
CE-139	3.643E+00	3.192E+00	5.470E+00	0.000E+00	0.666
BA-140	1.371E+01	1.590E+01	2.764E+01	0.000E+00	0.496
LA-140	-2.532E+00	5.300E+00	8.271E+00	0.000E+00	-0.306
CE-141	-2.116E+00	6.396E+00	8.915E+00	0.000E+00	-0.237
CE-144	1.701E+00	2.596E+01	3.888E+01	0.000E+00	0.044
EU-152	-1.101E+00	1.154E+01	1.618E+01	0.000E+00	-0.068
EU-154	8.963E-02	6.259E+00	1.048E+01	0.000E+00	0.009
RA-226	-7.250E+01	7.861E+01	1.264E+02	0.000E+00	-0.574
AC-228	5.233E+00	1.251E+01	2.222E+01	0.000E+00	0.236
TH-228	7.610E+00	6.007E+00	1.081E+01	0.000E+00	0.704
TH-232	5.222E+00	1.249E+01	2.217E+01	0.000E+00	0.236
U-235	-8.787E+00	2.622E+01	3.676E+01	0.000E+00	-0.239
U-238	5.740E+01	3.770E+02	6.284E+02	0.000E+00	0.091
AM-241	-6.758E+00	2.522E+01	4.176E+01	0.000E+00	-0.162

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A,07L28609-8      ,05/16/2006 14:17,05/10/2006 16:40,   3.592E+00,L28609-8 WG BR
B,07L28609-8      ,LIBD                ,06/23/2005 07:26,0735L090904
C,BE-7     ,NO ,  -4.473E+00,   2.854E+01,   4.700E+01,,   -0.095
C,NA-24    ,NO ,  -3.126E+03,   2.378E+03,   3.327E+03,,   -0.940
C,K-40     ,NO ,  -2.193E+00,   4.668E+01,   8.868E+01,,   -0.025
C,CR-51    ,NO ,  -1.133E+01,   3.032E+01,   4.796E+01,,   -0.236
C,MN-54    ,NO ,   9.318E-01,   3.112E+00,   5.295E+00,,    0.176
C,CO-57    ,NO ,   3.490E-01,   2.985E+00,   5.021E+00,,    0.070
C,CO-58    ,NO ,   2.196E-01,   3.717E+00,   6.072E+00,,    0.036
C,FE-59    ,NO ,  -2.117E+00,   7.093E+00,   1.141E+01,,   -0.186
C,CO-60    ,NO ,  -7.979E-01,   3.297E+00,   5.300E+00,,   -0.151
C,ZN-65    ,NO ,   3.595E+00,   8.112E+00,   1.385E+01,,    0.259
C,SE-75    ,NO ,  -2.582E+00,   4.271E+00,   6.802E+00,,   -0.380
C,SR-85    ,NO ,   1.778E+01,   4.285E+00,   8.331E+00,,    2.134
C,Y-88     ,NO ,   1.001E+00,   3.846E+00,   6.481E+00,,    0.154
C,NB-94    ,NO ,  -1.155E+00,   3.266E+00,   5.245E+00,,   -0.220
C,NB-95    ,NO ,   1.602E+00,   3.340E+00,   5.671E+00,,    0.283
C,ZR-95    ,NO ,  -2.517E+00,   5.881E+00,   9.275E+00,,   -0.271
C,MO-99    ,NO ,  -1.001E+02,   1.036E+02,   1.559E+02,,   -0.642
C,RU-103   ,NO ,  -1.333E+00,   3.646E+00,   5.905E+00,,   -0.226
C,RU-106   ,NO ,  -1.889E+01,   2.939E+01,   4.439E+01,,   -0.426
C,AG-110m  ,NO ,   2.137E+00,   3.025E+00,   5.282E+00,,    0.405
C,SN-113   ,NO ,  -4.145E+00,   4.119E+00,   6.342E+00,,   -0.654
C,SB-124   ,NO ,   6.151E+00,   4.851E+00,   5.116E+00,,    1.202
C,SB-125   ,NO ,  -2.166E+00,   9.349E+00,   1.502E+01,,   -0.144
C,TE-129M  ,NO ,   1.023E+01,   4.308E+01,   7.082E+01,,    0.145
C,I-131    ,NO ,   1.428E+00,   5.164E+00,   8.673E+00,,    0.165
C,BA-133   ,NO ,   3.064E+00,   5.370E+00,   7.898E+00,,    0.388
C,CS-134   ,NO ,   1.360E+01,   4.944E+00,   6.463E+00,,    2.105
C,CS-136   ,NO ,   1.197E+00,   4.429E+00,   7.358E+00,,    0.163
C,CS-137   ,NO ,   1.596E+00,   3.225E+00,   5.553E+00,,    0.287
C,CE-139   ,NO ,   3.643E+00,   3.192E+00,   5.470E+00,,    0.666
C,BA-140   ,NO ,   1.371E+01,   1.590E+01,   2.764E+01,,    0.496
C,LA-140   ,NO ,  -2.532E+00,   5.300E+00,   8.271E+00,,   -0.306
C,CE-141   ,NO ,  -2.116E+00,   6.396E+00,   8.915E+00,,   -0.237
C,CE-144   ,NO ,   1.701E+00,   2.596E+01,   3.888E+01,,    0.044
C,EU-152   ,NO ,  -1.101E+00,   1.154E+01,   1.618E+01,,   -0.068
C,EU-154   ,NO ,   8.963E-02,   6.259E+00,   1.048E+01,,    0.009
C,RA-226   ,NO ,  -7.250E+01,   7.861E+01,   1.264E+02,,   -0.574
C,AC-228   ,NO ,   5.233E+00,   1.251E+01,   2.222E+01,,    0.236
C,TH-228   ,NO ,   7.610E+00,   6.007E+00,   1.081E+01,,    0.704
C,TH-232   ,NO ,   5.222E+00,   1.249E+01,   2.217E+01,,    0.236
C,U-235    ,NO ,  -8.787E+00,   2.622E+01,   3.676E+01,,   -0.239
C,U-238    ,NO ,   5.740E+01,   3.770E+02,   6.284E+02,,    0.091
C,AM-241   ,NO ,  -6.758E+00,   2.522E+01,   4.176E+01,,   -0.162
```

Sec. Review: Analyst: KD LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 15:18:55.86
TBE23 03017322 HpGe ********** Aquisition Date/Time: 16-MAY-2006 12:17:12.35

LIMS No., Customer Name, Client ID: L28609-9 WG BRAID

Sample ID : 23L28609-9
Sample Type : WG
Quantity : 3.49730E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 09:15:00.
Geometry : 2335L090704
BKGFILE : 23BG050506MT
Real Time : 0 03:01:32.87
Live time : 0 03:01:25.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	33.87*	31	133	1.09	67.89	9.50E-02	2.85E-03	72.4	
2	0	92.91*	38	820	1.86	185.86	1.70E+00	3.47E-03	158.0	
3	0	139.96*	83	511	0.94	279.88	2.05E+00	7.65E-03	49.1	
4	0	185.91*	28	561	1.41	371.70	1.95E+00	2.53E-03	179.5	
5	0	351.93*	47	203	1.23	703.50	1.32E+00	4.27E-03	63.5	
6	0	510.89*	46	142	2.22	1021.27	9.85E-01	4.26E-03	70.5	
7	0	595.92	65	72	1.05	1191.27	8.74E-01	5.93E-03	28.3	
8	0	609.38*	52	108	1.57	1218.18	8.59E-01	4.78E-03	47.2	
9	0	1460.36*	25	40	2.16	2920.66	4.60E-01	2.34E-03	70.7	
10	0	1763.95*	7	28	2.11	3528.50	4.01E-01	6.05E-04	189.8	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	25	10.67*	4.595E-01	3.687E+01	3.687E+01	141.41
RA-226	186.21	28	3.28*	1.946E+00	3.067E+01	3.067E+01	359.05

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28609-9 Acquisition date : 16-MAY-2006 12:17:12

Total number of lines in spectrum	10	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	2	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.687E+01	3.687E+01	5.214E+01	141.41	
RA-226	1600.00Y	1.00	3.067E+01	3.067E+01	11.01E+01	359.05	
	Total Activity :		6.755E+01	6.755E+01			
	Grand Total Activity :		6.755E+01	6.755E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28609-9 Acquisition date : 16-MAY-2006 12:17:12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	33.87	31	133	1.09	67.89	65	7	2.85E-03	****	9.50E-02	
0	92.91	38	820	1.86	185.86	181	12	3.47E-03	****	1.70E+00	
0	139.96	83	511	0.94	279.88	276	8	7.65E-03	98.2	2.05E+00	
0	351.93	47	203	1.23	703.50	698	11	4.27E-03	****	1.32E+00	
0	510.89	46	142	2.22	1021.27	1014	16	4.26E-03	****	9.85E-01	
0	595.92	65	72	1.05	1191.27	1185	11	5.93E-03	56.6	8.74E-01	
0	609.38	52	108	1.57	1218.18	1210	14	4.78E-03	94.5	8.59E-01	
0	1763.95	7	28	2.11	3528.50	3522	14	6.05E-04	****	4.01E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	10	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	2	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.687E+01	3.687E+01	5.214E+01	141.41	
RA-226	1600.00Y	1.00	3.067E+01	3.067E+01	11.01E+01	359.05	
	Total Activity :		6.755E+01	6.755E+01			
	Grand Total Activity :		6.755E+01	6.755E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	3.687E+01	5.214E+01	4.942E+01	0.000E+00	0.746
RA-226	3.067E+01	1.101E+02	1.397E+02	0.000E+00	0.220

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.639E+01		2.633E+01	4.330E+01	0.000E+00	-0.378

NA-24	-5.538E+02	1.034E+03	1.744E+03	0.000E+00	-0.318
CR-51	-1.137E+01	2.915E+01	4.940E+01	0.000E+00	-0.230
MN-54	5.986E-01	2.869E+00	5.130E+00	0.000E+00	0.117
CO-57	1.147E+00	3.585E+00	5.961E+00	0.000E+00	0.192
CO-58	-3.735E+00	3.129E+00	4.912E+00	0.000E+00	-0.760
FE-59	5.706E+00	6.598E+00	1.212E+01	0.000E+00	0.471
CO-60	2.430E+00	3.003E+00	5.714E+00	0.000E+00	0.425
ZN-65	3.473E+00	6.402E+00	1.159E+01	0.000E+00	0.300
SE-75	-3.467E+00	4.621E+00	7.526E+00	0.000E+00	-0.461
SR-85	2.005E+01	3.892E+00	7.301E+00	0.000E+00	2.746
Y-88	1.446E+00	3.077E+00	5.861E+00	0.000E+00	0.247
NB-94	5.945E-01	2.939E+00	5.128E+00	0.000E+00	0.116
NB-95	1.884E+00	3.011E+00	5.405E+00	0.000E+00	0.349
ZR-95	-6.857E-02	4.901E+00	8.490E+00	0.000E+00	-0.008
MO-99	1.761E+01	7.803E+01	1.370E+02	0.000E+00	0.129
RU-103	-5.701E-01	3.359E+00	5.646E+00	0.000E+00	-0.101
RU-106	-3.828E+01	2.731E+01	4.333E+01	0.000E+00	-0.883
AG-110m	5.736E-01	2.913E+00	5.109E+00	0.000E+00	0.112
SN-113	-1.766E+00	3.850E+00	6.455E+00	0.000E+00	-0.274
SB-124	3.017E+00	5.788E+00	5.116E+00	0.000E+00	0.590
SB-125	-2.537E+00	8.670E+00	1.459E+01	0.000E+00	-0.174
TE-129M	-7.384E+00	3.598E+01	6.070E+01	0.000E+00	-0.122
I-131	-2.576E+00	4.846E+00	8.121E+00	0.000E+00	-0.317
BA-133	3.666E+00	4.933E+00	7.514E+00	0.000E+00	0.488
CS-134	3.204E+00	4.532E+00	5.632E+00	0.000E+00	0.569
CS-136	4.189E-01	3.711E+00	6.442E+00	0.000E+00	0.065
CS-137	6.085E-01	3.235E+00	5.666E+00	0.000E+00	0.107
CE-139	-3.778E-01	3.450E+00	5.838E+00	0.000E+00	-0.065
BA-140	-6.836E+00	1.328E+01	2.256E+01	0.000E+00	-0.303
LA-140	4.157E+00	3.862E+00	7.684E+00	0.000E+00	0.541
CE-141	-4.984E-01	7.513E+00	1.094E+01	0.000E+00	-0.046
CE-144	-2.517E+01	3.271E+01	4.464E+01	0.000E+00	-0.564
EU-152	-3.829E+00	1.146E+01	1.640E+01	0.000E+00	-0.233
EU-154	-1.572E+00	7.572E+00	1.243E+01	0.000E+00	-0.127
AC-228	-3.921E+00	1.096E+01	1.924E+01	0.000E+00	-0.204
TH-228	1.322E+00	6.415E+00	1.089E+01	0.000E+00	0.121
TH-232	-3.914E+00	1.094E+01	1.921E+01	0.000E+00	-0.204
U-235	9.251E+00	3.089E+01	4.565E+01	0.000E+00	0.203
U-238	-1.552E+02	3.367E+02	5.790E+02	0.000E+00	-0.268
AM-241	-2.510E+01	1.736E+01	2.830E+01	0.000E+00	-0.887

A,23L28609-9 ,05/16/2006 15:18,05/11/2006 09:15, 3.497E+00,L28609-9 WG BR
B,23L28609-9 ,LIBD ,06/24/2005 07:59,2335L090704

C,K-40	,YES,	3.687E+01,	5.214E+01,	4.942E+01,,	0.746
C,RA-226	,YES,	3.067E+01,	1.101E+02,	1.397E+02,,	0.220
C,BE-7	,NO ,	-1.639E+01,	2.633E+01,	4.330E+01,,	-0.378
C,NA-24	,NO ,	-5.538E+02,	1.034E+03,	1.744E+03,,	-0.318
C,CR-51	,NO ,	-1.137E+01,	2.915E+01,	4.940E+01,,	-0.230
C,MN-54	,NO ,	5.986E-01,	2.869E+00,	5.130E+00,,	0.117
C,CO-57	,NO ,	1.147E+00,	3.585E+00,	5.961E+00,,	0.192
C,CO-58	,NO ,	-3.735E+00,	3.129E+00,	4.912E+00,,	-0.760
C,FE-59	,NO ,	5.706E+00,	6.598E+00,	1.212E+01,,	0.471
C,CO-60	,NO ,	2.430E+00,	3.003E+00,	5.714E+00,,	0.425
C,ZN-65	,NO ,	3.473E+00,	6.402E+00,	1.159E+01,,	0.300
C,SE-75	,NO ,	-3.467E+00,	4.621E+00,	7.526E+00,,	-0.461
C,SR-85	,NO ,	2.005E+01,	3.892E+00,	7.301E+00,,	2.746
C,Y-88	,NO ,	1.446E+00,	3.077E+00,	5.861E+00,,	0.247
C,NB-94	,NO ,	5.945E-01,	2.939E+00,	5.128E+00,,	0.116
C,NB-95	,NO ,	1.884E+00,	3.011E+00,	5.405E+00,,	0.349
C,ZR-95	,NO ,	-6.857E-02,	4.901E+00,	8.490E+00,,	-0.008
C,MO-99	,NO ,	1.761E+01,	7.803E+01,	1.370E+02,,	0.129
C,RU-103	,NO ,	-5.701E-01,	3.359E+00,	5.646E+00,,	-0.101
C,RU-106	,NO ,	-3.828E+01,	2.731E+01,	4.333E+01,,	-0.883
C,AG-110m	,NO ,	5.736E-01,	2.913E+00,	5.109E+00,,	0.112
C,SN-113	,NO ,	-1.766E+00,	3.850E+00,	6.455E+00,,	-0.274
C,SB-124	,NO ,	3.017E+00,	5.788E+00,	5.116E+00,,	0.590
C,SB-125	,NO ,	-2.537E+00,	8.670E+00,	1.459E+01,,	-0.174
C,TE-129M	,NO ,	-7.384E+00,	3.598E+01,	6.070E+01,,	-0.122
C,I-131	,NO ,	-2.576E+00,	4.846E+00,	8.121E+00,,	-0.317
C,BA-133	,NO ,	3.666E+00,	4.933E+00,	7.514E+00,,	0.488
C,CS-134	,NO ,	3.204E+00,	4.532E+00,	5.632E+00,,	0.569
C,CS-136	,NO ,	4.189E-01,	3.711E+00,	6.442E+00,,	0.065
C,CS-137	,NO ,	6.085E-01,	3.235E+00,	5.666E+00,,	0.107
C,CE-139	,NO ,	-3.778E-01,	3.450E+00,	5.838E+00,,	-0.065
C,BA-140	,NO ,	-6.836E+00,	1.328E+01,	2.256E+01,,	-0.303
C,LA-140	,NO ,	4.157E+00,	3.862E+00,	7.684E+00,,	0.541
C,CE-141	,NO ,	-4.984E-01,	7.513E+00,	1.094E+01,,	-0.046
C,CE-144	,NO ,	-2.517E+01,	3.271E+01,	4.464E+01,,	-0.564
C,EU-152	,NO ,	-3.829E+00,	1.146E+01,	1.640E+01,,	-0.233
C,EU-154	,NO ,	-1.572E+00,	7.572E+00,	1.243E+01,,	-0.127
C,AC-228	,NO ,	-3.921E+00,	1.096E+01,	1.924E+01,,	-0.204
C,TH-228	,NO ,	1.322E+00,	6.415E+00,	1.089E+01,,	0.121
C,TH-232	,NO ,	-3.914E+00,	1.094E+01,	1.921E+01,,	-0.204
C,U-235	,NO ,	9.251E+00,	3.089E+01,	4.565E+01,,	0.203
C,U-238	,NO ,	-1.552E+02,	3.367E+02,	5.790E+02,,	-0.268
C,AM-241	,NO ,	-2.510E+01,	1.736E+01,	2.830E+01,,	-0.887

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 15:19:48.72
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 16-MAY-2006 12:32:14.86

LIMS No., Customer Name, Client ID: L28609-10 WG BRAID

Sample ID : 04L28609-10
Sample Type : WG
Quantity : 3.65450E+00 L
Start Channel : 90 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 11:15:00.
Geometry : 0435L090804
BKGFILE : 04BG050506MT
Real Time : 0 02:47:29.88
Live time : 0 02:47:28.07

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.21*	35	262	1.58	132.98	6.44E-01	3.43E-03	82.5	2.45E+00
2	1	197.73*	89	252	3.27	396.07	1.68E+00	8.86E-03	36.6	6.23E+00
3	1	238.46*	45	167	1.05	477.52	1.52E+00	4.50E-03	53.8	9.60E-01
4	1	295.04*	29	158	1.49	590.69	1.32E+00	2.85E-03	83.9	1.56E+00
5	1	351.73*	80	131	1.39	704.09	1.17E+00	7.97E-03	30.7	2.15E+00
6	1	583.21*	20	58	1.88	1167.03	7.99E-01	1.97E-03	93.5	2.52E+00
7	1	595.86	31	53	1.58	1192.33	7.86E-01	3.11E-03	49.3	2.51E+00
8	1	609.16*	51	67	1.45	1218.93	7.73E-01	5.07E-03	36.0	1.08E+00
9	1	661.62	27	48	1.67	1323.84	7.26E-01	2.68E-03	54.3	8.89E-01
10	1	1120.29*	31	12	2.48	2241.02	4.81E-01	3.09E-03	32.7	1.12E+00
11	1	1460.51*	68	22	2.22	2921.22	3.92E-01	6.79E-03	23.0	2.15E+00
12	1	1729.01	17	2	2.15	3457.95	3.48E-01	1.72E-03	27.2	3.67E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	68	10.67*	3.921E-01	1.200E+02	1.200E+02	45.98
TH-228	238.63	45	44.60*	1.521E+00	4.902E+00	4.932E+00	107.56
	240.98	------	3.95	1.511E+00	------	Line Not Found	------

Nuclide Type: fission

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
CS-137	661.65	27	85.12*	7.256E-01	3.210E+00	3.211E+00	108.65

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28609-10

Acquisition date : 16-MAY-2006 12:32:14

Total number of lines in spectrum	12	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	4	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.200E+02	1.200E+02	0.552E+02	45.98	
TH-228	1.91Y	1.01	4.902E+00	4.932E+00	5.304E+00	107.56	
			---------	---------			
	Total Activity :		1.249E+02	1.250E+02			

Nuclide Type : fission

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.17Y	1.00	3.210E+00	3.211E+00	3.489E+00	108.65	
			---------	---------			
	Total Activity :		3.210E+00	3.211E+00			

Grand Total Activity :	1.281E+02	1.282E+02

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28609-10 Acquisition date : 16-MAY-2006 12:32:14

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.21	35	262	1.58	132.98	130	7	3.43E-03	****	6.44E-01	
1	197.73	89	252	3.27	396.07	393	11	8.86E-03	73.3	1.68E+00	
1	295.04	29	158	1.49	590.69	587	9	2.85E-03	****	1.32E+00	
1	351.73	80	131	1.39	704.09	700	11	7.97E-03	61.3	1.17E+00	
1	583.21	20	58	1.88	1167.03	1162	14	1.97E-03	****	7.99E-01	T
1	595.86	31	53	1.58	1192.33	1187	11	3.11E-03	98.5	7.86E-01	
1	609.16	51	67	1.45	1218.93	1213	10	5.07E-03	72.1	7.73E-01	
1	1120.29	31	12	2.48	2241.02	2236	13	3.09E-03	65.5	4.81E-01	
1	1729.01	17	2	2.15	3457.95	3453	9	1.72E-03	54.4	3.48E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	4	33.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.200E+02	1.200E+02	0.552E+02	45.98	
TH-228	1.91Y	1.01	4.902E+00	4.932E+00	5.304E+00	107.56	
			---------	---------			
	Total Activity :		1.249E+02	1.250E+02			

Nuclide Type : fission

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CS-137	30.17Y	1.00	3.210E+00	3.211E+00	3.489E+00	108.65	
			---------	---------			
	Total Activity :		3.210E+00	3.211E+00			

Grand Total Activity : 1.281E+02 1.282E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.200E+02	5.518E+01	5.139E+01	0.000E+00	2.335

CS-137	3.211E+00	3.489E+00	5.034E+00	0.000E+00	0.638
TH-228	4.932E+00	5.304E+00	8.483E+00	0.000E+00	0.581

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.949E+00		2.665E+01	4.336E+01	0.000E+00	-0.045
NA-24	-1.756E+03		2.867E+03	4.438E+03	0.000E+00	-0.396
CR-51	-4.832E+00		3.076E+01	4.966E+01	0.000E+00	-0.097
MN-54	2.167E+00		2.905E+00	5.093E+00	0.000E+00	0.425
CO-57	-2.407E+00		2.808E+00	4.522E+00	0.000E+00	-0.532
CO-58	-2.390E+00		3.263E+00	5.104E+00	0.000E+00	-0.468
FE-59	1.060E+00		6.243E+00	1.049E+01	0.000E+00	0.101
CO-60	-3.180E-01		3.361E+00	5.731E+00	0.000E+00	-0.055
ZN-65	7.732E+00		8.447E+00	1.307E+01	0.000E+00	0.591
SE-75	5.441E-01		4.151E+00	6.876E+00	0.000E+00	0.079
SR-85	1.270E+01		3.922E+00	7.298E+00	0.000E+00	1.740
Y-88	8.499E-02		3.943E+00	6.515E+00	0.000E+00	0.013
NB-94	7.177E-01		2.973E+00	4.942E+00	0.000E+00	0.145
NB-95	-6.034E-01		3.389E+00	5.423E+00	0.000E+00	-0.111
ZR-95	5.261E+00		5.607E+00	9.776E+00	0.000E+00	0.538
MO-99	7.816E+01		9.702E+01	1.685E+02	0.000E+00	0.464
RU-103	2.365E+00		3.532E+00	5.981E+00	0.000E+00	0.395
RU-106	-1.926E+01		2.879E+01	4.527E+01	0.000E+00	-0.426
AG-110m	3.540E+00		3.608E+00	5.515E+00	0.000E+00	0.642
SN-113	1.298E+00		4.200E+00	7.071E+00	0.000E+00	0.184
SB-124	4.205E-01		7.198E+00	5.427E+00	0.000E+00	0.077
SB-125	1.084E+01		8.892E+00	1.561E+01	0.000E+00	0.694
TE-129M	1.474E+01		3.802E+01	6.376E+01	0.000E+00	0.231
I-131	-4.634E+00		4.808E+00	7.592E+00	0.000E+00	-0.610
BA-133	5.125E+00		4.887E+00	7.462E+00	0.000E+00	0.687
CS-134	5.446E+00		5.063E+00	5.918E+00	0.000E+00	0.920
CS-136	2.209E+00		3.909E+00	6.770E+00	0.000E+00	0.326
CE-139	4.934E-01		2.903E+00	4.767E+00	0.000E+00	0.104
BA-140	3.551E+00		1.497E+01	2.464E+01	0.000E+00	0.144
LA-140	-1.665E-02		5.229E+00	8.554E+00	0.000E+00	-0.002
CE-141	-6.486E+00		5.677E+00	8.967E+00	0.000E+00	-0.723
CE-144	-1.771E+01		2.189E+01	3.513E+01	0.000E+00	-0.504
EU-152	-1.306E+01		1.148E+01	1.506E+01	0.000E+00	-0.867
EU-154	-4.941E-01		5.731E+00	9.477E+00	0.000E+00	-0.052
RA-226	-2.802E+00		7.433E+01	1.221E+02	0.000E+00	-0.023
AC-228	3.810E+00		1.190E+01	2.088E+01	0.000E+00	0.182
TH-232	3.802E+00		1.188E+01	2.084E+01	0.000E+00	0.182
U-235	-2.086E+01		2.308E+01	3.680E+01	0.000E+00	-0.567
U-238	5.842E+01		3.481E+02	5.756E+02	0.000E+00	0.102
AM-241	-2.731E+01		2.652E+01	4.058E+01	0.000E+00	-0.673

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A,04L28609-10     ,05/16/2006 15:19,05/10/2006 11:15,   3.655E+00,L28609-10 WG B
B,04L28609-10     ,LIBD                ,03/14/2005 09:04,0435L090804
C,K-40     ,YES,   1.200E+02,   5.518E+01,   5.139E+01,,    2.335
C,CS-137   ,YES,   3.211E+00,   3.489E+00,   5.034E+00,,    0.638
C,TH-228   ,YES,   4.932E+00,   5.304E+00,   8.483E+00,,    0.581
C,BE-7     ,NO ,  -1.949E+00,   2.665E+01,   4.336E+01,,   -0.045
C,NA-24    ,NO ,  -1.756E+03,   2.867E+03,   4.438E+03,,   -0.396
C,CR-51    ,NO ,  -4.832E+00,   3.076E+01,   4.966E+01,,   -0.097
C,MN-54    ,NO ,   2.167E+00,   2.905E+00,   5.093E+00,,    0.425
C,CO-57    ,NO ,  -2.407E+00,   2.808E+00,   4.522E+00,,   -0.532
C,CO-58    ,NO ,  -2.390E+00,   3.263E+00,   5.104E+00,,   -0.468
C,FE-59    ,NO ,   1.060E+00,   6.243E+00,   1.049E+01,,    0.101
C,CO-60    ,NO ,  -3.180E-01,   3.361E+00,   5.731E+00,,   -0.055
C,ZN-65    ,NO ,   7.732E+00,   8.447E+00,   1.307E+01,,    0.591
C,SE-75    ,NO ,   5.441E-01,   4.151E+00,   6.876E+00,,    0.079
C,SR-85    ,NO ,   1.270E+01,   3.922E+00,   7.298E+00,,    1.740
C,Y-88     ,NO ,   8.499E-02,   3.943E+00,   6.515E+00,,    0.013
C,NB-94    ,NO ,   7.177E-01,   2.973E+00,   4.942E+00,,    0.145
C,NB-95    ,NO ,  -6.034E-01,   3.389E+00,   5.423E+00,,   -0.111
C,ZR-95    ,NO ,   5.261E+00,   5.607E+00,   9.776E+00,,    0.538
C,MO-99    ,NO ,   7.816E+01,   9.702E+01,   1.685E+02,,    0.464
C,RU-103   ,NO ,   2.365E+00,   3.532E+00,   5.981E+00,,    0.395
C,RU-106   ,NO ,  -1.926E+01,   2.879E+01,   4.527E+01,,   -0.426
C,AG-110m  ,NO ,   3.540E+00,   3.608E+00,   5.515E+00,,    0.642
C,SN-113   ,NO ,   1.298E+00,   4.200E+00,   7.071E+00,,    0.184
C,SB-124   ,NO ,   4.205E-01,   7.198E+00,   5.427E+00,,    0.077
C,SB-125   ,NO ,   1.084E+01,   8.892E+00,   1.561E+01,,    0.694
C,TE-129M  ,NO ,   1.474E+01,   3.802E+01,   6.376E+01,,    0.231
C,I-131    ,NO ,  -4.634E+00,   4.808E+00,   7.592E+00,,   -0.610
C,BA-133   ,NO ,   5.125E+00,   4.887E+00,   7.462E+00,,    0.687
C,CS-134   ,NO ,   5.446E+00,   5.063E+00,   5.918E+00,,    0.920
C,CS-136   ,NO ,   2.209E+00,   3.909E+00,   6.770E+00,,    0.326
C,CE-139   ,NO ,   4.934E-01,   2.903E+00,   4.767E+00,,    0.104
C,BA-140   ,NO ,   3.551E+00,   1.497E+01,   2.464E+01,,    0.144
C,LA-140   ,NO ,  -1.665E-02,   5.229E+00,   8.554E+00,,   -0.002
C,CE-141   ,NO ,  -6.486E+00,   5.677E+00,   8.967E+00,,   -0.723
C,CE-144   ,NO ,  -1.771E+01,   2.189E+01,   3.513E+01,,   -0.504
C,EU-152   ,NO ,  -1.306E+01,   1.148E+01,   1.506E+01,,   -0.867
C,EU-154   ,NO ,  -4.941E-01,   5.731E+00,   9.477E+00,,   -0.052
C,RA-226   ,NO ,  -2.802E+00,   7.433E+01,   1.221E+02,,   -0.023
C,AC-228   ,NO ,   3.810E+00,   1.190E+01,   2.088E+01,,    0.182
C,TH-232   ,NO ,   3.802E+00,   1.188E+01,   2.084E+01,,    0.182
C,U-235    ,NO ,  -2.086E+01,   2.308E+01,   3.680E+01,,   -0.567
C,U-238    ,NO ,   5.842E+01,   3.481E+02,   5.756E+02,,    0.102
C,AM-241   ,NO ,  -2.731E+01,   2.652E+01,   4.058E+01,,   -0.673
```

Sec. Review: Analyst: KD LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 18:18:33.92
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 16-MAY-2006 13:22:26.48

LIMS No., Customer Name, Client ID: L28609-11 WG BRAID

Sample ID : 11L28609-11
Sample Type : WG
Quantity : 3.54810E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 12:10:00.
Geometry : 1135L090204
BKGFILE : 11BG050506MT
Real Time : 0 04:55:56.30
Live time : 0 04:55:49.42

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	139.78	181	588	1.11	279.16	1.69E+00	1.02E-02	26.1	
2	0	198.32*	71	428	1.20	396.56	1.57E+00	4.00E-03	55.6	
3	0	238.42*	47	336	0.99	476.98	1.42E+00	2.65E-03	77.0	
4	0	295.30*	56	386	1.33	591.03	1.23E+00	3.14E-03	75.6	
5	0	352.22*	89	235	1.38	705.14	1.08E+00	5.00E-03	36.5	
6	0	595.59	98	139	1.22	1193.00	7.15E-01	5.51E-03	26.9	
7	0	608.97*	106	114	1.37	1219.83	7.02E-01	6.00E-03	24.0	
8	0	1118.92*	45	59	0.86	2241.48	4.37E-01	2.54E-03	44.1	
9	0	1460.30*	92	52	2.08	2924.99	3.54E-01	5.20E-03	25.3	
10	0	1762.48*	32	22	2.64	3529.73	3.04E-01	1.79E-03	41.5	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	92	10.67*	3.540E-01	1.049E+02	1.049E+02	50.50
TH-228	238.63	47	44.60*	1.422E+00	3.180E+00	3.199E+00	154.00
	240.98	------	3.95	1.413E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity

Sample ID : 11L28609-11
Acquisition date : 16-MAY-2006 13:22:26

Total number of lines in spectrum	10	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	2	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.049E+02	1.049E+02	0.530E+02	50.50	
TH-228	1.91Y	1.01	3.180E+00	3.199E+00	4.927E+00	154.00	
	Total Activity :		1.081E+02	1.081E+02			
	Grand Total Activity :		1.081E+02	1.081E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28609-11 Acquisition date : 16-MAY-2006 13:22:26

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	139.78	181	588	1.11	279.16	274	10	1.02E-02	52.3	1.69E+00	
0	198.32	71	428	1.20	396.56	392	9	4.00E-03	****	1.57E+00	
0	295.30	56	386	1.33	591.03	585	13	3.14E-03	****	1.23E+00	
0	352.22	89	235	1.38	705.14	699	10	5.00E-03	73.0	1.08E+00	
0	595.59	98	139	1.22	1193.00	1186	13	5.51E-03	53.7	7.15E-01	
0	608.97	106	114	1.37	1219.83	1213	12	6.00E-03	48.0	7.02E-01	
0	1118.92	45	59	0.86	2241.48	2233	17	2.54E-03	88.2	4.37E-01	
0	1762.48	32	22	2.64	3529.73	3522	17	1.79E-03	83.0	3.04E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	10	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	2	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.049E+02	1.049E+02	0.530E+02	50.50	
TH-228	1.91Y	1.01	3.180E+00	3.199E+00	4.927E+00	154.00	
	Total Activity :		1.081E+02	1.081E+02			
	Grand Total Activity :		1.081E+02	1.081E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.049E+02	5.300E+01	3.753E+01	0.000E+00	2.796
TH-228	3.199E+00	4.927E+00	7.907E+00	0.000E+00	0.405

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	3.707E+00		2.398E+01	3.963E+01	0.000E+00	0.094

NA-24	-1.980E+03	2.773E+03	4.317E+03	0.000E+00	-0.459
CR-51	-4.895E+01	2.615E+01	3.968E+01	0.000E+00	-1.233
MN-54	3.461E+00	2.880E+00	5.003E+00	0.000E+00	0.692
CO-57	1.011E+00	2.625E+00	4.349E+00	0.000E+00	0.232
CO-58	-6.298E-01	3.057E+00	4.934E+00	0.000E+00	-0.128
FE-59	-1.601E+00	6.093E+00	9.814E+00	0.000E+00	-0.163
CO-60	-1.981E+00	2.871E+00	4.481E+00	0.000E+00	-0.442
ZN-65	4.822E+00	7.794E+00	1.131E+01	0.000E+00	0.426
SE-75	-5.210E-03	3.721E+00	6.115E+00	0.000E+00	-0.001
SR-85	1.795E+01	3.323E+00	6.388E+00	0.000E+00	2.810
Y-88	-3.439E-01	3.134E+00	5.100E+00	0.000E+00	-0.067
NB-94	-6.725E-01	2.555E+00	4.150E+00	0.000E+00	-0.162
NB-95	1.736E+00	2.727E+00	4.630E+00	0.000E+00	0.375
ZR-95	-1.661E+00	4.935E+00	7.934E+00	0.000E+00	-0.209
MO-99	3.316E+01	9.436E+01	1.579E+02	0.000E+00	0.210
RU-103	3.080E+00	3.085E+00	5.265E+00	0.000E+00	0.585
RU-106	-2.367E+01	2.521E+01	3.986E+01	0.000E+00	-0.594
AG-110m	-7.399E-01	2.765E+00	4.512E+00	0.000E+00	-0.164
SN-113	-1.363E+00	3.610E+00	5.906E+00	0.000E+00	-0.231
SB-124	5.283E+00	5.472E+00	4.712E+00	0.000E+00	1.121
SB-125	-3.891E+00	7.708E+00	1.247E+01	0.000E+00	-0.312
TE-129M	2.367E+01	3.342E+01	5.663E+01	0.000E+00	0.418
I-131	-6.449E-01	4.560E+00	7.556E+00	0.000E+00	-0.085
BA-133	6.353E+00	4.517E+00	6.648E+00	0.000E+00	0.956
CS-134	7.989E+00	4.639E+00	5.391E+00	0.000E+00	1.482
CS-136	2.494E+00	3.858E+00	6.521E+00	0.000E+00	0.382
CS-137	1.957E+00	2.999E+00	5.118E+00	0.000E+00	0.382
CE-139	-1.483E-01	2.760E+00	4.471E+00	0.000E+00	-0.033
BA-140	3.120E+00	1.305E+01	2.153E+01	0.000E+00	0.145
LA-140	1.196E+00	4.851E+00	8.061E+00	0.000E+00	0.148
CE-141	2.409E+00	5.995E+00	8.438E+00	0.000E+00	0.285
CE-144	9.444E+00	2.389E+01	3.376E+01	0.000E+00	0.280
EU-152	-9.796E+00	1.040E+01	1.353E+01	0.000E+00	-0.724
EU-154	7.635E-01	5.462E+00	8.994E+00	0.000E+00	0.085
RA-226	2.156E+01	6.584E+01	1.103E+02	0.000E+00	0.195
AC-228	3.192E+00	1.100E+01	1.888E+01	0.000E+00	0.169
TH-232	3.186E+00	1.098E+01	1.884E+01	0.000E+00	0.169
U-235	5.828E+00	2.464E+01	3.449E+01	0.000E+00	0.169
U-238	-2.786E+01	2.935E+02	4.730E+02	0.000E+00	-0.059
AM-241	1.009E+01	3.506E+01	5.694E+01	0.000E+00	0.177

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A,11L28609-11     ,05/16/2006 18:18,05/10/2006 12:10,   3.548E+00,L28609-11 WG B
B,11L28609-11     ,LIBD                ,09/01/2005 07:43,1135L090204
C,K-40     ,YES,   1.049E+02,   5.300E+01,   3.753E+01,,    2.796
C,TH-228   ,YES,   3.199E+00,   4.927E+00,   7.907E+00,,    0.405
C,BE-7     ,NO ,   3.707E+00,   2.398E+01,   3.963E+01,,    0.094
C,NA-24    ,NO ,  -1.980E+03,   2.773E+03,   4.317E+03,,   -0.459
C,CR-51    ,NO ,  -4.895E+01,   2.615E+01,   3.968E+01,,   -1.233
C,MN-54    ,NO ,   3.461E+00,   2.880E+00,   5.003E+00,,    0.692
C,CO-57    ,NO ,   1.011E+00,   2.625E+00,   4.349E+00,,    0.232
C,CO-58    ,NO ,  -6.298E-01,   3.057E+00,   4.934E+00,,   -0.128
C,FE-59    ,NO ,  -1.601E+00,   6.093E+00,   9.814E+00,,   -0.163
C,CO-60    ,NO ,  -1.981E+00,   2.871E+00,   4.481E+00,,   -0.442
C,ZN-65    ,NO ,   4.822E+00,   7.794E+00,   1.131E+01,,    0.426
C,SE-75    ,NO ,  -5.210E-03,   3.721E+00,   6.115E+00,,   -0.001
C,SR-85    ,NO ,   1.795E+01,   3.323E+00,   6.388E+00,,    2.810
C,Y-88     ,NO ,  -3.439E-01,   3.134E+00,   5.100E+00,,   -0.067
C,NB-94    ,NO ,  -6.725E-01,   2.555E+00,   4.150E+00,,   -0.162
C,NB-95    ,NO ,   1.736E+00,   2.727E+00,   4.630E+00,,    0.375
C,ZR-95    ,NO ,  -1.661E+00,   4.935E+00,   7.934E+00,,   -0.209
C,MO-99    ,NO ,   3.316E+01,   9.436E+01,   1.579E+02,,    0.210
C,RU-103   ,NO ,   3.080E+00,   3.085E+00,   5.265E+00,,    0.585
C,RU-106   ,NO ,  -2.367E+01,   2.521E+01,   3.986E+01,,   -0.594
C,AG-110m  ,NO ,  -7.399E-01,   2.765E+00,   4.512E+00,,   -0.164
C,SN-113   ,NO ,  -1.363E+00,   3.610E+00,   5.906E+00,,   -0.231
C,SB-124   ,NO ,   5.283E+00,   5.472E+00,   4.712E+00,,    1.121
C,SB-125   ,NO ,  -3.891E+00,   7.708E+00,   1.247E+01,,   -0.312
C,TE-129M  ,NO ,   2.367E+01,   3.342E+01,   5.663E+01,,    0.418
C,I-131    ,NO ,  -6.449E-01,   4.560E+00,   7.556E+00,,   -0.085
C,BA-133   ,NO ,   6.353E+00,   4.517E+00,   6.648E+00,,    0.956
C,CS-134   ,NO ,   7.989E+00,   4.639E+00,   5.391E+00,,    1.482
C,CS-136   ,NO ,   2.494E+00,   3.858E+00,   6.521E+00,,    0.382
C,CS-137   ,NO ,   1.957E+00,   2.999E+00,   5.118E+00,,    0.382
C,CE-139   ,NO ,  -1.483E-01,   2.760E+00,   4.471E+00,,   -0.033
C,BA-140   ,NO ,   3.120E+00,   1.305E+01,   2.153E+01,,    0.145
C,LA-140   ,NO ,   1.196E+00,   4.851E+00,   8.061E+00,,    0.148
C,CE-141   ,NO ,   2.409E+00,   5.995E+00,   8.438E+00,,    0.285
C,CE-144   ,NO ,   9.444E+00,   2.389E+01,   3.376E+01,,    0.280
C,EU-152   ,NO ,  -9.796E+00,   1.040E+01,   1.353E+01,,   -0.724
C,EU-154   ,NO ,   7.635E-01,   5.462E+00,   8.994E+00,,    0.085
C,RA-226   ,NO ,   2.156E+01,   6.584E+01,   1.103E+02,,    0.195
C,AC-228   ,NO ,   3.192E+00,   1.100E+01,   1.888E+01,,    0.169
C,TH-232   ,NO ,   3.186E+00,   1.098E+01,   1.884E+01,,    0.169
C,U-235    ,NO ,   5.828E+00,   2.464E+01,   3.449E+01,,    0.169
C,U-238    ,NO ,  -2.786E+01,   2.935E+02,   4.730E+02,,   -0.059
C,AM-241   ,NO ,   1.009E+01,   3.506E+01,   5.694E+01,,    0.177
```

Sec. Review: Analyst: LIMS:

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 18:17:23.91
TBE10 12892256 HpGe ********** Aquisition Date/Time: 16-MAY-2006 13:30:54.06

LIMS No., Customer Name, Client ID: WG L28609-12 BRAIDWOOD

Sample ID : 10L28609-12
Sample Type : WG
Quantity : 3.60220E+00 L
Start Channel : 80 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 14:00:00.
Geometry : 1035L091004
BKGFILE : 10BG050506MT
Real Time : 0 04:46:24.79
Live time : 0 04:46:21.55

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.41*	148	604	1.35	132.07	6.37E-01	8.60E-03	29.7	3.03E+00
2	1	139.76	86	554	1.12	278.85	1.68E+00	4.99E-03	47.0	2.12E+00
3	1	185.09*	28	526	2.07	369.57	1.60E+00	1.61E-03	158.6	2.57E+00
4	1	198.08*	133	385	1.53	395.57	1.55E+00	7.76E-03	28.6	2.99E+00
5	1	238.30*	3	338	2.22	476.08	1.40E+00	1.97E-04	*****	4.53E+00
6	1	295.12*	96	343	1.36	589.79	1.21E+00	5.59E-03	40.0	1.56E+00
7	1	351.85*	61	246	1.44	703.34	1.07E+00	3.53E-03	54.2	1.11E+00
8	1	596.10	58	110	1.73	1192.24	7.06E-01	3.39E-03	37.3	8.38E-01
9	1	609.31*	140	160	1.62	1218.69	6.94E-01	8.14E-03	23.6	1.18E+00
10	1	1460.60*	13	52	2.15	2923.21	3.56E-01	7.74E-04	156.1	9.18E-01
11	1	1543.77	32	26	6.37	3089.77	3.42E-01	1.89E-03	36.6	3.13E+00
12	1	1764.93*	14	45	2.33	3532.75	3.13E-01	8.39E-04	120.8	1.94E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	13	10.67*	3.559E-01	1.528E+01	1.528E+01	312.13
RA-226	186.21	28	3.28*	1.597E+00	2.302E+01	2.302E+01	317.23
TH-228	238.63	3	44.60*	1.402E+00	2.361E-01	2.375E-01	2046.86
	240.98	------	3.95	1.392E+00	------	Line Not Found	------
U-235	143.76	------	10.50*	1.683E+00	------	Line Not Found	------
	163.35	------	4.70	1.659E+00	------	Line Not Found	------
	185.71	28	54.00	1.597E+00	1.398E+00	1.398E+00	317.23
	205.31	------	4.70	1.524E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28609-12 Acquisition date : 16-MAY-2006 13:30:54

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.528E+01	1.528E+01	4.770E+01	312.13	
RA-226	1600.00Y	1.00	2.302E+01	2.302E+01	7.303E+01	317.23	
TH-228	1.91Y	1.01	2.361E-01	2.375E-01	48.62E-01	2046.86	
U-235	7.04E+08Y	1.00	1.398E+00	1.398E+00	4.436E+00	317.23	K
			---------	---------			
	Total Activity :		3.994E+01	3.994E+01			
	Grand Total Activity :		3.994E+01	3.994E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28609-12

Acquisition date : 16-MAY-2006 13:30:54

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.41	148	604	1.35	132.07	129	7	8.60E-03	59.5	6.37E-01	
1	139.76	86	554	1.12	278.85	276	7	4.99E-03	94.0	1.68E+00	
1	198.08	133	385	1.53	395.57	392	8	7.76E-03	57.2	1.55E+00	
1	295.12	96	343	1.36	589.79	584	11	5.59E-03	80.0	1.21E+00	
1	351.85	61	246	1.44	703.34	699	10	3.53E-03	****	1.07E+00	
1	596.10	58	110	1.73	1192.24	1186	11	3.39E-03	74.7	7.06E-01	
1	609.31	140	160	1.62	1218.69	1211	16	8.14E-03	47.1	6.94E-01	
1	1543.77	32	26	6.37	3089.77	3082	15	1.89E-03	73.2	3.42E-01	
1	1764.93	14	45	2.33	3532.75	3525	18	8.39E-04	****	3.13E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.528E+01	1.528E+01	4.770E+01	312.13	
RA-226	1600.00Y	1.00	2.302E+01	2.302E+01	7.303E+01	317.23	
TH-228	1.91Y	1.01	2.361E-01	2.375E-01	48.62E-01	2046.86	
	Total Activity :		3.854E+01	3.854E+01			
	Grand Total Activity :		3.854E+01	3.854E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.528E+01	4.770E+01	4.588E+01	0.000E+00	0.333
RA-226	2.302E+01	7.303E+01	1.110E+02	0.000E+00	0.207
TH-228	2.375E-01	4.862E+00	8.466E+00	0.000E+00	0.028

---- Non-Identified Nuclides ----

	Key-Line Activity	K.L.	Act error	MDA	MDA error	Act/MDA

Nuclide	(pCi/L)	Ided	(pCi/L)		
BE-7	-1.212E+00	2.400E+01	3.944E+01	0.000E+00	-0.031
NA-24	-3.145E+03	2.541E+03	3.752E+03	0.000E+00	-0.838
CR-51	-2.880E+01	2.774E+01	4.382E+01	0.000E+00	-0.657
MN-54	-1.773E-01	2.736E+00	4.438E+00	0.000E+00	-0.040
CO-57	1.276E+00	2.971E+00	4.973E+00	0.000E+00	0.257
CO-58	2.482E+00	2.894E+00	4.960E+00	0.000E+00	0.500
FE-59	3.025E+00	5.494E+00	9.333E+00	0.000E+00	0.324
CO-60	1.220E+00	2.793E+00	4.761E+00	0.000E+00	0.256
ZN-65	7.860E+00	6.337E+00	1.116E+01	0.000E+00	0.704
SE-75	-2.464E+00	3.946E+00	6.410E+00	0.000E+00	-0.384
SR-85	1.761E+01	3.498E+00	6.649E+00	0.000E+00	2.648
Y-88	-1.600E+00	3.168E+00	4.930E+00	0.000E+00	-0.325
NB-94	-1.948E+00	2.845E+00	4.531E+00	0.000E+00	-0.430
NB-95	2.157E-01	3.000E+00	4.936E+00	0.000E+00	0.044
ZR-95	2.896E+00	5.314E+00	8.972E+00	0.000E+00	0.323
MO-99	-5.284E+01	9.925E+01	1.584E+02	0.000E+00	-0.334
RU-103	4.700E+00	3.071E+00	5.372E+00	0.000E+00	0.875
RU-106	-5.865E+00	2.680E+01	4.221E+01	0.000E+00	-0.139
AG-110m	-1.542E+00	2.635E+00	4.227E+00	0.000E+00	-0.365
SN-113	2.041E+00	3.733E+00	6.341E+00	0.000E+00	0.322
SB-124	-1.128E+00	6.933E+00	4.823E+00	0.000E+00	-0.234
SB-125	-1.838E+00	8.301E+00	1.365E+01	0.000E+00	-0.135
TE-129M	2.561E+01	3.512E+01	5.970E+01	0.000E+00	0.429
I-131	-1.018E+00	4.732E+00	7.626E+00	0.000E+00	-0.133
BA-133	7.285E+00	4.638E+00	6.917E+00	0.000E+00	1.053
CS-134	6.970E+00	4.947E+00	5.571E+00	0.000E+00	1.251
CS-136	-2.626E+00	3.772E+00	5.891E+00	0.000E+00	-0.446
CS-137	-1.364E+00	2.900E+00	4.679E+00	0.000E+00	-0.292
CE-139	3.284E+00	2.994E+00	5.025E+00	0.000E+00	0.654
BA-140	3.957E+00	1.344E+01	2.228E+01	0.000E+00	0.178
LA-140	-3.042E-01	4.526E+00	7.455E+00	0.000E+00	-0.041
CE-141	1.768E+00	6.532E+00	9.259E+00	0.000E+00	0.191
CE-144	-2.351E+01	2.618E+01	3.734E+01	0.000E+00	-0.630
EU-152	-3.650E+00	1.032E+01	1.447E+01	0.000E+00	-0.252
EU-154	6.591E-01	6.205E+00	1.032E+01	0.000E+00	0.064
AC-228	5.228E+00	1.058E+01	1.810E+01	0.000E+00	0.289
TH-232	5.218E+00	1.056E+01	1.807E+01	0.000E+00	0.289
U-235	-4.616E+00	2.716E+01	3.796E+01	0.000E+00	-0.122
U-238	2.437E+02	3.234E+02	5.568E+02	0.000E+00	0.438
AM-241	-4.920E+01	2.625E+01	3.900E+01	0.000E+00	-1.262

```
A,10L28609-12     ,05/16/2006 18:17,05/10/2006 14:00,   3.602E+00,WG L28609-12 B
B,10L28609-12     ,LIBD                ,06/09/2005 08:04,1035L091004
C,K-40    ,YES,   1.528E+01,   4.770E+01,   4.588E+01,,    0.333
C,RA-226  ,YES,   2.302E+01,   7.303E+01,   1.110E+02,,    0.207
C,TH-228  ,YES,   2.375E-01,   4.862E+00,   8.466E+00,,    0.028
C,BE-7    ,NO ,  -1.212E+00,   2.400E+01,   3.944E+01,,   -0.031
C,NA-24   ,NO ,  -3.145E+03,   2.541E+03,   3.752E+03,,   -0.838
C,CR-51   ,NO ,  -2.880E+01,   2.774E+01,   4.382E+01,,   -0.657
C,MN-54   ,NO ,  -1.773E-01,   2.736E+00,   4.438E+00,,   -0.040
C,CO-57   ,NO ,   1.276E+00,   2.971E+00,   4.973E+00,,    0.257
C,CO-58   ,NO ,   2.482E+00,   2.894E+00,   4.960E+00,,    0.500
C,FE-59   ,NO ,   3.025E+00,   5.494E+00,   9.333E+00,,    0.324
C,CO-60   ,NO ,   1.220E+00,   2.793E+00,   4.761E+00,,    0.256
C,ZN-65   ,NO ,   7.860E+00,   6.337E+00,   1.116E+01,,    0.704
C,SE-75   ,NO ,  -2.464E+00,   3.946E+00,   6.410E+00,,   -0.384
C,SR-85   ,NO ,   1.761E+01,   3.498E+00,   6.649E+00,,    2.648
C,Y-88    ,NO ,  -1.600E+00,   3.168E+00,   4.930E+00,,   -0.325
C,NB-94   ,NO ,  -1.948E+00,   2.845E+00,   4.531E+00,,   -0.430
C,NB-95   ,NO ,   2.157E-01,   3.000E+00,   4.936E+00,,    0.044
C,ZR-95   ,NO ,   2.896E+00,   5.314E+00,   8.972E+00,,    0.323
C,MO-99   ,NO ,  -5.284E+01,   9.925E+01,   1.584E+02,,   -0.334
C,RU-103  ,NO ,   4.700E+00,   3.071E+00,   5.372E+00,,    0.875
C,RU-106  ,NO ,  -5.865E+00,   2.680E+01,   4.221E+01,,   -0.139
C,AG-110m ,NO ,  -1.542E+00,   2.635E+00,   4.227E+00,,   -0.365
C,SN-113  ,NO ,   2.041E+00,   3.733E+00,   6.341E+00,,    0.322
C,SB-124  ,NO ,  -1.128E+00,   6.933E+00,   4.823E+00,,   -0.234
C,SB-125  ,NO ,  -1.838E+00,   8.301E+00,   1.365E+01,,   -0.135
C,TE-129M ,NO ,   2.561E+01,   3.512E+01,   5.970E+01,,    0.429
C,I-131   ,NO ,  -1.018E+00,   4.732E+00,   7.626E+00,,   -0.133
C,BA-133  ,NO ,   7.285E+00,   4.638E+00,   6.917E+00,,    1.053
C,CS-134  ,NO ,   6.970E+00,   4.947E+00,   5.571E+00,,    1.251
C,CS-136  ,NO ,  -2.626E+00,   3.772E+00,   5.891E+00,,   -0.446
C,CS-137  ,NO ,  -1.364E+00,   2.900E+00,   4.679E+00,,   -0.292
C,CE-139  ,NO ,   3.284E+00,   2.994E+00,   5.025E+00,,    0.654
C,BA-140  ,NO ,   3.957E+00,   1.344E+01,   2.228E+01,,    0.178
C,LA-140  ,NO ,  -3.042E-01,   4.526E+00,   7.455E+00,,   -0.041
C,CE-141  ,NO ,   1.768E+00,   6.532E+00,   9.259E+00,,    0.191
C,CE-144  ,NO ,  -2.351E+01,   2.618E+01,   3.734E+01,,   -0.630
C,EU-152  ,NO ,  -3.650E+00,   1.032E+01,   1.447E+01,,   -0.252
C,EU-154  ,NO ,   6.591E-01,   6.205E+00,   1.032E+01,,    0.064
C,AC-228  ,NO ,   5.228E+00,   1.058E+01,   1.810E+01,,    0.289
C,TH-232  ,NO ,   5.218E+00,   1.056E+01,   1.807E+01,,    0.289
C,U-235   ,NO ,  -4.616E+00,   2.716E+01,   3.796E+01,,   -0.122
C,U-238   ,NO ,   2.437E+02,   3.234E+02,   5.568E+02,,    0.438
C,AM-241  ,NO ,  -4.920E+01,   2.625E+01,   3.900E+01,,   -1.262
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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 18:19:30.89
TBE15 P-10635B HpGe ********** Aquisition Date/Time: 16-MAY-2006 13:42:06.71

LIMS No., Customer Name, Client ID: WG L28609-13 BRAIDWOOD

Sample ID : 15L28609-13
Sample Type : WG
Quantity : 3.73680E+00 L
Start Channel : 40 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 14:30:00.
Geometry : 1535L090104
BKGFILE : 15BG050506MT
Real Time : 0 04:37:15.29
Live time : 0 04:37:13.56

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	67.00	94	437	0.83	120.00	4.52E-01	5.65E-03	38.2	4.13E-01
2	1	140.41	63	378	1.09	267.69	1.48E+00	3.81E-03	52.8	2.28E+00
3	1	1119.65*	30	35	2.09	2235.87	3.58E-01	1.83E-03	46.7	1.62E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L28609-13 Acquisition date : 16-MAY-2006 13:42:06

Total number of lines in spectrum	3	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28609-13 Acquisition date : 16-MAY-2006 13:42:06

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	67.00	94	437	0.83	120.00	117	7	5.65E-03	76.4	4.52E-01	
1	140.41	63	378	1.09	267.69	264	7	3.81E-03	****	1.48E+00	
1	1119.65	30	35	2.09	2235.87	2232	12	1.83E-03	93.5	3.58E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 3
Number of unidentified lines 3
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.711E+01		2.541E+01	3.969E+01	0.000E+00	-0.431
NA-24	-1.068E+03		2.516E+03	3.966E+03	0.000E+00	-0.269
K-40	-5.593E+00		4.193E+01	7.969E+01	0.000E+00	-0.070
CR-51	1.125E+01		2.839E+01	4.761E+01	0.000E+00	0.236
MN-54	7.795E-01		2.921E+00	4.926E+00	0.000E+00	0.158
CO-57	-2.507E+00		2.857E+00	4.618E+00	0.000E+00	-0.543
CO-58	-1.632E-01		3.250E+00	5.383E+00	0.000E+00	-0.030
FE-59	1.024E+00		6.202E+00	1.023E+01	0.000E+00	0.100
CO-60	1.207E+00		3.276E+00	5.559E+00	0.000E+00	0.217
ZN-65	1.172E+01		7.605E+00	1.218E+01	0.000E+00	0.963
SE-75	-4.652E-01		3.890E+00	6.466E+00	0.000E+00	-0.072
SR-85	1.743E+01		3.524E+00	6.862E+00	0.000E+00	2.539
Y-88	-4.132E-01		3.123E+00	5.052E+00	0.000E+00	-0.082
NB-94	1.171E-01		3.020E+00	4.941E+00	0.000E+00	0.024
NB-95	1.730E+00		2.972E+00	5.012E+00	0.000E+00	0.345
ZR-95	1.116E+00		5.340E+00	8.797E+00	0.000E+00	0.127
MO-99	3.936E+01		1.018E+02	1.697E+02	0.000E+00	0.232
RU-103	1.211E-01		3.185E+00	5.313E+00	0.000E+00	0.023
RU-106	1.945E+01		2.813E+01	4.799E+01	0.000E+00	0.405
AG-110m	-1.398E+00		2.946E+00	4.692E+00	0.000E+00	-0.298
SN-113	3.100E-01		3.860E+00	6.344E+00	0.000E+00	0.049
SB-124	-8.006E+00		3.542E+00	5.207E+00	0.000E+00	-1.538
SB-125	-4.470E+00		8.451E+00	1.343E+01	0.000E+00	-0.333
TE-129M	4.721E+01		3.684E+01	6.350E+01	0.000E+00	0.743
I-131	2.426E+00		4.805E+00	8.064E+00	0.000E+00	0.301

BA-133	1.411E-01	4.116E+00	6.781E+00	0.000E+00	0.021
CS-134	6.576E-01	3.278E+00	5.448E+00	0.000E+00	0.121
CS-136	1.290E-01	3.937E+00	6.550E+00	0.000E+00	0.020
CS-137	1.158E+00	3.208E+00	5.367E+00	0.000E+00	0.216
CE-139	9.796E-01	2.822E+00	4.689E+00	0.000E+00	0.209
BA-140	-1.264E+00	1.444E+01	2.384E+01	0.000E+00	-0.053
LA-140	2.361E+00	4.831E+00	8.377E+00	0.000E+00	0.282
CE-141	8.555E-01	6.329E+00	8.962E+00	0.000E+00	0.095
CE-144	-1.772E+01	2.460E+01	3.530E+01	0.000E+00	-0.502
EU-152	-2.078E+01	9.694E+00	1.469E+01	0.000E+00	-1.414
EU-154	-5.980E+00	5.930E+00	9.550E+00	0.000E+00	-0.626
RA-226	3.323E+01	7.332E+01	1.217E+02	0.000E+00	0.273
AC-228	-8.406E+00	1.097E+01	1.712E+01	0.000E+00	-0.491
TH-228	5.864E-01	5.335E+00	8.678E+00	0.000E+00	0.068
TH-232	-8.389E+00	1.095E+01	1.709E+01	0.000E+00	-0.491
U-235	7.215E+00	2.608E+01	3.714E+01	0.000E+00	0.194
U-238	-1.675E+01	3.233E+02	5.279E+02	0.000E+00	-0.032
AM-241	-4.180E+01	3.526E+01	5.456E+01	0.000E+00	-0.766

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A,15L28609-13     ,05/16/2006 18:19,05/10/2006 14:30,   3.737E+00,WG L28609-13 B
B,15L28609-13     ,LIBD                ,03/09/2005 13:29,1535L090104
C,BE-7     ,NO ,  -1.711E+01,   2.541E+01,   3.969E+01,,   -0.431
C,NA-24    ,NO ,  -1.068E+03,   2.516E+03,   3.966E+03,,   -0.269
C,K-40     ,NO ,  -5.593E+00,   4.193E+01,   7.969E+01,,   -0.070
C,CR-51    ,NO ,   1.125E+01,   2.839E+01,   4.761E+01,,    0.236
C,MN-54    ,NO ,   7.795E-01,   2.921E+00,   4.926E+00,,    0.158
C,CO-57    ,NO ,  -2.507E+00,   2.857E+00,   4.618E+00,,   -0.543
C,CO-58    ,NO ,  -1.632E-01,   3.250E+00,   5.383E+00,,   -0.030
C,FE-59    ,NO ,   1.024E+00,   6.202E+00,   1.023E+01,,    0.100
C,CO-60    ,NO ,   1.207E+00,   3.276E+00,   5.559E+00,,    0.217
C,ZN-65    ,NO ,   1.172E+01,   7.605E+00,   1.218E+01,,    0.963
C,SE-75    ,NO ,  -4.652E-01,   3.890E+00,   6.466E+00,,   -0.072
C,SR-85    ,NO ,   1.743E+01,   3.524E+00,   6.862E+00,,    2.539
C,Y-88     ,NO ,  -4.132E-01,   3.123E+00,   5.052E+00,,   -0.082
C,NB-94    ,NO ,   1.171E-01,   3.020E+00,   4.941E+00,,    0.024
C,NB-95    ,NO ,   1.730E+00,   2.972E+00,   5.012E+00,,    0.345
C,ZR-95    ,NO ,   1.116E+00,   5.340E+00,   8.797E+00,,    0.127
C,MO-99    ,NO ,   3.936E+01,   1.018E+02,   1.697E+02,,    0.232
C,RU-103   ,NO ,   1.211E-01,   3.185E+00,   5.313E+00,,    0.023
C,RU-106   ,NO ,   1.945E+01,   2.813E+01,   4.799E+01,,    0.405
C,AG-110m  ,NO ,  -1.398E+00,   2.946E+00,   4.692E+00,,   -0.298
C,SN-113   ,NO ,   3.100E-01,   3.860E+00,   6.344E+00,,    0.049
C,SB-124   ,NO ,  -8.006E+00,   3.542E+00,   5.207E+00,,   -1.538
C,SB-125   ,NO ,  -4.470E+00,   8.451E+00,   1.343E+01,,   -0.333
C,TE-129M  ,NO ,   4.721E+01,   3.684E+01,   6.350E+01,,    0.743
C,I-131    ,NO ,   2.426E+00,   4.805E+00,   8.064E+00,,    0.301
C,BA-133   ,NO ,   1.411E-01,   4.116E+00,   6.781E+00,,    0.021
C,CS-134   ,NO ,   6.576E-01,   3.278E+00,   5.448E+00,,    0.121
C,CS-136   ,NO ,   1.290E-01,   3.937E+00,   6.550E+00,,    0.020
C,CS-137   ,NO ,   1.158E+00,   3.208E+00,   5.367E+00,,    0.216
C,CE-139   ,NO ,   9.796E-01,   2.822E+00,   4.689E+00,,    0.209
C,BA-140   ,NO ,  -1.264E+00,   1.444E+01,   2.384E+01,,   -0.053
C,LA-140   ,NO ,   2.361E+00,   4.831E+00,   8.377E+00,,    0.282
C,CE-141   ,NO ,   8.555E-01,   6.329E+00,   8.962E+00,,    0.095
C,CE-144   ,NO ,  -1.772E+01,   2.460E+01,   3.530E+01,,   -0.502
C,EU-152   ,NO ,  -2.078E+01,   9.694E+00,   1.469E+01,,   -1.414
C,EU-154   ,NO ,  -5.980E+00,   5.930E+00,   9.550E+00,,   -0.626
C,RA-226   ,NO ,   3.323E+01,   7.332E+01,   1.217E+02,,    0.273
C,AC-228   ,NO ,  -8.406E+00,   1.097E+01,   1.712E+01,,   -0.491
C,TH-228   ,NO ,   5.864E-01,   5.335E+00,   8.678E+00,,    0.068
C,TH-232   ,NO ,  -8.389E+00,   1.095E+01,   1.709E+01,,   -0.491
C,U-235    ,NO ,   7.215E+00,   2.608E+01,   3.714E+01,,    0.194
C,U-238    ,NO ,  -1.675E+01,   3.233E+02,   5.279E+02,,   -0.032
C,AM-241   ,NO ,  -4.180E+01,   3.526E+01,   5.456E+01,,   -0.766
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 17:27:29.80
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 16-MAY-2006 14:06:11.00

LIMS No., Customer Name, Client ID: WG L28609-14 BRAIDWOOD

Sample ID : 13L28609-14
Sample Type : WG
Quantity : 3.57230E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 16:00:00.
Geometry : 1335L090904
BKGFILE : 13BG050506MT
Real Time : 0 03:21:09.38
Live time : 0 03:21:05.56

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	87.31*	22	346	1.12	174.54	1.39E+00	1.80E-03	143.1	8.82E-01
2	1	139.65*	142	397	1.47	279.14	2.02E+00	1.17E-02	26.5	2.36E+00
3	1	185.84*	26	439	0.99	371.44	1.95E+00	2.15E-03	156.5	1.72E+00
4	1	198.40*	95	362	1.05	396.55	1.90E+00	7.88E-03	36.6	1.33E+00
5	1	238.78*	36	214	1.17	477.26	1.73E+00	2.98E-03	77.2	2.32E+00
6	1	241.82*	74	259	1.21	483.33	1.72E+00	6.15E-03	39.7	1.22E+00
7	1	295.30*	82	314	1.80	590.23	1.52E+00	6.77E-03	46.8	4.32E+00
8	1	351.68*	210	252	1.53	702.91	1.34E+00	1.74E-02	17.9	3.03E+00
9	1	583.10*	45	119	2.66	1165.58	9.26E-01	3.72E-03	56.4	1.60E+00
10	1	596.40	41	116	2.05	1192.17	9.11E-01	3.43E-03	52.5	1.87E+00
11	1	609.25*	171	103	1.41	1217.85	8.96E-01	1.42E-02	15.2	1.88E+00
12	1	868.47	29	75	2.99	1736.26	6.88E-01	2.36E-03	64.7	2.08E+00
13	1	1120.53*	45	38	1.86	2240.50	5.69E-01	3.76E-03	31.2	5.29E-01
14	1	1240.19	25	46	0.70	2479.93	5.28E-01	2.05E-03	63.3	4.89E+00
15	1	1765.19*	46	27	2.81	3530.80	4.11E-01	3.80E-03	32.9	4.23E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	26	3.28*	1.946E+00	2.552E+01	2.552E+01	312.93
TH-228	238.63	36	44.60*	1.732E+00	2.921E+00	2.939E+00	154.42
	240.98	74	3.95	1.720E+00	6.853E+01	6.894E+01	79.39
U-235	143.76	------	10.50*	2.023E+00	------	Line Not Found	------
	163.35	------	4.70	2.011E+00	------	Line Not Found	------
	185.71	26	54.00	1.946E+00	1.550E+00	1.550E+00	312.93
	205.31	------	4.70	1.871E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28609-14 Acquisition date : 16-MAY-2006 14:06:11

Total number of lines in spectrum	15	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	4	26.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	2.552E+01	2.552E+01	7.987E+01	312.93	
TH-228	1.91Y	1.01	2.921E+00	2.939E+00	4.538E+00	154.42	
U-235	7.04E+08Y	1.00	1.550E+00	1.550E+00	4.851E+00	312.93	K
	Total Activity :		3.000E+01	3.001E+01			
	Grand Total Activity :		3.000E+01	3.001E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28609-14

Acquisition date : 16-MAY-2006 14:06:11

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	87.31	22	346	1.12	174.54	173	6	1.80E-03	****	1.39E+00	
1	139.65	142	397	1.47	279.14	275	8	1.17E-02	53.0	2.02E+00	
1	198.40	95	362	1.05	396.55	393	8	7.88E-03	73.2	1.90E+00	
1	295.30	82	314	1.80	590.23	585	12	6.77E-03	93.6	1.52E+00	
1	351.68	210	252	1.53	702.91	697	13	1.74E-02	35.8	1.34E+00	
1	583.10	45	119	2.66	1165.58	1157	14	3.72E-03	****	9.26E-01	T
1	596.40	41	116	2.05	1192.17	1188	11	3.43E-03	****	9.11E-01	
1	609.25	171	103	1.41	1217.85	1210	12	1.42E-02	30.3	8.96E-01	
1	868.47	29	75	2.99	1736.26	1732	13	2.36E-03	****	6.88E-01	
1	1120.53	45	38	1.86	2240.50	2236	9	3.76E-03	62.5	5.69E-01	
1	1240.19	25	46	0.70	2479.93	2474	13	2.05E-03	****	5.28E-01	
1	1765.19	46	27	2.81	3530.80	3522	18	3.80E-03	65.9	4.11E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	15	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	4	26.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	2.552E+01	2.552E+01	7.987E+01	312.93	
TH-228	1.91Y	1.01	3.369E+00	3.389E+00	4.522E+00	133.43	
	Total Activity :		2.889E+01	2.891E+01			

Grand Total Activity : 2.889E+01 2.891E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	2.552E+01	7.987E+01	1.137E+02	0.000E+00	0.225
TH-228	3.389E+00	4.522E+00	8.470E+00	0.000E+00	0.400

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	2.871E+00		2.527E+01	4.146E+01	0.000E+00	0.069
NA-24	-6.010E+02		2.456E+03	3.969E+03	0.000E+00	-0.151
K-40	-1.960E+01		4.170E+01	7.949E+01	0.000E+00	-0.247
CR-51	-2.984E+01		2.742E+01	4.267E+01	0.000E+00	-0.699
MN-54	-3.362E-01		2.867E+00	4.687E+00	0.000E+00	-0.072
CO-57	9.583E-01		2.681E+00	4.516E+00	0.000E+00	0.212
CO-58	-5.780E-02		3.186E+00	5.255E+00	0.000E+00	-0.011
FE-59	-1.845E-01		6.253E+00	1.027E+01	0.000E+00	-0.018
CO-60	-1.728E-01		2.949E+00	4.850E+00	0.000E+00	-0.036
ZN-65	1.075E+01		7.992E+00	1.245E+01	0.000E+00	0.864
SE-75	-3.791E-01		3.931E+00	6.464E+00	0.000E+00	-0.059
SR-85	1.823E+01		3.765E+00	7.119E+00	0.000E+00	2.561
Y-88	-4.664E-01		3.542E+00	5.720E+00	0.000E+00	-0.082
NB-94	-1.102E+00		2.983E+00	4.758E+00	0.000E+00	-0.232
NB-95	4.394E+00		3.049E+00	5.453E+00	0.000E+00	0.806
ZR-95	5.607E-01		5.292E+00	8.842E+00	0.000E+00	0.063
MO-99	-5.736E+01		9.453E+01	1.517E+02	0.000E+00	-0.378
RU-103	8.695E-01		3.203E+00	5.278E+00	0.000E+00	0.165
RU-106	-3.291E+00		2.736E+01	4.472E+01	0.000E+00	-0.074
AG-110m	-4.905E-01		2.999E+00	4.866E+00	0.000E+00	-0.101
SN-113	-2.546E+00		3.597E+00	5.774E+00	0.000E+00	-0.441
SB-124	-2.440E+00		6.925E+00	4.755E+00	0.000E+00	-0.513
SB-125	6.982E-02		8.129E+00	1.339E+01	0.000E+00	0.005
TE-129M	-3.181E+00		3.748E+01	6.111E+01	0.000E+00	-0.052
I-131	1.704E+00		4.767E+00	8.052E+00	0.000E+00	0.212
BA-133	4.509E+00		4.729E+00	7.073E+00	0.000E+00	0.637
CS-134	3.408E+00		6.664E+00	5.385E+00	0.000E+00	0.633
CS-136	-2.367E+00		3.927E+00	6.238E+00	0.000E+00	-0.379
CS-137	5.591E-02		3.377E+00	5.530E+00	0.000E+00	0.010
CE-139	5.815E-01		2.926E+00	4.818E+00	0.000E+00	0.121
BA-140	8.660E+00		1.359E+01	2.332E+01	0.000E+00	0.371
LA-140	-1.917E+00		4.561E+00	7.276E+00	0.000E+00	-0.263
CE-141	5.131E+00		5.652E+00	8.637E+00	0.000E+00	0.594
CE-144	1.456E+00		2.422E+01	3.467E+01	0.000E+00	0.042
EU-152	-1.006E+01		1.100E+01	1.427E+01	0.000E+00	-0.705
EU-154	5.268E+00		5.568E+00	9.519E+00	0.000E+00	0.553
AC-228	-1.912E+00		1.156E+01	1.933E+01	0.000E+00	-0.099
TH-232	-1.908E+00		1.154E+01	1.929E+01	0.000E+00	-0.099
U-235	7.127E-01		2.457E+01	3.507E+01	0.000E+00	0.020
U-238	1.990E+02		3.491E+02	5.989E+02	0.000E+00	0.332
AM-241	-2.762E+01		2.422E+01	3.880E+01	0.000E+00	-0.712

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A,13L28609-14     ,05/16/2006 17:27,05/10/2006 16:00,   3.572E+00,WG L28609-14 B
B,13L28609-14     ,LIBD                ,08/05/2005 08:16,1335L090904
C,RA-226  ,YES,   2.552E+01,   7.987E+01,   1.137E+02,,    0.225
C,TH-228  ,YES,   3.389E+00,   4.522E+00,   8.470E+00,,    0.400
C,BE-7    ,NO ,   2.871E+00,   2.527E+01,   4.146E+01,,    0.069
C,NA-24   ,NO ,  -6.010E+02,   2.456E+03,   3.969E+03,,   -0.151
C,K-40    ,NO ,  -1.960E+01,   4.170E+01,   7.949E+01,,   -0.247
C,CR-51   ,NO ,  -2.984E+01,   2.742E+01,   4.267E+01,,   -0.699
C,MN-54   ,NO ,  -3.362E-01,   2.867E+00,   4.687E+00,,   -0.072
C,CO-57   ,NO ,   9.583E-01,   2.681E+00,   4.516E+00,,    0.212
C,CO-58   ,NO ,  -5.780E-02,   3.186E+00,   5.255E+00,,   -0.011
C,FE-59   ,NO ,  -1.845E-01,   6.253E+00,   1.027E+01,,   -0.018
C,CO-60   ,NO ,  -1.728E-01,   2.949E+00,   4.850E+00,,   -0.036
C,ZN-65   ,NO ,   1.075E+01,   7.992E+00,   1.245E+01,,    0.864
C,SE-75   ,NO ,  -3.791E-01,   3.931E+00,   6.464E+00,,   -0.059
C,SR-85   ,NO ,   1.823E+01,   3.765E+00,   7.119E+00,,    2.561
C,Y-88    ,NO ,  -4.664E-01,   3.542E+00,   5.720E+00,,   -0.082
C,NB-94   ,NO ,  -1.102E+00,   2.983E+00,   4.758E+00,,   -0.232
C,NB-95   ,NO ,   4.394E+00,   3.049E+00,   5.453E+00,,    0.806
C,ZR-95   ,NO ,   5.607E-01,   5.292E+00,   8.842E+00,,    0.063
C,MO-99   ,NO ,  -5.736E+01,   9.453E+01,   1.517E+02,,   -0.378
C,RU-103  ,NO ,   8.695E-01,   3.203E+00,   5.278E+00,,    0.165
C,RU-106  ,NO ,  -3.291E+00,   2.736E+01,   4.472E+01,,   -0.074
C,AG-110m ,NO ,  -4.905E-01,   2.999E+00,   4.866E+00,,   -0.101
C,SN-113  ,NO ,  -2.546E+00,   3.597E+00,   5.774E+00,,   -0.441
C,SB-124  ,NO ,  -2.440E+00,   6.925E+00,   4.755E+00,,   -0.513
C,SB-125  ,NO ,   6.982E-02,   8.129E+00,   1.339E+01,,    0.005
C,TE-129M ,NO ,  -3.181E+00,   3.748E+01,   6.111E+01,,   -0.052
C,I-131   ,NO ,   1.704E+00,   4.767E+00,   8.052E+00,,    0.212
C,BA-133  ,NO ,   4.509E+00,   4.729E+00,   7.073E+00,,    0.637
C,CS-134  ,NO ,   3.408E+00,   6.664E+00,   5.385E+00,,    0.633
C,CS-136  ,NO ,  -2.367E+00,   3.927E+00,   6.238E+00,,   -0.379
C,CS-137  ,NO ,   5.591E-02,   3.377E+00,   5.530E+00,,    0.010
C,CE-139  ,NO ,   5.815E-01,   2.926E+00,   4.818E+00,,    0.121
C,BA-140  ,NO ,   8.660E+00,   1.359E+01,   2.332E+01,,    0.371
C,LA-140  ,NO ,  -1.917E+00,   4.561E+00,   7.276E+00,,   -0.263
C,CE-141  ,NO ,   5.131E+00,   5.652E+00,   8.637E+00,,    0.594
C,CE-144  ,NO ,   1.456E+00,   2.422E+01,   3.467E+01,,    0.042
C,EU-152  ,NO ,  -1.006E+01,   1.100E+01,   1.427E+01,,   -0.705
C,EU-154  ,NO ,   5.268E+00,   5.568E+00,   9.519E+00,,    0.553
C,AC-228  ,NO ,  -1.912E+00,   1.156E+01,   1.933E+01,,   -0.099
C,TH-232  ,NO ,  -1.908E+00,   1.154E+01,   1.929E+01,,   -0.099
C,U-235   ,NO ,   7.127E-01,   2.457E+01,   3.507E+01,,    0.020
C,U-238   ,NO ,   1.990E+02,   3.491E+02,   5.989E+02,,    0.332
C,AM-241  ,NO ,  -2.762E+01,   2.422E+01,   3.880E+01,,   -0.712
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 17-MAY-2006 00:11:07.17
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 16-MAY-2006 15:17:31.93

LIMS No., Customer Name, Client ID: WG L28609-16 BRAIDWOOD

Sample ID : 07L28609-16
Sample Type : WG
Quantity : 3.54420E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 10-MAY-2006 17:25:00.
Geometry : 0735L090904
BKGFILE : 07BG050506MT
Real Time : 0 08:53:27.99
Live time : 0 08:53:20.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.18*	296	1467	1.33	133.20	7.19E-01	9.26E-03	23.6	2.68E+00
2	3	77.05*	724	979	0.82	154.96	1.10E+00	2.26E-02	8.0	4.46E+00
3	1	87.18*	232	966	0.95	175.21	1.42E+00	7.24E-03	23.4	7.23E-01
4	1	89.94	193	755	0.86	180.75	1.49E+00	6.02E-03	22.5	1.21E+00
5	1	139.76*	233	1187	1.01	280.42	2.09E+00	7.29E-03	27.3	6.36E-01
6	1	186.03*	150	1367	1.41	372.99	2.02E+00	4.67E-03	51.2	2.00E+00
7	1	198.43*	292	981	1.19	397.79	1.98E+00	9.13E-03	20.1	5.34E+00
8	2	238.61*	719	602	1.08	478.18	1.81E+00	2.25E-02	7.2	9.76E-01
9	2	241.92	819	705	1.17	484.80	1.80E+00	2.56E-02	6.4	
10	2	295.18*	1647	450	1.20	591.36	1.61E+00	5.15E-02	3.4	2.93E+00
11	2	299.77	148	562	1.48	600.52	1.59E+00	4.62E-03	30.5	
12	1	351.91*	2692	715	1.13	704.83	1.43E+00	8.41E-02	2.8	2.46E+00
13	1	583.18*	166	386	1.49	1167.44	1.01E+00	5.20E-03	27.4	1.20E+00
14	1	595.71	212	403	2.48	1192.50	9.97E-01	6.61E-03	21.3	2.13E+00
15	1	609.29*	3087	422	1.40	1219.68	9.81E-01	9.65E-02	2.3	9.75E-01
16	1	768.26	265	343	2.13	1537.62	8.29E-01	8.29E-03	16.5	2.34E+00
17	1	786.33	71	286	2.28	1573.77	8.15E-01	2.21E-03	52.7	1.19E+00
18	1	934.03	152	182	1.28	1869.15	7.17E-01	4.75E-03	18.5	2.90E+00
19	1	964.28	86	160	1.87	1929.63	7.00E-01	2.68E-03	31.1	1.21E+00
20	1	1120.41*	607	149	1.53	2241.85	6.26E-01	1.90E-02	5.9	2.60E+00
21	1	1155.18	100	248	2.36	2311.36	6.12E-01	3.11E-03	40.2	7.01E-01
22	1	1238.10	285	162	2.06	2477.17	5.81E-01	8.91E-03	11.7	1.35E+00
23	1	1377.96	201	174	2.19	2756.80	5.37E-01	6.27E-03	17.4	2.83E+00
24	1	1460.97*	170	178	2.56	2922.76	5.15E-01	5.32E-03	23.7	1.89E+00
25	1	1508.58	137	84	3.46	3017.95	5.04E-01	4.28E-03	16.5	2.25E+00
26	1	1729.43	163	80	2.33	3459.43	4.60E-01	5.10E-03	14.5	6.56E-01
27	1	1764.41*	496	93	2.29	3529.35	4.54E-01	1.55E-02	6.6	1.14E+00
28	1	1847.63	107	55	3.04	3695.70	4.42E-01	3.34E-03	18.1	1.11E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	170	10.67*	5.151E-01	7.383E+01	7.383E+01	47.36
RA-226	186.21	150	3.28*	2.020E+00	5.379E+01	5.379E+01	102.50

TH-228	238.63	719	44.60*	1.815E+00	2.115E+01	2.128E+01	14.41
	240.98	819	3.95	1.802E+00	2.742E+02	2.759E+02	12.76

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28609-16 Acquisition date : 16-MAY-2006 15:17:31

Total number of lines in spectrum	28	
Number of unidentified lines	22	
Number of lines tentatively identified by NID	6	21.43%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	7.383E+01	7.383E+01	3.497E+01	47.36	
RA-226	1600.00Y	1.00	5.379E+01	5.379E+01	5.513E+01	102.50	
TH-228	1.91Y	1.01	2.115E+01	2.128E+01	0.307E+01	14.41	
	Total Activity :		1.488E+02	1.489E+02			
	Grand Total Activity :		1.488E+02	1.489E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28609-16

Acquisition date : 16-MAY-2006 15:17:31

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.18	296	1467	1.33	133.20	130	8	9.26E-03	47.2	7.19E-01	
3	77.05	724	979	0.82	154.96	147	12	2.26E-02	16.0	1.10E+00	
1	87.18	232	966	0.95	175.21	173	6	7.24E-03	46.8	1.42E+00	
1	89.94	193	755	0.86	180.75	179	5	6.02E-03	45.1	1.49E+00	
1	139.76	233	1187	1.01	280.42	277	8	7.29E-03	54.6	2.09E+00	
1	198.43	292	981	1.19	397.79	394	8	9.13E-03	40.3	1.98E+00	
2	295.18	1647	450	1.20	591.36	584	22	5.15E-02	6.8	1.61E+00	
2	299.77	148	562	1.48	600.52	584	22	4.62E-03	61.0	1.59E+00	
1	351.91	2692	715	1.13	704.83	700	11	8.41E-02	5.6	1.43E+00	
1	583.18	166	386	1.49	1167.44	1162	13	5.20E-03	54.8	1.01E+00	T
1	595.71	212	403	2.48	1192.50	1185	14	6.61E-03	42.6	9.97E-01	
1	609.29	3087	422	1.40	1219.68	1214	13	9.65E-02	4.7	9.81E-01	
1	768.26	265	343	2.13	1537.62	1531	15	8.29E-03	33.0	8.29E-01	
1	786.33	71	286	2.28	1573.77	1567	14	2.21E-03	****	8.15E-01	
1	934.03	152	182	1.28	1869.15	1864	10	4.75E-03	37.0	7.17E-01	
1	964.28	86	160	1.87	1929.63	1923	22	2.68E-03	62.2	7.00E-01	T
1	1120.41	607	149	1.53	2241.85	2236	11	1.90E-02	11.8	6.26E-01	
1	1155.18	100	248	2.36	2311.36	2302	20	3.11E-03	80.4	6.12E-01	
1	1238.10	285	162	2.06	2477.17	2469	16	8.91E-03	23.4	5.81E-01	
1	1377.96	201	174	2.19	2756.80	2747	19	6.27E-03	34.8	5.37E-01	
1	1508.58	137	84	3.46	3017.95	3011	14	4.28E-03	33.0	5.04E-01	
1	1729.43	163	80	2.33	3459.43	3452	15	5.10E-03	28.9	4.60E-01	
1	1764.41	496	93	2.29	3529.35	3520	16	1.55E-02	13.2	4.54E-01	
1	1847.63	107	55	3.04	3695.70	3689	15	3.34E-03	36.2	4.42E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	28	
Number of unidentified lines	22	
Number of lines tentatively identified by NID	6	21.43%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	7.383E+01	7.383E+01	3.497E+01	47.36	
RA-226	1600.00Y	1.00	5.379E+01	5.379E+01	5.513E+01	102.50	
TH-228	1.91Y	1.01	2.115E+01	2.128E+01	0.307E+01	14.41	
			---------	---------			
	Total Activity :		1.488E+02	1.489E+02			

Grand Total Activity : 1.488E+02 1.489E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	7.383E+01	3.497E+01	3.159E+01	0.000E+00	2.337
RA-226	5.379E+01	5.513E+01	6.840E+01	0.000E+00	0.786
TH-228	2.128E+01	3.067E+00	5.222E+00	0.000E+00	4.076

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	4.961E+00		1.553E+01	2.605E+01	0.000E+00	0.190
NA-24	1.404E+03		2.001E+03	2.895E+03	0.000E+00	0.485
CR-51	-2.751E+01		1.727E+01	2.688E+01	0.000E+00	-1.023
MN-54	3.045E-01		1.865E+00	3.112E+00	0.000E+00	0.098
CO-57	-1.570E+00		1.596E+00	2.630E+00	0.000E+00	-0.597
CO-58	5.529E-01		1.971E+00	3.235E+00	0.000E+00	0.171
FE-59	2.057E+00		3.817E+00	6.433E+00	0.000E+00	0.320
CO-60	-1.457E-01		2.042E+00	3.366E+00	0.000E+00	-0.043
ZN-65	4.650E+01		5.874E+00	1.075E+01	0.000E+00	4.326
SE-75	-2.189E+00		2.360E+00	3.801E+00	0.000E+00	-0.576
SR-85	2.046E+01		2.195E+00	4.269E+00	0.000E+00	4.792
Y-88	3.550E-01		2.382E+00	3.279E+00	0.000E+00	0.108
NB-94	-1.745E-01		1.778E+00	2.921E+00	0.000E+00	-0.060
NB-95	8.659E+00		2.517E+00	3.964E+00	0.000E+00	2.184
ZR-95	4.295E-01		3.626E+00	5.518E+00	0.000E+00	0.078
MO-99	7.069E+00		6.195E+01	1.020E+02	0.000E+00	0.069
RU-103	-1.519E-01		1.953E+00	3.230E+00	0.000E+00	-0.047
RU-106	-2.637E+00		1.664E+01	2.648E+01	0.000E+00	-0.100
AG-110m	-1.575E+00		1.758E+00	2.835E+00	0.000E+00	-0.556
SN-113	-5.188E-01		2.403E+00	3.929E+00	0.000E+00	-0.132
SB-124	-1.436E+00		4.547E+00	3.171E+00	0.000E+00	-0.453
SB-125	-1.288E+00		5.335E+00	8.646E+00	0.000E+00	-0.149
TE-129M	-1.603E+01		2.347E+01	3.733E+01	0.000E+00	-0.429
I-131	-2.795E+00		2.939E+00	4.750E+00	0.000E+00	-0.589
BA-133	2.689E+01		3.233E+00	5.570E+00	0.000E+00	4.827
CS-134	4.386E+01		4.087E+00	5.729E+00	0.000E+00	7.655
CS-136	-4.158E-01		2.490E+00	4.020E+00	0.000E+00	-0.103
CS-137	2.387E+00		1.952E+00	3.352E+00	0.000E+00	0.712
CE-139	-1.052E+00		1.735E+00	2.813E+00	0.000E+00	-0.374
BA-140	6.469E+00		8.398E+00	1.413E+01	0.000E+00	0.458
LA-140	3.597E-02		3.107E+00	5.140E+00	0.000E+00	0.007
CE-141	3.874E-01		3.692E+00	5.267E+00	0.000E+00	0.074
CE-144	-7.781E+00		1.446E+01	2.133E+01	0.000E+00	-0.365
EU-152	-1.172E+01		6.431E+00	8.874E+00	0.000E+00	-1.321
EU-154	-1.115E+00		3.358E+00	5.591E+00	0.000E+00	-0.199
AC-228	5.060E+00		7.469E+00	1.250E+01	0.000E+00	0.405
TH-232	5.050E+00		7.453E+00	1.247E+01	0.000E+00	0.405
U-235	-1.586E+01		1.544E+01	2.111E+01	0.000E+00	-0.751
U-238	-5.540E+01		2.164E+02	3.432E+02	0.000E+00	-0.161
AM-241	-1.528E+01		1.492E+01	2.389E+01	0.000E+00	-0.640

A,07L28609-16 ,05/17/2006 00:11,05/10/2006 17:25, 3.544E+00,WG L28609-16 B
B,07L28609-16 ,LIBD ,06/23/2005 07:26,0735L090904

C,K-40	,YES,	7.383E+01,	3.497E+01,	3.159E+01,,	2.337
C,RA-226	,YES,	5.379E+01,	5.513E+01,	6.840E+01,,	0.786
C,TH-228	,YES,	2.128E+01,	3.067E+00,	5.222E+00,,	4.076
C,BE-7	,NO ,	4.961E+00,	1.553E+01,	2.605E+01,,	0.190
C,NA-24	,NO ,	1.404E+03,	2.001E+03,	2.895E+03,,	0.485
C,CR-51	,NO ,	-2.751E+01,	1.727E+01,	2.688E+01,,	-1.023
C,MN-54	,NO ,	3.045E-01,	1.865E+00,	3.112E+00,,	0.098
C,CO-57	,NO ,	-1.570E+00,	1.596E+00,	2.630E+00,,	-0.597
C,CO-58	,NO ,	5.529E-01,	1.971E+00,	3.235E+00,,	0.171
C,FE-59	,NO ,	2.057E+00,	3.817E+00,	6.433E+00,,	0.320
C,CO-60	,NO ,	-1.457E-01,	2.042E+00,	3.366E+00,,	-0.043
C,ZN-65	,NO ,	4.650E+01,	5.874E+00,	1.075E+01,,	4.326
C,SE-75	,NO ,	-2.189E+00,	2.360E+00,	3.801E+00,,	-0.576
C,SR-85	,NO ,	2.046E+01,	2.195E+00,	4.269E+00,,	4.792
C,Y-88	,NO ,	3.550E-01,	2.382E+00,	3.279E+00,,	0.108
C,NB-94	,NO ,	-1.745E-01,	1.778E+00,	2.921E+00,,	-0.060
C,NB-95	,NO ,	8.659E+00,	2.517E+00,	3.964E+00,,	2.184
C,ZR-95	,NO ,	4.295E-01,	3.626E+00,	5.518E+00,,	0.078
C,MO-99	,NO ,	7.069E+00,	6.195E+01,	1.020E+02,,	0.069
C,RU-103	,NO ,	-1.519E-01,	1.953E+00,	3.230E+00,,	-0.047
C,RU-106	,NO ,	-2.637E+00,	1.664E+01,	2.648E+01,,	-0.100
C,AG-110m	,NO ,	-1.575E+00,	1.758E+00,	2.835E+00,,	-0.556
C,SN-113	,NO ,	-5.188E-01,	2.403E+00,	3.929E+00,,	-0.132
C,SB-124	,NO ,	-1.436E+00,	4.547E+00,	3.171E+00,,	-0.453
C,SB-125	,NO ,	-1.288E+00,	5.335E+00,	8.646E+00,,	-0.149
C,TE-129M	,NO ,	-1.603E+01,	2.347E+01,	3.733E+01,,	-0.429
C,I-131	,NO ,	-2.795E+00,	2.939E+00,	4.750E+00,,	-0.589
C,BA-133	,NO ,	2.689E+01,	3.233E+00,	5.570E+00,,	4.827
C,CS-134	,NO ,	4.386E+01,	4.087E+00,	5.729E+00,,	7.655
C,CS-136	,NO ,	-4.158E-01,	2.490E+00,	4.020E+00,,	-0.103
C,CS-137	,NO ,	2.387E+00,	1.952E+00,	3.352E+00,,	0.712
C,CE-139	,NO ,	-1.052E+00,	1.735E+00,	2.813E+00,,	-0.374
C,BA-140	,NO ,	6.469E+00,	8.398E+00,	1.413E+01,,	0.458
C,LA-140	,NO ,	3.597E-02,	3.107E+00,	5.140E+00,,	0.007
C,CE-141	,NO ,	3.874E-01,	3.692E+00,	5.267E+00,,	0.074
C,CE-144	,NO ,	-7.781E+00,	1.446E+01,	2.133E+01,,	-0.365
C,EU-152	,NO ,	-1.172E+01,	6.431E+00,	8.874E+00,,	-1.321
C,EU-154	,NO ,	-1.115E+00,	3.358E+00,	5.591E+00,,	-0.199
C,AC-228	,NO ,	5.060E+00,	7.469E+00,	1.250E+01,,	0.405
C,TH-232	,NO ,	5.050E+00,	7.453E+00,	1.247E+01,,	0.405
C,U-235	,NO ,	-1.586E+01,	1.544E+01,	2.111E+01,,	-0.751
C,U-238	,NO ,	-5.540E+01,	2.164E+02,	3.432E+02,,	-0.161
C,AM-241	,NO ,	-1.528E+01,	1.492E+01,	2.389E+01,,	-0.640

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 18:34:57.67
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 16-MAY-2006 15:23:32.27

LIMS No., Customer Name, Client ID: WG L28609-17 BRAIDWOOD

Sample ID : 04L28609-17
Sample Type : WG
Quantity : 3.48000E+00 L
Start Channel : 90 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 09:25:00.
Geometry : 0435L090804
BKGFILE : 04BG050506MT
Real Time : 0 03:11:22.44
Live time : 0 03:11:20.46

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.33*	34	383	1.61	133.23	6.48E-01	3.00E-03	102.6	2.27E+00
2	1	139.62*	73	253	1.69	279.83	1.82E+00	6.39E-03	40.5	3.19E+00
3	1	198.17*	69	250	1.59	396.94	1.68E+00	6.02E-03	43.7	2.39E+00
4	1	238.30*	5	189	1.53	477.21	1.52E+00	4.45E-04	533.8	3.52E+00
5	1	295.69*	73	175	2.02	592.00	1.32E+00	6.35E-03	39.9	2.87E+00
6	1	351.91*	97	126	1.09	704.45	1.17E+00	8.49E-03	25.0	6.92E-01
7	1	597.23	67	83	0.94	1195.07	7.85E-01	5.86E-03	29.1	4.12E+01
8	1	609.34*	72	72	1.10	1219.30	7.73E-01	6.28E-03	26.8	1.96E+00
9	1	910.94*	9	52	2.28	1822.41	5.66E-01	7.51E-04	188.3	1.63E+00
10	1	1120.32*	27	20	2.37	2241.07	4.81E-01	2.37E-03	40.2	5.63E-01
11	1	1172.85*	7	15	1.64	2346.09	4.64E-01	6.50E-04	130.1	3.62E-01
12	1	1460.88*	20	35	3.38	2921.96	3.92E-01	1.74E-03	83.9	4.11E+00
13	1	1764.31*	15	9	2.11	3528.53	3.43E-01	1.29E-03	59.9	1.09E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	20	10.67*	3.920E-01	3.236E+01	3.236E+01	167.72
AC-228	835.50	------	1.75	6.054E-01	------	Line Not Found	------
	911.07	9	27.70*	5.658E-01	3.720E+00	3.726E+00	376.60
TH-228	238.63	5	44.60*	1.521E+00	5.089E-01	5.115E-01	1067.67
	240.98	------	3.95	1.511E+00	------	Line Not Found	------

Nuclide Type: activation

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
CO-60	1173.22	7	100.00	4.639E-01	1.088E+00	1.090E+00	260.22
	1332.49	------	100.00*	4.202E-01	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28609-17 Acquisition date : 16-MAY-2006 15:23:32

Total number of lines in spectrum	13	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	4	30.77%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.236E+01	3.236E+01	5.428E+01	167.72	
AC-228	5.75Y	1.00	3.720E+00	3.726E+00	14.03E+00	376.60	
TH-228	1.91Y	1.01	5.089E-01	5.115E-01	54.62E-01	1067.67	
			---------	---------			
	Total Activity :		3.659E+01	3.660E+01			

Nuclide Type : activation

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.00	1.088E+00	1.090E+00	2.835E+00	260.22	K
			---------	---------			
	Total Activity :		1.088E+00	1.090E+00			

Grand Total Activity : 3.768E+01 3.769E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28609-17

Acquisition date : 16-MAY-2006 15:23:32

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.33	34	383	1.61	133.23	130	8	3.00E-03	****	6.48E-01	
1	139.62	73	253	1.69	279.83	277	8	6.39E-03	80.9	1.82E+00	
1	198.17	69	250	1.59	396.94	393	9	6.02E-03	87.3	1.68E+00	
1	295.69	73	175	2.02	592.00	587	12	6.35E-03	79.7	1.32E+00	
1	351.91	97	126	1.09	704.45	700	10	8.49E-03	50.0	1.17E+00	
1	597.23	67	83	0.94	1195.07	1189	12	5.86E-03	58.2	7.85E-01	
1	609.34	72	72	1.10	1219.30	1214	10	6.28E-03	53.6	7.73E-01	
1	1120.32	27	20	2.37	2241.07	2236	11	2.37E-03	80.5	4.81E-01	
1	1764.31	15	9	2.11	3528.53	3519	15	1.29E-03	****	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	13	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	4	30.77%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.236E+01	3.236E+01	5.428E+01	167.72	
AC-228	5.75Y	1.00	3.720E+00	3.726E+00	14.03E+00	376.60	
TH-228	1.91Y	1.01	5.089E-01	5.115E-01	54.62E-01	1067.67	
			---------	---------			
	Total Activity :		3.659E+01	3.660E+01			

Nuclide Type : activation

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.00	1.088E+00	1.090E+00	2.835E+00	260.22	
			---------	---------			
	Total Activity :		1.088E+00	1.090E+00			

Grand Total Activity : 3.768E+01 3.769E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA

K-40	3.236E+01	5.428E+01	5.334E+01	0.000E+00	0.607
CO-60	1.090E+00	2.835E+00	6.492E+00	0.000E+00	0.168
AC-228	3.726E+00	1.403E+01	1.637E+01	0.000E+00	0.228
TH-228	5.115E-01	5.462E+00	8.211E+00	0.000E+00	0.062

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-7.348E+00		2.630E+01	4.227E+01	0.000E+00	-0.174
NA-24	-1.135E+02		1.183E+03	1.944E+03	0.000E+00	-0.058
CR-51	-6.822E+00		2.772E+01	4.457E+01	0.000E+00	-0.153
MN-54	5.803E-01		2.939E+00	4.932E+00	0.000E+00	0.118
CO-57	6.871E-01		2.566E+00	4.296E+00	0.000E+00	0.160
CO-58	-2.582E+00		2.875E+00	4.421E+00	0.000E+00	-0.584
FE-59	3.872E+00		6.248E+00	1.086E+01	0.000E+00	0.356
ZN-65	-9.827E-03		8.424E+00	1.172E+01	0.000E+00	-0.001
SE-75	-2.277E-01		3.925E+00	6.450E+00	0.000E+00	-0.035
SR-85	1.254E+01		3.697E+00	6.890E+00	0.000E+00	1.820
Y-88	4.621E-01		3.745E+00	6.256E+00	0.000E+00	0.074
NB-94	-2.410E+00		2.802E+00	4.287E+00	0.000E+00	-0.562
NB-95	2.452E+00		3.198E+00	5.471E+00	0.000E+00	0.448
ZR-95	-1.133E+00		5.464E+00	8.731E+00	0.000E+00	-0.130
MO-99	8.171E+00		8.066E+01	1.323E+02	0.000E+00	0.062
RU-103	1.957E+00		3.110E+00	5.261E+00	0.000E+00	0.372
RU-106	2.136E+01		2.563E+01	4.471E+01	0.000E+00	0.478
AG-110m	1.571E-01		2.959E+00	4.878E+00	0.000E+00	0.032
SN-113	2.678E+00		3.731E+00	6.411E+00	0.000E+00	0.418
SB-124	-2.344E+00		7.150E+00	4.893E+00	0.000E+00	-0.479
SB-125	-1.029E+00		8.211E+00	1.344E+01	0.000E+00	-0.077
TE-129M	-7.480E+00		3.512E+01	5.683E+01	0.000E+00	-0.132
I-131	-4.245E-02		4.353E+00	7.250E+00	0.000E+00	-0.006
BA-133	8.009E+00		4.559E+00	7.253E+00	0.000E+00	1.104
CS-134	7.337E+00		5.505E+00	5.430E+00	0.000E+00	1.351
CS-136	2.031E+00		3.702E+00	6.386E+00	0.000E+00	0.318
CS-137	1.295E+00		3.292E+00	5.545E+00	0.000E+00	0.234
CE-139	-6.470E-01		2.724E+00	4.405E+00	0.000E+00	-0.147
BA-140	-4.935E+00		1.331E+01	2.102E+01	0.000E+00	-0.235
LA-140	-4.509E+00		4.972E+00	7.318E+00	0.000E+00	-0.616
CE-141	2.143E+00		5.751E+00	8.268E+00	0.000E+00	0.259
CE-144	-1.400E+00		2.326E+01	3.429E+01	0.000E+00	-0.041
EU-152	-5.750E-01		1.020E+01	1.449E+01	0.000E+00	-0.040
EU-154	1.123E+00		5.437E+00	9.080E+00	0.000E+00	0.124
RA-226	-6.391E+01		7.068E+01	1.124E+02	0.000E+00	-0.569
TH-232	3.720E+00	+	1.401E+01	2.195E+01	0.000E+00	0.169
U-235	2.513E+01		2.317E+01	3.452E+01	0.000E+00	0.728
U-238	9.509E+01		3.482E+02	5.799E+02	0.000E+00	0.164
AM-241	-8.858E+00		2.563E+01	4.039E+01	0.000E+00	-0.219

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A,04L28609-17     ,05/16/2006 18:34,05/11/2006 09:25,   3.480E+00,WG L28609-17 B
B,04L28609-17     ,LIBD                ,03/14/2005 09:04,0435L090804
C,K-40     ,YES,   3.236E+01,   5.428E+01,   5.334E+01,,    0.607
C,CO-60    ,YES,   1.090E+00,   2.835E+00,   6.492E+00,,    0.168
C,AC-228   ,YES,   3.726E+00,   1.403E+01,   1.637E+01,,    0.228
C,TH-228   ,YES,   5.115E-01,   5.462E+00,   8.211E+00,,    0.062
C,BE-7     ,NO ,  -7.348E+00,   2.630E+01,   4.227E+01,,   -0.174
C,NA-24    ,NO ,  -1.135E+02,   1.183E+03,   1.944E+03,,   -0.058
C,CR-51    ,NO ,  -6.822E+00,   2.772E+01,   4.457E+01,,   -0.153
C,MN-54    ,NO ,   5.803E-01,   2.939E+00,   4.932E+00,,    0.118
C,CO-57    ,NO ,   6.871E-01,   2.566E+00,   4.296E+00,,    0.160
C,CO-58    ,NO ,  -2.582E+00,   2.875E+00,   4.421E+00,,   -0.584
C,FE-59    ,NO ,   3.872E+00,   6.248E+00,   1.086E+01,,    0.356
C,ZN-65    ,NO ,  -9.827E-03,   8.424E+00,   1.172E+01,,   -0.001
C,SE-75    ,NO ,  -2.277E-01,   3.925E+00,   6.450E+00,,   -0.035
C,SR-85    ,NO ,   1.254E+01,   3.697E+00,   6.890E+00,,    1.820
C,Y-88     ,NO ,   4.621E-01,   3.745E+00,   6.256E+00,,    0.074
C,NB-94    ,NO ,  -2.410E+00,   2.802E+00,   4.287E+00,,   -0.562
C,NB-95    ,NO ,   2.452E+00,   3.198E+00,   5.471E+00,,    0.448
C,ZR-95    ,NO ,  -1.133E+00,   5.464E+00,   8.731E+00,,   -0.130
C,MO-99    ,NO ,   8.171E+00,   8.066E+01,   1.323E+02,,    0.062
C,RU-103   ,NO ,   1.957E+00,   3.110E+00,   5.261E+00,,    0.372
C,RU-106   ,NO ,   2.136E+01,   2.563E+01,   4.471E+01,,    0.478
C,AG-110m  ,NO ,   1.571E-01,   2.959E+00,   4.878E+00,,    0.032
C,SN-113   ,NO ,   2.678E+00,   3.731E+00,   6.411E+00,,    0.418
C,SB-124   ,NO ,  -2.344E+00,   7.150E+00,   4.893E+00,,   -0.479
C,SB-125   ,NO ,  -1.029E+00,   8.211E+00,   1.344E+01,,   -0.077
C,TE-129M  ,NO ,  -7.480E+00,   3.512E+01,   5.683E+01,,   -0.132
C,I-131    ,NO ,  -4.245E-02,   4.353E+00,   7.250E+00,,   -0.006
C,BA-133   ,NO ,   8.009E+00,   4.559E+00,   7.253E+00,,    1.104
C,CS-134   ,NO ,   7.337E+00,   5.505E+00,   5.430E+00,,    1.351
C,CS-136   ,NO ,   2.031E+00,   3.702E+00,   6.386E+00,,    0.318
C,CS-137   ,NO ,   1.295E+00,   3.292E+00,   5.545E+00,,    0.234
C,CE-139   ,NO ,  -6.470E-01,   2.724E+00,   4.405E+00,,   -0.147
C,BA-140   ,NO ,  -4.935E+00,   1.331E+01,   2.102E+01,,   -0.235
C,LA-140   ,NO ,  -4.509E+00,   4.972E+00,   7.318E+00,,   -0.616
C,CE-141   ,NO ,   2.143E+00,   5.751E+00,   8.268E+00,,    0.259
C,CE-144   ,NO ,  -1.400E+00,   2.326E+01,   3.429E+01,,   -0.041
C,EU-152   ,NO ,  -5.750E-01,   1.020E+01,   1.449E+01,,   -0.040
C,EU-154   ,NO ,   1.123E+00,   5.437E+00,   9.080E+00,,    0.124
C,RA-226   ,NO ,  -6.391E+01,   7.068E+01,   1.124E+02,,   -0.569
C,TH-232   ,NO ,   3.720E+00,   1.401E+01,   2.195E+01,,    0.169
C,U-235    ,NO ,   2.513E+01,   2.317E+01,   3.452E+01,,    0.728
C,U-238    ,NO ,   9.509E+01,   3.482E+02,   5.799E+02,,    0.164
C,AM-241   ,NO ,  -8.858E+00,   2.563E+01,   4.039E+01,,   -0.219
```

Sec. Review: KS Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 18:36:12.26
TBE23 03017322 HpGe ********** Aquisition Date/Time: 16-MAY-2006 15:23:34.78

LIMS No., Customer Name, Client ID: WG L28609-18 BRAIDWOOD

Sample ID : 23L28609-18
Sample Type : WG
Quantity : 3.63050E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 10:00:00.
Geometry : 2335L090704
BKGFILE : 23BG050506MT
Real Time : 0 03:12:28.74
Live time : 0 03:12:20.43

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	4	33.80*	0	25	1.09	67.77	9.40E-02	5.67E-06	*****	3.76E+00
2	0	66.16*	106	320	1.46	132.41	1.03E+00	9.18E-03	30.7	
3	0	92.33*	60	540	1.27	184.70	1.69E+00	5.22E-03	80.0	
4	0	198.60*	60	437	1.50	397.06	1.90E+00	5.22E-03	71.7	
5	0	238.54*	34	201	0.76	476.88	1.72E+00	2.94E-03	79.1	
6	0	295.33*	121	213	1.38	590.37	1.50E+00	1.05E-02	26.7	
7	0	351.58*	199	223	1.18	702.80	1.32E+00	1.73E-02	17.9	
8	0	609.00*	129	93	1.52	1217.42	8.59E-01	1.12E-02	18.5	
9	0	1120.21*	46	36	1.62	2239.92	5.52E-01	4.03E-03	35.0	
10	0	1238.17	37	26	2.82	2475.97	5.16E-01	3.21E-03	32.8	
11	0	1371.76	22	22	0.76	2743.33	4.80E-01	1.90E-03	51.7	
12	0	1460.66*	32	30	1.55	2921.28	4.59E-01	2.76E-03	55.8	
13	0	1763.94*	29	9	3.14	3528.48	4.01E-01	2.56E-03	33.1	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	32	10.67*	4.595E-01	4.185E+01	4.185E+01	111.53
TH-228	238.63	34	44.60*	1.725E+00	2.844E+00	2.859E+00	158.14
	240.98	------	3.95	1.714E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28609-18 Acquisition date : 16-MAY-2006 15:23:34

Total number of lines in spectrum	13	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	2	15.38%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	4.185E+01	4.185E+01	4.668E+01	111.53	
TH-228	1.91Y	1.01	2.844E+00	2.859E+00	4.522E+00	158.14	
	Total Activity :		4.470E+01	4.471E+01			
	Grand Total Activity :		4.470E+01	4.471E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Sample ID : 23L28609-18
Acquisition date : 16-MAY-2006 15:23:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	33.80	0	25	1.09	67.77	65	11	5.67E-06	****	9.40E-02	
0	66.16	106	320	1.46	132.41	130	7	9.18E-03	61.3	1.03E+00	
0	92.33	60	540	1.27	184.70	179	11	5.22E-03	****	1.69E+00	
0	198.60	60	437	1.50	397.06	390	12	5.22E-03	****	1.90E+00	
0	295.33	121	213	1.38	590.37	586	12	1.05E-02	53.5	1.50E+00	
0	351.58	199	223	1.18	702.80	696	14	1.73E-02	35.7	1.32E+00	
0	609.00	129	93	1.52	1217.42	1211	12	1.12E-02	37.0	8.59E-01	
0	1120.21	46	36	1.62	2239.92	2231	18	4.03E-03	70.0	5.52E-01	
0	1238.17	37	26	2.82	2475.97	2468	13	3.21E-03	65.6	5.16E-01	
0	1371.76	22	22	0.76	2743.33	2735	15	1.90E-03	****	4.80E-01	
0	1763.94	29	9	3.14	3528.48	3522	13	2.56E-03	66.2	4.01E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	13	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	2	15.38%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	4.185E+01	4.185E+01	4.668E+01	111.53	
TH-228	1.91Y	1.01	2.844E+00	2.859E+00	4.522E+00	158.14	
	Total Activity :		4.470E+01	4.471E+01			

Grand Total Activity : 4.470E+01 4.471E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	4.185E+01	4.668E+01	4.714E+01	0.000E+00	0.888
TH-228	2.859E+00	4.522E+00	8.166E+00	0.000E+00	0.350

---- Non-Identified Nuclides ----

Key-Line Activity	K.L.	Act error	MDA	MDA error	Act/MDA

Nuclide	(pCi/L)	Ided	(pCi/L)		
BE-7	1.515E-01	2.460E+01	4.184E+01	0.000E+00	0.004
NA-24	3.928E+02	1.191E+03	1.852E+03	0.000E+00	0.212
CR-51	-7.165E+00	2.491E+01	4.244E+01	0.000E+00	-0.169
MN-54	2.273E-01	2.752E+00	4.863E+00	0.000E+00	0.047
CO-57	8.567E-01	2.875E+00	4.796E+00	0.000E+00	0.179
CO-58	-1.718E-01	2.455E+00	4.230E+00	0.000E+00	-0.041
FE-59	2.306E+00	5.032E+00	9.150E+00	0.000E+00	0.252
CO-60	-1.054E+00	2.764E+00	4.747E+00	0.000E+00	-0.222
ZN-65	5.869E+00	6.726E+00	1.084E+01	0.000E+00	0.541
SE-75	-1.763E+00	3.784E+00	6.232E+00	0.000E+00	-0.283
SR-85	1.104E+01	3.313E+00	6.313E+00	0.000E+00	1.749
Y-88	2.063E+00	2.629E+00	5.217E+00	0.000E+00	0.395
NB-94	-1.442E+00	2.663E+00	4.439E+00	0.000E+00	-0.325
NB-95	4.246E-01	2.906E+00	5.040E+00	0.000E+00	0.084
ZR-95	-1.031E+00	4.925E+00	8.373E+00	0.000E+00	-0.123
MO-99	-6.337E+01	7.998E+01	1.306E+02	0.000E+00	-0.485
RU-103	1.987E+00	3.021E+00	5.299E+00	0.000E+00	0.375
RU-106	-6.561E+00	2.357E+01	4.035E+01	0.000E+00	-0.163
AG-110m	2.074E+00	2.703E+00	4.890E+00	0.000E+00	0.424
SN-113	-1.192E+00	3.480E+00	5.868E+00	0.000E+00	-0.203
SB-124	-2.440E+00	3.635E+00	5.039E+00	0.000E+00	-0.484
SB-125	3.284E+00	7.762E+00	1.353E+01	0.000E+00	0.243
TE-129M	-1.011E+01	3.209E+01	5.384E+01	0.000E+00	-0.188
I-131	2.228E-01	4.288E+00	7.375E+00	0.000E+00	0.030
BA-133	1.749E+00	4.467E+00	6.669E+00	0.000E+00	0.262
CS-134	6.223E+00	3.681E+00	5.970E+00	0.000E+00	1.042
CS-136	-1.377E+00	3.134E+00	5.232E+00	0.000E+00	-0.263
CS-137	6.598E-01	2.910E+00	5.112E+00	0.000E+00	0.129
CE-139	-9.369E-01	2.717E+00	4.581E+00	0.000E+00	-0.205
BA-140	8.734E+00	1.223E+01	2.217E+01	0.000E+00	0.394
LA-140	2.604E+00	3.597E+00	6.907E+00	0.000E+00	0.377
CE-141	-1.264E+00	5.363E+00	9.102E+00	0.000E+00	-0.139
CE-144	-6.726E+00	2.265E+01	3.703E+01	0.000E+00	-0.182
EU-152	-1.561E+01	9.984E+00	1.314E+01	0.000E+00	-1.188
EU-154	2.269E+00	5.992E+00	1.001E+01	0.000E+00	0.227
RA-226	1.866E+01	7.082E+01	1.240E+02	0.000E+00	0.150
AC-228	3.704E+00	9.930E+00	1.828E+01	0.000E+00	0.203
TH-232	3.698E+00	9.913E+00	1.825E+01	0.000E+00	0.203
U-235	-7.716E+00	2.233E+01	3.762E+01	0.000E+00	-0.205
U-238	-1.267E+02	3.031E+02	5.231E+02	0.000E+00	-0.242
AM-241	-1.066E+01	1.589E+01	2.518E+01	0.000E+00	-0.423

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A,23L28609-18     ,05/16/2006 18:36,05/11/2006 10:00,   3.631E+00,WG L28609-18 B
B,23L28609-18     ,LIBD                ,06/24/2005 07:59,2335L090704
C,K-40     ,YES,   4.185E+01,   4.668E+01,   4.714E+01,,    0.888
C,TH-228   ,YES,   2.859E+00,   4.522E+00,   8.166E+00,,    0.350
C,BE-7     ,NO ,   1.515E-01,   2.460E+01,   4.184E+01,,    0.004
C,NA-24    ,NO ,   3.928E+02,   1.191E+03,   1.852E+03,,    0.212
C,CR-51    ,NO ,  -7.165E+00,   2.491E+01,   4.244E+01,,   -0.169
C,MN-54    ,NO ,   2.273E-01,   2.752E+00,   4.863E+00,,    0.047
C,CO-57    ,NO ,   8.567E-01,   2.875E+00,   4.796E+00,,    0.179
C,CO-58    ,NO ,  -1.718E-01,   2.455E+00,   4.230E+00,,   -0.041
C,FE-59    ,NO ,   2.306E+00,   5.032E+00,   9.150E+00,,    0.252
C,CO-60    ,NO ,  -1.054E+00,   2.764E+00,   4.747E+00,,   -0.222
C,ZN-65    ,NO ,   5.869E+00,   6.726E+00,   1.084E+01,,    0.541
C,SE-75    ,NO ,  -1.763E+00,   3.784E+00,   6.232E+00,,   -0.283
C,SR-85    ,NO ,   1.104E+01,   3.313E+00,   6.313E+00,,    1.749
C,Y-88     ,NO ,   2.063E+00,   2.629E+00,   5.217E+00,,    0.395
C,NB-94    ,NO ,  -1.442E+00,   2.663E+00,   4.439E+00,,   -0.325
C,NB-95    ,NO ,   4.246E-01,   2.906E+00,   5.040E+00,,    0.084
C,ZR-95    ,NO ,  -1.031E+00,   4.925E+00,   8.373E+00,,   -0.123
C,MO-99    ,NO ,  -6.337E+01,   7.998E+01,   1.306E+02,,   -0.485
C,RU-103   ,NO ,   1.987E+00,   3.021E+00,   5.299E+00,,    0.375
C,RU-106   ,NO ,  -6.561E+00,   2.357E+01,   4.035E+01,,   -0.163
C,AG-110m  ,NO ,   2.074E+00,   2.703E+00,   4.890E+00,,    0.424
C,SN-113   ,NO ,  -1.192E+00,   3.480E+00,   5.868E+00,,   -0.203
C,SB-124   ,NO ,  -2.440E+00,   3.635E+00,   5.039E+00,,   -0.484
C,SB-125   ,NO ,   3.284E+00,   7.762E+00,   1.353E+01,,    0.243
C,TE-129M  ,NO ,  -1.011E+01,   3.209E+01,   5.384E+01,,   -0.188
C,I-131    ,NO ,   2.228E-01,   4.288E+00,   7.375E+00,,    0.030
C,BA-133   ,NO ,   1.749E+00,   4.467E+00,   6.669E+00,,    0.262
C,CS-134   ,NO ,   6.223E+00,   3.681E+00,   5.970E+00,,    1.042
C,CS-136   ,NO ,  -1.377E+00,   3.134E+00,   5.232E+00,,   -0.263
C,CS-137   ,NO ,   6.598E-01,   2.910E+00,   5.112E+00,,    0.129
C,CE-139   ,NO ,  -9.369E-01,   2.717E+00,   4.581E+00,,   -0.205
C,BA-140   ,NO ,   8.734E+00,   1.223E+01,   2.217E+01,,    0.394
C,LA-140   ,NO ,   2.604E+00,   3.597E+00,   6.907E+00,,    0.377
C,CE-141   ,NO ,  -1.264E+00,   5.363E+00,   9.102E+00,,   -0.139
C,CE-144   ,NO ,  -6.726E+00,   2.265E+01,   3.703E+01,,   -0.182
C,EU-152   ,NO ,  -1.561E+01,   9.984E+00,   1.314E+01,,   -1.188
C,EU-154   ,NO ,   2.269E+00,   5.992E+00,   1.001E+01,,    0.227
C,RA-226   ,NO ,   1.866E+01,   7.082E+01,   1.240E+02,,    0.150
C,AC-228   ,NO ,   3.704E+00,   9.930E+00,   1.828E+01,,    0.203
C,TH-232   ,NO ,   3.698E+00,   9.913E+00,   1.825E+01,,    0.203
C,U-235    ,NO ,  -7.716E+00,   2.233E+01,   3.762E+01,,   -0.205
C,U-238    ,NO ,  -1.267E+02,   3.031E+02,   5.231E+02,,   -0.242
C,AM-241   ,NO ,  -1.066E+01,   1.589E+01,   2.518E+01,,   -0.423
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 16-MAY-2006 18:45:35.72
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 16-MAY-2006 15:39:08.65

LIMS No., Customer Name, Client ID: WG L28609-19 BRAIDWOOD

Sample ID : 14L28609-19
Sample Type : WG
Quantity : 3.66100E+00 L
Start Channel : 90 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 10:05:00.
Geometry : 1435L091304
BKGFILE : 14BG050506MT
Real Time : 0 03:06:15.65
Live time : 0 03:06:13.73

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.04*	109	448	1.55	133.20	4.45E-01	9.73E-03	37.0	1.78E+00
2	1	198.75*	103	317	1.70	399.53	1.60E+00	9.18E-03	34.7	1.70E+00
3	1	238.34*	67	302	2.08	478.92	1.47E+00	5.99E-03	53.3	1.25E+00
4	1	295.44*	110	247	2.26	593.38	1.29E+00	9.85E-03	32.9	2.14E+00
5	1	352.04*	114	142	1.91	706.78	1.14E+00	1.02E-02	23.9	1.27E+00
6	1	609.27*	117	84	1.64	1221.50	7.66E-01	1.04E-02	18.6	2.22E+00
7	1	1120.38*	35	55	3.63	2240.92	4.81E-01	3.13E-03	56.8	2.39E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
TH-228	238.63	67	44.60*	1.470E+00	6.751E+00	6.787E+00	106.61
	240.98	------	3.95	1.461E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L28609-19

Acquisition date : 16-MAY-2006 15:39:08

Total number of lines in spectrum	7	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	1	14.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	6.751E+00	6.787E+00	7.235E+00	106.61	
	Total Activity :		6.751E+00	6.787E+00			
	Grand Total Activity :		6.751E+00	6.787E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Sample ID : 14L28609-19 Acquisition date : 16-MAY-2006 15:39:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.04	109	448	1.55	133.20	129	9	9.73E-03	74.1	4.45E-01	
1	198.75	103	317	1.70	399.53	394	10	9.18E-03	69.4	1.60E+00	
1	295.44	110	247	2.26	593.38	586	14	9.85E-03	65.8	1.29E+00	
1	352.04	114	142	1.91	706.78	702	11	1.02E-02	47.7	1.14E+00	
1	609.27	117	84	1.64	1221.50	1217	9	1.04E-02	37.3	7.66E-01	
1	1120.38	35	55	3.63	2240.92	2233	21	3.13E-03	****	4.81E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	7	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	1	14.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	6.751E+00	6.787E+00	7.235E+00	106.61	
		Total Activity :	6.751E+00	6.787E+00			
		Grand Total Activity :	6.751E+00	6.787E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
TH-228	6.787E+00	7.235E+00	9.646E+00	0.000E+00	0.704

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-8.089E+00		2.937E+01	4.806E+01	0.000E+00	-0.168
NA-24	-5.467E+02		1.365E+03	2.148E+03	0.000E+00	-0.255
K-40	5.116E+01		4.828E+01	9.761E+01	0.000E+00	0.524
CR-51	-2.178E+01		3.230E+01	5.179E+01	0.000E+00	-0.421
MN-54	9.838E-01		3.421E+00	5.737E+00	0.000E+00	0.171

CO-57	-6.908E-01	3.571E+00	5.896E+00	0.000E+00	-0.117
CO-58	3.258E+00	3.516E+00	6.132E+00	0.000E+00	0.531
FE-59	9.833E-01	6.494E+00	1.087E+01	0.000E+00	0.090
CO-60	-1.578E+00	3.574E+00	5.601E+00	0.000E+00	-0.282
ZN-65	1.183E+01	8.851E+00	1.400E+01	0.000E+00	0.845
SE-75	4.520E-01	4.712E+00	7.849E+00	0.000E+00	0.058
SR-85	2.122E+01	3.976E+00	7.847E+00	0.000E+00	2.704
Y-88	-4.478E-01	3.423E+00	5.488E+00	0.000E+00	-0.082
NB-94	2.596E-01	3.452E+00	5.630E+00	0.000E+00	0.046
NB-95	1.376E+00	3.547E+00	6.006E+00	0.000E+00	0.229
ZR-95	-2.883E+00	6.115E+00	9.828E+00	0.000E+00	-0.293
MO-99	1.070E+02	9.551E+01	1.687E+02	0.000E+00	0.634
RU-103	2.295E+00	3.677E+00	6.267E+00	0.000E+00	0.366
RU-106	-1.747E+01	3.215E+01	5.091E+01	0.000E+00	-0.343
AG-110m	1.438E+00	3.240E+00	5.427E+00	0.000E+00	0.265
SN-113	-3.282E+00	4.470E+00	7.043E+00	0.000E+00	-0.466
SB-124	-5.712E+00	4.590E+00	5.709E+00	0.000E+00	-1.000
SB-125	2.236E+00	9.706E+00	1.594E+01	0.000E+00	0.140
TE-129M	-4.413E+01	4.268E+01	6.750E+01	0.000E+00	-0.654
I-131	-2.931E-02	5.472E+00	8.956E+00	0.000E+00	-0.003
BA-133	1.010E+01	5.937E+00	9.011E+00	0.000E+00	1.121
CS-134	6.387E+00	4.887E+00	7.299E+00	0.000E+00	0.875
CS-136	-4.188E+00	4.281E+00	6.586E+00	0.000E+00	-0.636
CS-137	-4.297E-01	3.612E+00	5.843E+00	0.000E+00	-0.074
CE-139	7.926E-01	3.505E+00	5.794E+00	0.000E+00	0.137
BA-140	-1.721E+00	1.545E+01	2.532E+01	0.000E+00	-0.068
LA-140	5.160E+00	4.646E+00	8.511E+00	0.000E+00	0.606
CE-141	-9.368E+00	6.646E+00	1.054E+01	0.000E+00	-0.889
CE-144	-1.529E+01	2.809E+01	4.581E+01	0.000E+00	-0.334
EU-152	7.142E+00	1.229E+01	1.766E+01	0.000E+00	0.404
EU-154	-1.576E+00	7.420E+00	1.224E+01	0.000E+00	-0.129
RA-226	-8.450E+00	8.566E+01	1.405E+02	0.000E+00	-0.060
AC-228	4.889E+00	1.257E+01	2.165E+01	0.000E+00	0.226
TH-232	4.880E+00	1.255E+01	2.161E+01	0.000E+00	0.226
U-235	8.768E+00	2.711E+01	4.514E+01	0.000E+00	0.194
U-238	-9.068E+01	3.602E+02	5.748E+02	0.000E+00	-0.158
AM-241	2.765E+01	5.565E+01	7.929E+01	0.000E+00	0.349

A,14L28609-19 ,05/16/2006 18:45,05/11/2006 10:05, 3.661E+00,WG L28609-19 B
B,14L28609-19 ,LIBD ,06/22/2005 08:57,1435L091304

C,TH-228	,YES,	6.787E+00,	7.235E+00,	9.646E+00,,	0.704
C,BE-7	,NO ,	-8.089E+00,	2.937E+01,	4.806E+01,,	-0.168
C,NA-24	,NO ,	-5.467E+02,	1.365E+03,	2.148E+03,,	-0.255
C,K-40	,NO ,	5.116E+01,	4.828E+01,	9.761E+01,,	0.524
C,CR-51	,NO ,	-2.178E+01,	3.230E+01,	5.179E+01,,	-0.421
C,MN-54	,NO ,	9.838E-01,	3.421E+00,	5.737E+00,,	0.171
C,CO-57	,NO ,	-6.908E-01,	3.571E+00,	5.896E+00,,	-0.117
C,CO-58	,NO ,	3.258E+00,	3.516E+00,	6.132E+00,,	0.531
C,FE-59	,NO ,	9.833E-01,	6.494E+00,	1.087E+01,,	0.090
C,CO-60	,NO ,	-1.578E+00,	3.574E+00,	5.601E+00,,	-0.282
C,ZN-65	,NO ,	1.183E+01,	8.851E+00,	1.400E+01,,	0.845
C,SE-75	,NO ,	4.520E-01,	4.712E+00,	7.849E+00,,	0.058
C,SR-85	,NO ,	2.122E+01,	3.976E+00,	7.847E+00,,	2.704
C,Y-88	,NO ,	-4.478E-01,	3.423E+00,	5.488E+00,,	-0.082
C,NB-94	,NO ,	2.596E-01,	3.452E+00,	5.630E+00,,	0.046
C,NB-95	,NO ,	1.376E+00,	3.547E+00,	6.006E+00,,	0.229
C,ZR-95	,NO ,	-2.883E+00,	6.115E+00,	9.828E+00,,	-0.293
C,MO-99	,NO ,	1.070E+02,	9.551E+01,	1.687E+02,,	0.634
C,RU-103	,NO ,	2.295E+00,	3.677E+00,	6.267E+00,,	0.366
C,RU-106	,NO ,	-1.747E+01,	3.215E+01,	5.091E+01,,	-0.343
C,AG-110m	,NO ,	1.438E+00,	3.240E+00,	5.427E+00,,	0.265
C,SN-113	,NO ,	-3.282E+00,	4.470E+00,	7.043E+00,,	-0.466
C,SB-124	,NO ,	-5.712E+00,	4.590E+00,	5.709E+00,,	-1.000
C,SB-125	,NO ,	2.236E+00,	9.706E+00,	1.594E+01,,	0.140
C,TE-129M	,NO ,	-4.413E+01,	4.268E+01,	6.750E+01,,	-0.654
C,I-131	,NO ,	-2.931E-02,	5.472E+00,	8.956E+00,,	-0.003
C,BA-133	,NO ,	1.010E+01,	5.937E+00,	9.011E+00,,	1.121
C,CS-134	,NO ,	6.387E+00,	4.887E+00,	7.299E+00,,	0.875
C,CS-136	,NO ,	-4.188E+00,	4.281E+00,	6.586E+00,,	-0.636
C,CS-137	,NO ,	-4.297E-01,	3.612E+00,	5.843E+00,,	-0.074
C,CE-139	,NO ,	7.926E-01,	3.505E+00,	5.794E+00,,	0.137
C,BA-140	,NO ,	-1.721E+00,	1.545E+01,	2.532E+01,,	-0.068
C,LA-140	,NO ,	5.160E+00,	4.646E+00,	8.511E+00,,	0.606
C,CE-141	,NO ,	-9.368E+00,	6.646E+00,	1.054E+01,,	-0.889
C,CE-144	,NO ,	-1.529E+01,	2.809E+01,	4.581E+01,,	-0.334
C,EU-152	,NO ,	7.142E+00,	1.229E+01,	1.766E+01,,	0.404
C,EU-154	,NO ,	-1.576E+00,	7.420E+00,	1.224E+01,,	-0.129
C,RA-226	,NO ,	-8.450E+00,	8.566E+01,	1.405E+02,,	-0.060
C,AC-228	,NO ,	4.889E+00,	1.257E+01,	2.165E+01,,	0.226
C,TH-232	,NO ,	4.880E+00,	1.255E+01,	2.161E+01,,	0.226
C,U-235	,NO ,	8.768E+00,	2.711E+01,	4.514E+01,,	0.194
C,U-238	,NO ,	-9.068E+01,	3.602E+02,	5.748E+02,,	-0.158
C,AM-241	,NO ,	2.765E+01,	5.565E+01,	7.929E+01,,	0.349

Sec. Review: Analyst: LIMS:

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 17-MAY-2006 03:20:09.87
TBE15 P-10635B HpGe ********** Aquisition Date/Time: 16-MAY-2006 18:26:36.80

LIMS No., Customer Name, Client ID: WG L28609-20 BRAIDWOOD

Sample ID : 15L28609-20
Sample Type : WG
Quantity : 3.60400E+00 L
Start Channel : 40 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 12:05:00.
Geometry : 1535L090104
BKGFILE : 15BG050506MT
Real Time : 0 08:53:23.43
Live time : 0 08:53:20.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	54.07	144	995	1.78	93.98	1.63E-01	4.51E-03	40.1	4.22E-01
2	1	67.01	199	994	1.18	120.02	4.52E-01	6.21E-03	28.4	3.15E-01
3	1	140.43	298	911	1.74	267.73	1.48E+00	9.31E-03	19.1	1.88E+00
4	1	198.87*	151	685	1.10	385.30	1.36E+00	4.71E-03	34.5	2.02E+00
5	1	238.78*	94	504	1.45	465.58	1.22E+00	2.95E-03	46.0	1.58E+00
6	1	242.70	143	510	2.24	473.45	1.21E+00	4.45E-03	28.9	1.20E+00
7	1	295.73*	196	507	1.76	580.11	1.05E+00	6.11E-03	24.5	1.17E+00
8	1	352.26*	278	439	1.77	693.80	9.15E-01	8.69E-03	17.9	2.64E+00
9	1	595.56	130	314	3.36	1182.95	5.97E-01	4.08E-03	31.4	3.19E+00
10	1	609.00*	294	150	1.65	1209.98	5.87E-01	9.20E-03	11.0	1.04E+00
11	1	1119.65*	99	82	1.90	2235.88	3.58E-01	3.08E-03	24.2	1.74E+00
12	1	1764.70*	39	54	1.95	3530.37	2.54E-01	1.23E-03	53.3	1.10E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
TH-228	238.63	94	44.60*	1.224E+00	4.047E+00	4.068E+00	91.92
	240.98	------	3.95	1.217E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L28609-20 Acquisition date : 16-MAY-2006 18:26:36

Total number of lines in spectrum	12	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	1	8.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	4.047E+00	4.068E+00	3.740E+00	91.92	
	Total Activity :		4.047E+00	4.068E+00			
	Grand Total Activity :		4.047E+00	4.068E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28609-20 Acquisition date : 16-MAY-2006 18:26:36

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	54.07	144	995	1.78	93.98	90	9	4.51E-03	80.2	1.63E-01	
1	67.01	199	994	1.18	120.02	116	8	6.21E-03	56.7	4.52E-01	
1	140.43	298	911	1.74	267.73	264	9	9.31E-03	38.2	1.48E+00	
1	198.87	151	685	1.10	385.30	381	9	4.71E-03	69.0	1.36E+00	
1	242.70	143	510	2.24	473.45	470	8	4.45E-03	57.8	1.21E+00	
1	295.73	196	507	1.76	580.11	576	11	6.11E-03	49.0	1.05E+00	
1	352.26	278	439	1.77	693.80	688	13	8.69E-03	35.8	9.15E-01	
1	595.56	130	314	3.36	1182.95	1176	16	4.08E-03	62.9	5.97E-01	
1	609.00	294	150	1.65	1209.98	1205	11	9.20E-03	22.1	5.87E-01	
1	1119.65	99	82	1.90	2235.88	2229	14	3.08E-03	48.5	3.58E-01	
1	1764.70	39	54	1.95	3530.37	3523	18	1.23E-03	****	2.54E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	1	8.33%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	4.047E+00	4.068E+00	3.740E+00	91.92	
	Total Activity :		4.047E+00	4.068E+00			
Grand Total Activity :			4.047E+00	4.068E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
TH-228	4.068E+00	3.740E+00	6.763E+00	0.000E+00	0.602

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	-6.937E-01	1.993E+01	3.224E+01	0.000E+00	-0.022
NA-24	-1.316E+03	1.032E+03	1.554E+03	0.000E+00	-0.847
K-40	-1.423E+01	3.320E+01	6.012E+01	0.000E+00	-0.237
CR-51	-8.705E+00	2.103E+01	3.442E+01	0.000E+00	-0.253
MN-54	2.229E+00	2.310E+00	3.989E+00	0.000E+00	0.559
CO-57	3.817E-01	2.201E+00	3.598E+00	0.000E+00	0.106
CO-58	1.627E+00	2.272E+00	3.894E+00	0.000E+00	0.418
FE-59	1.322E+00	4.845E+00	8.005E+00	0.000E+00	0.165
CO-60	-8.165E-01	2.346E+00	3.776E+00	0.000E+00	-0.216
ZN-65	1.562E+01	6.014E+00	9.818E+00	0.000E+00	1.591
SE-75	-6.062E-01	2.925E+00	4.858E+00	0.000E+00	-0.125
SR-85	1.510E+01	2.619E+00	4.988E+00	0.000E+00	3.027
Y-88	-4.076E-01	2.640E+00	4.288E+00	0.000E+00	-0.095
NB-94	-2.076E-01	2.307E+00	3.753E+00	0.000E+00	-0.055
NB-95	-2.539E-01	2.405E+00	3.886E+00	0.000E+00	-0.065
ZR-95	8.829E-01	4.099E+00	6.728E+00	0.000E+00	0.131
MO-99	-1.679E+01	6.496E+01	1.044E+02	0.000E+00	-0.161
RU-103	1.642E+00	2.395E+00	4.078E+00	0.000E+00	0.403
RU-106	6.235E+00	2.159E+01	3.590E+01	0.000E+00	0.174
AG-110m	-6.797E-01	2.233E+00	3.614E+00	0.000E+00	-0.188
SN-113	-5.206E+00	2.973E+00	4.602E+00	0.000E+00	-1.131
SB-124	2.187E+00	4.414E+00	3.527E+00	0.000E+00	0.620
SB-125	-9.819E-01	6.437E+00	1.044E+01	0.000E+00	-0.094
TE-129M	1.744E+01	2.770E+01	4.595E+01	0.000E+00	0.380
I-131	-3.763E+00	3.598E+00	5.733E+00	0.000E+00	-0.656
BA-133	1.107E+01	3.700E+00	5.769E+00	0.000E+00	1.918
CS-134	9.947E+00	4.274E+00	4.225E+00	0.000E+00	2.354
CS-136	-1.143E+00	2.857E+00	4.656E+00	0.000E+00	-0.245
CS-137	1.488E+00	2.438E+00	4.095E+00	0.000E+00	0.363
CE-139	4.206E-01	2.123E+00	3.508E+00	0.000E+00	0.120
BA-140	3.133E-01	1.013E+01	1.681E+01	0.000E+00	0.019
LA-140	2.463E+00	3.639E+00	6.299E+00	0.000E+00	0.391
CE-141	4.231E+00	4.681E+00	6.668E+00	0.000E+00	0.635
CE-144	-1.599E+00	1.838E+01	2.698E+01	0.000E+00	-0.059
EU-152	-1.147E+01	8.117E+00	1.068E+01	0.000E+00	-1.074
EU-154	2.069E-02	4.585E+00	7.469E+00	0.000E+00	0.003
RA-226	1.577E+01	5.623E+01	9.031E+01	0.000E+00	0.175
AC-228	1.111E+00	9.221E+00	1.467E+01	0.000E+00	0.076
TH-232	1.109E+00	9.205E+00	1.465E+01	0.000E+00	0.076
U-235	1.755E+01	1.983E+01	2.825E+01	0.000E+00	0.621
U-238	1.097E+01	2.588E+02	4.251E+02	0.000E+00	0.026
AM-241	-1.936E+01	3.520E+01	4.333E+01	0.000E+00	-0.447

```
A,15L28609-20      ,05/17/2006 03:20,05/11/2006 12:05,   3.604E+00,WG L28609-20 B
B,15L28609-20      ,LIBD                ,03/09/2005 13:29,1535L090104
C,TH-228   ,YES,    4.068E+00,    3.740E+00,    6.763E+00,,     0.602
C,BE-7     ,NO ,   -6.937E-01,    1.993E+01,    3.224E+01,,    -0.022
C,NA-24    ,NO ,   -1.316E+03,    1.032E+03,    1.554E+03,,    -0.847
C,K-40     ,NO ,   -1.423E+01,    3.320E+01,    6.012E+01,,    -0.237
C,CR-51    ,NO ,   -8.705E+00,    2.103E+01,    3.442E+01,,    -0.253
C,MN-54    ,NO ,    2.229E+00,    2.310E+00,    3.989E+00,,     0.559
C,CO-57    ,NO ,    3.817E-01,    2.201E+00,    3.598E+00,,     0.106
C,CO-58    ,NO ,    1.627E+00,    2.272E+00,    3.894E+00,,     0.418
C,FE-59    ,NO ,    1.322E+00,    4.845E+00,    8.005E+00,,     0.165
C,CO-60    ,NO ,   -8.165E-01,    2.346E+00,    3.776E+00,,    -0.216
C,ZN-65    ,NO ,    1.562E+01,    6.014E+00,    9.818E+00,,     1.591
C,SE-75    ,NO ,   -6.062E-01,    2.925E+00,    4.858E+00,,    -0.125
C,SR-85    ,NO ,    1.510E+01,    2.619E+00,    4.988E+00,,     3.027
C,Y-88     ,NO ,   -4.076E-01,    2.640E+00,    4.288E+00,,    -0.095
C,NB-94    ,NO ,   -2.076E-01,    2.307E+00,    3.753E+00,,    -0.055
C,NB-95    ,NO ,   -2.539E-01,    2.405E+00,    3.886E+00,,    -0.065
C,ZR-95    ,NO ,    8.829E-01,    4.099E+00,    6.728E+00,,     0.131
C,MO-99    ,NO ,   -1.679E+01,    6.496E+01,    1.044E+02,,    -0.161
C,RU-103   ,NO ,    1.642E+00,    2.395E+00,    4.078E+00,,     0.403
C,RU-106   ,NO ,    6.235E+00,    2.159E+01,    3.590E+01,,     0.174
C,AG-110m  ,NO ,   -6.797E-01,    2.233E+00,    3.614E+00,,    -0.188
C,SN-113   ,NO ,   -5.206E+00,    2.973E+00,    4.602E+00,,    -1.131
C,SB-124   ,NO ,    2.187E+00,    4.414E+00,    3.527E+00,,     0.620
C,SB-125   ,NO ,   -9.819E-01,    6.437E+00,    1.044E+01,,    -0.094
C,TE-129M  ,NO ,    1.744E+01,    2.770E+01,    4.595E+01,,     0.380
C,I-131    ,NO ,   -3.763E+00,    3.598E+00,    5.733E+00,,    -0.656
C,BA-133   ,NO ,    1.107E+01,    3.700E+00,    5.769E+00,,     1.918
C,CS-134   ,NO ,    9.947E+00,    4.274E+00,    4.225E+00,,     2.354
C,CS-136   ,NO ,   -1.143E+00,    2.857E+00,    4.656E+00,,    -0.245
C,CS-137   ,NO ,    1.488E+00,    2.438E+00,    4.095E+00,,     0.363
C,CE-139   ,NO ,    4.206E-01,    2.123E+00,    3.508E+00,,     0.120
C,BA-140   ,NO ,    3.133E-01,    1.013E+01,    1.681E+01,,     0.019
C,LA-140   ,NO ,    2.463E+00,    3.639E+00,    6.299E+00,,     0.391
C,CE-141   ,NO ,    4.231E+00,    4.681E+00,    6.668E+00,,     0.635
C,CE-144   ,NO ,   -1.599E+00,    1.838E+01,    2.698E+01,,    -0.059
C,EU-152   ,NO ,   -1.147E+01,    8.117E+00,    1.068E+01,,    -1.074
C,EU-154   ,NO ,    2.069E-02,    4.585E+00,    7.469E+00,,     0.003
C,RA-226   ,NO ,    1.577E+01,    5.623E+01,    9.031E+01,,     0.175
C,AC-228   ,NO ,    1.111E+00,    9.221E+00,    1.467E+01,,     0.076
C,TH-232   ,NO ,    1.109E+00,    9.205E+00,    1.465E+01,,     0.076
C,U-235    ,NO ,    1.755E+01,    1.983E+01,    2.825E+01,,     0.621
C,U-238    ,NO ,    1.097E+01,    2.588E+02,    4.251E+02,,     0.026
C,AM-241   ,NO ,   -1.936E+01,    3.520E+01,    4.333E+01,,    -0.447
```

TELEDYNE
BROWN ENGINEERING
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28671

Exelon

May 24, 2006

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville CT 06062

Case Narrative - L28671
EX001-3ESPBRAID-06

05/24/2006 17:26

Sample Receipt

The following samples were received on May 17, 2006 in good condition, unless otherwise noted.

Sample WG-BW-051206-MS-044 was pH 6 at receipt. Nitric acid was added at the laboratory to a pH < 2.
Sample L28671-13 did not meet client required MDC on the first analysis and was recounted. The rerun data is being reported.

Cross Reference Table

Client ID	Laboratory ID	Station ID(if applicable)
WG-BW-051106-MS-032	L28671-1	
WG-BW-051106-MS-034	L28671-2	
WG-BW-051106-MS-036	L28671-3	
WG-BW-051106-MS-038	L28671-4	
WG-BW-051106-MS-040	L28671-5	
WG-BW-051106-MS-042	L28671-6	
WG-BW-051106-JL-033	L28671-7	
WG-BW-051106-JL-037	L28671-8	
WG-BW-051106-MS-039	L28671-9	
WG-BW-051206-JL-041	L28671-10	
WG-BW-051206-JL-043	L28671-11	
WG-BW-051206-MS-044	L28671-12	
WG-BW-051206-MS-046	L28671-13	
WG-BW-051206-MS-048	L28671-14	

Analytical Method Cross Reference Table

Radiological Parameter	TBE Knoxville Method	Reference Method
Gamma Spectrometry	TBE-2007	EPA 901.1
H-3	TBE-2010	EPA 906.0
TOTAL SR	TBE-2018	EPA 905.0

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28671
EX001-3ESPBRAID-06

05/24/2006 17:26

Gamma Spectroscopy

Did not meet MDC requirement

Quality Control

Quality control samples were analyzed as WG3997.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-051106-MS-032	L28671-1	WG3997-1

H-3

Quality Control

Quality control samples were analyzed as WG3995.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
GW-45136-050906-BW-005	L28614-5	WG3995-3

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28671
EX001-3ESPBRAID-06

05/24/2006 17:26

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4011.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
GW-OYS-050406-JAS-048	L28618-1	WG4011-3

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

Keith Jeter
Operations Manager

Sample Receipt Summary

05/17/06 15:56

SR #: SR08439

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #: L28671

Initiated By: PMARSHALL
Init Date: 05/17/06 Receive Date: 05/17/06

Notification of Variance

Person Notified: Kathy Shaw Contacted By: R. Charles
Notify Date: 5/17/06
Notify Method: email
Notify Comment: attached

Client Response

Person Responding:
Response Date:
Response Method:
Response Comment

	Criteria	Yes No NA	Comment
1	Shipping container custody seals present and intact.	NA	
2	Sample container custody seals present and intact.	NA	
3	Sample containers received in good condition	Y	
4	Chain of custody received with samples	Y	
5	All samples listed on chain of custody received	Y	
6	Sample container labels present and legible.	Y	
7	Information on container labels correspond with chain of custody	Y	
8	Sample(s) properly preserved and in appropriate container(s)	N	
	WG-BW-051206-MS-044		Ph read at 6 or above before adjustment
9	Other (Describe)	N	
			All Gamma samples contained 3 Liters or less

Charles, Rebecca

From: Charles, Rebecca
Sent: Wednesday, May 17, 2006 5:12 PM
To: 'Shaw, Kathy'; Julie Czech (jczech@craworld.com)
Cc: 'Larry.Walton@exeloncorp.com'
Subject: Sample receipt variance

Kathy,

Sample WG-BW-051206-MS-044 was at pH 6 at receipt. We have acidified to pH 2.
The cubitainers contained 3 liters or less sample. Please ask the sampling crews to fill the cubitainers. The reduced volume impacts our ability to reach the required detection level and greatly extends our count times. If the wells do not produce enough to fill the container, please have them note it on the COC.

Thanks

Rebecca Charles
Teledyne Brown Engineering
Project Manager
(865) 934-0379
(865) 934-0396 (fax)

L28671

2 of 2

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): TEDELYNE BROWN

REFERENCE NUMBER: 45136-20

PROJECT NAME: BRAIDWOOD EXELON

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: _____ **PRINTED NAME:** _____

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: TRITIUM	STRONTIUM 89/90	Gamma Rad Spec-gamma only	REMARKS
1	5/12/06	845	WG-BW-051206-MS ~~-046~~ 044	WATER	2	X	X	X	
2		935	-046		2	X	X	X	
3		1035	-048		2	X	X	X	
~~4~~		~~1330~~	~~WG BW 051206 MS 052~~						

TOTAL NUMBER OF CONTAINERS

RELINQUISHED BY: (1)	DATE: / TIME:	RECEIVED BY: (2)	DATE: / TIME:
RELINQUISHED BY: (2)	DATE: / TIME:	RECEIVED BY: (3)	DATE: / TIME:
RELINQUISHED BY: (3)	DATE: / TIME:	RECEIVED BY: (4)	DATE: / TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Pat Marshall

DATE: 5/17/06 TIME: 1100

13720

1001-00(SOURCE)GN-CO004

L28671 8 of 123

L28671

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): Teledyne Brown

REFERENCE NUMBER: 45136-20

PROJECT NAME: Braidwood Exelon

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Julie Luzwick **PRINTED NAME:** Julie Luzwick

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: Tritium	PARAMETERS: Strontium 89/90	PARAMETERS: Gamma Spec Parameters	REMARKS
	5/11/06	1440	WG-BW-051106-JL-033	W	2	X	X	X	
	↓	1415	-037	W	2	X	X	X	
	↓	1525	-039	W	2	X	X	X	
	5/12/06	900	WG-BW-051206-JL-041	W	2	X	X	X	
	↓	945	-043	W	2	X	X	X	
			TOTAL NUMBER OF CONTAINERS		10				

RELINQUISHED BY: ① Julie Luzwick	DATE: 5/12/06 TIME: 1400	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: J. Luzwick, S. Spencer

RECEIVED FOR LABORATORY BY: Pat Marshall
DATE: 5/17/06 TIME: 1100

13674

1001-00(SOURCE)GN-CO004

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

1 of 2

SHIPPED TO (Laboratory Name): TEDLYNE BROWN

REFERENCE NUMBER: 45136-20

PROJECT NAME: BRAIDWOOD L28671

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Matt Borkowski **PRINTED NAME:** M. BORKOWSKI

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: TRITIUM	STRONTIUM 80/90	GAMMA RAY SPEC PACKAGE	REMARKS
1	5/11/06	950	WG-BW-051106-MS-032	WATER	2	X	X	X	
2		1035	-034		2	X	X	X	
3		1135	-036		2	X	X	X	
4		1400	-038		2	X	X	X	
5		1500	-040		2	X	X	X	
6		1515	-042		2	X	X	X	
			TOTAL NUMBER OF CONTAINERS		12				

RELINQUISHED BY: ① Matt Borkowski	DATE: 5/12/06 TIME: 1100	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: BORKOWSKI, SIVEK

RECEIVED FOR LABORATORY BY: Pat Marshall
DATE: 5/17/06 TIME: 1100

13718

1001-00(SOURCE)GN-CO004

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT
This is not an invoice

May 17, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on May 17, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by May 24, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865)934-0379

Project ID: EX001-3ESPBRAID-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#:860-747-1900, larry.walton@exeloncorp.com

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG-BW-051106-MS-032	**L28671-1**		**05/11/06:0950**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-034	**L28671-2**		**05/11/06:1035**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-036	**L28671-3**		**05/11/06:1135**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-038	**L28671-4**		**05/11/06:1400**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-040	**L28671-5**		**05/11/06:1500**	

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-042	**L28671-6**		**05/11/06:1515**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-JL-033	**L28671-7**		**05/11/06:1440**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-JL-037	**L28671-8**		**05/11/06:1415**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051106-MS-039	**L28671-9**		**05/11/06:1525**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051206-JL-041	**L28671-10**		**05/12/06:0900**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051206-JL-043	**L28671-11**		**05/12/06:0945**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051206-MS-044	**L28671-12**		**05/12/06:0845**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051206-MS-046	**L28671-13**		**05/12/06:0935**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051206-MS-048	**L28671-14**		**05/12/06:1035**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		

Internal Chain of Custody

Internal Chain of Custody

****

Sample # L28671-1 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-1 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

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Sample # L28671-2 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-2 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright

****
Sample # L28671-2 Containernum 2

Relinquish Date			Received By	
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28671-3 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28671-3 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28671-4 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****
Sample # L28671-4 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian

Internal Chain of Custody

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Sample # L28671-4 Containernum 2

Relinquish Date			Received By	
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-5 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-5 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

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Sample # L28671-6 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

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Sample # L28671-6 Containernum 2

Prod	Analyst
GELI	DW

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Sample # L28671-6 Containernum 2

H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-7 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-7 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

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Sample # L28671-8 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb

****

Sample # L28671-8 Containernum 1

Relinquish Date			Received By	
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-8 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-9 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-9 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

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Sample # L28671-10 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ

****

Sample # L28671-10 Containernum 1

Prod	Analyst
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-10 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-11 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-11 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

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Internal Chain of Custody

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Sample # L28671-12 Containernum 1

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-12 Containernum 2

Prod	Analyst
GELI	DW
H-3	EJ
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-13 Containernum 1

Prod	Analyst
GELI	DW
H-3	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-13 Containernum 2

Prod	Analyst
GELI	DW
H-3	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright

****

Sample # L28671-13 Containernum 2

Relinquish Date			Received By	
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-14 Containernum 1

Prod	Analyst
GELI	DW
H-3	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian

****

Sample # L28671-14 Containernum 2

Prod	Analyst
GELI	DW
H-3	DW
SR-90 (FAST)	GK

Relinquish Date	Relinquish By		Received By	
05/17/2006 00:00			099999	Sample Custodian
05/17/2006 15:33	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:33	030854	Donna Webb	099999	Sample Custodian
05/17/2006 15:42	099999	Sample Custodian	030854	Donna Webb
05/17/2006 15:44	030854	Donna Webb	029965	Kelly Wright
05/22/2006 09:45	029965	Kelly Wright	030854	Donna Webb
05/22/2006 09:45	030854	Donna Webb	099999	Sample Custodian

05/24/06

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Internal Chain of Custody
Supplemental Sheet

L28671

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L28671-1 **WG** **WG-BW-051106-MS-032**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/17/06
Aliquot	GELI	DW	05/17/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/20/06
Count Room	GELI	KPW	05/18/06
Count Room	SR-90 (FAST)	MVW	05/24/06

****

L28671-2 **WG** **WG-BW-051106-MS-034**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/17/06
Aliquot	GELI	DW	05/17/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/20/06
Count Room	GELI	KPW	05/19/06
Count Room	SR-90 (FAST)	MVW	05/24/06

****

L28671-3 **WG** **WG-BW-051106-MS-036**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/17/06
Aliquot	GELI	DW	05/17/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/20/06
Count Room	GELI	KPW	05/19/06
Count Room	SR-90 (FAST)	MVW	05/24/06

****

L28671-4 **WG** **WG-BW-051106-MS-038**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/17/06
Aliquot	GELI	DW	05/17/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/20/06
Count Room	GELI	KPW	05/19/06
Count Room	SR-90 (FAST)	MVW	05/24/06

****

L28671-5 **WG** **WG-BW-051106-MS-040**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/17/06
Aliquot	GELI	DW	05/17/06
Aliquot	H-3	EJ	05/17/06
Aliquot	SR-90 (FAST)	GK	05/20/06
Count Room	SR-90 (FAST)	MVW	05/24/06

****

L28671-6 **WG** **WG-BW-051106-MS-042**

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/17/06

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Internal Chain of Custody
Supplemental Sheet

L28671

L28671-6	**WG**	**WG-BW-051106-MS-042**		
Aliquot	GELI		DW	05/17/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90	(FAST)	GK	05/20/06
Count Room	GELI		KPW	05/18/06
Count Room	SR-90	(FAST)	MVW	05/24/06

****

L28671-7	**WG**	**WG-BW-051106-JL-033**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	GELI		DW	05/17/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90	(FAST)	GK	05/20/06
Count Room	GELI		KPW	05/19/06
Count Room	SR-90	(FAST)	MVW	05/24/06

****

L28671-8	**WG**	**WG-BW-051106-JL-037**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	GELI		DW	05/17/06
Aliquot	H-3		EJ	05/17/06
Aliquot	SR-90	(FAST)	GK	05/20/06
Count Room	GELI		KPW	05/19/06
Count Room	SR-90	(FAST)	MVW	05/24/06

****

L28671-9	**WG**	**WG-BW-051106-MS-039**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	H-3		EJ	05/17/06
Aliquot	GELI		DW	05/18/06
Aliquot	SR-90	(FAST)	GK	05/20/06
Count Room	GELI		KPW	05/19/06
Count Room	SR-90	(FAST)	MVW	05/24/06

****

L28671-10	**WG**	**WG-BW-051206-JL-041**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	H-3		EJ	05/17/06
Aliquot	GELI		DW	05/18/06
Aliquot	SR-90	(FAST)	GK	05/20/06
Count Room	GELI		ILL	05/19/06
Count Room	SR-90	(FAST)	MVW	05/24/06

****

L28671-11	**WG**	**WG-BW-051206-JL-043**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	H-3		EJ	05/17/06

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Supplemental Sheet

L28671

L28671-11	**WG**	**WG-BW-051206-JL-043**		
Aliquot	GELI		DW	05/18/06
Aliquot	SR-90 (FAST)		GK	05/20/06
Count Room	GELI		KPW	05/19/06
Count Room	SR-90 (FAST)		MVW	05/24/06

****

L28671-12	**WG**	**WG-BW-051206-MS-044**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	H-3		EJ	05/17/06
Aliquot	GELI		DW	05/18/06
Aliquot	SR-90 (FAST)		GK	05/20/06
Count Room	GELI		KPW	05/19/06
Count Room	SR-90 (FAST)		MVW	05/24/06

****

L28671-13	**WG**	**WG-BW-051206-MS-046**		
Process step	Prod		Analyst	Date
Login			RCHARLES	05/17/06
Aliquot	GELI		DW	05/18/06
Aliquot	SR-90 (FAST)		GK	05/20/06
Aliquot	H-3		DW	05/23/06
Count Room	H-3		KPW	05/23/06
Count Room	SR-90 (FAST)		MVW	05/24/06

****

L28671-13R1	**WG**	**WG-BW-051206-MS-046**		
Process step	Prod		Analyst	Date
Login			RCHARLES	05/17/06
Aliquot	GELI		DW	05/22/06
Count Room	GELI		ILL	05/22/06

****

L28671-14	**WG**	**WG-BW-051206-MS-048**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/17/06
Aliquot	GELI		DW	05/18/06
Aliquot	SR-90 (FAST)		GK	05/20/06
Aliquot	H-3		DW	05/23/06
Count Room	GELI		KPW	05/18/06
Count Room	H-3		KPW	05/23/06
Count Room	SR-90 (FAST)		MVW	05/24/06

Analytical Results Summary

Report of Analysis

05/24/06 17:22

L28671

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-051106-MS-032** Collect Start: 05/11/2006 09:50 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-1

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.14E+02**	1.01E+02	1.39E+02	pCi/L		10	ml		05/22/06	60	M	+		
TOTAL SR	2018	-8.62E-01	8.56E-01	**1.47E+00**	pCi/L		450	ml	05/11/06 09:50	05/24/06	400	M	U		
MN-54	2007	7.54E-02	3.33E+00	**5.29E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
CO-58	2007	-1.94E+00	3.28E+00	**5.20E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
FE-59	2007	-3.07E+00	6.56E+00	**1.04E+01**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
CO-60	2007	6.90E-01	3.73E+00	**6.47E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
ZN-65	2007	2.96E+00	7.56E+00	**1.29E+01**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
NB-95	2007	2.16E+00	3.25E+00	**5.54E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
ZR-95	2007	-9.02E-01	5.71E+00	**9.16E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
CS-134	2007	-2.68E+00	4.13E+00	**5.45E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
CS-137	2007	1.10E+00	3.18E+00	**5.35E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
BA-140	2007	2.65E+00	1.60E+01	**2.62E+01**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No
LA-140	2007	1.07E-01	5.25E+00	**8.61E+00**	pCi/L		3390.28	ml	05/11/06 09:50	05/18/06	10800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051106-MS-034**
Station:
Description:
LIMS Number: L28671-2

Collect Start: 05/11/2006 10:35
Collect Stop:
Receive Date: 05/17/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.11E+02**	9.56E+01	1.30E+02	pCi/L		10	ml		05/22/06	60	M	+		
TOTAL SR	2018	-2.96E-01	3.75E-01	**6.37E-01**	pCi/L		450	ml	05/11/06 10:35	05/24/06	400	M	U		
MN-54	2007	-2.51E+00	2.61E+00	**4.07E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
CO-58	2007	-1.19E+00	2.77E+00	**4.37E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
FE-59	2007	4.36E+00	5.28E+00	**9.25E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
CO-60	2007	-9.40E-01	2.74E+00	**4.41E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
ZN-65	2007	-2.99E-01	5.39E+00	**8.85E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
NB-95	2007	1.52E+00	2.69E+00	**4.56E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
ZR-95	2007	-3.02E+00	4.81E+00	**7.56E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
CS-134	2007	7.35E+00	5.33E+00	**4.95E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
CS-137	2007	5.24E-01	2.85E+00	**4.77E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
BA-140	2007	7.09E-01	1.38E+01	**2.28E+01**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
LA-140	2007	5.93E-01	4.48E+00	**7.50E+00**	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	U		No
RA-226	2007	**1.37E+02**	8.91E+01	8.81E+01	pCi/L		3081.02	ml	05/11/06 10:35	05/19/06	12316	Sec	+		Yes

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051106-MS-036**
Station:
Description:
LIMS Number: L28671-3

Collect Start: 05/11/2006 11:35
Collect Stop:
Receive Date: 05/17/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	9.85E+01	8.68E+01	**1.30E+02**	pCi/L		10	ml		05/22/06	60	M	U		
TOTAL SR	2018	1.46E-01	7.09E-01	**1.16E+00**	pCi/L		450	ml	05/11/06 11:35	05/24/06	400	M	U		
MN-54	2007	2.54E+00	2.60E+00	**4.80E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
CO-58	2007	-1.87E+00	2.51E+00	**4.09E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
FE-59	2007	-4.64E+00	5.48E+00	**8.90E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
CO-60	2007	8.37E-01	2.37E+00	**4.33E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
ZN-65	2007	-1.07E+00	6.98E+00	**9.95E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
NB-95	2007	5.96E-01	2.58E+00	**4.49E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
ZR-95	2007	-7.82E-01	4.67E+00	**7.93E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
CS-134	2007	3.99E+00	3.48E+00	**5.41E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
CS-137	2007	-1.48E+00	2.76E+00	**4.62E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
BA-140	2007	1.36E+00	1.33E+01	**2.33E+01**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No
LA-140	2007	2.40E+00	3.96E+00	**7.42E+00**	pCi/L		2428.12	ml	05/11/06 11:35	05/19/06	14400	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-MS-038**
Station:
Description:
LIMS Number: L28671-4

Collect Start: 05/11/2006 14:00
Collect Stop:
Receive Date: 05/17/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.39E+02	9.46E+01	**1.37E+02**	pCi/L		10	ml		05/22/06	60	M	U		
TOTAL SR	2018	4.75E-02	7.93E-01	**1.30E+00**	pCi/L		450	ml	05/11/06 14:00	05/24/06	400	M	U		
MN-54	2007	1.00E+00	2.58E+00	**4.65E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
CO-58	2007	-1.12E+00	2.60E+00	**4.33E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
FE-59	2007	5.70E+00	5.18E+00	**9.80E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
CO-60	2007	-2.52E+00	2.55E+00	**4.12E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
ZN-65	2007	7.33E+00	5.98E+00	**1.01E+01**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
NB-95	2007	1.76E+00	2.86E+00	**5.10E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
ZR-95	2007	-8.94E-02	5.25E+00	**9.01E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
CS-134	2007	8.49E+00	3.58E+00	**5.29E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U*		No
CS-137	2007	-2.79E-01	2.87E+00	**4.93E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
BA-140	2007	-8.39E+00	1.36E+01	**2.30E+01**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No
LA-140	2007	-1.79E+00	3.89E+00	**6.58E+00**	pCi/L		3176.63	ml	05/11/06 14:00	05/19/06	12600	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051106-MS-040**
Station:
Description:
LIMS Number: L28671-5

Collect Start: 05/11/2006 15:00
Collect Stop:
Receive Date: 05/17/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.61E+02**	1.04E+02	1.38E+02	pCi/L		10	ml		05/22/06	60	M	+		
TOTAL SR	2018	1.57E-01	2.94E-01	**4.74E-01**	pCi/L		450	ml	05/11/06 15:00	05/24/06	400	M	U		
MN-54	2007	-1.66E+00	2.69E+00	**4.54E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
CO-58	2007	2.20E+00	2.86E+00	**5.18E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
FE-59	2007	-3.52E-02	5.28E+00	**9.25E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
CO-60	2007	-1.52E-01	2.63E+00	**4.68E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
ZN-65	2007	8.95E+00	6.99E+00	**1.17E+01**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
NB-95	2007	2.58E+00	2.93E+00	**5.33E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
ZR-95	2007	-3.61E+00	4.89E+00	**8.00E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
CS-134	2007	2.18E+00	4.18E+00	**5.40E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
CS-137	2007	-1.35E+00	2.92E+00	**4.92E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
BA-140	2007	5.90E+00	1.34E+01	**2.40E+01**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No
LA-140	2007	1.63E-01	3.95E+00	**7.10E+00**	pCi/L		3473.9	ml	05/11/06 15:00	05/18/06	11681	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

L28671

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-051106-MS-042** Collect Start: 05/11/2006 15:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-6

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**1.82E+02**	9.75E+01	1.37E+02	pCi/L		10	ml		05/22/06	60	M	+		
TOTAL SR	2018	-1.56E-01	6.73E-01	**1.12E+00**	pCi/L		450	ml	05/11/06 15:15	05/24/06	400	M	U		
MN-54	2007	-1.22E+00	2.89E+00	**4.67E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
CO-58	2007	-3.00E+00	3.15E+00	**4.78E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
FE-59	2007	7.51E+00	6.22E+00	**1.12E+01**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
CO-60	2007	9.02E-02	3.24E+00	**5.36E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
ZN-65	2007	9.15E+00	7.47E+00	**1.17E+01**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
NB-95	2007	1.02E+00	2.91E+00	**4.87E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
ZR-95	2007	-4.44E-01	5.37E+00	**8.75E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
CS-134	2007	3.65E+00	4.97E+00	**5.75E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
CS-137	2007	-1.37E+00	2.99E+00	**4.81E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
BA-140	2007	2.46E+00	1.41E+01	**2.34E+01**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No
LA-140	2007	-1.89E+00	4.83E+00	**7.69E+00**	pCi/L		3309.54	ml	05/11/06 15:15	05/18/06	10800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-JL-033** Collect Start: 05/11/2006 14:40 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-7

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.35E+02	9.46E+01	**1.38E+02**	pCi/L		10	ml		05/22/06	60	M	U		
TOTAL SR	2018	-1.67E-01	2.96E-01	**4.99E-01**	pCi/L		450	ml	05/11/06 14:40	05/24/06	400	M	U		
MN-54	2007	-4.18E-01	2.96E+00	**4.84E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
CO-58	2007	-1.38E+00	3.12E+00	**5.00E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
FE-59	2007	1.10E+00	6.48E+00	**1.09E+01**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
CO-60	2007	2.57E+00	3.14E+00	**6.03E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		Yes
ZN-65	2007	-2.22E+00	6.52E+00	**1.05E+01**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
NB-95	2007	3.00E+00	3.18E+00	**5.52E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
ZR-95	2007	-2.80E+00	5.53E+00	**8.62E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
CS-134	2007	8.43E-01	5.75E+00	**5.24E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
CS-137	2007	2.56E+00	3.33E+00	**5.74E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
BA-140	2007	6.41E+00	1.60E+01	**2.67E+01**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No
LA-140	2007	4.80E-01	5.55E+00	**9.16E+00**	pCi/L		2822.94	ml	05/11/06 14:40	05/19/06	12834	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-JL-037** Collect Start: 05/11/2006 14:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-8

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**1.56E+02**	9.36E+01	1.33E+02	pCi/L		10	ml		05/22/06	60	M	+		
TOTAL SR	2018	1.79E-02	4.43E-01	**7.29E-01**	pCi/L		450	ml	05/11/06 14:15	05/24/06	400	M	U		
MN-54	2007	4.33E-01	2.52E+00	**4.19E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
CO-58	2007	-3.19E-02	2.76E+00	**4.56E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
FE-59	2007	-5.01E-01	5.80E+00	**9.49E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
CO-60	2007	1.10E+00	2.70E+00	**4.60E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
ZN-65	2007	4.11E+00	7.23E+00	**1.05E+01**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
NB-95	2007	6.65E-01	2.85E+00	**4.78E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
ZR-95	2007	3.06E+00	4.89E+00	**8.40E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
CS-134	2007	3.06E+00	3.44E+00	**5.06E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
CS-137	2007	2.29E+00	2.80E+00	**4.78E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
BA-140	2007	1.23E+01	1.31E+01	**2.28E+01**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No
LA-140	2007	2.66E+00	4.61E+00	**8.01E+00**	pCi/L		3246.8	ml	05/11/06 14:15	05/19/06	13681	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
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U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Bolded text indicates reportable value.

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051106-MS-039** Collect Start: 05/11/2006 15:25 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-9

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.44E+02**	1.00E+02	1.34E+02	pCi/L		10	ml		05/22/06	60	M	+		
TOTAL SR	2018	-7.56E-02	5.07E-01	**8.39E-01**	pCi/L		450	ml	05/11/06 15:25	05/24/06	400	M	U		
MN-54	2007	-8.48E-01	3.05E+00	**4.94E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
CO-58	2007	-2.35E+00	3.22E+00	**5.09E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
FE-59	2007	2.09E+00	6.34E+00	**1.07E+01**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
CO-60	2007	8.28E-01	2.84E+00	**4.81E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
ZN-65	2007	1.08E+00	6.88E+00	**1.14E+01**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
NB-95	2007	2.83E-01	3.23E+00	**5.38E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
ZR-95	2007	-9.54E-01	5.69E+00	**9.36E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
CS-134	2007	4.34E+00	4.90E+00	**5.42E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
CS-137	2007	-6.46E-02	3.25E+00	**5.31E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
BA-140	2007	8.22E+00	1.61E+01	**2.75E+01**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No
LA-140	2007	3.88E-01	5.33E+00	**8.89E+00**	pCi/L		2976.4	ml	05/11/06 15:15	05/19/06	14400	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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H = High recovery

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MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051206-JL-041** Collect Start: 05/12/2006 09:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-10

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**1.94E+02**	9.91E+01	1.38E+02	pCi/L		10	ml		05/23/06	60	M	+		
TOTAL SR	2018	9.84E-01	7.94E-01	**1.25E+00**	pCi/L		450	ml	05/12/06 09:00	05/24/06	400	M	U		
MN-54	2007	-2.17E-01	1.81E+00	**2.93E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
CO-58	2007	-1.88E+00	1.90E+00	**2.98E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
FE-59	2007	3.09E+00	3.91E+00	**6.64E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
CO-60	2007	1.02E+00	1.93E+00	**3.27E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
ZN-65	2007	2.98E+00	4.69E+00	**6.72E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
NB-95	2007	1.50E+00	1.83E+00	**3.10E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
ZR-95	2007	-1.80E+00	3.37E+00	**5.41E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
CS-134	2007	3.78E+00	3.18E+00	**3.37E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
CS-137	2007	1.45E+00	1.91E+00	**3.25E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
BA-140	2007	4.62E+00	9.33E+00	**1.55E+01**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No
LA-140	2007	-7.08E-01	3.19E+00	**5.13E+00**	pCi/L		3093.73	ml	05/12/06 09:00	05/19/06	40000	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

L28671

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

Sample ID: **WG-BW-051206-JL-043** Collect Start: 05/12/2006 09:45 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-11

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.21E+02**	1.02E+02	1.40E+02	pCi/L		10	ml		05/23/06	60	M	+		
TOTAL SR	2018	.00E+00	8.03E-01	**1.32E+00**	pCi/L		450	ml	05/12/06 09:45	05/24/06	400	M	U		
MN-54	2007	1.16E+00	2.84E+00	**4.83E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
CO-58	2007	1.35E-01	2.79E+00	**4.64E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
FE-59	2007	-4.62E+00	6.14E+00	**9.51E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
CO-60	2007	2.46E+00	3.13E+00	**4.59E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		Yes
ZN-65	2007	5.09E+00	7.82E+00	**1.17E+01**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
NB-95	2007	1.30E+00	3.16E+00	**5.28E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
ZR-95	2007	1.19E+00	5.07E+00	**8.39E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
CS-134	2007	5.11E+00	4.91E+00	**6.01E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
CS-137	2007	1.76E+00	3.14E+00	**5.34E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
BA-140	2007	1.08E+01	1.46E+01	**2.47E+01**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No
LA-140	2007	6.41E+00	5.25E+00	**9.60E+00**	pCi/L		3088.41	ml	05/12/06 09:45	05/19/06	12601	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
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U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051206-MS-044** Collect Start: 05/12/2006 08:45 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-12

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**1.92E+02**	9.97E+01	1.39E+02	pCi/L		10	ml		05/23/06	60	M	+		
TOTAL SR	2018	-1.11E+00	7.27E-01	**1.28E+00**	pCi/L		450	ml	05/12/06 08:45	05/24/06	400	M	U		
MN-54	2007	-1.32E+00	3.42E+00	**5.51E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
CO-58	2007	-2.73E+00	3.71E+00	**5.68E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
FE-59	2007	1.96E+00	7.33E+00	**1.24E+01**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
CO-60	2007	4.28E+00	3.50E+00	**6.48E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
ZN-65	2007	1.43E+01	8.53E+00	**1.58E+01**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
NB-95	2007	-1.91E+00	3.32E+00	**5.17E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
ZR-95	2007	1.09E+00	5.77E+00	**9.59E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
CS-134	2007	6.28E+00	4.95E+00	**7.46E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
CS-137	2007	-2.00E+00	3.78E+00	**6.04E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
BA-140	2007	1.17E+00	1.69E+01	**2.79E+01**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No
LA-140	2007	3.97E+00	5.39E+00	**9.66E+00**	pCi/L		3283.48	ml	05/12/06 08:45	05/19/06	7981	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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H = High recovery

Bolded text indicates reportable value.

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Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051206-MS-046** Collect Start: 05/12/2006 09:35 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-13

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.35E+01	1.04E+02	**1.70E+02**	pCi/L		10	ml		05/23/06	140	M	U		
TOTAL SR	2018	-1.49E+00	1.05E+00	**1.83E+00**	pCi/L		450	ml	05/12/06 09:35	05/24/06	400	M	U		
MN-54	2007	2.76E-01	2.44E+00	**4.38E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
CO-58	2007	1.59E+00	2.78E+00	**5.02E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
FE-59	2007	3.62E+00	5.63E+00	**1.04E+01**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
CO-60	2007	5.65E-01	2.61E+00	**4.79E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
ZN-65	2007	2.91E+00	5.66E+00	**1.04E+01**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
NB-95	2007	8.07E-02	2.92E+00	**5.06E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
ZR-95	2007	3.96E+00	4.94E+00	**9.09E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
CS-134	2007	2.67E+00	3.20E+00	**5.05E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
CS-137	2007	-2.11E+00	2.94E+00	**4.88E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
BA-140	2007	-7.51E+00	1.62E+01	**2.76E+01**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No
LA-140	2007	-2.83E+00	4.42E+00	**7.32E+00**	pCi/L	R1	3240.48	ml	05/12/06 09:35	05/22/06	10800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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Bolded text indicates reportable value.

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Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

05/24/06 17:22

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28671

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-051206-MS-048** Collect Start: 05/12/2006 10:35 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/17/2006 % Moisture:
LIMS Number: L28671-14

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	9.88E+01	1.06E+02	**1.70E+02**	pCi/L		10	ml		05/23/06	140	M	U		
TOTAL SR	2018	-4.57E-01	9.00E-01	**1.52E+00**	pCi/L		450	ml	05/12/06 10:35	05/24/06	400	M	U		
MN-54	2007	1.29E+00	3.01E+00	**5.46E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
CO-58	2007	-1.03E+00	3.14E+00	**5.28E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
FE-59	2007	2.61E+00	5.81E+00	**1.06E+01**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
CO-60	2007	1.57E+00	3.03E+00	**5.67E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
ZN-65	2007	5.90E+00	6.62E+00	**1.23E+01**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
NB-95	2007	5.98E-01	3.01E+00	**5.29E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
ZR-95	2007	2.11E+00	5.39E+00	**9.59E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
CS-134	2007	3.56E+00	4.13E+00	**6.40E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
CS-137	2007	-1.32E+00	3.13E+00	**5.29E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
BA-140	2007	-1.10E+01	1.34E+01	**2.23E+01**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No
LA-140	2007	6.80E-01	4.18E+00	**7.62E+00**	pCi/L		3320.02	ml	05/12/06 10:35	05/18/06	10800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report for L28671

5/24/2006 5:21:57PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

H-3

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG3995-1	H-3	WO	05/21/2006 21:53	< 6.330E+00	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG3995-2	H-3	WO	05/21/2006 22:04	5.05E+002	5.180E+02	pCi/Total	102.6	70-130	+	P

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG3995-3 L28614-5	H-3	WG	05/19/2006 5:10	< 1.670E+02	< 5.990E+01	pCi/L		<30	**	NE

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28671

5/24/2006 5:21:57PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28671 **H-3**

Associated Samples for **WG3995**

SAMPLENUM	CLIENTID
L28671-1	WG-BW-051106-MS-032
L28671-2	WG-BW-051106-MS-034
L28671-3	WG-BW-051106-MS-036
L28671-4	WG-BW-051106-MS-038
L28671-5	WG-BW-051106-MS-040
L28671-6	WG-BW-051106-MS-042
L28671-7	WG-BW-051106-JL-033
L28671-8	WG-BW-051106-JL-037
L28671-9	WG-BW-051106-MS-039
L28671-10	WG-BW-051206-JL-041
L28671-11	WG-BW-051206-JL-043
L28671-12	WG-BW-051206-MS-044

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28671

5/24/2006 5:21:57PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

TOTAL SR

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG4011-1	TOTAL SR	WO	05/21/2006 4:33	< 4.370E-01	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG4011-2	TOTAL SR	WO	05/21/2006 4:33	5.84E+001	5.710E+01	pCi/Total	97.8	70-130	+	P

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG4011-3 L28618-1	TOTAL SR	WG	05/21/2006 4:33	< 8.350E-01	< 1.020E+00	pCi/L		<30	**	NE

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28671

5/24/2006 5:21:57PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28671 **SR-90 (FAST)**

Associated Samples for **WG4011**

SAMPLENUM	CLIENTID
L28671-1	WG-BW-051106-MS-032
L28671-2	WG-BW-051106-MS-034
L28671-3	WG-BW-051106-MS-036
L28671-4	WG-BW-051106-MS-038
L28671-5	WG-BW-051106-MS-040
L28671-6	WG-BW-051106-MS-042
L28671-7	WG-BW-051106-JL-033
L28671-8	WG-BW-051106-JL-037
L28671-9	WG-BW-051106-MS-039
L28671-10	WG-BW-051206-JL-041
L28671-11	WG-BW-051206-JL-043
L28671-12	WG-BW-051206-MS-044
L28671-13	WG-BW-051206-MS-046
L28671-14	WG-BW-051206-MS-048

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

Raw Data

Raw Data Sheet (rawdata)
May 24 2006, 05:36 pm

Work Order: *L28671* Customer: *Exelon*

Nuclide: *H-3* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28671-1		H-3					0		22-may-06 14:41	LS7	124	60	1.1	60	.205		EJ
WG-BW-051106-MS-032				10 ml													
Activity: 2.14E+02 * Error: 1.01E+02				MDC: 1.39E+02													
L28671-2		H-3					0		22-may-06 15:45	LS7	127	60	1.1	60	.219		EJ
WG-BW-051106-MS-034				10 ml													
Activity: 2.11E+02 * Error: 9.56E+01				MDC: 1.3E+02													
L28671-3		H-3					0		22-may-06 16:48	LS7	95	60	1.1	60	.22		EJ
WG-BW-051106-MS-036				10 ml													
Activity: 9.85E+01 Error: 8.68E+01				MDC: 1.3E+02 *													
L28671-4		H-3					0		22-may-06 17:51	LS7	104	60	1.1	60	.208		EJ
WG-BW-051106-MS-038				10 ml													
Activity: 1.39E+02 Error: 9.46E+01				MDC: 1.37E+02 *													
L28671-5		H-3					0		22-may-06 18:54	LS7	137	60	1.1	60	.206		EJ
WG-BW-051106-MS-040				10 ml													
Activity: 2.61E+02 * Error: 1.04E+02				MDC: 1.38E+02													
L28671-6		H-3					0		22-may-06 19:57	LS7	116	60	1.1	60	.208		EJ
WG-BW-051106-MS-042				10 ml													
Activity: 1.82E+02 * Error: 9.75E+01				MDC: 1.37E+02													
L28671-7		H-3					0		22-may-06 21:00	LS7	103	60	1.1	60	.207		EJ
WG-BW-051106-JL-033				10 ml													
Activity: 1.35E+02 Error: 9.46E+01				MDC: 1.38E+02 *													
L28671-8		H-3					0		22-may-06 22:04	LS7	110	60	1.1	60	.213		EJ
WG-BW-051106-JL-037				10 ml													
Activity: 1.56E+02 * Error: 9.36E+01				MDC: 1.33E+02													
L28671-9		H-3					0		22-may-06 23:07	LS7	135	60	1.1	60	.212		EJ
WG-BW-051106-MS-039				10 ml													
Activity: 2.44E+02 * Error: 1E+02				MDC: 1.34E+02													
L28671-10		H-3					0		23-may-06 00:10	LS7	119	60	1.1	60	.207		EJ
WG-BW-051206-JL-041				10 ml													
Activity: 1.94E+02 * Error: 9.91E+01				MDC: 1.38E+02													
L28671-11		H-3					0		23-may-06 01:14	LS7	126	60	1.1	60	.204		EJ
WG-BW-051206-JL-043				10 ml													
Activity: 2.21E+02 * Error: 1.02E+02				MDC: 1.4E+02													
L28671-12		H-3					0		23-may-06 02:17	LS7	118	60	1.1	60	.205		EJ
WG-BW-051206-MS-044				10 ml													
Activity: 1.92E+02 * Error: 9.97E+01				MDC: 1.39E+02													
L28671-13		H-3					0		23-may-06 21:26	LS5	524	140	3.68	140	.2		DW
WG-BW-051206-MS-046				10 ml													
Activity: 1.35E+01 Error: 1.04E+02				MDC: 1.7E+02 *													
L28671-14		H-3					0		23-may-06 23:50	LS5	577	140	3.68	140	.201		DW
WG-BW-051206-MS-048				10 ml													
Activity: 9.88E+01 Error: 1.06E+02				MDC: 1.7E+02 *													

Raw Data Sheet (rawdata)
May 24 2006, 05:36 pm

Work Order: *L28671* Customer: *Exelon*

Nuclide: *SR-90 (FAST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28671-1		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X1A	260	400	308	400	.346	.999	GK
WG-BW-051106-MS-032			09:50	450 ml	14:00			40.32	01:34								
Activity: -8.62E-01	Error: 8.56E-01		MDC: 1.47E+00 *														
L28671-2		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X1B	302	400	342	400	.343	.999	GK
WG-BW-051106-MS-034			10:35	450 ml	14:00			98.66	01:34								
Activity: -2.96E-01	Error: 3.75E-01		MDC: 6.37E-01 *														
L28671-3		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X1C	299	400	289	400	.354	.999	GK
WG-BW-051106-MS-036			11:35	450 ml	14:00			48.39	01:34								
Activity: 1.46E-01	Error: 7.09E-01		MDC: 1.16E+00 *														
L28671-4		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X1D	315	400	312	400	.344	.999	GK
WG-BW-051106-MS-038			14:00	450 ml	14:00			45.97	01:34								
Activity: 4.75E-02	Error: 7.93E-01		MDC: 1.3E+00 *														
L28671-5		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X2A	289	400	264	400	.354	.999	GK
WG-BW-051106-MS-040			15:00	450 ml	14:00			112.90	01:34								
Activity: 1.57E-01	Error: 2.94E-01		MDC: 4.74E-01 *														
L28671-6		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X2B	278	400	289	400	.345	.999	GK
WG-BW-051106-MS-042			15:15	450 ml	14:00			51.34	01:34								
Activity: -1.56E-01	Error: 6.73E-01		MDC: 1.12E+00 *														
L28671-7		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X2C	251	400	277	400	.344	.999	GK
WG-BW-051106-JL-033			14:40	450 ml	14:00			113.17	01:34								
Activity: -1.67E-01	Error: 2.96E-01		MDC: 4.99E-01 *														
L28671-8		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X2D	309	400	307	400	.343	.999	GK
WG-BW-051106-JL-037			14:15	450 ml	14:00			81.72	01:34								
Activity: 1.79E-02	Error: 4.43E-01		MDC: 7.29E-01 *														
L28671-9		TOTAL SR	11-may-06		23-may-06		0		24-may-06	X3A	355	400	363	400	.335	.999	GK
WG-BW-051106-MS-039			15:25	450 ml	14:00			79.03	01:34								
Activity: -7.56E-02	Error: 5.07E-01		MDC: 8.39E-01 *														
L28671-10		TOTAL SR	12-may-06		23-may-06		0		24-may-06	X3B	387	400	321	400	.343	.999	GK
WG-BW-051206-JL-041			09:00	450 ml	14:00			48.92	01:34								
Activity: 9.84E-01	Error: 7.94E-01		MDC: 1.25E+00 *														
L28671-11		TOTAL SR	12-may-06		23-may-06		0		24-may-06	X3C	294	400	294	400	.345	.999	GK
WG-BW-051206-JL-043			09:45	450 ml	14:00			43.82	01:34								
Activity: 0E+00	Error: 8.03E-01		MDC: 1.32E+00 *														
L28671-12		TOTAL SR	12-may-06		23-may-06		0		24-may-06	Y2A	212	400	280	400	.349	.999	GK
WG-BW-051206-MS-044			08:45	450 ml	14:00			43.82	00:53								
Activity: -1.11E+00	Error: 7.27E-01		MDC: 1.28E+00 *														
L28671-13		TOTAL SR	12-may-06		23-may-06		0		24-may-06	Y2B	248	400	315	400	.356	.999	GK
WG-BW-051206-MS-046			09:35	450 ml	14:00			31.72	00:53								
Activity: -1.49E+00	Error: 1.05E+00		MDC: 1.83E+00 *														
L28671-14		TOTAL SR	12-may-06		23-may-06		0		24-may-06	Y2C	245	400	268	400	.35	.999	GK
WG-BW-051206-MS-048			10:35	450 ml	14:00			36.02	00:53								
Activity: -4.57E-01	Error: 9E-01		MDC: 1.52E+00 *														

Sec. Review: Analyst: LIMS: ✓

==========

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 18-MAY-2006 15:50:20.39
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 18-MAY-2006 13:20:12.28

LIMS No., Customer Name, Client ID: WG WG3997-1 DUP BRAIDWOOD

Sample ID : 07WG3997-1
Sample Type : WG
Quantity : 3.39030E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 09:50:00.
Geometry : 0735L090904
BKGFILE : 07BG050506MT
Real Time : 0 02:30:01.80
Live time : 0 02:30:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.12*	108	222	1.30	133.08	7.17E-01	1.21E-02	25.2	2.02E+00
2	1	139.84*	86	318	1.30	280.58	2.09E+00	9.52E-03	44.1	1.30E+00
3	1	198.61*	52	193	1.35	398.15	1.97E+00	5.75E-03	50.3	3.93E+00
4	1	969.39*	16	5	2.09	1939.85	6.97E-01	1.73E-03	49.1	1.48E+00
5	1	1096.47	22	10	1.96	2193.97	6.36E-01	2.45E-03	35.1	8.95E-01
6	1	1120.57*	20	18	2.53	2242.16	6.26E-01	2.24E-03	54.4	1.43E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07WG3997-1

Acquisition date : 18-MAY-2006 13:20:12

Total number of lines in spectrum	6	
Number of unidentified lines	5	
Number of lines tentatively identified by NID	1	16.67%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07WG3997-1

Acquisition date : 18-MAY-2006 13:20:12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.12	108	222	1.30	133.08	130	7	1.21E-02	50.4	7.17E-01	
1	139.84	86	318	1.30	280.58	274	12	9.52E-03	88.1	2.09E+00	
1	198.61	52	193	1.35	398.15	394	8	5.75E-03	****	1.97E+00	
1	969.39	16	5	2.09	1939.85	1936	9	1.73E-03	98.1	6.97E-01	T
1	1096.47	22	10	1.96	2193.97	2188	10	2.45E-03	70.2	6.36E-01	
1	1120.57	20	18	2.53	2242.16	2234	14	2.24E-03	****	6.26E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 6
Number of unidentified lines 5
Number of lines tentatively identified by NID 1 16.67%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.284E+01		2.677E+01	4.327E+01	0.000E+00	-0.297
NA-24	-1.966E+03		9.423E+03	1.521E+04	0.000E+00	-0.129
K-40	8.395E+00		4.252E+01	8.252E+01	0.000E+00	0.102
CR-51	-2.277E+01		2.993E+01	4.648E+01	0.000E+00	-0.490
MN-54	1.335E+00		3.173E+00	5.420E+00	0.000E+00	0.246
CO-57	-5.491E-01		2.649E+00	4.403E+00	0.000E+00	-0.125
CO-58	-5.402E-02		3.270E+00	5.309E+00	0.000E+00	-0.010
FE-59	2.164E+00		6.488E+00	1.101E+01	0.000E+00	0.197
CO-60	1.562E+00		3.205E+00	5.547E+00	0.000E+00	0.282
ZN-65	-1.140E+00		8.357E+00	1.137E+01	0.000E+00	-0.100
SE-75	-1.378E+00		4.060E+00	6.567E+00	0.000E+00	-0.210
SR-85	2.255E+01		4.013E+00	8.062E+00	0.000E+00	2.797
Y-88	2.288E-01		3.794E+00	6.227E+00	0.000E+00	0.037
NB-94	-2.724E-02		2.919E+00	4.808E+00	0.000E+00	-0.006
NB-95	1.541E+00		3.507E+00	5.900E+00	0.000E+00	0.261
ZR-95	-9.661E-01		5.885E+00	9.519E+00	0.000E+00	-0.101
MO-99	2.919E+01		1.322E+02	2.205E+02	0.000E+00	0.132
RU-103	4.574E-01		3.596E+00	6.000E+00	0.000E+00	0.076
RU-106	-1.360E+01		3.054E+01	4.812E+01	0.000E+00	-0.283
AG-110m	7.815E-01		2.865E+00	4.840E+00	0.000E+00	0.161
SN-113	1.386E+00		3.855E+00	6.460E+00	0.000E+00	0.214
SB-124	-8.688E+00		3.894E+00	5.539E+00	0.000E+00	-1.568

SB-125	-2.268E+00	8.759E+00	1.407E+01	0.000E+00	-0.161
TE-129M	-1.030E+01	3.841E+01	6.119E+01	0.000E+00	-0.168
I-131	-8.854E-01	5.309E+00	8.699E+00	0.000E+00	-0.102
BA-133	8.679E-01	4.124E+00	6.902E+00	0.000E+00	0.126
CS-134	1.212E+00	3.532E+00	5.856E+00	0.000E+00	0.207
CS-136	-6.952E-01	4.463E+00	7.161E+00	0.000E+00	-0.097
CS-137	2.180E+00	3.204E+00	5.551E+00	0.000E+00	0.393
CE-139	5.440E-01	2.853E+00	4.710E+00	0.000E+00	0.115
BA-140	-8.315E+00	1.542E+01	2.449E+01	0.000E+00	-0.339
LA-140	-9.075E-01	5.292E+00	8.593E+00	0.000E+00	-0.106
CE-141	4.189E+00	6.257E+00	9.221E+00	0.000E+00	0.454
CE-144	5.577E+00	2.342E+01	3.402E+01	0.000E+00	0.164
EU-152	-1.110E+01	9.564E+00	1.501E+01	0.000E+00	-0.739
EU-154	1.983E+00	5.385E+00	9.138E+00	0.000E+00	0.217
RA-226	-6.880E+01	7.262E+01	1.167E+02	0.000E+00	-0.589
AC-228	-4.573E+00	1.166E+01	1.949E+01	0.000E+00	-0.235
TH-228	1.535E+00	5.710E+00	9.871E+00	0.000E+00	0.156
TH-232	-4.562E+00	1.163E+01	1.944E+01	0.000E+00	-0.235
U-235	1.130E+01	2.502E+01	3.657E+01	0.000E+00	0.309
U-238	1.409E+01	3.350E+02	5.520E+02	0.000E+00	0.026
AM-241	-1.335E+01	2.447E+01	3.901E+01	0.000E+00	-0.342

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A,07WG3997-1       ,05/18/2006 15:50,05/11/2006 09:50,   3.390E+00,WG WG3997-1 DU
B,07WG3997-1       ,LIBD                             ,06/23/2005 07:26,0735L090904
C,BE-7     ,NO ,  -1.284E+01,  2.677E+01,  4.327E+01,,   -0.297
C,NA-24    ,NO ,  -1.966E+03,  9.423E+03,  1.521E+04,,   -0.129
C,K-40     ,NO ,   8.395E+00,  4.252E+01,  8.252E+01,,    0.102
C,CR-51    ,NO ,  -2.277E+01,  2.993E+01,  4.648E+01,,   -0.490
C,MN-54    ,NO ,   1.335E+00,  3.173E+00,  5.420E+00,,    0.246
C,CO-57    ,NO ,  -5.491E-01,  2.649E+00,  4.403E+00,,   -0.125
C,CO-58    ,NO ,  -5.402E-02,  3.270E+00,  5.309E+00,,   -0.010
C,FE-59    ,NO ,   2.164E+00,  6.488E+00,  1.101E+01,,    0.197
C,CO-60    ,NO ,   1.562E+00,  3.205E+00,  5.547E+00,,    0.282
C,ZN-65    ,NO ,  -1.140E+00,  8.357E+00,  1.137E+01,,   -0.100
C,SE-75    ,NO ,  -1.378E+00,  4.060E+00,  6.567E+00,,   -0.210
C,SR-85    ,NO ,   2.255E+01,  4.013E+00,  8.062E+00,,    2.797
C,Y-88     ,NO ,   2.288E-01,  3.794E+00,  6.227E+00,,    0.037
C,NB-94    ,NO ,  -2.724E-02,  2.919E+00,  4.808E+00,,   -0.006
C,NB-95    ,NO ,   1.541E+00,  3.507E+00,  5.900E+00,,    0.261
C,ZR-95    ,NO ,  -9.661E-01,  5.885E+00,  9.519E+00,,   -0.101
C,MO-99    ,NO ,   2.919E+01,  1.322E+02,  2.205E+02,,    0.132
C,RU-103   ,NO ,   4.574E-01,  3.596E+00,  6.000E+00,,    0.076
C,RU-106   ,NO ,  -1.360E+01,  3.054E+01,  4.812E+01,,   -0.283
C,AG-110m  ,NO ,   7.815E-01,  2.865E+00,  4.840E+00,,    0.161
C,SN-113   ,NO ,   1.386E+00,  3.855E+00,  6.460E+00,,    0.214
C,SB-124   ,NO ,  -8.688E+00,  3.894E+00,  5.539E+00,,   -1.568
C,SB-125   ,NO ,  -2.268E+00,  8.759E+00,  1.407E+01,,   -0.161
C,TE-129M  ,NO ,  -1.030E+01,  3.841E+01,  6.119E+01,,   -0.168
C,I-131    ,NO ,  -8.854E-01,  5.309E+00,  8.699E+00,,   -0.102
C,BA-133   ,NO ,   8.679E-01,  4.124E+00,  6.902E+00,,    0.126
C,CS-134   ,NO ,   1.212E+00,  3.532E+00,  5.856E+00,,    0.207
C,CS-136   ,NO ,  -6.952E-01,  4.463E+00,  7.161E+00,,   -0.097
C,CS-137   ,NO ,   2.180E+00,  3.204E+00,  5.551E+00,,    0.393
C,CE-139   ,NO ,   5.440E-01,  2.853E+00,  4.710E+00,,    0.115
C,BA-140   ,NO ,  -8.315E+00,  1.542E+01,  2.449E+01,,   -0.339
C,LA-140   ,NO ,  -9.075E-01,  5.292E+00,  8.593E+00,,   -0.106
C,CE-141   ,NO ,   4.189E+00,  6.257E+00,  9.221E+00,,    0.454
C,CE-144   ,NO ,   5.577E+00,  2.342E+01,  3.402E+01,,    0.164
C,EU-152   ,NO ,  -1.110E+01,  9.564E+00,  1.501E+01,,   -0.739
C,EU-154   ,NO ,   1.983E+00,  5.385E+00,  9.138E+00,,    0.217
C,RA-226   ,NO ,  -6.880E+01,  7.262E+01,  1.167E+02,,   -0.589
C,AC-228   ,NO ,  -4.573E+00,  1.166E+01,  1.949E+01,,   -0.235
C,TH-228   ,NO ,   1.535E+00,  5.710E+00,  9.871E+00,,    0.156
C,TH-232   ,NO ,  -4.562E+00,  1.163E+01,  1.944E+01,,   -0.235
C,U-235    ,NO ,   1.130E+01,  2.502E+01,  3.657E+01,,    0.309
C,U-238    ,NO ,   1.409E+01,  3.350E+02,  5.520E+02,,    0.026
C,AM-241   ,NO ,  -1.335E+01,  2.447E+01,  3.901E+01,,   -0.342
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 18-MAY-2006 13:16:57.11
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 18-MAY-2006 10:16:48.35

LIMS No., Customer Name, Client ID: WG L28671-1 BRAIDWOOD

Sample ID : 04L28671-1
Sample Type : WG
Quantity : 3.39030E+00 L
Start Channel : 90 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 09:50:00.
Geometry : 0435L090804
BKGFILE : 04BG050506MT
Real Time : 0 03:00:01.86
Live time : 0 03:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.37*	81	306	1.49	133.31	6.49E-01	7.51E-03	39.8	6.93E-01
2	1	92.71*	15	293	1.98	186.00	1.39E+00	1.39E-03	217.8	1.83E+00
3	1	139.79*	80	199	0.93	280.17	1.82E+00	7.42E-03	32.0	2.27E+00
4	1	198.46*	95	208	1.55	397.53	1.68E+00	8.81E-03	29.8	2.56E+00
5	1	238.35*	37	222	1.90	477.31	1.52E+00	3.44E-03	83.6	1.73E+00
6	1	295.12*	50	126	1.56	590.86	1.32E+00	4.63E-03	44.3	7.29E-01
7	1	352.08*	74	124	1.20	704.77	1.17E+00	6.88E-03	33.5	1.46E+00
8	1	609.29*	68	42	2.37	1219.20	7.73E-01	6.28E-03	26.7	1.81E+00
9	1	846.78*	11	27	2.51	1694.11	5.99E-01	1.00E-03	115.7	1.53E+00
10	1	1202.71	49	27	9.03	2405.80	4.55E-01	4.52E-03	29.7	1.90E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
TH-228	238.63	37	44.60*	1.521E+00	4.045E+00	4.073E+00	167.13
	240.98	------	3.95	1.511E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28671-1

Acquisition date : 18-MAY-2006 10:16:48

Total number of lines in spectrum	10	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	1	10.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	4.045E+00	4.073E+00	6.808E+00	167.13	
			---	---			
Total Activity :			4.045E+00	4.073E+00			
Grand Total Activity :			4.045E+00	4.073E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28671-1

Acquisition date : 18-MAY-2006 10:16:48

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.37	81	306	1.49	133.31	130	8	7.51E-03	79.7	6.49E-01	
1	92.71	15	293	1.98	186.00	181	9	1.39E-03	****	1.39E+00	
1	139.79	80	199	0.93	280.17	278	7	7.42E-03	63.9	1.82E+00	
1	198.46	95	208	1.55	397.53	393	9	8.81E-03	59.6	1.68E+00	
1	295.12	50	126	1.56	590.86	587	9	4.63E-03	88.6	1.32E+00	
1	352.08	74	124	1.20	704.77	699	11	6.88E-03	66.9	1.17E+00	
1	609.29	68	42	2.37	1219.20	1213	15	6.28E-03	53.4	7.73E-01	
1	846.78	11	27	2.51	1694.11	1688	11	1.00E-03	****	5.99E-01	
1	1202.71	49	27	9.03	2405.80	2397	20	4.52E-03	59.5	4.55E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	10	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	1	10.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	4.045E+00	4.073E+00	6.808E+00	167.13	
	Total Activity :		4.045E+00	4.073E+00			
	Grand Total Activity :		4.045E+00	4.073E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
TH-228	4.073E+00	6.808E+00	8.777E+00	0.000E+00	0.464

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	2.136E+01		2.806E+01	4.794E+01	0.000E+00	0.446
NA-24	-5.338E+03		8.960E+03	1.396E+04	0.000E+00	-0.382

K-40	-1.458E+01	4.381E+01	8.016E+01	0.000E+00	-0.182
CR-51	-1.021E+01	3.066E+01	4.905E+01	0.000E+00	-0.208
MN-54	7.540E-02	3.328E+00	5.289E+00	0.000E+00	0.014
CO-57	1.138E+00	2.707E+00	4.558E+00	0.000E+00	0.250
CO-58	-1.939E+00	3.284E+00	5.197E+00	0.000E+00	-0.373
FE-59	-3.072E+00	6.556E+00	1.039E+01	0.000E+00	-0.296
CO-60	6.900E-01	3.731E+00	6.471E+00	0.000E+00	0.107
ZN-65	2.961E+00	7.558E+00	1.288E+01	0.000E+00	0.230
SE-75	-2.433E+00	4.031E+00	6.461E+00	0.000E+00	-0.377
SR-85	1.762E+01	4.075E+00	7.850E+00	0.000E+00	2.245
Y-88	-1.163E+00	3.994E+00	6.358E+00	0.000E+00	-0.183
NB-94	1.071E+00	3.144E+00	5.257E+00	0.000E+00	0.204
NB-95	2.159E+00	3.245E+00	5.538E+00	0.000E+00	0.390
ZR-95	-9.019E-01	5.714E+00	9.159E+00	0.000E+00	-0.098
MO-99	-1.610E+01	1.367E+02	2.204E+02	0.000E+00	-0.073
RU-103	-2.539E-01	3.365E+00	5.457E+00	0.000E+00	-0.047
RU-106	-5.363E-02	2.943E+01	4.711E+01	0.000E+00	-0.001
AG-110m	5.469E-01	2.994E+00	4.983E+00	0.000E+00	0.110
SN-113	1.228E+00	3.881E+00	6.546E+00	0.000E+00	0.188
SB-124	-6.003E+00	4.367E+00	5.356E+00	0.000E+00	-1.121
SB-125	-2.924E+00	8.441E+00	1.362E+01	0.000E+00	-0.215
TE-129M	6.288E+00	3.851E+01	6.376E+01	0.000E+00	0.099
I-131	-1.764E+00	5.497E+00	9.011E+00	0.000E+00	-0.196
BA-133	4.596E+00	4.645E+00	7.090E+00	0.000E+00	0.648
CS-134	-2.679E+00	4.125E+00	5.451E+00	0.000E+00	-0.491
CS-136	-9.003E-01	4.300E+00	7.006E+00	0.000E+00	-0.129
CS-137	1.100E+00	3.178E+00	5.352E+00	0.000E+00	0.206
CE-139	5.659E-01	2.880E+00	4.733E+00	0.000E+00	0.120
BA-140	2.646E+00	1.597E+01	2.615E+01	0.000E+00	0.101
LA-140	1.065E-01	5.250E+00	8.613E+00	0.000E+00	0.012
CE-141	2.796E+00	5.991E+00	8.670E+00	0.000E+00	0.323
CE-144	1.777E+01	2.281E+01	3.607E+01	0.000E+00	0.492
EU-152	-1.707E+01	1.186E+01	1.447E+01	0.000E+00	-1.180
EU-154	2.018E+00	5.597E+00	9.403E+00	0.000E+00	0.215
RA-226	-9.955E+00	7.424E+01	1.215E+02	0.000E+00	-0.082
AC-228	-5.670E+00	1.174E+01	1.945E+01	0.000E+00	-0.291
TH-232	-5.657E+00	1.171E+01	1.941E+01	0.000E+00	-0.291
U-235	8.855E-01	2.474E+01	3.500E+01	0.000E+00	0.025
U-238	1.348E+02	3.113E+02	5.290E+02	0.000E+00	0.255
AM-241	1.031E+00	2.566E+01	4.106E+01	0.000E+00	0.025

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A,04L28671-1      ,05/18/2006 13:16,05/11/2006 09:50,   3.390E+00,WG L28671-1 BR
B,04L28671-1      ,LIBD                ,03/14/2005 09:04,0435L090804
C,TH-228  ,YES,   4.073E+00,   6.808E+00,   8.777E+00,,    0.464
C,BE-7    ,NO ,   2.136E+01,   2.806E+01,   4.794E+01,,    0.446
C,NA-24   ,NO ,  -5.338E+03,   8.960E+03,   1.396E+04,,   -0.382
C,K-40    ,NO ,  -1.458E+01,   4.381E+01,   8.016E+01,,   -0.182
C,CR-51   ,NO ,  -1.021E+01,   3.066E+01,   4.905E+01,,   -0.208
C,MN-54   ,NO ,   7.540E-02,   3.328E+00,   5.289E+00,,    0.014
C,CO-57   ,NO ,   1.138E+00,   2.707E+00,   4.558E+00,,    0.250
C,CO-58   ,NO ,  -1.939E+00,   3.284E+00,   5.197E+00,,   -0.373
C,FE-59   ,NO ,  -3.072E+00,   6.556E+00,   1.039E+01,,   -0.296
C,CO-60   ,NO ,   6.900E-01,   3.731E+00,   6.471E+00,,    0.107
C,ZN-65   ,NO ,   2.961E+00,   7.558E+00,   1.288E+01,,    0.230
C,SE-75   ,NO ,  -2.433E+00,   4.031E+00,   6.461E+00,,   -0.377
C,SR-85   ,NO ,   1.762E+01,   4.075E+00,   7.850E+00,,    2.245
C,Y-88    ,NO ,  -1.163E+00,   3.994E+00,   6.358E+00,,   -0.183
C,NB-94   ,NO ,   1.071E+00,   3.144E+00,   5.257E+00,,    0.204
C,NB-95   ,NO ,   2.159E+00,   3.245E+00,   5.538E+00,,    0.390
C,ZR-95   ,NO ,  -9.019E-01,   5.714E+00,   9.159E+00,,   -0.098
C,MO-99   ,NO ,  -1.610E+01,   1.367E+02,   2.204E+02,,   -0.073
C,RU-103  ,NO ,  -2.539E-01,   3.365E+00,   5.457E+00,,   -0.047
C,RU-106  ,NO ,  -5.363E-02,   2.943E+01,   4.711E+01,,   -0.001
C,AG-110m ,NO ,   5.469E-01,   2.994E+00,   4.983E+00,,    0.110
C,SN-113  ,NO ,   1.228E+00,   3.881E+00,   6.546E+00,,    0.188
C,SB-124  ,NO ,  -6.003E+00,   4.367E+00,   5.356E+00,,   -1.121
C,SB-125  ,NO ,  -2.924E+00,   8.441E+00,   1.362E+01,,   -0.215
C,TE-129M ,NO ,   6.288E+00,   3.851E+01,   6.376E+01,,    0.099
C,I-131   ,NO ,  -1.764E+00,   5.497E+00,   9.011E+00,,   -0.196
C,BA-133  ,NO ,   4.596E+00,   4.645E+00,   7.090E+00,,    0.648
C,CS-134  ,NO ,  -2.679E+00,   4.125E+00,   5.451E+00,,   -0.491
C,CS-136  ,NO ,  -9.003E-01,   4.300E+00,   7.006E+00,,   -0.129
C,CS-137  ,NO ,   1.100E+00,   3.178E+00,   5.352E+00,,    0.206
C,CE-139  ,NO ,   5.659E-01,   2.880E+00,   4.733E+00,,    0.120
C,BA-140  ,NO ,   2.646E+00,   1.597E+01,   2.615E+01,,    0.101
C,LA-140  ,NO ,   1.065E-01,   5.250E+00,   8.613E+00,,    0.012
C,CE-141  ,NO ,   2.796E+00,   5.991E+00,   8.670E+00,,    0.323
C,CE-144  ,NO ,   1.777E+01,   2.281E+01,   3.607E+01,,    0.492
C,EU-152  ,NO ,  -1.707E+01,   1.186E+01,   1.447E+01,,   -1.180
C,EU-154  ,NO ,   2.018E+00,   5.597E+00,   9.403E+00,,    0.215
C,RA-226  ,NO ,  -9.955E+00,   7.424E+01,   1.215E+02,,   -0.082
C,AC-228  ,NO ,  -5.670E+00,   1.174E+01,   1.945E+01,,   -0.291
C,TH-232  ,NO ,  -5.657E+00,   1.171E+01,   1.941E+01,,   -0.291
C,U-235   ,NO ,   8.855E-01,   2.474E+01,   3.500E+01,,    0.025
C,U-238   ,NO ,   1.348E+02,   3.113E+02,   5.290E+02,,    0.255
C,AM-241  ,NO ,   1.031E+00,   2.566E+01,   4.106E+01,,    0.025
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 14:19:52.26
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 19-MAY-2006 10:54:20.35

LIMS No., Customer Name, Client ID: L28671-2 WG BRAIDWOOD

Sample ID : 07L28671-2
Sample Type : WG
Quantity : 3.08100E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 10:35:00.
Geometry : 073L082504
BKGFILE : 07BG050506MT
Real Time : 0 03:25:18.74
Live time : 0 03:25:16.33

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	3	66.32*	95	235	1.05	133.48	8.05E-01	7.70E-03	29.2	1.41E+00
2	1	139.23*	100	394	1.39	279.36	2.36E+00	8.15E-03	40.7	3.99E+00
3	1	185.57*	145	414	4.09	372.08	2.30E+00	1.17E-02	32.6	2.88E+00
4	1	198.81*	126	291	1.41	398.55	2.24E+00	1.03E-02	27.5	3.37E+00
5	1	351.91*	94	111	1.22	704.84	1.61E+00	7.63E-03	25.0	8.97E-01
6	1	596.18	92	86	2.08	1193.46	1.10E+00	7.46E-03	23.6	3.30E+00
7	1	609.18*	74	74	1.93	1219.45	1.09E+00	6.03E-03	28.0	2.14E+00
8	1	1460.89*	47	26	2.53	2922.61	5.83E-01	3.83E-03	39.8	2.13E+00
9	1	1764.32*	33	15	3.86	3529.17	5.12E-01	2.71E-03	35.2	2.34E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	47	10.67*	5.827E-01	5.405E+01	5.405E+01	79.50
RA-226	186.21	145	3.28*	2.298E+00	1.366E+02	1.366E+02	65.24

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28671-2

Acquisition date : 19-MAY-2006 10:54:20

Total number of lines in spectrum	9	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	2	22.22%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.405E+01	5.405E+01	4.297E+01	79.50	
RA-226	1600.00Y	1.00	1.366E+02	1.366E+02	0.891E+02	65.24	
	Total Activity :		1.906E+02	1.906E+02			
	Grand Total Activity :		1.906E+02	1.906E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28671-2

Acquisition date : 19-MAY-2006 10:54:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	66.32	95	235	1.05	133.48	123	15	7.70E-03	58.4	8.05E-01	
1	139.23	100	394	1.39	279.36	274	11	8.15E-03	81.5	2.36E+00	
1	198.81	126	291	1.41	398.55	393	10	1.03E-02	54.9	2.24E+00	
1	351.91	94	111	1.22	704.84	701	9	7.63E-03	50.0	1.61E+00	
1	596.18	92	86	2.08	1193.46	1187	13	7.46E-03	47.1	1.10E+00	
1	609.18	74	74	1.93	1219.45	1215	10	6.03E-03	55.9	1.09E+00	
1	1764.32	33	15	3.86	3529.17	3521	15	2.71E-03	70.3	5.12E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	9	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	2	22.22%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.405E+01	5.405E+01	4.297E+01	79.50	
RA-226	1600.00Y	1.00	1.366E+02	1.366E+02	0.891E+02	65.24	
	Total Activity :		1.906E+02	1.906E+02			
	Grand Total Activity :		1.906E+02	1.906E+02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	5.405E+01	4.297E+01	4.155E+01	0.000E+00	1.301
RA-226	1.366E+02	8.911E+01	8.805E+01	0.000E+00	1.551

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.506E+01		2.369E+01	3.820E+01	0.000E+00	-0.394
NA-24	-7.933E-03		1.091E-02	Half-Life too short		

CR-51	6.399E+00	2.572E+01	4.202E+01	0.000E+00	0.152
MN-54	-2.507E+00	2.610E+00	4.069E+00	0.000E+00	-0.616
CO-57	1.355E+00	2.246E+00	3.832E+00	0.000E+00	0.354
CO-58	-1.192E+00	2.768E+00	4.369E+00	0.000E+00	-0.273
FE-59	4.363E+00	5.280E+00	9.245E+00	0.000E+00	0.472
CO-60	-9.396E-01	2.744E+00	4.408E+00	0.000E+00	-0.213
ZN-65	-2.991E-01	5.386E+00	8.848E+00	0.000E+00	-0.034
SE-75	-2.501E+00	3.271E+00	5.207E+00	0.000E+00	-0.480
SR-85	1.969E+01	3.405E+00	6.714E+00	0.000E+00	2.933
Y-88	8.074E-01	3.125E+00	5.224E+00	0.000E+00	0.155
NB-94	-9.348E-01	2.494E+00	4.020E+00	0.000E+00	-0.233
NB-95	1.521E+00	2.693E+00	4.558E+00	0.000E+00	0.334
ZR-95	-3.015E+00	4.814E+00	7.556E+00	0.000E+00	-0.399
MO-99	5.760E+01	1.479E+02	2.484E+02	0.000E+00	0.232
RU-103	1.118E-01	2.742E+00	4.553E+00	0.000E+00	0.025
RU-106	4.703E+00	2.465E+01	4.047E+01	0.000E+00	0.116
AG-110m	-9.990E-01	2.604E+00	4.224E+00	0.000E+00	-0.236
SN-113	1.611E+00	3.280E+00	5.513E+00	0.000E+00	0.292
SB-124	1.722E+00	5.609E+00	4.345E+00	0.000E+00	0.396
SB-125	7.272E-01	7.081E+00	1.161E+01	0.000E+00	0.063
TE-129M	3.155E+01	3.327E+01	5.650E+01	0.000E+00	0.558
I-131	-2.145E+00	4.948E+00	8.022E+00	0.000E+00	-0.267
BA-133	4.554E+00	3.892E+00	5.891E+00	0.000E+00	0.773
CS-134	7.347E+00	5.328E+00	4.947E+00	0.000E+00	1.485
CS-136	-3.265E+00	3.805E+00	5.805E+00	0.000E+00	-0.563
CS-137	5.237E-01	2.851E+00	4.773E+00	0.000E+00	0.110
CE-139	1.181E+00	2.356E+00	3.926E+00	0.000E+00	0.301
BA-140	7.091E-01	1.382E+01	2.281E+01	0.000E+00	0.031
LA-140	5.929E-01	4.482E+00	7.502E+00	0.000E+00	0.079
CE-141	5.238E+00	5.088E+00	7.591E+00	0.000E+00	0.690
CE-144	3.834E+00	1.956E+01	2.830E+01	0.000E+00	0.135
EU-152	-1.475E+00	8.400E+00	1.250E+01	0.000E+00	-0.118
EU-154	1.138E+00	4.635E+00	7.818E+00	0.000E+00	0.146
AC-228	-2.163E+00	1.060E+01	1.779E+01	0.000E+00	-0.122
TH-228	-3.465E-01	4.783E+00	8.131E+00	0.000E+00	-0.043
TH-232	-2.157E+00	1.057E+01	1.774E+01	0.000E+00	-0.122
U-235	2.293E+00	2.037E+01	2.914E+01	0.000E+00	0.079
U-238	7.294E+01	2.891E+02	4.808E+02	0.000E+00	0.152
AM-241	3.208E+00	2.164E+01	3.180E+01	0.000E+00	0.101

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A,07L28671-2       ,05/19/2006 14:19,05/11/2006 10:35,   3.081E+00,L28671-2 WG BR
B,07L28671-2       ,LIBD                ,06/23/2005 07:26,073L082504
C,K-40     ,YES,    5.405E+01,   4.297E+01,   4.155E+01,,    1.301
C,RA-226   ,YES,    1.366E+02,   8.911E+01,   8.805E+01,,    1.551
C,BE-7     ,NO ,   -1.506E+01,   2.369E+01,   3.820E+01,,   -0.394
C,CR-51    ,NO ,    6.399E+00,   2.572E+01,   4.202E+01,,    0.152
C,MN-54    ,NO ,   -2.507E+00,   2.610E+00,   4.069E+00,,   -0.616
C,CO-57    ,NO ,    1.355E+00,   2.246E+00,   3.832E+00,,    0.354
C,CO-58    ,NO ,   -1.192E+00,   2.768E+00,   4.369E+00,,   -0.273
C,FE-59    ,NO ,    4.363E+00,   5.280E+00,   9.245E+00,,    0.472
C,CO-60    ,NO ,   -9.396E-01,   2.744E+00,   4.408E+00,,   -0.213
C,ZN-65    ,NO ,   -2.991E-01,   5.386E+00,   8.848E+00,,   -0.034
C,SE-75    ,NO ,   -2.501E+00,   3.271E+00,   5.207E+00,,   -0.480
C,SR-85    ,NO ,    1.969E+01,   3.405E+00,   6.714E+00,,    2.933
C,Y-88     ,NO ,    8.074E-01,   3.125E+00,   5.224E+00,,    0.155
C,NB-94    ,NO ,   -9.348E-01,   2.494E+00,   4.020E+00,,   -0.233
C,NB-95    ,NO ,    1.521E+00,   2.693E+00,   4.558E+00,,    0.334
C,ZR-95    ,NO ,   -3.015E+00,   4.814E+00,   7.556E+00,,   -0.399
C,MO-99    ,NO ,    5.760E+01,   1.479E+02,   2.484E+02,,    0.232
C,RU-103   ,NO ,    1.118E-01,   2.742E+00,   4.553E+00,,    0.025
C,RU-106   ,NO ,    4.703E+00,   2.465E+01,   4.047E+01,,    0.116
C,AG-110m  ,NO ,   -9.990E-01,   2.604E+00,   4.224E+00,,   -0.236
C,SN-113   ,NO ,    1.611E+00,   3.280E+00,   5.513E+00,,    0.292
C,SB-124   ,NO ,    1.722E+00,   5.609E+00,   4.345E+00,,    0.396
C,SB-125   ,NO ,    7.272E-01,   7.081E+00,   1.161E+01,,    0.063
C,TE-129M  ,NO ,    3.155E+01,   3.327E+01,   5.650E+01,,    0.558
C,I-131    ,NO ,   -2.145E+00,   4.948E+00,   8.022E+00,,   -0.267
C,BA-133   ,NO ,    4.554E+00,   3.892E+00,   5.891E+00,,    0.773
C,CS-134   ,NO ,    7.347E+00,   5.328E+00,   4.947E+00,,    1.485
C,CS-136   ,NO ,   -3.265E+00,   3.805E+00,   5.805E+00,,   -0.563
C,CS-137   ,NO ,    5.237E-01,   2.851E+00,   4.773E+00,,    0.110
C,CE-139   ,NO ,    1.181E+00,   2.356E+00,   3.926E+00,,    0.301
C,BA-140   ,NO ,    7.091E-01,   1.382E+01,   2.281E+01,,    0.031
C,LA-140   ,NO ,    5.929E-01,   4.482E+00,   7.502E+00,,    0.079
C,CE-141   ,NO ,    5.238E+00,   5.088E+00,   7.591E+00,,    0.690
C,CE-144   ,NO ,    3.834E+00,   1.956E+01,   2.830E+01,,    0.135
C,EU-152   ,NO ,   -1.475E+00,   8.400E+00,   1.250E+01,,   -0.118
C,EU-154   ,NO ,    1.138E+00,   4.635E+00,   7.818E+00,,    0.146
C,AC-228   ,NO ,   -2.163E+00,   1.060E+01,   1.779E+01,,   -0.122
C,TH-228   ,NO ,   -3.465E-01,   4.783E+00,   8.131E+00,,   -0.043
C,TH-232   ,NO ,   -2.157E+00,   1.057E+01,   1.774E+01,,   -0.122
C,U-235    ,NO ,    2.293E+00,   2.037E+01,   2.914E+01,,    0.079
C,U-238    ,NO ,    7.294E+01,   2.891E+02,   4.808E+02,,    0.152
C,AM-241   ,NO ,    3.208E+00,   2.164E+01,   3.180E+01,,    0.101
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 16:19:59.80
TBE23 03017322 HpGe ********** Aquisition Date/Time: 19-MAY-2006 12:19:40.27

LIMS No., Customer Name, Client ID: L28671-3 WG BRAIDWOOD

Sample ID : 23L28671-3
Sample Type : WG
Quantity : 3.08100E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 11:35:00.
Geometry : 233L082404
BKGFILE : 23BG050506MT
Real Time : 0 04:00:10.04
Live time : 0 04:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	9	33.67*	17	7	1.00	67.50	8.08E-02	1.16E-03	81.0	4.66E+00
2	9	34.93*	2	58	1.47	70.01	1.00E-01	1.73E-04	*****	
3	9	37.50*	61	151	2.04	75.15	1.48E-01	4.21E-03	56.6	
4	9	39.89*	81	245	2.18	79.92	2.03E-01	5.60E-03	44.8	
5	9	42.68*	37	244	2.19	85.51	2.78E-01	2.60E-03	71.8	
6	0	92.61*	24	510	1.70	185.26	1.94E+00	1.65E-03	188.3	
7	0	139.80*	73	414	1.10	279.57	2.32E+00	5.10E-03	50.8	
8	0	185.65*	15	382	1.46	371.19	2.17E+00	1.03E-03	261.5	
9	0	198.73*	83	387	0.85	397.32	2.11E+00	5.75E-03	47.0	
10	0	238.08*	51	286	1.33	475.96	1.90E+00	3.54E-03	64.6	
11	0	351.81*	137	163	1.62	703.26	1.43E+00	9.54E-03	20.4	
12	0	608.94*	145	124	1.32	1217.30	9.41E-01	1.01E-02	19.8	
13	0	1120.80*	41	24	2.19	2241.11	6.15E-01	2.87E-03	32.3	
14	0	1460.56*	31	35	2.02	2921.07	5.10E-01	2.18E-03	60.9	
15	0	1763.56*	32	24	1.41	3527.73	4.38E-01	2.23E-03	42.3	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	31	10.67*	5.096E-01	3.523E+01	3.523E+01	121.88
RA-226	186.21	15	3.28*	2.175E+00	1.262E+01	1.262E+01	523.03
TH-228	238.63	51	44.60*	1.903E+00	3.661E+00	3.691E+00	129.19
	240.98	------	3.95	1.888E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28671-3 Acquisition date : 19-MAY-2006 12:19:40

Total number of lines in spectrum	15	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	3	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.523E+01	3.523E+01	4.294E+01	121.88	
RA-226	1600.00Y	1.00	1.262E+01	1.262E+01	6.601E+01	523.03	
TH-228	1.91Y	1.01	3.661E+00	3.691E+00	4.768E+00	129.19	
	Total Activity :		5.152E+01	5.154E+01			
	Grand Total Activity :		5.152E+01	5.154E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28671-3

Acquisition date : 19-MAY-2006 12:19:40

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
9	33.67	17	7	1.00	67.50	65	25	1.16E-03	****	8.08E-02	
9	34.93	2	58	1.47	70.01	65	25	1.73E-04	****	1.00E-01	
9	37.50	61	151	2.04	75.15	65	25	4.21E-03	****	1.48E-01	
9	39.89	81	245	2.18	79.92	65	25	5.60E-03	89.6	2.03E-01	
9	42.68	37	244	2.19	85.51	65	25	2.60E-03	****	2.78E-01	
0	92.61	24	510	1.70	185.26	181	9	1.65E-03	****	1.94E+00	
0	139.80	73	414	1.10	279.57	276	8	5.10E-03	****	2.32E+00	
0	198.73	83	387	0.85	397.32	392	10	5.75E-03	94.1	2.11E+00	
0	351.81	137	163	1.62	703.26	699	10	9.54E-03	40.9	1.43E+00	
0	608.94	145	124	1.32	1217.30	1210	15	1.01E-02	39.7	9.41E-01	
0	1120.80	41	24	2.19	2241.11	2236	14	2.87E-03	64.6	6.15E-01	
0	1763.56	32	24	1.41	3527.73	3520	16	2.23E-03	84.7	4.38E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	15	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	3	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.523E+01	3.523E+01	4.294E+01	121.88	
RA-226	1600.00Y	1.00	1.262E+01	1.262E+01	6.601E+01	523.03	
TH-228	1.91Y	1.01	3.661E+00	3.691E+00	4.768E+00	129.19	
			---------	---------			
	Total Activity :		5.152E+01	5.154E+01			

Grand Total Activity : 5.152E+01 5.154E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	3.523E+01	4.294E+01	4.124E+01	0.000E+00	0.854
RA-226	1.262E+01	6.601E+01	9.978E+01	0.000E+00	0.126
TH-228	3.691E+00	4.768E+00	7.973E+00	0.000E+00	0.463

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-4.820E+00		2.282E+01	3.832E+01	0.000E+00	-0.126
NA-24	-2.210E-02		1.004E-02	Half-Life too short		
CR-51	-2.996E+01		2.492E+01	4.092E+01	0.000E+00	-0.732
MN-54	2.544E+00		2.600E+00	4.799E+00	0.000E+00	0.530
CO-57	-1.898E+00		2.562E+00	4.151E+00	0.000E+00	-0.457
CO-58	-1.874E+00		2.511E+00	4.085E+00	0.000E+00	-0.459
FE-59	-4.644E+00		5.477E+00	8.897E+00	0.000E+00	-0.522
CO-60	8.370E-01		2.366E+00	4.332E+00	0.000E+00	0.193
ZN-65	-1.069E+00		6.977E+00	9.945E+00	0.000E+00	-0.107
SE-75	-2.431E-01		3.633E+00	6.058E+00	0.000E+00	-0.040
SR-85	1.071E+01		3.176E+00	6.000E+00	0.000E+00	1.785
Y-88	1.513E-01		2.815E+00	5.071E+00	0.000E+00	0.030
NB-94	-1.593E+00		2.442E+00	4.040E+00	0.000E+00	-0.394
NB-95	5.959E-01		2.579E+00	4.494E+00	0.000E+00	0.133
ZR-95	-7.823E-01		4.668E+00	7.934E+00	0.000E+00	-0.099
MO-99	-6.066E+01		1.445E+02	2.419E+02	0.000E+00	-0.251
RU-103	1.024E+00		3.006E+00	5.165E+00	0.000E+00	0.198
RU-106	-4.330E+00		2.340E+01	4.008E+01	0.000E+00	-0.108
AG-110m	3.537E-01		2.533E+00	4.404E+00	0.000E+00	0.080
SN-113	1.938E-01		3.351E+00	5.739E+00	0.000E+00	0.034
SB-124	-4.277E+00		3.549E+00	4.723E+00	0.000E+00	-0.906
SB-125	3.451E+00		7.218E+00	1.256E+01	0.000E+00	0.275
TE-129M	6.442E+00		3.324E+01	5.698E+01	0.000E+00	0.113
I-131	-5.013E-01		5.152E+00	8.783E+00	0.000E+00	-0.057
BA-133	6.569E+00		4.119E+00	6.526E+00	0.000E+00	1.007
CS-134	3.989E+00		3.475E+00	5.411E+00	0.000E+00	0.737
CS-136	-2.494E-01		3.504E+00	5.989E+00	0.000E+00	-0.042
CS-137	-1.484E+00		2.763E+00	4.620E+00	0.000E+00	-0.321
CE-139	-4.848E-02		2.517E+00	4.275E+00	0.000E+00	-0.011
BA-140	1.356E+00		1.330E+01	2.327E+01	0.000E+00	0.058
LA-140	2.399E+00		3.958E+00	7.416E+00	0.000E+00	0.324
CE-141	6.363E+00		5.480E+00	8.361E+00	0.000E+00	0.761
CE-144	-1.649E+01		2.323E+01	3.175E+01	0.000E+00	-0.519
EU-152	-1.251E+00		8.826E+00	1.320E+01	0.000E+00	-0.095
EU-154	-2.239E+00		5.275E+00	8.616E+00	0.000E+00	-0.260
AC-228	5.697E+00		9.816E+00	1.796E+01	0.000E+00	0.317
TH-232	5.681E+00		9.790E+00	1.791E+01	0.000E+00	0.317
U-235	2.293E+01		2.146E+01	3.258E+01	0.000E+00	0.704
U-238	-9.179E+01		2.717E+02	4.691E+02	0.000E+00	-0.196
AM-241	-2.036E+01		1.368E+01	2.228E+01	0.000E+00	-0.914

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A,23L28671-3      ,05/19/2006 16:20,05/11/2006 11:35,   3.081E+00,L28671-3 WG BR
B,23L28671-3      ,LIBD                ,06/24/2005 07:59,233L082404
C,K-40     ,YES,   3.523E+01,   4.294E+01,   4.124E+01,,    0.854
C,RA-226   ,YES,   1.262E+01,   6.601E+01,   9.978E+01,,    0.126
C,TH-228   ,YES,   3.691E+00,   4.768E+00,   7.973E+00,,    0.463
C,BE-7     ,NO ,  -4.820E+00,   2.282E+01,   3.832E+01,,   -0.126
C,CR-51    ,NO ,  -2.996E+01,   2.492E+01,   4.092E+01,,   -0.732
C,MN-54    ,NO ,   2.544E+00,   2.600E+00,   4.799E+00,,    0.530
C,CO-57    ,NO ,  -1.898E+00,   2.562E+00,   4.151E+00,,   -0.457
C,CO-58    ,NO ,  -1.874E+00,   2.511E+00,   4.085E+00,,   -0.459
C,FE-59    ,NO ,  -4.644E+00,   5.477E+00,   8.897E+00,,   -0.522
C,CO-60    ,NO ,   8.370E-01,   2.366E+00,   4.332E+00,,    0.193
C,ZN-65    ,NO ,  -1.069E+00,   6.977E+00,   9.945E+00,,   -0.107
C,SE-75    ,NO ,  -2.431E-01,   3.633E+00,   6.058E+00,,   -0.040
C,SR-85    ,NO ,   1.071E+01,   3.176E+00,   6.000E+00,,    1.785
C,Y-88     ,NO ,   1.513E-01,   2.815E+00,   5.071E+00,,    0.030
C,NB-94    ,NO ,  -1.593E+00,   2.442E+00,   4.040E+00,,   -0.394
C,NB-95    ,NO ,   5.959E-01,   2.579E+00,   4.494E+00,,    0.133
C,ZR-95    ,NO ,  -7.823E-01,   4.668E+00,   7.934E+00,,   -0.099
C,MO-99    ,NO ,  -6.066E+01,   1.445E+02,   2.419E+02,,   -0.251
C,RU-103   ,NO ,   1.024E+00,   3.006E+00,   5.165E+00,,    0.198
C,RU-106   ,NO ,  -4.330E+00,   2.340E+01,   4.008E+01,,   -0.108
C,AG-110m  ,NO ,   3.537E-01,   2.533E+00,   4.404E+00,,    0.080
C,SN-113   ,NO ,   1.938E-01,   3.351E+00,   5.739E+00,,    0.034
C,SB-124   ,NO ,  -4.277E+00,   3.549E+00,   4.723E+00,,   -0.906
C,SB-125   ,NO ,   3.451E+00,   7.218E+00,   1.256E+01,,    0.275
C,TE-129M  ,NO ,   6.442E+00,   3.324E+01,   5.698E+01,,    0.113
C,I-131    ,NO ,  -5.013E-01,   5.152E+00,   8.783E+00,,   -0.057
C,BA-133   ,NO ,   6.569E+00,   4.119E+00,   6.526E+00,,    1.007
C,CS-134   ,NO ,   3.989E+00,   3.475E+00,   5.411E+00,,    0.737
C,CS-136   ,NO ,  -2.494E-01,   3.504E+00,   5.989E+00,,   -0.042
C,CS-137   ,NO ,  -1.484E+00,   2.763E+00,   4.620E+00,,   -0.321
C,CE-139   ,NO ,  -4.848E-02,   2.517E+00,   4.275E+00,,   -0.011
C,BA-140   ,NO ,   1.356E+00,   1.330E+01,   2.327E+01,,    0.058
C,LA-140   ,NO ,   2.399E+00,   3.958E+00,   7.416E+00,,    0.324
C,CE-141   ,NO ,   6.363E+00,   5.480E+00,   8.361E+00,,    0.761
C,CE-144   ,NO ,  -1.649E+01,   2.323E+01,   3.175E+01,,   -0.519
C,EU-152   ,NO ,  -1.251E+00,   8.826E+00,   1.320E+01,,   -0.095
C,EU-154   ,NO ,  -2.239E+00,   5.275E+00,   8.616E+00,,   -0.260
C,AC-228   ,NO ,   5.697E+00,   9.816E+00,   1.796E+01,,    0.317
C,TH-232   ,NO ,   5.681E+00,   9.790E+00,   1.791E+01,,    0.317
C,U-235    ,NO ,   2.293E+01,   2.146E+01,   3.258E+01,,    0.704
C,U-238    ,NO ,  -9.179E+01,   2.717E+02,   4.691E+02,,   -0.196
C,AM-241   ,NO ,  -2.036E+01,   1.368E+01,   2.228E+01,,   -0.914
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 12:16:23.21
TBE23 03017322 HpGe ********** Aquisition Date/Time: 19-MAY-2006 08:36:55.68

LIMS No., Customer Name, Client ID: WG L28671-4 BRAIDWOOD

Sample ID : 23L28671-4
Sample Type : WG
Quantity : 3.17660E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 14:00:00.
Geometry : 233L082404
BKGFILE : 23BG050506MT
Real Time : 0 03:30:08.60
Live time : 0 03:30:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	34.42*	77	101	2.21	69.01	9.22E-02	6.10E-03	29.5	
2	4	63.18*	33	348	1.16	126.47	1.04E+00	2.62E-03	102.1	9.87E-01
3	4	66.28*	80	415	1.34	132.66	1.16E+00	6.37E-03	45.6	
4	0	92.40*	87	512	1.20	184.86	1.93E+00	6.88E-03	54.8	
5	0	139.71*	108	400	1.10	279.38	2.32E+00	8.58E-03	35.5	
6	0	185.61*	38	358	0.99	371.10	2.17E+00	3.04E-03	100.6	
7	0	198.46*	76	292	1.05	396.79	2.11E+00	6.02E-03	42.1	
8	0	238.77*	10	273	1.15	477.33	1.90E+00	8.28E-04	291.3	
9	0	351.63*	37	176	0.93	702.90	1.44E+00	2.98E-03	69.6	
10	0	596.12	43	65	1.19	1191.67	9.56E-01	3.43E-03	37.3	
11	0	608.65*	78	73	1.79	1216.72	9.41E-01	6.19E-03	27.0	
12	0	1120.56*	12	32	1.37	2240.63	6.15E-01	9.73E-04	102.6	
13	0	1379.37	24	33	3.87	2758.56	5.32E-01	1.92E-03	60.4	
14	0	1460.47*	41	12	2.27	2920.89	5.10E-01	3.27E-03	37.5	
15	0	1763.74*	14	14	1.96	3528.09	4.38E-01	1.10E-03	73.5	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	41	10.67*	5.097E-01	5.115E+01	5.115E+01	75.01
RA-226	186.21	38	3.28*	2.175E+00	3.622E+01	3.622E+01	201.20
TH-228	238.63	10	44.60*	1.899E+00	8.314E-01	8.379E-01	582.67
	240.98	------	3.95	1.888E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28671-4 Acquisition date : 19-MAY-2006 08:36:55

Total number of lines in spectrum	15	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	3	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.115E+01	5.115E+01	3.837E+01	75.01	
RA-226	1600.00Y	1.00	3.622E+01	3.622E+01	7.288E+01	201.20	
TH-228	1.91Y	1.01	8.314E-01	8.379E-01	48.82E-01	582.67	
	Total Activity :		8.820E+01	8.821E+01			
	Grand Total Activity :		8.820E+01	8.821E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28671-4

Acquisition date : 19-MAY-2006 08:36:55

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	34.42	77	101	2.21	69.01	65	9	6.10E-03	59.1	9.22E-02	
4	63.18	33	348	1.16	126.47	123	14	2.62E-03	****	1.04E+00	
4	66.28	80	415	1.34	132.66	123	14	6.37E-03	91.2	1.16E+00	
0	92.40	87	512	1.20	184.86	180	11	6.88E-03	****	1.93E+00	
0	139.71	108	400	1.10	279.38	275	9	8.58E-03	71.0	2.32E+00	
0	198.46	76	292	1.05	396.79	393	8	6.02E-03	84.2	2.11E+00	
0	351.63	37	176	0.93	702.90	699	9	2.98E-03	****	1.44E+00	
0	596.12	43	65	1.19	1191.67	1187	9	3.43E-03	74.6	9.56E-01	
0	608.65	78	73	1.79	1216.72	1211	12	6.19E-03	54.1	9.41E-01	
0	1120.56	12	32	1.37	2240.63	2234	11	9.73E-04	****	6.15E-01	
0	1379.37	24	33	3.87	2758.56	2749	19	1.92E-03	****	5.32E-01	
0	1763.74	14	14	1.96	3528.09	3522	16	1.10E-03	****	4.38E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	15	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	3	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.115E+01	5.115E+01	3.837E+01	75.01	
RA-226	1600.00Y	1.00	3.622E+01	3.622E+01	7.288E+01	201.20	
TH-228	1.91Y	1.01	8.314E-01	8.379E-01	48.82E-01	582.67	
			---------	---------			
	Total Activity :		8.820E+01	8.821E+01			

Grand Total Activity : 8.820E+01 8.821E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	5.115E+01	3.837E+01	4.366E+01	0.000E+00	1.171
RA-226	3.622E+01	7.288E+01	1.051E+02	0.000E+00	0.345
TH-228	8.379E-01	4.882E+00	8.235E+00	0.000E+00	0.102

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-8.629E+00		2.393E+01	3.993E+01	0.000E+00	-0.216
NA-24	-4.311E-04		7.302E-03	Half-Life too short		
CR-51	-1.477E+00		2.511E+01	4.318E+01	0.000E+00	-0.034
MN-54	1.003E+00		2.577E+00	4.646E+00	0.000E+00	0.216
CO-57	9.435E-02		2.660E+00	4.405E+00	0.000E+00	0.021
CO-58	-1.115E+00		2.595E+00	4.330E+00	0.000E+00	-0.257
FE-59	5.698E+00		5.177E+00	9.803E+00	0.000E+00	0.581
CO-60	-2.517E+00		2.549E+00	4.119E+00	0.000E+00	-0.611
ZN-65	7.330E+00		5.983E+00	1.009E+01	0.000E+00	0.727
SE-75	-1.201E+00		3.709E+00	6.140E+00	0.000E+00	-0.196
SR-85	9.797E+00		3.236E+00	6.111E+00	0.000E+00	1.603
Y-88	-4.530E-02		3.017E+00	5.412E+00	0.000E+00	-0.008
NB-94	-4.978E-01		2.638E+00	4.490E+00	0.000E+00	-0.111
NB-95	1.763E+00		2.859E+00	5.098E+00	0.000E+00	0.346
ZR-95	-8.940E-02		5.252E+00	9.005E+00	0.000E+00	-0.010
MO-99	-6.281E+00		1.365E+02	2.349E+02	0.000E+00	-0.027
RU-103	-1.207E+00		3.286E+00	5.457E+00	0.000E+00	-0.221
RU-106	-4.290E+00		2.287E+01	3.935E+01	0.000E+00	-0.109
AG-110m	-2.177E-01		2.611E+00	4.498E+00	0.000E+00	-0.048
SN-113	-1.997E+00		3.579E+00	5.969E+00	0.000E+00	-0.335
SB-124	4.043E+00		4.795E+00	4.573E+00	0.000E+00	0.884
SB-125	-8.434E-01		7.398E+00	1.257E+01	0.000E+00	-0.067
TE-129M	-1.617E+01		3.447E+01	5.729E+01	0.000E+00	-0.282
I-131	3.198E+00		5.113E+00	9.009E+00	0.000E+00	0.355
BA-133	-3.259E-01		4.307E+00	6.252E+00	0.000E+00	-0.052
CS-134	8.494E+00		3.578E+00	5.287E+00	0.000E+00	1.606
CS-136	-4.536E-01		3.607E+00	6.159E+00	0.000E+00	-0.074
CS-137	-2.793E-01		2.865E+00	4.928E+00	0.000E+00	-0.057
CE-139	-1.110E+00		2.666E+00	4.483E+00	0.000E+00	-0.248
BA-140	-8.394E+00		1.364E+01	2.302E+01	0.000E+00	-0.365
LA-140	-1.785E+00		3.890E+00	6.578E+00	0.000E+00	-0.271
CE-141	4.615E+00		5.880E+00	8.865E+00	0.000E+00	0.521
CE-144	9.318E-01		2.427E+01	3.423E+01	0.000E+00	0.027
EU-152	-2.728E+00		9.536E+00	1.416E+01	0.000E+00	-0.193
EU-154	1.688E-01		5.525E+00	9.145E+00	0.000E+00	0.018
AC-228	5.841E+00		9.631E+00	1.792E+01	0.000E+00	0.326
TH-232	5.825E+00		9.606E+00	1.787E+01	0.000E+00	0.326
U-235	-6.813E-01		2.331E+01	3.410E+01	0.000E+00	-0.020
U-238	-1.009E+02		2.803E+02	4.863E+02	0.000E+00	-0.208
AM-241	3.738E+00		1.579E+01	2.334E+01	0.000E+00	0.160

A,23L28671-4 ,05/19/2006 12:16,05/11/2006 14:00, 3.177E+00,WG L28671-4 BR
B,23L28671-4 ,LIBD ,06/24/2005 07:59,233L082404

C,K-40	,YES,	5.115E+01,	3.837E+01,	4.366E+01,,	1.171
C,RA-226	,YES,	3.622E+01,	7.288E+01,	1.051E+02,,	0.345
C,TH-228	,YES,	8.379E-01,	4.882E+00,	8.235E+00,,	0.102
C,BE-7	,NO ,	-8.629E+00,	2.393E+01,	3.993E+01,,	-0.216
C,CR-51	,NO ,	-1.477E+00,	2.511E+01,	4.318E+01,,	-0.034
C,MN-54	,NO ,	1.003E+00,	2.577E+00,	4.646E+00,,	0.216
C,CO-57	,NO ,	9.435E-02,	2.660E+00,	4.405E+00,,	0.021
C,CO-58	,NO ,	-1.115E+00,	2.595E+00,	4.330E+00,,	-0.257
C,FE-59	,NO ,	5.698E+00,	5.177E+00,	9.803E+00,,	0.581
C,CO-60	,NO ,	-2.517E+00,	2.549E+00,	4.119E+00,,	-0.611
C,ZN-65	,NO ,	7.330E+00,	5.983E+00,	1.009E+01,,	0.727
C,SE-75	,NO ,	-1.201E+00,	3.709E+00,	6.140E+00,,	-0.196
C,SR-85	,NO ,	9.797E+00,	3.236E+00,	6.111E+00,,	1.603
C,Y-88	,NO ,	-4.530E-02,	3.017E+00,	5.412E+00,,	-0.008
C,NB-94	,NO ,	-4.978E-01,	2.638E+00,	4.490E+00,,	-0.111
C,NB-95	,NO ,	1.763E+00,	2.859E+00,	5.098E+00,,	0.346
C,ZR-95	,NO ,	-8.940E-02,	5.252E+00,	9.005E+00,,	-0.010
C,MO-99	,NO ,	-6.281E+00,	1.365E+02,	2.349E+02,,	-0.027
C,RU-103	,NO ,	-1.207E+00,	3.286E+00,	5.457E+00,,	-0.221
C,RU-106	,NO ,	-4.290E+00,	2.287E+01,	3.935E+01,,	-0.109
C,AG-110m	,NO ,	-2.177E-01,	2.611E+00,	4.498E+00,,	-0.048
C,SN-113	,NO ,	-1.997E+00,	3.579E+00,	5.969E+00,,	-0.335
C,SB-124	,NO ,	4.043E+00,	4.795E+00,	4.573E+00,,	0.884
C,SB-125	,NO ,	-8.434E-01,	7.398E+00,	1.257E+01,,	-0.067
C,TE-129M	,NO ,	-1.617E+01,	3.447E+01,	5.729E+01,,	-0.282
C,I-131	,NO ,	3.198E+00,	5.113E+00,	9.009E+00,,	0.355
C,BA-133	,NO ,	-3.259E-01,	4.307E+00,	6.252E+00,,	-0.052
C,CS-134	,NO ,	8.494E+00,	3.578E+00,	5.287E+00,,	1.606
C,CS-136	,NO ,	-4.536E-01,	3.607E+00,	6.159E+00,,	-0.074
C,CS-137	,NO ,	-2.793E-01,	2.865E+00,	4.928E+00,,	-0.057
C,CE-139	,NO ,	-1.110E+00,	2.666E+00,	4.483E+00,,	-0.248
C,BA-140	,NO ,	-8.394E+00,	1.364E+01,	2.302E+01,,	-0.365
C,LA-140	,NO ,	-1.785E+00,	3.890E+00,	6.578E+00,,	-0.271
C,CE-141	,NO ,	4.615E+00,	5.880E+00,	8.865E+00,,	0.521
C,CE-144	,NO ,	9.318E-01,	2.427E+01,	3.423E+01,,	0.027
C,EU-152	,NO ,	-2.728E+00,	9.536E+00,	1.416E+01,,	-0.193
C,EU-154	,NO ,	1.688E-01,	5.525E+00,	9.145E+00,,	0.018
C,AC-228	,NO ,	5.841E+00,	9.631E+00,	1.792E+01,,	0.326
C,TH-232	,NO ,	5.825E+00,	9.606E+00,	1.787E+01,,	0.326
C,U-235	,NO ,	-6.813E-01,	2.331E+01,	3.410E+01,,	-0.020
C,U-238	,NO ,	-1.009E+02,	2.803E+02,	4.863E+02,,	-0.208
C,AM-241	,NO ,	3.738E+00,	1.579E+01,	2.334E+01,,	0.160

Sec. Review: Analyst: LIMS: ~

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 18-MAY-2006 13:15:48.28
TBE23 03017322 HpGe ********** Aquisition Date/Time: 18-MAY-2006 10:00:45.43

LIMS No., Customer Name, Client ID: WG L28671-5 BRAIDWOOD

Sample ID : 23L28671-5
Sample Type : WG
Quantity : 3.47390E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 15:00:00.
Geometry : 2335L090704
BKGFILE : 23BG050506MT
Real Time : 0 03:14:48.93
Live time : 0 03:14:40.93

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	7	33.78*	16	21	1.15	67.73	9.38E-02	1.39E-03	91.8	6.18E-01
2	0	40.65*	1	183	1.18	81.45	2.29E-01	1.20E-04*****		
3	0	92.50*	48	411	1.57	185.04	1.69E+00	4.08E-03	84.4	
4	0	139.79*	153	361	1.24	279.55	2.05E+00	1.31E-02	25.1	
5	0	185.86*	35	439	1.07	371.59	1.95E+00	3.03E-03	125.0	
6	0	198.97*	142	525	4.53	397.80	1.89E+00	1.22E-02	38.2	
7	0	352.00*	92	195	1.38	703.64	1.32E+00	7.86E-03	34.8	
8	0	595.77	39	96	1.41	1190.98	8.74E-01	3.33E-03	51.4	
9	0	609.15*	44	59	1.78	1217.72	8.59E-01	3.75E-03	40.2	
10	0	910.50*	18	28	1.43	1820.38	6.39E-01	1.58E-03	66.4	
11	0	1120.79*	7	45	1.40	2241.10	5.52E-01	6.00E-04	217.1	
12	0	1460.31*	30	19	1.52	2920.56	4.60E-01	2.57E-03	53.2	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	30	10.67*	4.596E-01	4.085E+01	4.085E+01	106.40
RA-226	186.21	35	3.28*	1.947E+00	3.691E+01	3.691E+01	249.99
AC-228	835.50	------	1.75	6.790E-01	------	Line Not Found	------
	911.07	18	27.70*	6.386E-01	6.961E+00	6.977E+00	132.78

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28671-5

Acquisition date : 18-MAY-2006 10:00:45

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	4.085E+01	4.085E+01	4.346E+01	106.40	
RA-226	1600.00Y	1.00	3.691E+01	3.691E+01	9.228E+01	249.99	
AC-228	5.75Y	1.00	6.961E+00	6.977E+00	9.264E+00	132.78	
	Total Activity :		8.472E+01	8.473E+01			

Grand Total Activity : 8.472E+01 8.473E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Sample ID : 23L28671-5 Acquisition date : 18-MAY-2006 10:00:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
7	33.78	16	21	1.15	67.73	65	15	1.39E-03	****	9.38E-02	
0	40.65	1	183	1.18	81.45	80	6	1.20E-04	****	2.29E-01	
0	92.50	48	411	1.57	185.04	181	9	4.08E-03	****	1.69E+00	
0	139.79	153	361	1.24	279.55	275	10	1.31E-02	50.2	2.05E+00	
0	198.97	142	525	4.53	397.80	390	17	1.22E-02	76.5	1.89E+00	
0	352.00	92	195	1.38	703.64	698	14	7.86E-03	69.6	1.32E+00	
0	595.77	39	96	1.41	1190.98	1184	11	3.33E-03	****	8.74E-01	
0	609.15	44	59	1.78	1217.72	1213	9	3.75E-03	80.4	8.59E-01	
0	1120.79	7	45	1.40	2241.10	2234	13	6.00E-04	****	5.52E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	4.085E+01	4.085E+01	4.346E+01	106.40	
RA-226	1600.00Y	1.00	3.691E+01	3.691E+01	9.228E+01	249.99	
AC-228	5.75Y	1.00	6.961E+00	6.977E+00	9.264E+00	132.78	
	Total Activity :		8.472E+01	8.473E+01			

Grand Total Activity : 8.472E+01 8.473E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	4.085E+01	4.346E+01	4.541E+01	0.000E+00	0.900
RA-226	3.691E+01	9.228E+01	1.162E+02	0.000E+00	0.318
AC-228	6.977E+00	9.264E+00	1.532E+01	0.000E+00	0.456

---- Non-Identified Nuclides ----

	Key-Line Activity	K.L.	Act error	MDA	MDA error	Act/MDA

Nuclide	(pCi/L)	Ided		(pCi/L)		
BE-7	-5.924E+00		2.508E+01	4.215E+01	0.000E+00	-0.141
NA-24	-6.185E+03		5.543E+03	8.793E+03	0.000E+00	-0.703
CR-51	-9.840E+00		2.607E+01	4.428E+01	0.000E+00	-0.222
MN-54	-1.659E+00		2.688E+00	4.543E+00	0.000E+00	-0.365
CO-57	2.125E+00		2.802E+00	4.745E+00	0.000E+00	0.448
CO-58	2.196E+00		2.856E+00	5.181E+00	0.000E+00	0.424
FE-59	-3.521E-02		5.278E+00	9.246E+00	0.000E+00	-0.004
CO-60	-1.515E-01		2.629E+00	4.679E+00	0.000E+00	-0.032
ZN-65	8.946E+00		6.994E+00	1.172E+01	0.000E+00	0.764
SE-75	-3.368E+00		3.937E+00	6.387E+00	0.000E+00	-0.527
SR-85	1.199E+01		3.489E+00	6.668E+00	0.000E+00	1.798
Y-88	-2.328E+00		3.400E+00	5.658E+00	0.000E+00	-0.412
NB-94	-2.378E+00		2.716E+00	4.428E+00	0.000E+00	-0.537
NB-95	2.580E+00		2.930E+00	5.331E+00	0.000E+00	0.484
ZR-95	-3.610E+00		4.889E+00	8.001E+00	0.000E+00	-0.451
MO-99	-9.663E+00		1.176E+02	2.017E+02	0.000E+00	-0.048
RU-103	3.944E+00		3.055E+00	5.549E+00	0.000E+00	0.711
RU-106	-3.596E+00		2.442E+01	4.214E+01	0.000E+00	-0.085
AG-110m	-9.963E-02		2.598E+00	4.505E+00	0.000E+00	-0.022
SN-113	2.862E-01		3.617E+00	6.222E+00	0.000E+00	0.046
SB-124	-6.846E+00		7.870E+00	5.027E+00	0.000E+00	-1.362
SB-125	7.893E+00		7.448E+00	1.345E+01	0.000E+00	0.587
TE-129M	3.497E+00		3.660E+01	6.260E+01	0.000E+00	0.056
I-131	5.075E+00		5.024E+00	8.993E+00	0.000E+00	0.564
BA-133	2.647E+00		4.570E+00	6.903E+00	0.000E+00	0.383
CS-134	2.176E+00		4.182E+00	5.401E+00	0.000E+00	0.403
CS-136	-1.078E+00		3.802E+00	6.409E+00	0.000E+00	-0.168
CS-137	-1.354E+00		2.922E+00	4.921E+00	0.000E+00	-0.275
CE-139	1.121E+00		2.838E+00	4.884E+00	0.000E+00	0.229
BA-140	5.901E+00		1.343E+01	2.404E+01	0.000E+00	0.246
LA-140	1.633E-01		3.953E+00	7.098E+00	0.000E+00	0.023
CE-141	-8.576E-01		6.054E+00	8.822E+00	0.000E+00	-0.097
CE-144	1.074E+01		2.512E+01	3.610E+01	0.000E+00	0.298
EU-152	-1.560E+00		9.979E+00	1.445E+01	0.000E+00	-0.108
EU-154	1.722E+00		5.865E+00	9.795E+00	0.000E+00	0.176
TH-228	-8.231E-01		5.356E+00	9.036E+00	0.000E+00	-0.091
TH-232	6.961E+00	+	9.243E+00	1.823E+01	0.000E+00	0.382
U-235	1.345E+01		2.405E+01	3.611E+01	0.000E+00	0.372
U-238	8.534E+01		3.074E+02	5.585E+02	0.000E+00	0.153
AM-241	-2.864E+01		1.535E+01	2.467E+01	0.000E+00	-1.161

A,23L28671-5 ,05/18/2006 13:15,05/11/2006 15:00, 3.474E+00,WG L28671-5 BR
B,23L28671-5 ,LIBD ,06/24/2005 07:59,2335L090704

C,K-40	,YES,	4.085E+01,	4.346E+01,	4.541E+01,,	0.900
C,RA-226	,YES,	3.691E+01,	9.228E+01,	1.162E+02,,	0.318
C,AC-228	,YES,	6.977E+00,	9.264E+00,	1.532E+01,,	0.456
C,BE-7	,NO ,	-5.924E+00,	2.508E+01,	4.215E+01,,	-0.141
C,NA-24	,NO ,	-6.185E+03,	5.543E+03,	8.793E+03,,	-0.703
C,CR-51	,NO ,	-9.840E+00,	2.607E+01,	4.428E+01,,	-0.222
C,MN-54	,NO ,	-1.659E+00,	2.688E+00,	4.543E+00,,	-0.365
C,CO-57	,NO ,	2.125E+00,	2.802E+00,	4.745E+00,,	0.448
C,CO-58	,NO ,	2.196E+00,	2.856E+00,	5.181E+00,,	0.424
C,FE-59	,NO ,	-3.521E-02,	5.278E+00,	9.246E+00,,	-0.004
C,CO-60	,NO ,	-1.515E-01,	2.629E+00,	4.679E+00,,	-0.032
C,ZN-65	,NO ,	8.946E+00,	6.994E+00,	1.172E+01,,	0.764
C,SE-75	,NO ,	-3.368E+00,	3.937E+00,	6.387E+00,,	-0.527
C,SR-85	,NO ,	1.199E+01,	3.489E+00,	6.668E+00,,	1.798
C,Y-88	,NO ,	-2.328E+00,	3.400E+00,	5.658E+00,,	-0.412
C,NB-94	,NO ,	-2.378E+00,	2.716E+00,	4.428E+00,,	-0.537
C,NB-95	,NO ,	2.580E+00,	2.930E+00,	5.331E+00,,	0.484
C,ZR-95	,NO ,	-3.610E+00,	4.889E+00,	8.001E+00,,	-0.451
C,MO-99	,NO ,	-9.663E+00,	1.176E+02,	2.017E+02,,	-0.048
C,RU-103	,NO ,	3.944E+00,	3.055E+00,	5.549E+00,,	0.711
C,RU-106	,NO ,	-3.596E+00,	2.442E+01,	4.214E+01,,	-0.085
C,AG-110m	,NO ,	-9.963E-02,	2.598E+00,	4.505E+00,,	-0.022
C,SN-113	,NO ,	2.862E-01,	3.617E+00,	6.222E+00,,	0.046
C,SB-124	,NO ,	-6.846E+00,	7.870E+00,	5.027E+00,,	-1.362
C,SB-125	,NO ,	7.893E+00,	7.448E+00,	1.345E+01,,	0.587
C,TE-129M	,NO ,	3.497E+00,	3.660E+01,	6.260E+01,,	0.056
C,I-131	,NO ,	5.075E+00,	5.024E+00,	8.993E+00,,	0.564
C,BA-133	,NO ,	2.647E+00,	4.570E+00,	6.903E+00,,	0.383
C,CS-134	,NO ,	2.176E+00,	4.182E+00,	5.401E+00,,	0.403
C,CS-136	,NO ,	-1.078E+00,	3.802E+00,	6.409E+00,,	-0.168
C,CS-137	,NO ,	-1.354E+00,	2.922E+00,	4.921E+00,,	-0.275
C,CE-139	,NO ,	1.121E+00,	2.838E+00,	4.884E+00,,	0.229
C,BA-140	,NO ,	5.901E+00,	1.343E+01,	2.404E+01,,	0.246
C,LA-140	,NO ,	1.633E-01,	3.953E+00,	7.098E+00,,	0.023
C,CE-141	,NO ,	-8.576E-01,	6.054E+00,	8.822E+00,,	-0.097
C,CE-144	,NO ,	1.074E+01,	2.512E+01,	3.610E+01,,	0.298
C,EU-152	,NO ,	-1.560E+00,	9.979E+00,	1.445E+01,,	-0.108
C,EU-154	,NO ,	1.722E+00,	5.865E+00,	9.795E+00,,	0.176
C,TH-228	,NO ,	-8.231E-01,	5.356E+00,	9.036E+00,,	-0.091
C,TH-232	,NO ,	6.961E+00,	9.243E+00,	1.823E+01,,	0.382
C,U-235	,NO ,	1.345E+01,	2.405E+01,	3.611E+01,,	0.372
C,U-238	,NO ,	8.534E+01,	3.074E+02,	5.585E+02,,	0.153
C,AM-241	,NO ,	-2.864E+01,	1.535E+01,	2.467E+01,,	-1.161

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 18-MAY-2006 13:17:02.10
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 18-MAY-2006 10:16:50.60

LIMS No., Customer Name, Client ID: WG L28671-6 BRAIDWOOD

Sample ID : 07L28671-6
Sample Type : WG
Quantity : 3.30950E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 15:15:00.
Geometry : 0735L090904
BKGFILE : 07BG050506MT
Real Time : 0 03:00:02.16
Live time : 0 03:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.25*	82	330	1.44	133.34	7.22E-01	7.55E-03	41.2	1.40E+00
2	1	91.86*	145	420	4.48	184.59	1.54E+00	1.34E-02	31.0	9.78E+00
3	1	139.85*	81	271	1.16	280.59	2.09E+00	7.46E-03	38.4	1.56E+00
4	1	198.39*	63	238	1.04	397.71	1.98E+00	5.79E-03	48.3	1.79E+00
5	2	241.78	62	179	1.38	484.52	1.80E+00	5.72E-03	39.1	1.92E+00
6	1	295.60*	79	249	2.21	592.18	1.60E+00	7.34E-03	44.0	3.07E+00
7	1	351.90*	139	136	1.61	704.82	1.43E+00	1.28E-02	19.5	9.01E-01
8	1	500.78	52	79	4.90	1002.63	1.13E+00	4.80E-03	39.6	3.48E+00
9	1	595.86	49	70	1.43	1192.82	9.96E-01	4.52E-03	32.7	2.12E+00
10	1	609.02*	103	74	1.73	1219.13	9.81E-01	9.51E-03	21.7	9.13E-01
11	1	1120.33*	21	22	1.82	2241.69	6.26E-01	1.90E-03	51.1	5.73E-01
12	1	1461.11*	31	13	2.12	2923.05	5.15E-01	2.84E-03	48.0	2.32E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	31	10.67*	5.150E-01	4.217E+01	4.217E+01	95.91

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28671-6

Acquisition date : 18-MAY-2006 10:16:50

Total number of lines in spectrum	12	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	2	16.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	4.217E+01	4.217E+01	4.044E+01	95.91	
		Total Activity :	4.217E+01	4.217E+01			
		Grand Total Activity :	4.217E+01	4.217E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28671-6 Acquisition date : 18-MAY-2006 10:16:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.25	82	330	1.44	133.34	130	8	7.55E-03	82.5	7.22E-01	
1	91.86	145	420	4.48	184.59	182	13	1.34E-02	62.1	1.54E+00	
1	139.85	81	271	1.16	280.59	277	8	7.46E-03	76.8	2.09E+00	
1	198.39	63	238	1.04	397.71	394	9	5.79E-03	96.7	1.98E+00	
2	241.78	62	179	1.38	484.52	472	18	5.72E-03	78.3	1.80E+00	T
1	295.60	79	249	2.21	592.18	587	13	7.34E-03	88.0	1.60E+00	
1	351.90	139	136	1.61	704.82	699	11	1.28E-02	39.0	1.43E+00	
1	500.78	52	79	4.90	1002.63	996	14	4.80E-03	79.1	1.13E+00	
1	595.86	49	70	1.43	1192.82	1189	8	4.52E-03	65.3	9.96E-01	
1	609.02	103	74	1.73	1219.13	1212	13	9.51E-03	43.3	9.81E-01	
1	1120.33	21	22	1.82	2241.69	2238	8	1.90E-03	****	6.26E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	2	16.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	4.217E+01	4.217E+01	4.044E+01	95.91	
	Total Activity :		4.217E+01	4.217E+01			
	Grand Total Activity :		4.217E+01	4.217E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	4.217E+01	4.044E+01	4.601E+01	0.000E+00	0.916

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	4.043E+00	2.580E+01	4.324E+01	0.000E+00	0.094
NA-24	-5.329E+03	6.057E+03	9.148E+03	0.000E+00	-0.583
CR-51	-2.651E+01	2.963E+01	4.601E+01	0.000E+00	-0.576
MN-54	-1.221E+00	2.893E+00	4.669E+00	0.000E+00	-0.261
CO-57	8.829E-01	2.533E+00	4.291E+00	0.000E+00	0.206
CO-58	-2.995E+00	3.150E+00	4.780E+00	0.000E+00	-0.627
FE-59	7.507E+00	6.218E+00	1.115E+01	0.000E+00	0.673
CO-60	9.017E-02	3.235E+00	5.361E+00	0.000E+00	0.017
ZN-65	9.150E+00	7.469E+00	1.174E+01	0.000E+00	0.779
SE-75	-3.096E+00	3.901E+00	6.203E+00	0.000E+00	-0.499
SR-85	2.170E+01	3.767E+00	7.479E+00	0.000E+00	2.901
Y-88	-1.157E-01	3.482E+00	5.655E+00	0.000E+00	-0.020
NB-94	-3.364E+00	2.694E+00	4.076E+00	0.000E+00	-0.825
NB-95	1.016E+00	2.909E+00	4.869E+00	0.000E+00	0.209
ZR-95	-4.437E-01	5.374E+00	8.746E+00	0.000E+00	-0.051
MO-99	2.709E+01	1.239E+02	2.060E+02	0.000E+00	0.132
RU-103	2.608E+00	3.521E+00	5.240E+00	0.000E+00	0.498
RU-106	6.448E+00	2.767E+01	4.556E+01	0.000E+00	0.142
AG-110m	1.037E+00	2.675E+00	4.543E+00	0.000E+00	0.228
SN-113	1.337E+00	3.728E+00	6.232E+00	0.000E+00	0.215
SB-124	4.379E+00	6.124E+00	5.179E+00	0.000E+00	0.845
SB-125	1.320E+00	8.084E+00	1.329E+01	0.000E+00	0.099
TE-129M	2.542E+01	3.794E+01	6.359E+01	0.000E+00	0.400
I-131	-2.950E+00	5.141E+00	8.274E+00	0.000E+00	-0.357
BA-133	5.329E+00	4.511E+00	6.844E+00	0.000E+00	0.779
CS-134	3.651E+00	4.971E+00	5.752E+00	0.000E+00	0.635
CS-136	1.592E+00	4.022E+00	6.715E+00	0.000E+00	0.237
CS-137	-1.366E+00	2.986E+00	4.806E+00	0.000E+00	-0.284
CE-139	6.500E-01	2.653E+00	4.386E+00	0.000E+00	0.148
BA-140	2.457E+00	1.408E+01	2.341E+01	0.000E+00	0.105
LA-140	-1.885E+00	4.834E+00	7.690E+00	0.000E+00	-0.245
CE-141	3.006E+00	5.673E+00	8.286E+00	0.000E+00	0.363
CE-144	3.324E+00	2.192E+01	3.294E+01	0.000E+00	0.101
EU-152	-1.188E+01	1.045E+01	1.366E+01	0.000E+00	-0.869
EU-154	3.262E+00	5.221E+00	8.919E+00	0.000E+00	0.366
RA-226	-3.146E+01	7.036E+01	1.149E+02	0.000E+00	-0.274
AC-228	-7.596E-01	1.112E+01	1.893E+01	0.000E+00	-0.040
TH-228	7.214E+00	6.068E+00	9.527E+00	0.000E+00	0.757
TH-232	-7.578E-01	1.110E+01	1.889E+01	0.000E+00	-0.040
U-235	-6.341E+00	2.297E+01	3.229E+01	0.000E+00	-0.196
U-238	4.559E+01	3.309E+02	5.471E+02	0.000E+00	0.083
AM-241	-2.119E+01	2.358E+01	3.716E+01	0.000E+00	-0.570

A,07L28671-6 ,05/18/2006 13:17,05/11/2006 15:15, 3.309E+00,WG L28671-6 BR
B,07L28671-6 ,LIBD ,06/23/2005 07:26,0735L090904

C,K-40	,YES,	4.217E+01,	4.044E+01,	4.601E+01,,	0.916
C,BE-7	,NO ,	4.043E+00,	2.580E+01,	4.324E+01,,	0.094
C,NA-24	,NO ,	-5.329E+03,	6.057E+03,	9.148E+03,,	-0.583
C,CR-51	,NO ,	-2.651E+01,	2.963E+01,	4.601E+01,,	-0.576
C,MN-54	,NO ,	-1.221E+00,	2.893E+00,	4.669E+00,,	-0.261
C,CO-57	,NO ,	8.829E-01,	2.533E+00,	4.291E+00,,	0.206
C,CO-58	,NO ,	-2.995E+00,	3.150E+00,	4.780E+00,,	-0.627
C,FE-59	,NO ,	7.507E+00,	6.218E+00,	1.115E+01,,	0.673
C,CO-60	,NO ,	9.017E-02,	3.235E+00,	5.361E+00,,	0.017
C,ZN-65	,NO ,	9.150E+00,	7.469E+00,	1.174E+01,,	0.779
C,SE-75	,NO ,	-3.096E+00,	3.901E+00,	6.203E+00,,	-0.499
C,SR-85	,NO ,	2.170E+01,	3.767E+00,	7.479E+00,,	2.901
C,Y-88	,NO ,	-1.157E-01,	3.482E+00,	5.655E+00,,	-0.020
C,NB-94	,NO ,	-3.364E+00,	2.694E+00,	4.076E+00,,	-0.825
C,NB-95	,NO ,	1.016E+00,	2.909E+00,	4.869E+00,,	0.209
C,ZR-95	,NO ,	-4.437E-01,	5.374E+00,	8.746E+00,,	-0.051
C,MO-99	,NO ,	2.709E+01,	1.239E+02,	2.060E+02,,	0.132
C,RU-103	,NO ,	2.608E+00,	3.521E+00,	5.240E+00,,	0.498
C,RU-106	,NO ,	6.448E+00,	2.767E+01,	4.556E+01,,	0.142
C,AG-110m	,NO ,	1.037E+00,	2.675E+00,	4.543E+00,,	0.228
C,SN-113	,NO ,	1.337E+00,	3.728E+00,	6.232E+00,,	0.215
C,SB-124	,NO ,	4.379E+00,	6.124E+00,	5.179E+00,,	0.845
C,SB-125	,NO ,	1.320E+00,	8.084E+00,	1.329E+01,,	0.099
C,TE-129M	,NO ,	2.542E+01,	3.794E+01,	6.359E+01,,	0.400
C,I-131	,NO ,	-2.950E+00,	5.141E+00,	8.274E+00,,	-0.357
C,BA-133	,NO ,	5.329E+00,	4.511E+00,	6.844E+00,,	0.779
C,CS-134	,NO ,	3.651E+00,	4.971E+00,	5.752E+00,,	0.635
C,CS-136	,NO ,	1.592E+00,	4.022E+00,	6.715E+00,,	0.237
C,CS-137	,NO ,	-1.366E+00,	2.986E+00,	4.806E+00,,	-0.284
C,CE-139	,NO ,	6.500E-01,	2.653E+00,	4.386E+00,,	0.148
C,BA-140	,NO ,	2.457E+00,	1.408E+01,	2.341E+01,,	0.105
C,LA-140	,NO ,	-1.885E+00,	4.834E+00,	7.690E+00,,	-0.245
C,CE-141	,NO ,	3.006E+00,	5.673E+00,	8.286E+00,,	0.363
C,CE-144	,NO ,	3.324E+00,	2.192E+01,	3.294E+01,,	0.101
C,EU-152	,NO ,	-1.188E+01,	1.045E+01,	1.366E+01,,	-0.869
C,EU-154	,NO ,	3.262E+00,	5.221E+00,	8.919E+00,,	0.366
C,RA-226	,NO ,	-3.146E+01,	7.036E+01,	1.149E+02,,	-0.274
C,AC-228	,NO ,	-7.596E-01,	1.112E+01,	1.893E+01,,	-0.040
C,TH-228	,NO ,	7.214E+00,	6.068E+00,	9.527E+00,,	0.757
C,TH-232	,NO ,	-7.578E-01,	1.110E+01,	1.889E+01,,	-0.040
C,U-235	,NO ,	-6.341E+00,	2.297E+01,	3.229E+01,,	-0.196
C,U-238	,NO ,	4.559E+01,	3.309E+02,	5.471E+02,,	0.083
C,AM-241	,NO ,	-2.119E+01,	2.358E+01,	3.716E+01,,	-0.570

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 16:36:53.72
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 19-MAY-2006 13:02:50.66

LIMS No., Customer Name, Client ID: L28671-7 WG BRAIDWOOD

Sample ID	: 04L28671-7			Smple Date	: 11-MAY-2006 14:40:00.
Sample Type	: WG			Geometry	: 043L082004
Quantity	: 2.82290E+00 L			BKGFILE	: 04BG050506MT
Start Channel	: 90	Energy Tol	: 1.70000	Real Time	: 0 03:33:56.05
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 03:33:53.97
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.42*	81	333	1.09	133.42	6.67E-01	6.29E-03	41.9	6.42E-01
2	1	140.15*	67	311	1.55	280.88	2.04E+00	5.20E-03	50.7	2.23E+00
3	1	198.47*	66	182	1.13	397.54	1.86E+00	5.16E-03	37.3	9.02E-01
4	1	352.44*	23	126	1.97	705.50	1.28E+00	1.76E-03	106.3	1.78E+00
5	1	596.19	82	66	2.42	1192.99	8.63E-01	6.35E-03	23.7	1.70E+00
6	1	609.75*	22	70	1.93	1220.10	8.48E-01	1.71E-03	80.2	8.40E-01
7	1	1174.29*	17	19	2.16	2348.98	5.08E-01	1.36E-03	61.1	2.71E+00
8	1	1727.80	37	12	7.80	3455.53	3.82E-01	2.84E-03	20.9	1.19E+00
9	1	1765.50*	31	8	3.14	3530.89	3.77E-01	2.38E-03	31.4	3.41E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: activation

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
CO-60	1173.22	17	100.00	5.081E-01	2.566E+00	2.573E+00	122.16
	1332.49	------	100.00*	4.604E-01	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28671-7 Acquisition date : 19-MAY-2006 13:02:50

Total number of lines in spectrum	9	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	1	11.11%

Nuclide Type : activation

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.00	2.566E+00	2.573E+00	3.143E+00	122.16	K
Total Activity :			2.566E+00	2.573E+00			
Grand Total Activity :			2.566E+00	2.573E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28671-7 Acquisition date : 19-MAY-2006 13:02:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.42	81	333	1.09	133.42	130	8	6.29E-03	83.8	6.67E-01	
1	140.15	67	311	1.55	280.88	277	9	5.20E-03	****	2.04E+00	
1	198.47	66	182	1.13	397.54	394	7	5.16E-03	74.7	1.86E+00	
1	352.44	23	126	1.97	705.50	700	11	1.76E-03	****	1.28E+00	
1	596.19	82	66	2.42	1192.99	1186	13	6.35E-03	47.5	8.63E-01	
1	609.75	22	70	1.93	1220.10	1215	10	1.71E-03	****	8.48E-01	
1	1727.80	37	12	7.80	3455.53	3449	12	2.84E-03	41.7	3.82E-01	
1	1765.50	31	8	3.14	3530.89	3525	16	2.38E-03	62.7	3.77E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	9	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	1	11.11%

Nuclide Type : activation

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.00	2.566E+00	2.573E+00	3.143E+00	122.16	
		Total Activity :	2.566E+00	2.573E+00			
		Grand Total Activity :	2.566E+00	2.573E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
CO-60	2.573E+00	3.143E+00	6.029E+00	0.000E+00	0.427

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	1.075E+01		2.778E+01	4.641E+01	0.000E+00	0.232
NA-24	9.519E-03		1.213E-02	Half-Life too short		
K-40	2.474E+01		4.160E+01	8.115E+01	0.000E+00	0.305

CR-51	-1.405E+01	3.139E+01	5.001E+01	0.000E+00	-0.281
MN-54	-4.179E-01	2.959E+00	4.842E+00	0.000E+00	-0.086
CO-57	-9.244E-02	2.631E+00	4.361E+00	0.000E+00	-0.021
CO-58	-1.377E+00	3.117E+00	4.997E+00	0.000E+00	-0.276
FE-59	1.104E+00	6.481E+00	1.088E+01	0.000E+00	0.102
ZN-65	-2.222E+00	6.519E+00	1.046E+01	0.000E+00	-0.212
SE-75	6.031E-01	3.996E+00	6.625E+00	0.000E+00	0.091
SR-85	2.060E+01	3.998E+00	7.845E+00	0.000E+00	2.626
Y-88	8.577E-01	3.137E+00	5.359E+00	0.000E+00	0.160
NB-94	1.695E-01	2.961E+00	4.857E+00	0.000E+00	0.035
NB-95	3.003E+00	3.181E+00	5.519E+00	0.000E+00	0.544
ZR-95	-2.802E+00	5.528E+00	8.616E+00	0.000E+00	-0.325
MO-99	6.092E+01	1.747E+02	2.912E+02	0.000E+00	0.209
RU-103	1.787E+00	3.534E+00	5.922E+00	0.000E+00	0.302
RU-106	-9.297E+00	2.951E+01	4.772E+01	0.000E+00	-0.195
AG-110m	-2.334E+00	3.150E+00	4.921E+00	0.000E+00	-0.474
SN-113	1.373E+00	3.833E+00	6.472E+00	0.000E+00	0.212
SB-124	-4.715E+00	8.194E+00	5.304E+00	0.000E+00	-0.889
SB-125	-1.943E+00	8.223E+00	1.337E+01	0.000E+00	-0.145
TE-129M	4.168E+00	3.903E+01	6.436E+01	0.000E+00	0.065
I-131	2.538E+00	5.793E+00	9.855E+00	0.000E+00	0.258
BA-133	1.141E+00	4.644E+00	6.719E+00	0.000E+00	0.170
CS-134	8.427E-01	5.752E+00	5.240E+00	0.000E+00	0.161
CS-136	1.484E+00	4.416E+00	7.497E+00	0.000E+00	0.198
CS-137	2.564E+00	3.331E+00	5.742E+00	0.000E+00	0.447
CE-139	7.751E-01	2.808E+00	4.625E+00	0.000E+00	0.168
BA-140	6.413E+00	1.604E+01	2.665E+01	0.000E+00	0.241
LA-140	4.798E-01	5.547E+00	9.163E+00	0.000E+00	0.052
CE-141	-1.330E+00	6.076E+00	8.478E+00	0.000E+00	-0.157
CE-144	4.482E+00	2.184E+01	3.260E+01	0.000E+00	0.137
EU-152	-3.643E+00	1.087E+01	1.515E+01	0.000E+00	-0.240
EU-154	3.941E+00	5.396E+00	9.165E+00	0.000E+00	0.430
RA-226	8.524E+00	7.017E+01	1.156E+02	0.000E+00	0.074
AC-228	-3.205E+00	1.206E+01	2.025E+01	0.000E+00	-0.158
TH-228	6.170E+00	5.658E+00	1.001E+01	0.000E+00	0.616
TH-232	-3.197E+00	1.203E+01	2.020E+01	0.000E+00	-0.158
U-235	-1.122E+00	2.372E+01	3.342E+01	0.000E+00	-0.034
U-238	4.504E+02	3.497E+02	6.279E+02	0.000E+00	0.717
AM-241	-1.002E+01	2.876E+01	4.533E+01	0.000E+00	-0.221

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A,04L28671-7      ,05/19/2006 16:36,05/11/2006 14:40,   2.823E+00,L28671-7 WG BR
B,04L28671-7      ,LIBD                ,03/14/2005 09:04,043L082004
C,CO-60    ,YES,   2.573E+00,   3.143E+00,   6.029E+00,,    0.427
C,BE-7     ,NO ,   1.075E+01,   2.778E+01,   4.641E+01,,    0.232
C,K-40     ,NO ,   2.474E+01,   4.160E+01,   8.115E+01,,    0.305
C,CR-51    ,NO ,  -1.405E+01,   3.139E+01,   5.001E+01,,   -0.281
C,MN-54    ,NO ,  -4.179E-01,   2.959E+00,   4.842E+00,,   -0.086
C,CO-57    ,NO ,  -9.244E-02,   2.631E+00,   4.361E+00,,   -0.021
C,CO-58    ,NO ,  -1.377E+00,   3.117E+00,   4.997E+00,,   -0.276
C,FE-59    ,NO ,   1.104E+00,   6.481E+00,   1.088E+01,,    0.102
C,ZN-65    ,NO ,  -2.222E+00,   6.519E+00,   1.046E+01,,   -0.212
C,SE-75    ,NO ,   6.031E-01,   3.996E+00,   6.625E+00,,    0.091
C,SR-85    ,NO ,   2.060E+01,   3.998E+00,   7.845E+00,,    2.626
C,Y-88     ,NO ,   8.577E-01,   3.137E+00,   5.359E+00,,    0.160
C,NB-94    ,NO ,   1.695E-01,   2.961E+00,   4.857E+00,,    0.035
C,NB-95    ,NO ,   3.003E+00,   3.181E+00,   5.519E+00,,    0.544
C,ZR-95    ,NO ,  -2.802E+00,   5.528E+00,   8.616E+00,,   -0.325
C,MO-99    ,NO ,   6.092E+01,   1.747E+02,   2.912E+02,,    0.209
C,RU-103   ,NO ,   1.787E+00,   3.534E+00,   5.922E+00,,    0.302
C,RU-106   ,NO ,  -9.297E+00,   2.951E+01,   4.772E+01,,   -0.195
C,AG-110m  ,NO ,  -2.334E+00,   3.150E+00,   4.921E+00,,   -0.474
C,SN-113   ,NO ,   1.373E+00,   3.833E+00,   6.472E+00,,    0.212
C,SB-124   ,NO ,  -4.715E+00,   8.194E+00,   5.304E+00,,   -0.889
C,SB-125   ,NO ,  -1.943E+00,   8.223E+00,   1.337E+01,,   -0.145
C,TE-129M  ,NO ,   4.168E+00,   3.903E+01,   6.436E+01,,    0.065
C,I-131    ,NO ,   2.538E+00,   5.793E+00,   9.855E+00,,    0.258
C,BA-133   ,NO ,   1.141E+00,   4.644E+00,   6.719E+00,,    0.170
C,CS-134   ,NO ,   8.427E-01,   5.752E+00,   5.240E+00,,    0.161
C,CS-136   ,NO ,   1.484E+00,   4.416E+00,   7.497E+00,,    0.198
C,CS-137   ,NO ,   2.564E+00,   3.331E+00,   5.742E+00,,    0.447
C,CE-139   ,NO ,   7.751E-01,   2.808E+00,   4.625E+00,,    0.168
C,BA-140   ,NO ,   6.413E+00,   1.604E+01,   2.665E+01,,    0.241
C,LA-140   ,NO ,   4.798E-01,   5.547E+00,   9.163E+00,,    0.052
C,CE-141   ,NO ,  -1.330E+00,   6.076E+00,   8.478E+00,,   -0.157
C,CE-144   ,NO ,   4.482E+00,   2.184E+01,   3.260E+01,,    0.137
C,EU-152   ,NO ,  -3.643E+00,   1.087E+01,   1.515E+01,,   -0.240
C,EU-154   ,NO ,   3.941E+00,   5.396E+00,   9.165E+00,,    0.430
C,RA-226   ,NO ,   8.524E+00,   7.017E+01,   1.156E+02,,    0.074
C,AC-228   ,NO ,  -3.205E+00,   1.206E+01,   2.025E+01,,   -0.158
C,TH-228   ,NO ,   6.170E+00,   5.658E+00,   1.001E+01,,    0.616
C,TH-232   ,NO ,  -3.197E+00,   1.203E+01,   2.020E+01,,   -0.158
C,U-235    ,NO ,  -1.122E+00,   2.372E+01,   3.342E+01,,   -0.034
C,U-238    ,NO ,   4.504E+02,   3.497E+02,   6.279E+02,,    0.717
C,AM-241   ,NO ,  -1.002E+01,   2.876E+01,   4.533E+01,,   -0.221
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Sec. Review: Analyst: LIMS: ✓

PM

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 12:25:05.48
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 19-MAY-2006 08:36:52.23

LIMS No., Customer Name, Client ID: WG L28671-8 BRAIDWOOD

Sample ID : 13L28671-8			Smple Date: 11-MAY-2006 14:15:00.
Sample Type : WG			Geometry : 133L082404
Quantity : 3.24680E+00 L			BKGFILE : 13BG050506MT
Start Channel : 25	Energy Tol : 1.50000		Real Time : 0 03:48:05.02
End Channel : 4090	Pk Srch Sens: 5.00000		Live time : 0 03:48:00.88
MDA Constant : 0.00	Library Used: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	3	87.26*	39	356	1.10	174.45	1.59E+00	2.83E-03	87.2	4.90E-01
2	1	140.12*	80	430	1.35	280.08	2.27E+00	5.84E-03	47.9	2.62E+00
3	1	198.20*	118	332	1.27	396.16	2.13E+00	8.60E-03	29.0	8.52E-01
4	1	238.81*	33	283	0.95	477.32	1.94E+00	2.41E-03	97.9	9.26E-01
5	1	295.30*	36	287	1.16	590.22	1.70E+00	2.60E-03	99.1	3.34E+00
6	1	351.81*	96	218	1.18	703.17	1.51E+00	7.04E-03	32.5	1.25E+00
7	1	583.03*	32	122	1.92	1165.44	1.04E+00	2.33E-03	79.2	8.93E-01
8	1	609.28*	196	122	2.22	1217.91	1.01E+00	1.43E-02	15.6	2.01E+00
9	1	911.60*	8	107	1.99	1822.53	7.36E-01	5.66E-04	325.1	1.16E+00
10	1	1120.59*	52	33	2.98	2240.63	6.26E-01	3.83E-03	29.3	1.33E+00
11	1	1239.70*	24	50	1.32	2478.95	5.80E-01	1.73E-03	62.1	1.25E+01
12	1	1765.17*	21	26	2.21	3530.76	4.55E-01	1.52E-03	67.7	8.33E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
AC-228	835.50	------	1.75	7.877E-01	------ Line Not Found		------
	911.07	8	27.70*	7.358E-01	2.312E+00	2.318E+00	650.29
TH-228	238.63	33	44.60*	1.937E+00	2.326E+00	2.344E+00	195.81
	240.98	------	3.95	1.927E+00	------ Line Not Found		------
TH-232	583.14	32	30.25	1.040E+00	6.157E+00	6.157E+00	158.33
	911.07	8	27.70*	7.358E-01	2.312E+00	2.312E+00	650.29
	969.11	------	16.60	7.014E-01	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28671-8 Acquisition date : 19-MAY-2006 08:36:52

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	2.312E+00	2.318E+00	15.07E+00	650.29	
TH-228	1.91Y	1.01	2.326E+00	2.344E+00	4.589E+00	195.81	
TH-232	1.41E+10Y	1.00	2.312E+00	2.312E+00	15.03E+00	650.29	
			---------	---------			
	Total Activity :		6.949E+00	6.973E+00			
	Grand Total Activity :		6.949E+00	6.973E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28671-8

Acquisition date : 19-MAY-2006 08:36:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	87.26	39	356	1.10	174.45	165	13	2.83E-03	****	1.59E+00	
1	140.12	80	430	1.35	280.08	276	8	5.84E-03	95.8	2.27E+00	
1	198.20	118	332	1.27	396.16	393	8	8.60E-03	58.1	2.13E+00	
1	295.30	36	287	1.16	590.22	586	11	2.60E-03	****	1.70E+00	
1	351.81	96	218	1.18	703.17	697	10	7.04E-03	64.9	1.51E+00	
1	609.28	196	122	2.22	1217.91	1210	16	1.43E-02	31.2	1.01E+00	
1	1120.59	52	33	2.98	2240.63	2235	13	3.83E-03	58.5	6.26E-01	
1	1239.70	24	50	1.32	2478.95	2471	11	1.73E-03	****	5.80E-01	
1	1765.17	21	26	2.21	3530.76	3520	16	1.52E-03	****	4.55E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	3	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	2.326E+00	2.344E+00	4.589E+00	195.81	
TH-232	1.41E+10Y	1.00	5.019E+00	5.019E+00	8.179E+00	162.97	
	Total Activity :		7.345E+00	7.363E+00			

Grand Total Activity : 7.345E+00 7.363E+00

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
TH-228	2.344E+00	4.589E+00	6.918E+00	0.000E+00	0.339
TH-232	5.019E+00	8.179E+00	1.512E+01	0.000E+00	0.332

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	9.338E+00		2.439E+01	4.049E+01	0.000E+00	0.231
NA-24	-2.605E-03		8.858E-03	Half-Life too short		
K-40	2.298E+01		3.809E+01	7.645E+01	0.000E+00	0.301
CR-51	-6.939E+00		2.589E+01	4.170E+01	0.000E+00	-0.166
MN-54	4.332E-01		2.519E+00	4.192E+00	0.000E+00	0.103
CO-57	-8.965E-01		2.360E+00	3.898E+00	0.000E+00	-0.230
CO-58	-3.185E-02		2.764E+00	4.560E+00	0.000E+00	-0.007
FE-59	-5.011E-01		5.801E+00	9.494E+00	0.000E+00	-0.053
CO-60	1.096E+00		2.698E+00	4.601E+00	0.000E+00	0.238
ZN-65	4.112E+00		7.231E+00	1.053E+01	0.000E+00	0.390
SE-75	2.036E-02		3.415E+00	5.634E+00	0.000E+00	0.004
SR-85	2.228E+01		3.434E+00	6.740E+00	0.000E+00	3.305
Y-88	-2.807E+00		2.960E+00	4.358E+00	0.000E+00	-0.644
NB-94	-6.889E-01		2.558E+00	4.102E+00	0.000E+00	-0.168
NB-95	6.647E-01		2.845E+00	4.778E+00	0.000E+00	0.139
ZR-95	3.056E+00		4.893E+00	8.401E+00	0.000E+00	0.364
MO-99	-2.810E+01		1.384E+02	2.278E+02	0.000E+00	-0.123
RU-103	1.065E+00		2.850E+00	4.719E+00	0.000E+00	0.226
RU-106	-1.426E+01		2.466E+01	3.870E+01	0.000E+00	-0.368
AG-110m	-1.561E+00		2.642E+00	4.186E+00	0.000E+00	-0.373
SN-113	-3.758E-01		3.281E+00	5.411E+00	0.000E+00	-0.069
SB-124	-3.351E+00		3.413E+00	4.422E+00	0.000E+00	-0.758
SB-125	-1.533E-01		7.060E+00	1.161E+01	0.000E+00	-0.013
TE-129M	4.400E+00		3.248E+01	5.350E+01	0.000E+00	0.082
I-131	3.432E+00		4.758E+00	8.152E+00	0.000E+00	0.421
BA-133	4.510E+00		3.998E+00	6.039E+00	0.000E+00	0.747
CS-134	3.064E+00		3.439E+00	5.062E+00	0.000E+00	0.605
CS-136	-2.678E-02		3.761E+00	6.201E+00	0.000E+00	-0.004
CS-137	2.291E+00		2.798E+00	4.780E+00	0.000E+00	0.479
CE-139	1.867E-01		2.410E+00	3.956E+00	0.000E+00	0.047
BA-140	1.228E+01		1.309E+01	2.276E+01	0.000E+00	0.539
LA-140	2.661E+00		4.613E+00	8.010E+00	0.000E+00	0.332
CE-141	3.816E+00		5.400E+00	7.880E+00	0.000E+00	0.484
CE-144	-1.010E+01		1.990E+01	2.903E+01	0.000E+00	-0.348
EU-152	-9.445E+00		1.001E+01	1.300E+01	0.000E+00	-0.726
EU-154	-1.491E+00		4.874E+00	8.062E+00	0.000E+00	-0.185
RA-226	-5.864E+01		6.715E+01	1.111E+02	0.000E+00	-0.528
AC-228	2.318E+00		1.507E+01	1.875E+01	0.000E+00	0.124
U-235	1.246E+01		2.137E+01	3.112E+01	0.000E+00	0.400
U-238	9.628E+01		3.110E+02	5.233E+02	0.000E+00	0.184
AM-241	-4.153E+01		2.094E+01	3.270E+01	0.000E+00	-1.270

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A,13L28671-8      ,05/19/2006 12:25,05/11/2006 14:15,   3.247E+00,WG L28671-8 BR
B,13L28671-8      ,LIBD                ,08/05/2005 08:16,133L082404
C,TH-228   ,YES,   2.344E+00,   4.589E+00,   6.918E+00,,    0.339
C,TH-232   ,YES,   5.019E+00,   8.179E+00,   1.512E+01,,    0.332
C,BE-7     ,NO ,   9.338E+00,   2.439E+01,   4.049E+01,,    0.231
C,K-40     ,NO ,   2.298E+01,   3.809E+01,   7.645E+01,,    0.301
C,CR-51    ,NO ,  -6.939E+00,   2.589E+01,   4.170E+01,,   -0.166
C,MN-54    ,NO ,   4.332E-01,   2.519E+00,   4.192E+00,,    0.103
C,CO-57    ,NO ,  -8.965E-01,   2.360E+00,   3.898E+00,,   -0.230
C,CO-58    ,NO ,  -3.185E-02,   2.764E+00,   4.560E+00,,   -0.007
C,FE-59    ,NO ,  -5.011E-01,   5.801E+00,   9.494E+00,,   -0.053
C,CO-60    ,NO ,   1.096E+00,   2.698E+00,   4.601E+00,,    0.238
C,ZN-65    ,NO ,   4.112E+00,   7.231E+00,   1.053E+01,,    0.390
C,SE-75    ,NO ,   2.036E-02,   3.415E+00,   5.634E+00,,    0.004
C,SR-85    ,NO ,   2.228E+01,   3.434E+00,   6.740E+00,,    3.305
C,Y-88     ,NO ,  -2.807E+00,   2.960E+00,   4.358E+00,,   -0.644
C,NB-94    ,NO ,  -6.889E-01,   2.558E+00,   4.102E+00,,   -0.168
C,NB-95    ,NO ,   6.647E-01,   2.845E+00,   4.778E+00,,    0.139
C,ZR-95    ,NO ,   3.056E+00,   4.893E+00,   8.401E+00,,    0.364
C,MO-99    ,NO ,  -2.810E+01,   1.384E+02,   2.278E+02,,   -0.123
C,RU-103   ,NO ,   1.065E+00,   2.850E+00,   4.719E+00,,    0.226
C,RU-106   ,NO ,  -1.426E+01,   2.466E+01,   3.870E+01,,   -0.368
C,AG-110m  ,NO ,  -1.561E+00,   2.642E+00,   4.186E+00,,   -0.373
C,SN-113   ,NO ,  -3.758E-01,   3.281E+00,   5.411E+00,,   -0.069
C,SB-124   ,NO ,  -3.351E+00,   3.413E+00,   4.422E+00,,   -0.758
C,SB-125   ,NO ,  -1.533E-01,   7.060E+00,   1.161E+01,,   -0.013
C,TE-129M  ,NO ,   4.400E+00,   3.248E+01,   5.350E+01,,    0.082
C,I-131    ,NO ,   3.432E+00,   4.758E+00,   8.152E+00,,    0.421
C,BA-133   ,NO ,   4.510E+00,   3.998E+00,   6.039E+00,,    0.747
C,CS-134   ,NO ,   3.064E+00,   3.439E+00,   5.062E+00,,    0.605
C,CS-136   ,NO ,  -2.678E-02,   3.761E+00,   6.201E+00,,   -0.004
C,CS-137   ,NO ,   2.291E+00,   2.798E+00,   4.780E+00,,    0.479
C,CE-139   ,NO ,   1.867E-01,   2.410E+00,   3.956E+00,,    0.047
C,BA-140   ,NO ,   1.228E+01,   1.309E+01,   2.276E+01,,    0.539
C,LA-140   ,NO ,   2.661E+00,   4.613E+00,   8.010E+00,,    0.332
C,CE-141   ,NO ,   3.816E+00,   5.400E+00,   7.880E+00,,    0.484
C,CE-144   ,NO ,  -1.010E+01,   1.990E+01,   2.903E+01,,   -0.348
C,EU-152   ,NO ,  -9.445E+00,   1.001E+01,   1.300E+01,,   -0.726
C,EU-154   ,NO ,  -1.491E+00,   4.874E+00,   8.062E+00,,   -0.185
C,RA-226   ,NO ,  -5.864E+01,   6.715E+01,   1.111E+02,,   -0.528
C,AC-228   ,NO ,   2.318E+00,   1.507E+01,   1.875E+01,,    0.124
C,U-235    ,NO ,   1.246E+01,   2.137E+01,   3.112E+01,,    0.400
C,U-238    ,NO ,   9.628E+01,   3.110E+02,   5.233E+02,,    0.184
C,AM-241   ,NO ,  -4.153E+01,   2.094E+01,   3.270E+01,,   -1.270
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 16:29:19.64
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 19-MAY-2006 12:28:51.62

LIMS No., Customer Name, Client ID: L28671-9 WG BRAIDWOOD

Sample ID : 13L28671-9
Sample Type : WG
Quantity : 2.97640E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 11-MAY-2006 15:15:00.
Geometry : 1335L090904
BKGFILE : 13BG050506MT
Real Time : 0 04:00:08.16
Live time : 0 04:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	139.98*	41	429	1.04	279.80	2.02E+00	2.86E-03	93.3	4.73E+00
2	1	198.23*	113	314	1.47	396.22	1.90E+00	7.84E-03	30.1	2.84E+00
3	1	238.62*	12	261	1.35	476.92	1.73E+00	8.25E-04	265.9	2.41E+00
4	1	294.64*	19	193	1.55	588.90	1.52E+00	1.34E-03	136.0	2.77E+00
5	1	351.69*	10	212	1.79	702.94	1.34E+00	7.10E-04	302.0	1.51E+00
6	1	583.31*	5	59	0.91	1166.00	9.26E-01	3.30E-04	329.9	1.38E+00
7	1	595.80	86	135	1.48	1190.97	9.11E-01	6.00E-03	29.1	9.72E-01
8	1	608.86*	34	117	1.62	1217.08	8.97E-01	2.34E-03	75.6	1.13E+00
9	1	911.11*	34	39	1.50	1821.55	6.64E-01	2.38E-03	50.3	1.63E+00
10	1	1461.25*	9	23	2.96	2922.34	4.69E-01	6.39E-04	190.9	1.90E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	9	10.67*	4.687E-01	1.161E+01	1.161E+01	381.78
AC-228	835.50	------	1.75	7.084E-01	------ Line Not Found		------
	911.07	34	27.70*	6.640E-01	1.173E+01	1.176E+01	100.56
TH-228	238.63	12	44.60*	1.733E+00	9.694E-01	9.771E-01	531.72
	240.98	------	3.95	1.723E+00	------ Line Not Found		------
TH-232	583.14	5	30.25	9.260E-01	1.069E+00	1.069E+00	659.82
	911.07	34	27.70*	6.640E-01	1.173E+01	1.173E+01	100.56
	969.11	------	16.60	6.342E-01	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28671-9 Acquisition date : 19-MAY-2006 12:28:51

Total number of lines in spectrum	10	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	4	40.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.161E+01	1.161E+01	4.431E+01	381.78	
AC-228	5.75Y	1.00	1.173E+01	1.176E+01	1.183E+01	100.56	
TH-228	1.91Y	1.01	9.694E-01	9.771E-01	51.95E-01	531.72	
TH-232	1.41E+10Y	1.00	1.173E+01	1.173E+01	1.179E+01	100.56	
	Total Activity :		3.603E+01	3.607E+01			
	Grand Total Activity :		3.603E+01	3.607E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28671-9

Acquisition date : 19-MAY-2006 12:28:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	139.98	41	429	1.04	279.80	276	8	2.86E-03	****	2.02E+00	
1	198.23	113	314	1.47	396.22	393	8	7.84E-03	60.2	1.90E+00	
1	294.64	19	193	1.55	588.90	586	8	1.34E-03	****	1.52E+00	
1	351.69	10	212	1.79	702.94	698	11	7.10E-04	****	1.34E+00	
1	595.80	86	135	1.48	1190.97	1185	12	6.00E-03	58.1	9.11E-01	
1	608.86	34	117	1.62	1217.08	1211	13	2.34E-03	****	8.97E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	10	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	4	40.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	1.161E+01	1.161E+01	4.431E+01	381.78	
AC-228	5.75Y	1.00	1.066E+01	1.069E+01	1.378E+01	128.93	
TH-228	1.91Y	1.01	9.694E-01	9.771E-01	51.95E-01	531.72	
TH-232	1.41E+10Y	1.00	1.069E+00	1.069E+00	7.055E+00	659.82	
	Total Activity :		2.430E+01	2.434E+01			

Grand Total Activity : 2.430E+01 2.434E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	1.161E+01	4.431E+01	4.759E+01	0.000E+00	0.244
AC-228	1.069E+01	1.378E+01	1.886E+01	0.000E+00	0.567
TH-228	9.771E-01	5.195E+00	8.338E+00	0.000E+00	0.117
TH-232	1.069E+00	7.055E+00	2.082E+01	0.000E+00	0.051

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	2.213E-01		2.662E+01	4.346E+01	0.000E+00	0.005
NA-24	-1.760E-02		1.078E-02	Half-Life too short		
CR-51	-4.853E+01		2.920E+01	4.434E+01	0.000E+00	-1.095
MN-54	-8.482E-01		3.051E+00	4.941E+00	0.000E+00	-0.172
CO-57	-1.921E+00		2.649E+00	4.330E+00	0.000E+00	-0.444
CO-58	-2.348E+00		3.219E+00	5.086E+00	0.000E+00	-0.462
FE-59	2.094E+00		6.344E+00	1.067E+01	0.000E+00	0.196
CO-60	8.276E-01		2.842E+00	4.814E+00	0.000E+00	0.172
ZN-65	1.084E+00		6.883E+00	1.143E+01	0.000E+00	0.095
SE-75	-1.589E+00		3.949E+00	6.425E+00	0.000E+00	-0.247
SR-85	2.248E+01		4.026E+00	7.721E+00	0.000E+00	2.912
Y-88	-1.511E+00		3.478E+00	5.440E+00	0.000E+00	-0.278
NB-94	7.010E-01		3.159E+00	5.202E+00	0.000E+00	0.135
NB-95	2.825E-01		3.227E+00	5.379E+00	0.000E+00	0.053
ZR-95	-9.539E-01		5.689E+00	9.360E+00	0.000E+00	-0.102
MO-99	2.033E+01		1.638E+02	2.744E+02	0.000E+00	0.074
RU-103	3.102E+00		3.421E+00	5.800E+00	0.000E+00	0.535
RU-106	-1.910E+01		2.963E+01	4.714E+01	0.000E+00	-0.405
AG-110m	-2.702E-01		2.974E+00	4.844E+00	0.000E+00	-0.056
SN-113	-8.293E-01		3.766E+00	6.182E+00	0.000E+00	-0.134
SB-124	2.054E+00		6.763E+00	5.303E+00	0.000E+00	0.387
SB-125	-5.541E+00		8.461E+00	1.352E+01	0.000E+00	-0.410
TE-129M	1.446E+01		3.989E+01	6.634E+01	0.000E+00	0.218
I-131	3.511E-02		5.528E+00	9.211E+00	0.000E+00	0.004
BA-133	2.168E+00		4.383E+00	6.416E+00	0.000E+00	0.338
CS-134	4.343E+00		4.900E+00	5.417E+00	0.000E+00	0.802
CS-136	3.013E+00		4.343E+00	7.461E+00	0.000E+00	0.404
CS-137	-6.457E-02		3.246E+00	5.306E+00	0.000E+00	-0.012
CE-139	1.048E+00		2.774E+00	4.594E+00	0.000E+00	0.228
BA-140	8.217E+00		1.614E+01	2.749E+01	0.000E+00	0.299
LA-140	3.875E-01		5.330E+00	8.888E+00	0.000E+00	0.044
CE-141	2.477E+00		6.257E+00	9.022E+00	0.000E+00	0.275
CE-144	-1.616E+00		2.323E+01	3.447E+01	0.000E+00	-0.047
EU-152	-8.908E+00		1.127E+01	1.477E+01	0.000E+00	-0.603
EU-154	-3.190E+00		5.471E+00	8.974E+00	0.000E+00	-0.355
RA-226	-1.018E+01		7.341E+01	1.244E+02	0.000E+00	-0.082
U-235	9.257E+00		2.437E+01	3.521E+01	0.000E+00	0.263
U-238	-1.180E+02		3.631E+02	5.872E+02	0.000E+00	-0.201
AM-241	-3.482E+01		2.507E+01	3.991E+01	0.000E+00	-0.872

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A,13L28671-9       ,05/19/2006 16:29,05/11/2006 15:15,   2.976E+00,L28671-9 WG BR
B,13L28671-9       ,LIBD                ,08/05/2005 08:16,1335L090904
C,K-40     ,YES,   1.161E+01,   4.431E+01,   4.759E+01,,     0.244
C,AC-228   ,YES,   1.069E+01,   1.378E+01,   1.886E+01,,     0.567
C,TH-228   ,YES,   9.771E-01,   5.195E+00,   8.338E+00,,     0.117
C,TH-232   ,YES,   1.069E+00,   7.055E+00,   2.082E+01,,     0.051
C,BE-7     ,NO ,   2.213E-01,   2.662E+01,   4.346E+01,,     0.005
C,CR-51    ,NO ,  -4.853E+01,   2.920E+01,   4.434E+01,,    -1.095
C,MN-54    ,NO ,  -8.482E-01,   3.051E+00,   4.941E+00,,    -0.172
C,CO-57    ,NO ,  -1.921E+00,   2.649E+00,   4.330E+00,,    -0.444
C,CO-58    ,NO ,  -2.348E+00,   3.219E+00,   5.086E+00,,    -0.462
C,FE-59    ,NO ,   2.094E+00,   6.344E+00,   1.067E+01,,     0.196
C,CO-60    ,NO ,   8.276E-01,   2.842E+00,   4.814E+00,,     0.172
C,ZN-65    ,NO ,   1.084E+00,   6.883E+00,   1.143E+01,,     0.095
C,SE-75    ,NO ,  -1.589E+00,   3.949E+00,   6.425E+00,,    -0.247
C,SR-85    ,NO ,   2.248E+01,   4.026E+00,   7.721E+00,,     2.912
C,Y-88     ,NO ,  -1.511E+00,   3.478E+00,   5.440E+00,,    -0.278
C,NB-94    ,NO ,   7.010E-01,   3.159E+00,   5.202E+00,,     0.135
C,NB-95    ,NO ,   2.825E-01,   3.227E+00,   5.379E+00,,     0.053
C,ZR-95    ,NO ,  -9.539E-01,   5.689E+00,   9.360E+00,,    -0.102
C,MO-99    ,NO ,   2.033E+01,   1.638E+02,   2.744E+02,,     0.074
C,RU-103   ,NO ,   3.102E+00,   3.421E+00,   5.800E+00,,     0.535
C,RU-106   ,NO ,  -1.910E+01,   2.963E+01,   4.714E+01,,    -0.405
C,AG-110m  ,NO ,  -2.702E-01,   2.974E+00,   4.844E+00,,    -0.056
C,SN-113   ,NO ,  -8.293E-01,   3.766E+00,   6.182E+00,,    -0.134
C,SB-124   ,NO ,   2.054E+00,   6.763E+00,   5.303E+00,,     0.387
C,SB-125   ,NO ,  -5.541E+00,   8.461E+00,   1.352E+01,,    -0.410
C,TE-129M  ,NO ,   1.446E+01,   3.989E+01,   6.634E+01,,     0.218
C,I-131    ,NO ,   3.511E-02,   5.528E+00,   9.211E+00,,     0.004
C,BA-133   ,NO ,   2.168E+00,   4.383E+00,   6.416E+00,,     0.338
C,CS-134   ,NO ,   4.343E+00,   4.900E+00,   5.417E+00,,     0.802
C,CS-136   ,NO ,   3.013E+00,   4.343E+00,   7.461E+00,,     0.404
C,CS-137   ,NO ,  -6.457E-02,   3.246E+00,   5.306E+00,,    -0.012
C,CE-139   ,NO ,   1.048E+00,   2.774E+00,   4.594E+00,,     0.228
C,BA-140   ,NO ,   8.217E+00,   1.614E+01,   2.749E+01,,     0.299
C,LA-140   ,NO ,   3.875E-01,   5.330E+00,   8.888E+00,,     0.044
C,CE-141   ,NO ,   2.477E+00,   6.257E+00,   9.022E+00,,     0.275
C,CE-144   ,NO ,  -1.616E+00,   2.323E+01,   3.447E+01,,    -0.047
C,EU-152   ,NO ,  -8.908E+00,   1.127E+01,   1.477E+01,,    -0.603
C,EU-154   ,NO ,  -3.190E+00,   5.471E+00,   8.974E+00,,    -0.355
C,RA-226   ,NO ,  -1.018E+01,   7.341E+01,   1.244E+02,,    -0.082
C,U-235    ,NO ,   9.257E+00,   2.437E+01,   3.521E+01,,     0.263
C,U-238    ,NO ,  -1.180E+02,   3.631E+02,   5.872E+02,,    -0.201
C,AM-241   ,NO ,  -3.482E+01,   2.507E+01,   3.991E+01,,    -0.872
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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 20-MAY-2006 01:13:48.98
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 19-MAY-2006 14:06:50.26

LIMS No., Customer Name, Client ID: WG L28671-10 BRAIDWOOD

Sample ID : 11L28671-10
Sample Type : WG
Quantity : 3.09370E+00 L
Start Channel : 40 Energy Tol : 1.30000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 12-MAY-2006 09:00:00.
Geometry : 113L082304
BKGFILE : 11BG050506MT
Real Time : 0 11:06:54.79
Live time : 0 11:06:40.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	66.33	215	1367	0.87	131.85	6.87E-01	5.37E-03	30.1	
2	0	92.77*	20	1124	1.23	184.87	1.47E+00	5.04E-04	326.9	
3	0	139.82	298	1115	1.31	279.25	1.90E+00	7.46E-03	21.0	
4	0	175.29	142	905	1.48	350.37	1.84E+00	3.56E-03	39.0	
5	0	186.08*	24	876	1.39	372.02	1.80E+00	6.01E-04	247.8	
6	0	198.31*	236	938	1.14	396.53	1.75E+00	5.90E-03	26.5	
7	0	294.82*	39	457	1.76	590.06	1.37E+00	9.78E-04	105.4	
8	0	338.33*	33	456	1.38	677.30	1.24E+00	8.20E-04	128.1	
9	0	351.92*	52	476	0.91	704.56	1.20E+00	1.31E-03	89.3	
10	0	583.37*	27	220	1.02	1168.52	8.17E-01	6.76E-04	125.2	
11	0	595.62	152	225	1.43	1193.07	8.04E-01	3.79E-03	20.2	
12	0	609.06*	113	249	1.76	1220.00	7.90E-01	2.84E-03	31.7	
13	0	727.23	34	147	0.93	1456.82	6.88E-01	8.62E-04	65.9	
14	0	911.71*	1	213	3.25	1826.43	5.74E-01	1.36E-05	*****	
15	0	967.95*	60	160	0.84	1939.09	5.47E-01	1.50E-03	54.2	
16	0	1120.18*	30	74	2.26	2244.01	4.86E-01	7.61E-04	66.9	
17	0	1460.13*	74	101	2.15	2924.66	3.92E-01	1.85E-03	43.1	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	74	10.67*	3.920E-01	3.872E+01	3.872E+01	86.10
RA-226	186.21	24	3.28*	1.798E+00	8.903E+00	8.903E+00	495.61
AC-228	835.50	------	1.75	6.158E-01	------	Line Not Found	------
	911.07	1	27.70*	5.742E-01	7.470E-02	7.488E-02	13969.08
TH-232	583.14	27	30.25	8.169E-01	2.389E+00	2.389E+00	250.32
	911.07	1	27.70*	5.742E-01	7.470E-02	7.470E-02	13969.08
	969.11	60	16.60	5.472E-01	1.440E+01	1.440E+01	108.37
U-235	143.76	------	10.50*	1.906E+00	------	Line Not Found	------
	163.35	------	4.70	1.876E+00	------	Line Not Found	------
	185.71	24	54.00	1.798E+00	5.408E-01	5.408E-01	495.61
	205.31	------	4.70	1.718E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28671-10 Acquisition date : 19-MAY-2006 14:06:50

Total number of lines in spectrum	17	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	5	29.41%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.872E+01	3.872E+01	3.334E+01	86.10	
RA-226	1600.00Y	1.00	8.903E+00	8.903E+00	44.13E+00	495.61	
AC-228	5.75Y	1.00	7.470E-02	7.488E-02	1046.E-02	13969.08	
TH-232	1.41E+10Y	1.00	7.470E-02	7.470E-02	1043.E-02	13969.08	
U-235	7.04E+08Y	1.00	5.408E-01	5.408E-01	26.80E-01	495.61	K
	Total Activity :		4.831E+01	4.831E+01			
	Grand Total Activity :		4.831E+01	4.831E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28671-10 Acquisition date : 19-MAY-2006 14:06:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	66.33	215	1367	0.87	131.85	129	7	5.37E-03	60.1	6.87E-01	
0	92.77	20	1124	1.23	184.87	181	9	5.04E-04	****	1.47E+00	
0	139.82	298	1115	1.31	279.25	275	9	7.46E-03	42.0	1.90E+00	
0	175.29	142	905	1.48	350.37	347	9	3.56E-03	77.9	1.84E+00	
0	198.31	236	938	1.14	396.53	392	10	5.90E-03	53.0	1.75E+00	
0	294.82	39	457	1.76	590.06	586	8	9.78E-04	****	1.37E+00	
0	338.33	33	456	1.38	677.30	672	9	8.20E-04	****	1.24E+00	
0	351.92	52	476	0.91	704.56	699	10	1.31E-03	****	1.20E+00	
0	595.62	152	225	1.43	1193.07	1189	10	3.79E-03	40.3	8.04E-01	
0	609.06	113	249	1.76	1220.00	1215	10	2.84E-03	63.4	7.90E-01	
0	727.23	34	147	0.93	1456.82	1453	9	8.62E-04	****	6.88E-01	
0	1120.18	30	74	2.26	2244.01	2239	9	7.61E-04	****	4.86E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	17	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	5	29.41%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.872E+01	3.872E+01	3.334E+01	86.10	
RA-226	1600.00Y	1.00	8.903E+00	8.903E+00	44.13E+00	495.61	
TH-232	1.41E+10Y	1.00	3.069E+00	3.069E+00	4.924E+00	160.41	
	Total Activity :		5.069E+01	5.069E+01			
	Grand Total Activity :		5.069E+01	5.069E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	3.872E+01	3.334E+01	2.834E+01	0.000E+00	1.366
RA-226	8.903E+00	4.413E+01	6.666E+01	0.000E+00	0.134

TH-232	3.069E+00	4.924E+00	1.032E+01	0.000E+00	0.298

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	1.004E+01		1.655E+01	2.764E+01	0.000E+00	0.363
NA-24	1.871E+03		7.433E+03	1.242E+04	0.000E+00	0.151
CR-51	-1.793E+01		1.802E+01	2.862E+01	0.000E+00	-0.627
MN-54	-2.170E-01		1.806E+00	2.927E+00	0.000E+00	-0.074
CO-57	5.860E-01		1.679E+00	2.773E+00	0.000E+00	0.211
CO-58	-1.882E+00		1.903E+00	2.979E+00	0.000E+00	-0.632
FE-59	3.090E+00		3.913E+00	6.637E+00	0.000E+00	0.466
CO-60	1.020E+00		1.927E+00	3.271E+00	0.000E+00	0.312
ZN-65	2.978E+00		4.687E+00	6.722E+00	0.000E+00	0.443
SE-75	8.822E-02		2.402E+00	3.950E+00	0.000E+00	0.022
SR-85	1.777E+01		2.211E+00	4.266E+00	0.000E+00	4.165
Y-88	-1.563E+00		2.140E+00	3.349E+00	0.000E+00	-0.467
NB-94	2.008E+00		1.719E+00	2.947E+00	0.000E+00	0.681
NB-95	1.503E+00		1.830E+00	3.095E+00	0.000E+00	0.486
ZR-95	-1.803E+00		3.370E+00	5.410E+00	0.000E+00	-0.333
MO-99	1.990E+01		8.627E+01	1.429E+02	0.000E+00	0.139
RU-103	1.832E+00		2.079E+00	3.492E+00	0.000E+00	0.525
RU-106	1.286E+00		1.712E+01	2.848E+01	0.000E+00	0.045
AG-110m	4.563E-01		1.770E+00	2.954E+00	0.000E+00	0.154
SN-113	7.830E-02		2.309E+00	3.835E+00	0.000E+00	0.020
SB-124	-2.960E-01		4.461E+00	3.164E+00	0.000E+00	-0.094
SB-125	1.281E+00		5.062E+00	8.418E+00	0.000E+00	0.152
TE-129M	4.388E+00		2.295E+01	3.796E+01	0.000E+00	0.116
I-131	-1.489E+00		3.330E+00	5.484E+00	0.000E+00	-0.272
BA-133	3.815E+00		2.853E+00	4.108E+00	0.000E+00	0.929
CS-134	3.775E+00		3.183E+00	3.374E+00	0.000E+00	1.119
CS-136	-4.428E-01		2.513E+00	4.069E+00	0.000E+00	-0.109
CS-137	1.451E+00		1.913E+00	3.246E+00	0.000E+00	0.447
CE-139	1.525E+00		1.780E+00	2.931E+00	0.000E+00	0.520
BA-140	4.616E+00		9.328E+00	1.546E+01	0.000E+00	0.299
LA-140	-7.080E-01		3.190E+00	5.128E+00	0.000E+00	-0.138
CE-141	-1.281E+00		3.911E+00	5.381E+00	0.000E+00	-0.238
CE-144	5.917E+00		1.529E+01	2.152E+01	0.000E+00	0.275
EU-152	5.486E-01		1.175E+01	8.932E+00	0.000E+00	0.061
EU-154	-1.450E+00		3.505E+00	5.711E+00	0.000E+00	-0.254
AC-228	7.488E-02		1.046E+01	1.214E+01	0.000E+00	0.006
TH-228	5.950E+00		3.472E+00	5.838E+00	0.000E+00	1.019
U-235	4.490E+00		1.547E+01	2.164E+01	0.000E+00	0.207
U-238	5.648E+01		2.139E+02	3.395E+02	0.000E+00	0.166
AM-241	1.503E+01		2.545E+01	3.831E+01	0.000E+00	0.392

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A,11L28671-10     ,05/20/2006 01:13,05/12/2006 09:00,   3.094E+00,WG L28671-10 B
B,11L28671-10     ,LIBD                ,09/01/2005 07:43,113L082304
C,K-40    ,YES,   3.872E+01,   3.334E+01,   2.834E+01,,    1.366
C,RA-226  ,YES,   8.903E+00,   4.413E+01,   6.666E+01,,    0.134
C,TH-232  ,YES,   3.069E+00,   4.924E+00,   1.032E+01,,    0.298
C,BE-7    ,NO ,   1.004E+01,   1.655E+01,   2.764E+01,,    0.363
C,NA-24   ,NO ,   1.871E+03,   7.433E+03,   1.242E+04,,    0.151
C,CR-51   ,NO ,  -1.793E+01,   1.802E+01,   2.862E+01,,   -0.627
C,MN-54   ,NO ,  -2.170E-01,   1.806E+00,   2.927E+00,,   -0.074
C,CO-57   ,NO ,   5.860E-01,   1.679E+00,   2.773E+00,,    0.211
C,CO-58   ,NO ,  -1.882E+00,   1.903E+00,   2.979E+00,,   -0.632
C,FE-59   ,NO ,   3.090E+00,   3.913E+00,   6.637E+00,,    0.466
C,CO-60   ,NO ,   1.020E+00,   1.927E+00,   3.271E+00,,    0.312
C,ZN-65   ,NO ,   2.978E+00,   4.687E+00,   6.722E+00,,    0.443
C,SE-75   ,NO ,   8.822E-02,   2.402E+00,   3.950E+00,,    0.022
C,SR-85   ,NO ,   1.777E+01,   2.211E+00,   4.266E+00,,    4.165
C,Y-88    ,NO ,  -1.563E+00,   2.140E+00,   3.349E+00,,   -0.467
C,NB-94   ,NO ,   2.008E+00,   1.719E+00,   2.947E+00,,    0.681
C,NB-95   ,NO ,   1.503E+00,   1.830E+00,   3.095E+00,,    0.486
C,ZR-95   ,NO ,  -1.803E+00,   3.370E+00,   5.410E+00,,   -0.333
C,MO-99   ,NO ,   1.990E+01,   8.627E+01,   1.429E+02,,    0.139
C,RU-103  ,NO ,   1.832E+00,   2.079E+00,   3.492E+00,,    0.525
C,RU-106  ,NO ,   1.286E+00,   1.712E+01,   2.848E+01,,    0.045
C,AG-110m ,NO ,   4.563E-01,   1.770E+00,   2.954E+00,,    0.154
C,SN-113  ,NO ,   7.830E-02,   2.309E+00,   3.835E+00,,    0.020
C,SB-124  ,NO ,  -2.960E-01,   4.461E+00,   3.164E+00,,   -0.094
C,SB-125  ,NO ,   1.281E+00,   5.062E+00,   8.418E+00,,    0.152
C,TE-129M ,NO ,   4.388E+00,   2.295E+01,   3.796E+01,,    0.116
C,I-131   ,NO ,  -1.489E+00,   3.330E+00,   5.484E+00,,   -0.272
C,BA-133  ,NO ,   3.815E+00,   2.853E+00,   4.108E+00,,    0.929
C,CS-134  ,NO ,   3.775E+00,   3.183E+00,   3.374E+00,,    1.119
C,CS-136  ,NO ,  -4.428E-01,   2.513E+00,   4.069E+00,,   -0.109
C,CS-137  ,NO ,   1.451E+00,   1.913E+00,   3.246E+00,,    0.447
C,CE-139  ,NO ,   1.525E+00,   1.780E+00,   2.931E+00,,    0.520
C,BA-140  ,NO ,   4.616E+00,   9.328E+00,   1.546E+01,,    0.299
C,LA-140  ,NO ,  -7.080E-01,   3.190E+00,   5.128E+00,,   -0.138
C,CE-141  ,NO ,  -1.281E+00,   3.911E+00,   5.381E+00,,   -0.238
C,CE-144  ,NO ,   5.917E+00,   1.529E+01,   2.152E+01,,    0.275
C,EU-152  ,NO ,   5.486E-01,   1.175E+01,   8.932E+00,,    0.061
C,EU-154  ,NO ,  -1.450E+00,   3.505E+00,   5.711E+00,,   -0.254
C,AC-228  ,NO ,   7.488E-02,   1.046E+01,   1.214E+01,,    0.006
C,TH-228  ,NO ,   5.950E+00,   3.472E+00,   5.838E+00,,    1.019
C,U-235   ,NO ,   4.490E+00,   1.547E+01,   2.164E+01,,    0.207
C,U-238   ,NO ,   5.648E+01,   2.139E+02,   3.395E+02,,    0.166
C,AM-241  ,NO ,   1.503E+01,   2.545E+01,   3.831E+01,,    0.392
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 12:52:08.89
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 19-MAY-2006 09:21:58.41

LIMS No., Customer Name, Client ID: WG L28671-11 BRAIDWOOD

Sample ID : 04L28671-11
Sample Type : WG
Quantity : 3.08840E+00 L
Start Channel : 90 Energy Tol : 1.70000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 12-MAY-2006 09:45:00.
Geometry : 043L082004
BKGFILE : 04BG050506MT
Real Time : 0 03:30:03.50
Live time : 0 03:30:01.30

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.58*	116	434	1.51	133.72	6.73E-01	9.24E-03	35.5	1.19E+00
2	2	77.33*	44	237	1.06	155.23	1.07E+00	3.48E-03	62.6	1.69E+00
3	1	139.90*	73	282	1.07	280.39	2.04E+00	5.81E-03	40.6	2.13E+00
4	1	198.23*	75	298	1.67	397.07	1.87E+00	5.96E-03	45.5	1.03E+00
5	1	238.91*	43	235	1.69	478.43	1.68E+00	3.44E-03	73.0	2.70E+00
6	1	283.52	50	128	1.65	567.66	1.50E+00	3.96E-03	41.6	1.34E+00
7	1	295.15*	33	176	0.89	590.92	1.46E+00	2.58E-03	76.0	1.79E+00
8	1	352.06*	161	95	1.57	704.73	1.28E+00	1.28E-02	14.8	2.43E+00
9	1	582.96*	6	50	1.24	1166.53	8.77E-01	5.11E-04	220.1	1.45E+00
10	1	595.72	37	90	0.99	1192.04	8.63E-01	2.92E-03	52.5	6.79E-01
11	1	609.21*	125	110	1.29	1219.03	8.49E-01	9.95E-03	19.7	2.60E+00
12	1	910.64*	17	36	3.63	1821.81	6.21E-01	1.32E-03	83.8	5.23E+00
13	1	1119.93*	25	29	1.94	2240.30	5.27E-01	1.94E-03	61.7	1.54E+00
14	1	1332.34*	16	17	2.85	2664.98	4.60E-01	1.29E-03	63.5	1.30E+00
15	1	1460.74*	35	24	3.71	2921.67	4.30E-01	2.75E-03	45.4	1.15E+00
16	1	1763.83*	39	12	2.18	3527.55	3.77E-01	3.12E-03	27.9	6.67E-01
17	1	1779.33	13	11	1.66	3558.55	3.75E-01	1.05E-03	58.3	4.43E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	35	10.67*	4.296E-01	5.249E+01	5.249E+01	90.86
AC-228	835.50	------	1.75	6.649E-01	------ Line Not Found		------
	911.07	17	27.70*	6.214E-01	6.692E+00	6.708E+00	167.50
TH-228	238.63	43	44.60*	1.678E+00	4.020E+00	4.048E+00	146.04
	240.98	------	3.95	1.669E+00	------ Line Not Found		------
TH-232	583.14	6	30.25	8.775E-01	1.685E+00	1.685E+00	440.18
	911.07	17	27.70*	6.214E-01	6.692E+00	6.692E+00	167.50
	969.11	------	16.60	5.916E-01	------ Line Not Found		------

Nuclide Type: activation

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error

CO-60	1173.22	------	100.00	5.085E-01	------	Line Not Found	------
	1332.49	16	100.00*	4.605E-01	2.456E+00	2.463E+00	127.04

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28671-11 Acquisition date : 19-MAY-2006 09:21:58

Total number of lines in spectrum	17	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	6	35.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.249E+01	5.249E+01	4.770E+01	90.86	
AC-228	5.75Y	1.00	6.692E+00	6.708E+00	11.24E+00	167.50	
TH-228	1.91Y	1.01	4.020E+00	4.048E+00	5.912E+00	146.04	
TH-232	1.41E+10Y	1.00	6.692E+00	6.692E+00	11.21E+00	167.50	
	Total Activity :		6.990E+01	6.994E+01			

Nuclide Type : activation

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.00	2.456E+00	2.463E+00	3.129E+00	127.04	
	Total Activity :		2.456E+00	2.463E+00			

Grand Total Activity : 7.235E+01 7.240E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28671-11

Acquisition date : 19-MAY-2006 09:21:58

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.58	116	434	1.51	133.72	128	10	9.24E-03	71.1	6.73E-01	
2	77.33	44	237	1.06	155.23	148	11	3.48E-03	****	1.07E+00	
1	139.90	73	282	1.07	280.39	278	7	5.81E-03	81.2	2.04E+00	
1	198.23	75	298	1.67	397.07	392	10	5.96E-03	90.9	1.87E+00	
1	283.52	50	128	1.65	567.66	564	8	3.96E-03	83.3	1.50E+00	T
1	295.15	33	176	0.89	590.92	587	8	2.58E-03	****	1.46E+00	
1	352.06	161	95	1.57	704.73	700	10	1.28E-02	29.6	1.28E+00	
1	595.72	37	90	0.99	1192.04	1186	11	2.92E-03	****	8.63E-01	
1	609.21	125	110	1.29	1219.03	1214	12	9.95E-03	39.4	8.49E-01	
1	1119.93	25	29	1.94	2240.30	2231	19	1.94E-03	****	5.27E-01	
1	1763.83	39	12	2.18	3527.55	3522	15	3.12E-03	55.7	3.77E-01	
1	1779.33	13	11	1.66	3558.55	3552	11	1.05E-03	****	3.75E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	17	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	6	35.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.249E+01	5.249E+01	4.770E+01	90.86	
AC-228	5.75Y	1.00	5.007E+00	5.019E+00	13.47E+00	268.44	
TH-228	1.91Y	1.01	4.020E+00	4.048E+00	5.912E+00	146.04	
TH-232	1.41E+10Y	1.00	1.685E+00	1.685E+00	7.417E+00	440.18	
	Total Activity :		6.321E+01	6.325E+01			

Nuclide Type : activation

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.00	2.456E+00	2.463E+00	3.129E+00	127.04	
	Total Activity :		2.456E+00	2.463E+00			

Grand Total Activity : 6.566E+01 6.571E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	5.249E+01	4.770E+01	5.329E+01	0.000E+00	0.985
CO-60	2.463E+00	3.129E+00	4.594E+00	0.000E+00	0.536
AC-228	5.019E+00	1.347E+01	1.808E+01	0.000E+00	0.278
TH-228	4.048E+00	5.912E+00	8.161E+00	0.000E+00	0.496
TH-232	1.685E+00	7.417E+00	1.975E+01	0.000E+00	0.085

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	3.002E+00		2.566E+01	4.222E+01	0.000E+00	0.071
NA-24	-1.324E+04		8.270E+03	1.158E+04	0.000E+00	-1.143
CR-51	-3.377E+01		2.779E+01	4.259E+01	0.000E+00	-0.793
MN-54	1.163E+00		2.835E+00	4.828E+00	0.000E+00	0.241
CO-57	-2.075E+00		2.510E+00	4.052E+00	0.000E+00	-0.512
CO-58	1.346E-01		2.789E+00	4.642E+00	0.000E+00	0.029
FE-59	-4.622E+00		6.135E+00	9.511E+00	0.000E+00	-0.486
ZN-65	5.092E+00		7.823E+00	1.171E+01	0.000E+00	0.435
SE-75	-1.568E+00		3.916E+00	6.349E+00	0.000E+00	-0.247
SR-85	1.700E+01		3.671E+00	7.092E+00	0.000E+00	2.397
Y-88	2.120E+00		3.721E+00	6.492E+00	0.000E+00	0.327
NB-94	-4.131E-01		2.891E+00	4.680E+00	0.000E+00	-0.088
NB-95	1.299E+00		3.162E+00	5.276E+00	0.000E+00	0.246
ZR-95	1.189E+00		5.072E+00	8.386E+00	0.000E+00	0.142
MO-99	2.590E+00		1.244E+02	2.027E+02	0.000E+00	0.013
RU-103	2.839E+00		3.290E+00	5.616E+00	0.000E+00	0.506
RU-106	-2.637E+00		2.695E+01	4.418E+01	0.000E+00	-0.060
AG-110m	-1.417E+00		2.888E+00	4.589E+00	0.000E+00	-0.309
SN-113	1.329E+00		3.790E+00	6.390E+00	0.000E+00	0.208
SB-124	-5.824E+00		8.386E+00	5.354E+00	0.000E+00	-1.088
SB-125	6.015E+00		8.387E+00	1.431E+01	0.000E+00	0.420
TE-129M	-2.548E+00		3.584E+01	5.851E+01	0.000E+00	-0.044
I-131	4.253E-01		5.181E+00	8.667E+00	0.000E+00	0.049
BA-133	7.352E+00		4.432E+00	6.987E+00	0.000E+00	1.052
CS-134	5.110E+00		4.911E+00	6.006E+00	0.000E+00	0.851
CS-136	-7.324E-02		3.758E+00	6.216E+00	0.000E+00	-0.012
CS-137	1.758E+00		3.141E+00	5.343E+00	0.000E+00	0.329
CE-139	2.582E+00		2.770E+00	4.657E+00	0.000E+00	0.554
BA-140	1.080E+01		1.455E+01	2.466E+01	0.000E+00	0.438
LA-140	6.409E+00		5.245E+00	9.600E+00	0.000E+00	0.668
CE-141	2.757E+00		5.843E+00	8.429E+00	0.000E+00	0.327
CE-144	-1.425E+01		2.111E+01	3.141E+01	0.000E+00	-0.454
EU-152	-7.149E+00		1.010E+01	1.373E+01	0.000E+00	-0.521
EU-154	1.919E+00		5.208E+00	8.741E+00	0.000E+00	0.220
RA-226	3.738E+01		7.138E+01	1.189E+02	0.000E+00	0.314
U-235	4.100E+00		2.355E+01	3.353E+01	0.000E+00	0.122
U-238	2.233E+02		3.231E+02	5.561E+02	0.000E+00	0.402
AM-241	-2.132E+01		2.968E+01	4.276E+01	0.000E+00	-0.499

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A,04L28671-11     ,05/19/2006 12:52,05/12/2006 09:45,   3.088E+00,WG L28671-11 B
B,04L28671-11     ,LIBD                ,03/14/2005 09:04,043L082004
C,K-40    ,YES,   5.249E+01,   4.770E+01,   5.329E+01,,    0.985
C,CO-60   ,YES,   2.463E+00,   3.129E+00,   4.594E+00,,    0.536
C,AC-228  ,YES,   5.019E+00,   1.347E+01,   1.808E+01,,    0.278
C,TH-228  ,YES,   4.048E+00,   5.912E+00,   8.161E+00,,    0.496
C,TH-232  ,YES,   1.685E+00,   7.417E+00,   1.975E+01,,    0.085
C,BE-7    ,NO ,   3.002E+00,   2.566E+01,   4.222E+01,,    0.071
C,NA-24   ,NO ,  -1.324E+04,   8.270E+03,   1.158E+04,,   -1.143
C,CR-51   ,NO ,  -3.377E+01,   2.779E+01,   4.259E+01,,   -0.793
C,MN-54   ,NO ,   1.163E+00,   2.835E+00,   4.828E+00,,    0.241
C,CO-57   ,NO ,  -2.075E+00,   2.510E+00,   4.052E+00,,   -0.512
C,CO-58   ,NO ,   1.346E-01,   2.789E+00,   4.642E+00,,    0.029
C,FE-59   ,NO ,  -4.622E+00,   6.135E+00,   9.511E+00,,   -0.486
C,ZN-65   ,NO ,   5.092E+00,   7.823E+00,   1.171E+01,,    0.435
C,SE-75   ,NO ,  -1.568E+00,   3.916E+00,   6.349E+00,,   -0.247
C,SR-85   ,NO ,   1.700E+01,   3.671E+00,   7.092E+00,,    2.397
C,Y-88    ,NO ,   2.120E+00,   3.721E+00,   6.492E+00,,    0.327
C,NB-94   ,NO ,  -4.131E-01,   2.891E+00,   4.680E+00,,   -0.088
C,NB-95   ,NO ,   1.299E+00,   3.162E+00,   5.276E+00,,    0.246
C,ZR-95   ,NO ,   1.189E+00,   5.072E+00,   8.386E+00,,    0.142
C,MO-99   ,NO ,   2.590E+00,   1.244E+02,   2.027E+02,,    0.013
C,RU-103  ,NO ,   2.839E+00,   3.290E+00,   5.616E+00,,    0.506
C,RU-106  ,NO ,  -2.637E+00,   2.695E+01,   4.418E+01,,   -0.060
C,AG-110m ,NO ,  -1.417E+00,   2.888E+00,   4.589E+00,,   -0.309
C,SN-113  ,NO ,   1.329E+00,   3.790E+00,   6.390E+00,,    0.208
C,SB-124  ,NO ,  -5.824E+00,   8.386E+00,   5.354E+00,,   -1.088
C,SB-125  ,NO ,   6.015E+00,   8.387E+00,   1.431E+01,,    0.420
C,TE-129M ,NO ,  -2.548E+00,   3.584E+01,   5.851E+01,,   -0.044
C,I-131   ,NO ,   4.253E-01,   5.181E+00,   8.667E+00,,    0.049
C,BA-133  ,NO ,   7.352E+00,   4.432E+00,   6.987E+00,,    1.052
C,CS-134  ,NO ,   5.110E+00,   4.911E+00,   6.006E+00,,    0.851
C,CS-136  ,NO ,  -7.324E-02,   3.758E+00,   6.216E+00,,   -0.012
C,CS-137  ,NO ,   1.758E+00,   3.141E+00,   5.343E+00,,    0.329
C,CE-139  ,NO ,   2.582E+00,   2.770E+00,   4.657E+00,,    0.554
C,BA-140  ,NO ,   1.080E+01,   1.455E+01,   2.466E+01,,    0.438
C,LA-140  ,NO ,   6.409E+00,   5.245E+00,   9.600E+00,,    0.668
C,CE-141  ,NO ,   2.757E+00,   5.843E+00,   8.429E+00,,    0.327
C,CE-144  ,NO ,  -1.425E+01,   2.111E+01,   3.141E+01,,   -0.454
C,EU-152  ,NO ,  -7.149E+00,   1.010E+01,   1.373E+01,,   -0.521
C,EU-154  ,NO ,   1.919E+00,   5.208E+00,   8.741E+00,,    0.220
C,RA-226  ,NO ,   3.738E+01,   7.138E+01,   1.189E+02,,    0.314
C,U-235   ,NO ,   4.100E+00,   2.355E+01,   3.353E+01,,    0.122
C,U-238   ,NO ,   2.233E+02,   3.231E+02,   5.561E+02,,    0.402
C,AM-241  ,NO ,  -2.132E+01,   2.968E+01,   4.276E+01,,   -0.499
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Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 19-MAY-2006 10:49:57.55
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 19-MAY-2006 08:36:45.09

LIMS No., Customer Name, Client ID: WG L28671-12 BRAIDWOOD

Sample ID	: 07L28671-12			Smple Date:	12-MAY-2006 08:45:00.
Sample Type	: WG			Geometry	: 0735L090904
Quantity	: 3.28350E+00 L			BKGFILE	: 07BG050506MT
Start Channel	: 40	Energy Tol	: 1.30000	Real Time	: 0 02:13:02.62
End Channel	: 4090	Pk Srch Sens:	5.00000	Live time	: 0 02:13:01.01
MDA Constant	: 0.00	Library Used:	LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.16*	50	222	1.45	133.17	7.19E-01	6.22E-03	53.6	6.36E-01
2	1	198.17*	49	131	1.63	397.28	1.98E+00	6.16E-03	43.3	3.69E+00
3	1	241.63	70	111	1.25	484.23	1.80E+00	8.77E-03	30.4	1.59E+00
4	1	295.58*	58	149	2.55	592.14	1.60E+00	7.21E-03	47.4	2.82E+00
5	1	351.89*	129	117	1.31	704.79	1.43E+00	1.61E-02	19.9	5.08E-01
6	1	609.21*	103	63	1.58	1219.52	9.81E-01	1.28E-02	19.2	1.25E+00
7	1	1068.39	18	17	1.73	2137.82	6.48E-01	2.19E-03	45.3	9.93E-01
8	1	1903.68	15	0	1.44	3807.73	4.34E-01	1.86E-03	27.0	4.48E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28671-12 Acquisition date : 19-MAY-2006 08:36:45

Total number of lines in spectrum	8	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	1	12.50%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28671-12 Acquisition date : 19-MAY-2006 08:36:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.16	50	222	1.45	133.17	130	7	6.22E-03	****	7.19E-01	
1	198.17	49	131	1.63	397.28	394	7	6.16E-03	86.6	1.98E+00	
1	241.63	70	111	1.25	484.23	471	18	8.77E-03	60.8	1.80E+00	T
1	295.58	58	149	2.55	592.14	586	13	7.21E-03	94.8	1.60E+00	
1	351.89	129	117	1.31	704.79	700	12	1.61E-02	39.7	1.43E+00	
1	609.21	103	63	1.58	1219.52	1214	11	1.28E-02	38.4	9.81E-01	
1	1068.39	18	17	1.73	2137.82	2135	8	2.19E-03	90.6	6.48E-01	
1	1903.68	15	0	1.44	3807.73	3803	10	1.86E-03	54.0	4.34E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 8
Number of unidentified lines 7
Number of lines tentatively identified by NID 1 12.50%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.087E+01		2.853E+01	4.630E+01	0.000E+00	-0.235
NA-24	-6.857E+03		9.551E+03	1.461E+04	0.000E+00	-0.469
K-40	-3.186E+00		4.648E+01	8.908E+01	0.000E+00	-0.036
CR-51	-2.208E+01		3.308E+01	5.154E+01	0.000E+00	-0.428
MN-54	-1.322E+00		3.418E+00	5.506E+00	0.000E+00	-0.240
CO-57	-7.680E-01		2.999E+00	4.974E+00	0.000E+00	-0.154
CO-58	-2.730E+00		3.714E+00	5.679E+00	0.000E+00	-0.481
FE-59	1.955E+00		7.327E+00	1.238E+01	0.000E+00	0.158
CO-60	4.283E+00		3.496E+00	6.482E+00	0.000E+00	0.661
ZN-65	1.428E+01		8.527E+00	1.576E+01	0.000E+00	0.906
SE-75	-1.060E-01		4.474E+00	7.341E+00	0.000E+00	-0.014
SR-85	1.778E+01		4.246E+00	8.276E+00	0.000E+00	2.149
Y-88	-4.000E+00		3.712E+00	5.082E+00	0.000E+00	-0.787
NB-94	-1.872E+00		3.221E+00	5.082E+00	0.000E+00	-0.368
NB-95	-1.913E+00		3.324E+00	5.170E+00	0.000E+00	-0.370
ZR-95	1.085E+00		5.769E+00	9.590E+00	0.000E+00	0.113
MO-99	6.513E+01		1.487E+02	2.518E+02	0.000E+00	0.259
RU-103	1.684E+00		3.926E+00	6.663E+00	0.000E+00	0.253
RU-106	9.412E+00		3.207E+01	5.316E+01	0.000E+00	0.177
AG-110m	1.057E+00		3.519E+00	5.950E+00	0.000E+00	0.178

SN-113	2.321E+00	4.672E+00	7.877E+00	0.000E+00	0.295
SB-124	-4.305E+00	5.000E+00	6.330E+00	0.000E+00	-0.680
SB-125	-4.805E+00	9.324E+00	1.471E+01	0.000E+00	-0.327
TE-129M	3.375E+01	4.477E+01	7.580E+01	0.000E+00	0.445
I-131	3.449E+00	5.900E+00	1.006E+01	0.000E+00	0.343
BA-133	5.544E+00	5.339E+00	8.108E+00	0.000E+00	0.684
CS-134	6.279E+00	4.949E+00	7.459E+00	0.000E+00	0.842
CS-136	-6.727E-01	4.726E+00	7.584E+00	0.000E+00	-0.089
CS-137	-2.001E+00	3.780E+00	6.038E+00	0.000E+00	-0.331
CE-139	-3.868E-02	3.175E+00	5.200E+00	0.000E+00	-0.007
BA-140	1.172E+00	1.690E+01	2.793E+01	0.000E+00	0.042
LA-140	3.970E+00	5.391E+00	9.660E+00	0.000E+00	0.411
CE-141	-5.550E+00	6.099E+00	9.739E+00	0.000E+00	-0.570
CE-144	-2.190E+01	2.455E+01	3.952E+01	0.000E+00	-0.554
EU-152	-7.349E+00	1.222E+01	1.711E+01	0.000E+00	-0.430
EU-154	-2.411E+00	6.226E+00	1.027E+01	0.000E+00	-0.235
RA-226	-4.853E+01	8.093E+01	1.319E+02	0.000E+00	-0.368
AC-228	-8.624E+00	1.332E+01	2.179E+01	0.000E+00	-0.396
TH-228	1.158E+01	6.484E+00	1.179E+01	0.000E+00	0.983
TH-232	-8.604E+00	1.328E+01	2.174E+01	0.000E+00	-0.396
U-235	-2.371E+01	2.489E+01	3.968E+01	0.000E+00	-0.597
U-238	1.098E+02	3.598E+02	6.084E+02	0.000E+00	0.180
AM-241	-1.518E+01	2.768E+01	4.409E+01	0.000E+00	-0.344

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A,07L28671-12      ,05/19/2006 10:49,05/12/2006 08:45,   3.283E+00,WG L28671-12 B
B,07L28671-12      ,LIBD                ,06/23/2005 07:26,0735L090904
C,BE-7     ,NO ,  -1.087E+01,   2.853E+01,   4.630E+01,,   -0.235
C,NA-24    ,NO ,  -6.857E+03,   9.551E+03,   1.461E+04,,   -0.469
C,K-40     ,NO ,  -3.186E+00,   4.648E+01,   8.908E+01,,   -0.036
C,CR-51    ,NO ,  -2.208E+01,   3.308E+01,   5.154E+01,,   -0.428
C,MN-54    ,NO ,  -1.322E+00,   3.418E+00,   5.506E+00,,   -0.240
C,CO-57    ,NO ,  -7.680E-01,   2.999E+00,   4.974E+00,,   -0.154
C,CO-58    ,NO ,  -2.730E+00,   3.714E+00,   5.679E+00,,   -0.481
C,FE-59    ,NO ,   1.955E+00,   7.327E+00,   1.238E+01,,    0.158
C,CO-60    ,NO ,   4.283E+00,   3.496E+00,   6.482E+00,,    0.661
C,ZN-65    ,NO ,   1.428E+01,   8.527E+00,   1.576E+01,,    0.906
C,SE-75    ,NO ,  -1.060E-01,   4.474E+00,   7.341E+00,,   -0.014
C,SR-85    ,NO ,   1.778E+01,   4.246E+00,   8.276E+00,,    2.149
C,Y-88     ,NO ,  -4.000E+00,   3.712E+00,   5.082E+00,,   -0.787
C,NB-94    ,NO ,  -1.872E+00,   3.221E+00,   5.082E+00,,   -0.368
C,NB-95    ,NO ,  -1.913E+00,   3.324E+00,   5.170E+00,,   -0.370
C,ZR-95    ,NO ,   1.085E+00,   5.769E+00,   9.590E+00,,    0.113
C,MO-99    ,NO ,   6.513E+01,   1.487E+02,   2.518E+02,,    0.259
C,RU-103   ,NO ,   1.684E+00,   3.926E+00,   6.663E+00,,    0.253
C,RU-106   ,NO ,   9.412E+00,   3.207E+01,   5.316E+01,,    0.177
C,AG-110m  ,NO ,   1.057E+00,   3.519E+00,   5.950E+00,,    0.178
C,SN-113   ,NO ,   2.321E+00,   4.672E+00,   7.877E+00,,    0.295
C,SB-124   ,NO ,  -4.305E+00,   5.000E+00,   6.330E+00,,   -0.680
C,SB-125   ,NO ,  -4.805E+00,   9.324E+00,   1.471E+01,,   -0.327
C,TE-129M  ,NO ,   3.375E+01,   4.477E+01,   7.580E+01,,    0.445
C,I-131    ,NO ,   3.449E+00,   5.900E+00,   1.006E+01,,    0.343
C,BA-133   ,NO ,   5.544E+00,   5.339E+00,   8.108E+00,,    0.684
C,CS-134   ,NO ,   6.279E+00,   4.949E+00,   7.459E+00,,    0.842
C,CS-136   ,NO ,  -6.727E-01,   4.726E+00,   7.584E+00,,   -0.089
C,CS-137   ,NO ,  -2.001E+00,   3.780E+00,   6.038E+00,,   -0.331
C,CE-139   ,NO ,  -3.868E-02,   3.175E+00,   5.200E+00,,   -0.007
C,BA-140   ,NO ,   1.172E+00,   1.690E+01,   2.793E+01,,    0.042
C,LA-140   ,NO ,   3.970E+00,   5.391E+00,   9.660E+00,,    0.411
C,CE-141   ,NO ,  -5.550E+00,   6.099E+00,   9.739E+00,,   -0.570
C,CE-144   ,NO ,  -2.190E+01,   2.455E+01,   3.952E+01,,   -0.554
C,EU-152   ,NO ,  -7.349E+00,   1.222E+01,   1.711E+01,,   -0.430
C,EU-154   ,NO ,  -2.411E+00,   6.226E+00,   1.027E+01,,   -0.235
C,RA-226   ,NO ,  -4.853E+01,   8.093E+01,   1.319E+02,,   -0.368
C,AC-228   ,NO ,  -8.624E+00,   1.332E+01,   2.179E+01,,   -0.396
C,TH-228   ,NO ,   1.158E+01,   6.484E+00,   1.179E+01,,    0.983
C,TH-232   ,NO ,  -8.604E+00,   1.328E+01,   2.174E+01,,   -0.396
C,U-235    ,NO ,  -2.371E+01,   2.489E+01,   3.968E+01,,   -0.597
C,U-238    ,NO ,   1.098E+02,   3.598E+02,   6.084E+02,,    0.180
C,AM-241   ,NO ,  -1.518E+01,   2.768E+01,   4.409E+01,,   -0.344
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Sec. Review: Analyst: LIMS: J

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 22-MAY-2006 13:56:55.23
TBE23 03017322 HpGe ********** Aquisition Date/Time: 22-MAY-2006 10:56:34.16

LIMS No., Customer Name, Client ID: L28671-13R1 WG BRAIDWOOD

Sample ID : 23L28671-13R1
Sample Type : WG
Quantity : 3.24050E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 12-MAY-2006 09:35:00.
Geometry : 233L082404
BKGFILE : 23BG050506MT
Real Time : 0 03:00:07.19
Live time : 0 03:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	63.01*	6	351	1.00	126.13	1.03E+00	5.80E-04	544.5	
2	0	92.51*	11	460	1.30	185.06	1.93E+00	1.04E-03	382.0	
3	0	139.55*	77	372	1.08	279.06	2.32E+00	7.13E-03	49.1	
4	0	198.45*	54	163	1.11	396.76	2.11E+00	4.96E-03	42.4	
5	0	238.49*	1	198	1.02	476.78	1.90E+00	8.30E-05	*****	
6	0	351.41*	22	104	1.20	702.46	1.44E+00	2.07E-03	90.9	
7	0	596.65	40	78	1.47	1192.72	9.55E-01	3.74E-03	48.8	
8	0	1711.85	15	4	1.10	3424.17	4.49E-01	1.39E-03	34.6	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
TH-228	238.63	1	44.60*	1.901E+00	8.168E-02	8.250E-02	5574.61
	240.98	------	3.95	1.888E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28671-13R1

Acquisition date : 22-MAY-2006 10:56:34

Total number of lines in spectrum	8	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	1	12.50%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	8.168E-02	8.250E-02	459.9E-02	5574.61	
	Total Activity :		8.168E-02	8.250E-02			
	Grand Total Activity :		8.168E-02	8.250E-02			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28671-13R1 Acquisition date : 22-MAY-2006 10:56:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	63.01	6	351	1.00	126.13	123	8	5.80E-04	****	1.03E+00	
0	92.51	11	460	1.30	185.06	181	10	1.04E-03	****	1.93E+00	
0	139.55	77	372	1.08	279.06	275	10	7.13E-03	98.2	2.32E+00	
0	198.45	54	163	1.11	396.76	394	6	4.96E-03	84.8	2.11E+00	
0	351.41	22	104	1.20	702.46	699	9	2.07E-03	****	1.44E+00	
0	596.65	40	78	1.47	1192.72	1186	14	3.74E-03	97.5	9.55E-01	
0	1711.85	15	4	1.10	3424.17	3420	8	1.39E-03	69.3	4.49E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	8	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	1	12.50%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-228	1.91Y	1.01	8.168E-02	8.250E-02	459.9E-02	5574.61	
	Total Activity :		8.168E-02	8.250E-02			
	Grand Total Activity :		8.168E-02	8.250E-02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
TH-228	8.250E-02	4.599E+00	8.276E+00	0.000E+00	0.010

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-6.651E-01		2.324E+01	3.982E+01	0.000E+00	-0.017
NA-24	-1.157E-01		9.449E-02	Half-Life too short		
K-40	-1.314E+01		3.796E+01	8.006E+01	0.000E+00	-0.164
CR-51	-8.876E+00		2.817E+01	4.804E+01	0.000E+00	-0.185

MN-54	2.761E-01	2.438E+00	4.378E+00	0.000E+00	0.063
CO-57	-2.596E+00	2.700E+00	4.343E+00	0.000E+00	-0.598
CO-58	1.586E+00	2.776E+00	5.022E+00	0.000E+00	0.316
FE-59	3.622E+00	5.627E+00	1.042E+01	0.000E+00	0.348
CO-60	5.645E-01	2.612E+00	4.791E+00	0.000E+00	0.118
ZN-65	2.907E+00	5.663E+00	1.035E+01	0.000E+00	0.281
SE-75	-1.350E-01	3.787E+00	6.359E+00	0.000E+00	-0.021
SR-85	1.347E+01	3.365E+00	6.695E+00	0.000E+00	2.012
Y-88	-2.543E+00	3.064E+00	5.002E+00	0.000E+00	-0.508
NB-94	-1.423E+00	2.523E+00	4.208E+00	0.000E+00	-0.338
NB-95	8.073E-02	2.916E+00	5.055E+00	0.000E+00	0.016
ZR-95	3.956E+00	4.940E+00	9.089E+00	0.000E+00	0.435
MO-99	2.832E+02	2.644E+02	4.902E+02	0.000E+00	0.578
RU-103	1.043E+00	3.240E+00	5.626E+00	0.000E+00	0.185
RU-106	3.472E+00	2.512E+01	4.424E+01	0.000E+00	0.078
AG-110m	1.747E+00	2.597E+00	4.733E+00	0.000E+00	0.369
SN-113	-9.150E-01	3.479E+00	5.910E+00	0.000E+00	-0.155
SB-124	-4.306E+00	3.906E+00	5.195E+00	0.000E+00	-0.829
SB-125	3.845E+00	7.509E+00	1.326E+01	0.000E+00	0.290
TE-129M	-3.054E+00	3.719E+01	6.331E+01	0.000E+00	-0.048
I-131	-1.218E+00	6.696E+00	1.142E+01	0.000E+00	-0.107
BA-133	9.211E-02	4.328E+00	6.352E+00	0.000E+00	0.015
CS-134	2.667E+00	3.204E+00	5.051E+00	0.000E+00	0.528
CS-136	-2.062E+00	4.213E+00	7.009E+00	0.000E+00	-0.294
CS-137	-2.106E+00	2.944E+00	4.875E+00	0.000E+00	-0.432
CE-139	-1.623E+00	2.772E+00	4.643E+00	0.000E+00	-0.350
BA-140	-7.512E+00	1.621E+01	2.764E+01	0.000E+00	-0.272
LA-140	-2.827E+00	4.420E+00	7.316E+00	0.000E+00	-0.386
CE-141	3.848E+00	6.375E+00	9.593E+00	0.000E+00	0.401
CE-144	-9.208E+00	2.583E+01	3.585E+01	0.000E+00	-0.257
EU-152	-1.472E+00	9.664E+00	1.450E+01	0.000E+00	-0.102
EU-154	-4.971E+00	5.598E+00	9.023E+00	0.000E+00	-0.551
RA-226	-5.227E+00	6.899E+01	1.206E+02	0.000E+00	-0.043
AC-228	1.039E+00	9.724E+00	1.780E+01	0.000E+00	0.058
TH-232	1.036E+00	9.692E+00	1.774E+01	0.000E+00	0.058
U-235	6.864E-01	2.393E+01	3.524E+01	0.000E+00	0.019
U-238	-1.503E+02	2.855E+02	4.931E+02	0.000E+00	-0.305
AM-241	1.126E+01	1.643E+01	2.485E+01	0.000E+00	0.453

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A,23L28671-13R1    ,05/22/2006 13:56,05/12/2006 09:35,   3.240E+00,L28671-13R1 WG
B,23L28671-13R1    ,LIBD                ,06/24/2005 07:59,233L082404
C,TH-228   ,YES,    8.250E-02,   4.599E+00,   8.276E+00,,     0.010
C,BE-7     ,NO ,   -6.651E-01,   2.324E+01,   3.982E+01,,    -0.017
C,K-40     ,NO ,   -1.314E+01,   3.796E+01,   8.006E+01,,    -0.164
C,CR-51    ,NO ,   -8.876E+00,   2.817E+01,   4.804E+01,,    -0.185
C,MN-54    ,NO ,    2.761E-01,   2.438E+00,   4.378E+00,,     0.063
C,CO-57    ,NO ,   -2.596E+00,   2.700E+00,   4.343E+00,,    -0.598
C,CO-58    ,NO ,    1.586E+00,   2.776E+00,   5.022E+00,,     0.316
C,FE-59    ,NO ,    3.622E+00,   5.627E+00,   1.042E+01,,     0.348
C,CO-60    ,NO ,    5.645E-01,   2.612E+00,   4.791E+00,,     0.118
C,ZN-65    ,NO ,    2.907E+00,   5.663E+00,   1.035E+01,,     0.281
C,SE-75    ,NO ,   -1.350E-01,   3.787E+00,   6.359E+00,,    -0.021
C,SR-85    ,NO ,    1.347E+01,   3.365E+00,   6.695E+00,,     2.012
C,Y-88     ,NO ,   -2.543E+00,   3.064E+00,   5.002E+00,,    -0.508
C,NB-94    ,NO ,   -1.423E+00,   2.523E+00,   4.208E+00,,    -0.338
C,NB-95    ,NO ,    8.073E-02,   2.916E+00,   5.055E+00,,     0.016
C,ZR-95    ,NO ,    3.956E+00,   4.940E+00,   9.089E+00,,     0.435
C,MO-99    ,NO ,    2.832E+02,   2.644E+02,   4.902E+02,,     0.578
C,RU-103   ,NO ,    1.043E+00,   3.240E+00,   5.626E+00,,     0.185
C,RU-106   ,NO ,    3.472E+00,   2.512E+01,   4.424E+01,,     0.078
C,AG-110m  ,NO ,    1.747E+00,   2.597E+00,   4.733E+00,,     0.369
C,SN-113   ,NO ,   -9.150E-01,   3.479E+00,   5.910E+00,,    -0.155
C,SB-124   ,NO ,   -4.306E+00,   3.906E+00,   5.195E+00,,    -0.829
C,SB-125   ,NO ,    3.845E+00,   7.509E+00,   1.326E+01,,     0.290
C,TE-129M  ,NO ,   -3.054E+00,   3.719E+01,   6.331E+01,,    -0.048
C,I-131    ,NO ,   -1.218E+00,   6.696E+00,   1.142E+01,,    -0.107
C,BA-133   ,NO ,    9.211E-02,   4.328E+00,   6.352E+00,,     0.015
C,CS-134   ,NO ,    2.667E+00,   3.204E+00,   5.051E+00,,     0.528
C,CS-136   ,NO ,   -2.062E+00,   4.213E+00,   7.009E+00,,    -0.294
C,CS-137   ,NO ,   -2.106E+00,   2.944E+00,   4.875E+00,,    -0.432
C,CE-139   ,NO ,   -1.623E+00,   2.772E+00,   4.643E+00,,    -0.350
C,BA-140   ,NO ,   -7.512E+00,   1.621E+01,   2.764E+01,,    -0.272
C,LA-140   ,NO ,   -2.827E+00,   4.420E+00,   7.316E+00,,    -0.386
C,CE-141   ,NO ,    3.848E+00,   6.375E+00,   9.593E+00,,     0.401
C,CE-144   ,NO ,   -9.208E+00,   2.583E+01,   3.585E+01,,    -0.257
C,EU-152   ,NO ,   -1.472E+00,   9.664E+00,   1.450E+01,,    -0.102
C,EU-154   ,NO ,   -4.971E+00,   5.598E+00,   9.023E+00,,    -0.551
C,RA-226   ,NO ,   -5.227E+00,   6.899E+01,   1.206E+02,,    -0.043
C,AC-228   ,NO ,    1.039E+00,   9.724E+00,   1.780E+01,,     0.058
C,TH-232   ,NO ,    1.036E+00,   9.692E+00,   1.774E+01,,     0.058
C,U-235    ,NO ,    6.864E-01,   2.393E+01,   3.524E+01,,     0.019
C,U-238    ,NO ,   -1.503E+02,   2.855E+02,   4.931E+02,,    -0.305
C,AM-241   ,NO ,    1.126E+01,   1.643E+01,   2.485E+01,,     0.453
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 18-MAY-2006 17:36:16.85
TBE23 03017322 HpGe ********** Aquisition Date/Time: 18-MAY-2006 13:20:35.14

LIMS No., Customer Name, Client ID: WG L28671-14 BRAIDWOOD

Sample ID : 23L28671-14
Sample Type : WG
Quantity : 3.32000E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 12-MAY-2006 10:35:00.
Geometry : 2335L090704
BKGFILE : 23BG050506MT
Real Time : 0 03:00:07.46
Live time : 0 03:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	6	34.02*	38	15	1.32	68.20	9.73E-02	3.52E-03	45.2	5.59E+00
2	6	35.52*	7	65	1.62	71.19	1.22E-01	6.77E-04	365.6	
3	6	37.96*	37	129	1.63	76.07	1.68E-01	3.39E-03	72.7	
4	6	42.21*	45	212	1.55	84.56	2.68E-01	4.12E-03	55.4	
5	5	63.40*	67	320	1.57	126.91	9.45E-01	6.23E-03	52.6	2.34E+00
6	5	66.07*	87	249	1.50	132.23	1.03E+00	8.05E-03	32.9	
7	0	92.55*	42	416	0.90	185.15	1.69E+00	3.90E-03	95.3	
8	0	139.89*	59	352	0.98	279.74	2.05E+00	5.50E-03	57.4	
9	0	186.00*	0	337	1.97	371.89	1.95E+00	7.10E-06	*****	
10	0	238.48*	45	233	1.91	476.76	1.72E+00	4.17E-03	65.6	
11	0	295.53*	79	194	1.56	590.78	1.50E+00	7.36E-03	39.3	
12	0	351.82*	64	166	0.92	703.29	1.32E+00	5.97E-03	43.6	
13	0	582.43*	20	68	1.04	1164.31	8.89E-01	1.85E-03	88.2	
14	0	609.11*	73	83	1.27	1217.64	8.59E-01	6.72E-03	29.9	
15	0	1460.49*	45	17	1.84	2920.92	4.60E-01	4.13E-03	34.0	
16	0	1763.95*	29	10	2.32	3528.51	4.01E-01	2.70E-03	33.2	
17	0	1999.81	13	7	0.73	4000.91	3.63E-01	1.23E-03	50.3	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	45	10.67*	4.595E-01	6.850E+01	6.850E+01	68.09
RA-226	186.21	0	3.28*	1.946E+00	9.055E-02	9.056E-02	96335.83
TH-228	238.63	45	44.60*	1.725E+00	4.414E+00	4.441E+00	131.14
	240.98	------	3.95	1.714E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28671-14

Acquisition date : 18-MAY-2006 13:20:35

Total number of lines in spectrum	17	
Number of unidentified lines	13	
Number of lines tentatively identified by NID	4	23.53%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.850E+01	6.850E+01	4.664E+01	68.09	
RA-226	1600.00Y	1.00	9.055E-02	9.056E-02	8724.E-02	96335.83	
TH-228	1.91Y	1.01	4.414E+00	4.441E+00	5.825E+00	131.14	
	Total Activity :		7.301E+01	7.303E+01			
	Grand Total Activity :		7.301E+01	7.303E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28671-14

Acquisition date : 18-MAY-2006 13:20:35

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	34.02	38	15	1.32	68.20	65	24	3.52E-03	90.3	9.73E-02	
6	35.52	7	65	1.62	71.19	65	24	6.77E-04	****	1.22E-01	
6	37.96	37	129	1.63	76.07	65	24	3.39E-03	****	1.68E-01	
6	42.21	45	212	1.55	84.56	65	24	4.12E-03	****	2.68E-01	
5	63.40	67	320	1.57	126.91	121	15	6.23E-03	****	9.45E-01	
5	66.07	87	249	1.50	132.23	121	15	8.05E-03	65.8	1.03E+00	
0	92.55	42	416	0.90	185.15	181	9	3.90E-03	****	1.69E+00	
0	139.89	59	352	0.98	279.74	276	8	5.50E-03	****	2.05E+00	
0	295.53	79	194	1.56	590.78	584	13	7.36E-03	78.6	1.50E+00	
0	351.82	64	166	0.92	703.29	697	12	5.97E-03	87.1	1.32E+00	
0	582.43	20	68	1.04	1164.31	1158	11	1.85E-03	****	8.89E-01	T
0	609.11	73	83	1.27	1217.64	1211	12	6.72E-03	59.8	8.59E-01	
0	1763.95	29	10	2.32	3528.51	3522	13	2.70E-03	66.4	4.01E-01	
0	1999.81	13	7	0.73	4000.91	3992	14	1.23E-03	****	3.63E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	17	
Number of unidentified lines	13	
Number of lines tentatively identified by NID	4	23.53%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.850E+01	6.850E+01	4.664E+01	68.09	
RA-226	1600.00Y	1.00	9.055E-02	9.056E-02	8724.E-02	96335.83	
TH-228	1.91Y	1.01	4.414E+00	4.441E+00	5.825E+00	131.14	
	Total Activity :		7.301E+01	7.303E+01			

Grand Total Activity : 7.301E+01 7.303E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	6.850E+01	4.664E+01	5.301E+01	0.000E+00	1.292
RA-226	9.056E-02	8.724E+01	1.233E+02	0.000E+00	0.001
TH-228	4.441E+00	5.825E+00	9.364E+00	0.000E+00	0.474

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.459E+01		2.601E+01	4.297E+01	0.000E+00	-0.339
NA-24	-1.909E+03		3.022E+03	5.057E+03	0.000E+00	-0.377
CR-51	-1.970E+01		2.968E+01	4.981E+01	0.000E+00	-0.396
MN-54	1.285E+00		3.008E+00	5.459E+00	0.000E+00	0.235
CO-57	1.867E-01		3.217E+00	5.336E+00	0.000E+00	0.035
CO-58	-1.032E+00		3.138E+00	5.277E+00	0.000E+00	-0.196
FE-59	2.610E+00		5.805E+00	1.058E+01	0.000E+00	0.247
CO-60	1.567E+00		3.029E+00	5.666E+00	0.000E+00	0.277
ZN-65	5.898E+00		6.623E+00	1.233E+01	0.000E+00	0.478
SE-75	9.282E-01		4.307E+00	7.284E+00	0.000E+00	0.127
SR-85	1.072E+01		3.683E+00	6.973E+00	0.000E+00	1.538
Y-88	-4.039E-01		3.144E+00	5.635E+00	0.000E+00	-0.072
NB-94	1.118E-01		2.932E+00	5.084E+00	0.000E+00	0.022
NB-95	5.981E-01		3.012E+00	5.286E+00	0.000E+00	0.113
ZR-95	2.106E+00		5.392E+00	9.594E+00	0.000E+00	0.220
MO-99	2.627E+01		1.075E+02	1.889E+02	0.000E+00	0.139
RU-103	-1.157E+00		3.250E+00	5.422E+00	0.000E+00	-0.213
RU-106	-3.838E+00		2.676E+01	4.627E+01	0.000E+00	-0.083
AG-110m	-1.479E+00		2.882E+00	4.843E+00	0.000E+00	-0.305
SN-113	2.787E+00		4.091E+00	7.229E+00	0.000E+00	0.386
SB-124	-5.015E+00		4.257E+00	5.644E+00	0.000E+00	-0.889
SB-125	-8.962E-01		8.394E+00	1.430E+01	0.000E+00	-0.063
TE-129M	-1.032E+01		3.805E+01	6.400E+01	0.000E+00	-0.161
I-131	-1.686E+00		5.082E+00	8.608E+00	0.000E+00	-0.196
BA-133	4.038E+00		4.607E+00	7.148E+00	0.000E+00	0.565
CS-134	3.564E+00		4.128E+00	6.397E+00	0.000E+00	0.557
CS-136	8.069E-01		3.667E+00	6.475E+00	0.000E+00	0.125
CS-137	-1.322E+00		3.127E+00	5.289E+00	0.000E+00	-0.250
CE-139	-4.598E-01		3.093E+00	5.247E+00	0.000E+00	-0.088
BA-140	-1.095E+01		1.338E+01	2.232E+01	0.000E+00	-0.490
LA-140	6.802E-01		4.175E+00	7.623E+00	0.000E+00	0.089
CE-141	-2.634E+00		6.863E+00	9.898E+00	0.000E+00	-0.266
CE-144	-1.064E+01		2.872E+01	3.984E+01	0.000E+00	-0.267
EU-152	-5.868E+00		1.125E+01	1.591E+01	0.000E+00	-0.369
EU-154	3.580E+00		6.750E+00	1.134E+01	0.000E+00	0.316
AC-228	-3.613E+00		1.080E+01	1.911E+01	0.000E+00	-0.189
TH-232	-3.605E+00		1.078E+01	1.907E+01	0.000E+00	-0.189
U-235	-1.089E+01		2.799E+01	4.045E+01	0.000E+00	-0.269
U-238	2.870E+01		3.510E+02	6.287E+02	0.000E+00	0.046
AM-241	2.791E+00		1.782E+01	2.631E+01	0.000E+00	0.106

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A,23L28671-14      ,05/18/2006 17:36,05/12/2006 10:35,   3.320E+00,WG L28671-14 B
B,23L28671-14      ,LIBD                ,06/24/2005 07:59,2335L090704
C,K-40     ,YES,    6.850E+01,    4.664E+01,    5.301E+01,,     1.292
C,RA-226   ,YES,    9.056E-02,    8.724E+01,    1.233E+02,,     0.001
C,TH-228   ,YES,    4.441E+00,    5.825E+00,    9.364E+00,,     0.474
C,BE-7     ,NO ,   -1.459E+01,    2.601E+01,    4.297E+01,,    -0.339
C,NA-24    ,NO ,   -1.909E+03,    3.022E+03,    5.057E+03,,    -0.377
C,CR-51    ,NO ,   -1.970E+01,    2.968E+01,    4.981E+01,,    -0.396
C,MN-54    ,NO ,    1.285E+00,    3.008E+00,    5.459E+00,,     0.235
C,CO-57    ,NO ,    1.867E-01,    3.217E+00,    5.336E+00,,     0.035
C,CO-58    ,NO ,   -1.032E+00,    3.138E+00,    5.277E+00,,    -0.196
C,FE-59    ,NO ,    2.610E+00,    5.805E+00,    1.058E+01,,     0.247
C,CO-60    ,NO ,    1.567E+00,    3.029E+00,    5.666E+00,,     0.277
C,ZN-65    ,NO ,    5.898E+00,    6.623E+00,    1.233E+01,,     0.478
C,SE-75    ,NO ,    9.282E-01,    4.307E+00,    7.284E+00,,     0.127
C,SR-85    ,NO ,    1.072E+01,    3.683E+00,    6.973E+00,,     1.538
C,Y-88     ,NO ,   -4.039E-01,    3.144E+00,    5.635E+00,,    -0.072
C,NB-94    ,NO ,    1.118E-01,    2.932E+00,    5.084E+00,,     0.022
C,NB-95    ,NO ,    5.981E-01,    3.012E+00,    5.286E+00,,     0.113
C,ZR-95    ,NO ,    2.106E+00,    5.392E+00,    9.594E+00,,     0.220
C,MO-99    ,NO ,    2.627E+01,    1.075E+02,    1.889E+02,,     0.139
C,RU-103   ,NO ,   -1.157E+00,    3.250E+00,    5.422E+00,,    -0.213
C,RU-106   ,NO ,   -3.838E+00,    2.676E+01,    4.627E+01,,    -0.083
C,AG-110m  ,NO ,   -1.479E+00,    2.882E+00,    4.843E+00,,    -0.305
C,SN-113   ,NO ,    2.787E+00,    4.091E+00,    7.229E+00,,     0.386
C,SB-124   ,NO ,   -5.015E+00,    4.257E+00,    5.644E+00,,    -0.889
C,SB-125   ,NO ,   -8.962E-01,    8.394E+00,    1.430E+01,,    -0.063
C,TE-129M  ,NO ,   -1.032E+01,    3.805E+01,    6.400E+01,,    -0.161
C,I-131    ,NO ,   -1.686E+00,    5.082E+00,    8.608E+00,,    -0.196
C,BA-133   ,NO ,    4.038E+00,    4.607E+00,    7.148E+00,,     0.565
C,CS-134   ,NO ,    3.564E+00,    4.128E+00,    6.397E+00,,     0.557
C,CS-136   ,NO ,    8.069E-01,    3.667E+00,    6.475E+00,,     0.125
C,CS-137   ,NO ,   -1.322E+00,    3.127E+00,    5.289E+00,,    -0.250
C,CE-139   ,NO ,   -4.598E-01,    3.093E+00,    5.247E+00,,    -0.088
C,BA-140   ,NO ,   -1.095E+01,    1.338E+01,    2.232E+01,,    -0.490
C,LA-140   ,NO ,    6.802E-01,    4.175E+00,    7.623E+00,,     0.089
C,CE-141   ,NO ,   -2.634E+00,    6.863E+00,    9.898E+00,,    -0.266
C,CE-144   ,NO ,   -1.064E+01,    2.872E+01,    3.984E+01,,    -0.267
C,EU-152   ,NO ,   -5.868E+00,    1.125E+01,    1.591E+01,,    -0.369
C,EU-154   ,NO ,    3.580E+00,    6.750E+00,    1.134E+01,,     0.316
C,AC-228   ,NO ,   -3.613E+00,    1.080E+01,    1.911E+01,,    -0.189
C,TH-232   ,NO ,   -3.605E+00,    1.078E+01,    1.907E+01,,    -0.189
C,U-235    ,NO ,   -1.089E+01,    2.799E+01,    4.045E+01,,    -0.269
C,U-238    ,NO ,    2.870E+01,    3.510E+02,    6.287E+02,,     0.046
C,AM-241   ,NO ,    2.791E+00,    1.782E+01,    2.631E+01,,     0.106
```

TELEDYNE
BROWN ENGINEERING
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L28784

Exelon

June 8, 2006

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville CT 06062

Case Narrative - L28784
EX001-3ESPBRAID-06

06/08/2006 19:20

Sample Receipt

The following samples were received on May 30, 2006 in good condition, unless otherwise noted.

The collection times on the containers did not match the collection times on the Chain of Custody for all samples. See Sample Receipt Verification/Variance Report for details.

Cross Reference Table

Client ID	Laboratory ID	Station ID(if applicable)
SW-BW-051706-MB-101	L28784-1	
SW-BW-051706-MB-102	L28784-2	
SW-BW-051706-MB-103	L28784-3	
SW-BW-051706-MB-104	L28784-4	
SW-BW-051706-MB-105	L28784-5	
SW-BW-051706-MB-106	L28784-6	
WG-BW-051506-MB-050	L28784-7	
WG-BW-051506-MB-052	L28784-8	
WG-BW-051906-MB-054	L28784-9	
WG-BW-051906-MB-055	L28784-10	
WG-BW-052206-MB-056	L28784-11	
WG-BW-052206-MB-057	L28784-12	

Analytical Method Cross Reference Table

Radiological Parameter	TBE Knoxville Method	Reference Method
Gamma Spectrometry	TBE-2007	EPA 901.1
H-3	TBE-2010	EPA 906.0
TOTAL SR	TBE-2018	EPA 905.0

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28784
EX001-3ESPBRAID-06

06/08/2006 19:20

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4070.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
SW-BW-051706-MB-101	L28784-1	WG4070-1

H-3

Quality Control

Quality control samples were analyzed as WG4082.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
SW-BW-051706-MB-101	L28784-1	WG4082-7

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L28784
EX001-3ESPBRAID-06

06/08/2006 19:20

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4100.

Method Blank
All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample
All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample
Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
SW-BW-051706-MB-101	L28784-1	WG4100-3

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

R. Charles for K. Jeter
Keith Jeter
Operations Manager

Sample Receipt Summary

05/31/06 14:27

SR #: SR08645

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #: L28784

Initiated By: PMARSHALL
Init Date: 05/31/06 Receive Date: 05/31/06

Notification of Variance

Person Notified: K. Shaw Contacted By: R. Charles
Notify Date: 5/31/06
Notify Method: email
Notify Comment: Sent with Acknowledgement

Client Response

Person Responding:
Response Date:
Response Method:
Response Comment

	Criteria	Yes	No	NA	Comment
1	Shipping container custody seals present and intact.			NA	
2	Sample container custody seals present and intact.			NA	
3	Sample containers received in good condition			Y	
4	Chain of custody received with samples			Y	
5	All samples listed on chain of custody received			Y	
6	Sample container labels present and legible.			Y	
7	Information on container labels correspond with chain of custody			N	

SW-BW-051506-MB-52	Sample collect times do not match container times of 09:00
SW-BW-051506-MB-50	Sample collect times do not match container times of 09:00
SW-BW-051706-MB-101	Sample collect times do not match container times of 10:30
SW-BW-052206-MB-56	Sample collect times do not match container times of 10:30
SW-BW-051906-MB-55	Sample collect times do not match container times of 11:00
SW-BW-051706-MB-105	Sample collect times do not match container times of 11:15
SW-BW-051906-MB-54	Sample collect times do not match container times of 11:30
SW-BW-051706-MB-102	Sample collect times do not match

05/31/06 14:27

SR #: SR08645

Client: Exelon

Teledyne Brown Engineering
Sample Receipt Verification/Variance Report

Project #: EX001-3ESPBRAID-06 LIMS #: L28784

Initiated By: PMARSHALL
Init Date: 05/31/06 Receive Date: 05/31/06

7	Information on container labels correspond with chain of custody	N	
	SW-BW-051706-MB-104		Sample collect times do not match container times of 13:00
	SW-BW-051706-MB-106		Sample collect times do not match container times of 13:55
	SW-BW-051706-MB-103		Sample collect times do not match container times of 14:30
	SW-BW-052206-MB-57		no time on container
8	Sample(s) properly preserved and in appropriate container(s)	Y	
			pH at or below 2 on Gamma portion of sample
9	Other (Describe)	N	
	Samples 103, 050, 052, 056, 057		Approx 3L received
	Sample 105		Only received approx 2L

TOTAL # COOLERS: 3

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): L28784

REFERENCE NUMBER: 45136-20

PROJECT NAME: EXELON - BRAIDWOOD

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Matt Bortlandi **PRINTED NAME:**

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: STRONTIUM 90	PARAMETERS: GAMMA RAY SPEC. PARAMETERS	REMARKS
1	5/17/06	1230	SW-BW-051706-MB-101	WATER	2	X	X	
2	"	1245	-102	"	2	X	X	
3	"	1343	-103	"	2	X	X	
4	"	1315	-104	"	2	X	X	
5	"	1330	-105	"	2	X	X	
6	"	1415	-106	"	2	X	X	
7	5/15/06	1600	WG-BW-051506-MB-050	"	2	X	X	
8	"	1005	" MB-052	"	2	X	X	
9	5/19/06	1000	WG-BW-051906-MB-054	"	2	X	X	LIMITED WATER
10	"	1115	" -MB-055	"	2	X	X	LIMITED WATER
11	5/22/06	1000	WG-BW-052206-MB-056	"	2	X	X	
12	"	1030	" -057	"	2	X	X	
			TOTAL NUMBER OF CONTAINERS		24			

RELINQUISHED BY: (1) Matt Bortlandi	DATE: 5/22/06 TIME: 1330	RECEIVED BY: (2) Tom Lovell	DATE: 5-22-06 TIME: 1340
RELINQUISHED BY: (2)	DATE: TIME:	RECEIVED BY: (3)	DATE: TIME:
RELINQUISHED BY: (3)	DATE: TIME:	RECEIVED BY: (4)	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM:

RECEIVED FOR LABORATORY BY: Pat Marshall
DATE: 5/30/06 TIME: 1200

13723

1001-00(SOURCE)GN-CO004

L28784 8 of 141

5/31/06

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

ACKNOWLEDGEMENT
This is not an invoice

May 31, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on May 30, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by June 06, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865)934-0379

Project ID: EX001-3ESPBRAID-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#:860-747-1900, larry.walton@exeloncorp.com

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
SW-BW-051706-MB-101	**L28784-1**		**05/17/06:1230**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
SW-BW-051706-MB-102	**L28784-2**		**05/17/06:1245**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
SW-BW-051706-MB-103	**L28784-3**		**05/17/06:1343**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
SW-BW-051706-MB-104	**L28784-4**		**05/17/06:1315**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
SW-BW-051706-MB-105	**L28784-5**		**05/17/06:1330**	

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
SW-BW-051706-MB-106	**L28784-6**		**05/17/06:1415**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051506-MB-050	**L28784-7**		**05/15/06:1000**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051506-MB-052	**L28784-8**		**05/15/06:1005**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051906-MB-054	**L28784-9**		**05/19/06:1000**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-051906-MB-055	**L28784-10**		**05/19/06:1115**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-052206-MB-056	**L28784-11**		**05/22/06:1000**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		
WG-BW-052206-MB-057	**L28784-12**		**05/22/06:1030**	
WG	GELI	108.00		
WG	H-3	108.00		
WG	SR-90 (FAST)	140.00		

End of document

Internal Chain of Custody

06/08/06 19:20 Teledyne Brown Engineering

Internal Chain of Custody

****

Sample # L28784-1 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****

Sample # L28784-1 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****

Sample # L28784-2 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****

Sample # L28784-2 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****

Sample # L28784-3 Containernum 1

Prod	Analyst

****
Sample # L28784-3 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****
Sample # L28784-3 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****
Sample # L28784-4 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****
Sample # L28784-4 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****
Sample # L28784-5 Containernum 1

Prod	Analyst

****
Sample # L28784-5 Containernum 1

GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****
Sample # L28784-5 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****
Sample # L28784-6 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****
Sample # L28784-6 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****
Sample # L28784-7 Containernum 1

Prod	Analyst

****
Sample # L28784-7 Containernum 1

GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****
Sample # L28784-7 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****
Sample # L28784-8 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****
Sample # L28784-8 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****
Sample # L28784-9 Containernum 1

Prod	Analyst

06/08/06 19:20 Teledyne Brown Engineering
Internal Chain of Custody

****

Sample # L28784-9 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****

Sample # L28784-9 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****

Sample # L28784-10 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****

Sample # L28784-10 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****

Sample # L28784-11 Containernum 1

Prod	Analyst

****

Sample # L28784-11 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****

Sample # L28784-11 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

****

Sample # L28784-12 Containernum 1

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen
06/01/2006 14:28	029728	Lauren Larsen	099999	Sample Custodian
06/03/2006 12:42	099999	Sample Custodian	029709	Susan Ogletree

****

Sample # L28784-12 Containernum 2

Prod	Analyst
GELI	DW
H-3	SO
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
05/30/2006 00:00			099999	Sample Custodian
06/01/2006 14:27	099999	Sample Custodian	030854	Donna Webb
06/01/2006 14:28	030854	Donna Webb	029728	Lauren Larsen

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28784

****

L28784-1 WG SW-BW-051706-MB-101

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/30/06
Aliquot	GELI	DW	06/01/06
Aliquot	H-3	SO	06/03/06
Aliquot	SR-90 (FAST)	LCB	06/06/06
Count Room	GELI	ILL	06/02/06
Count Room	H-3	KOJ	06/04/06
Count Room	SR-90 (FAST)	KPW	06/07/06

****

L28784-2 WG SW-BW-051706-MB-102

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/30/06
Aliquot	GELI	DW	06/01/06
Aliquot	H-3	SO	06/05/06
Aliquot	SR-90 (FAST)	LCB	06/06/06
Count Room	GELI	KPW	06/03/06
Count Room	H-3	KOJ	06/05/06
Count Room	SR-90 (FAST)	KPW	06/07/06

****

L28784-3 WG SW-BW-051706-MB-103

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/30/06
Aliquot	GELI	DW	06/01/06
Aliquot	H-3	SO	06/05/06
Aliquot	SR-90 (FAST)	LCB	06/06/06
Count Room	GELI	KPW	06/03/06
Count Room	H-3	KOJ	06/05/06
Count Room	SR-90 (FAST)	KPW	06/07/06

****

L28784-4 WG SW-BW-051706-MB-104

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/30/06
Aliquot	GELI	DW	06/01/06
Aliquot	H-3	SO	06/05/06
Aliquot	SR-90 (FAST)	LCB	06/06/06
Count Room	GELI	KPW	06/03/06
Count Room	H-3	KOJ	06/05/06
Count Room	SR-90 (FAST)	KPW	06/07/06

****

L28784-5 WG SW-BW-051706-MB-105

Process step	Prod	Analyst	Date
Login		PMARSHALL	05/30/06
Aliquot	GELI	DW	06/01/06
Aliquot	H-3	SO	06/05/06
Aliquot	SR-90 (FAST)	LCB	06/06/06
Count Room	GELI	KOJ	06/04/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28784

L28784-5	**WG**	**SW-BW-051706-MB-105**		
Count Room	H-3		KOJ	06/05/06
Count Room	SR-90 (FAST)		KPW	06/07/06

****

L28784-6	**WG**	**SW-BW-051706-MB-106**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90 (FAST)		LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/05/06
Count Room	SR-90 (FAST)		KPW	06/07/06

****

L28784-7	**WG**	**WG-BW-051506-MB-050**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90 (FAST)		LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/05/06
Count Room	SR-90 (FAST)		KPW	06/07/06

****

L28784-8	**WG**	**WG-BW-051506-MB-052**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90 (FAST)		LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/06/06
Count Room	SR-90 (FAST)		KPW	06/07/06

****

L28784-9	**WG**	**WG-BW-051906-MB-054**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90 (FAST)		LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/06/06
Count Room	SR-90 (FAST)		KPW	06/07/06

****

L28784-10	**WG**	**WG-BW-051906-MB-055**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06

Teledyne Brown Engineering
Internal Chain of Custody
Supplemental Sheet

L28784

L28784-10	**WG**	**WG-BW-051906-MB-055**		
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90	(FAST)	LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/06/06
Count Room	SR-90	(FAST)	KPW	06/07/06

****

L28784-11	**WG**	**WG-BW-052206-MB-056**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90	(FAST)	LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/06/06
Count Room	SR-90	(FAST)	KPW	06/07/06

****

L28784-12	**WG**	**WG-BW-052206-MB-057**		
Process step	Prod		Analyst	Date
Login			PMARSHALL	05/30/06
Aliquot	GELI		DW	06/01/06
Aliquot	H-3		SO	06/05/06
Aliquot	SR-90	(FAST)	LCB	06/06/06
Count Room	GELI		KOJ	06/04/06
Count Room	H-3		KOJ	06/06/06
Count Room	SR-90	(FAST)	KPW	06/07/06

Analytical Results Summary

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **SW-BW-051706-MB-101**
Station:
Description:
LIMS Number: L28784-1

Collect Start: 05/17/2006 12:30
Collect Stop:
Receive Date: 05/30/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**3.98E+02**	1.29E+02	1.73E+02	pCi/L		10	ml		06/04/06	60	M	+		
TOTAL SR	2018	7.61E-01	5.98E-01	**1.07E+00**	pCi/L		450	ml	05/17/06 12:30	06/07/06	150	M	U		
MN-54	2007	-1.36E+00	2.92E+00	**4.63E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
CO-58	2007	-2.31E+00	3.08E+00	**4.77E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
FE-59	2007	3.67E-01	7.08E+00	**1.17E+01**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
CO-60	2007	1.51E+00	2.94E+00	**5.09E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
ZN-65	2007	2.52E+00	6.29E+00	**1.07E+01**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
NB-95	2007	1.14E-01	3.41E+00	**5.62E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
ZR-95	2007	1.06E+00	5.95E+00	**9.91E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
CS-134	2007	3.56E+00	4.00E+00	**5.83E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
CS-137	2007	1.82E+00	3.12E+00	**5.34E+00**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
BA-140	2007	-1.00E+01	2.32E+01	**3.71E+01**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No
LA-140	2007	9.68E-01	6.46E+00	**1.08E+01**	pCi/L		3531.96	ml	05/17/06 12:30	06/02/06	10321	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **SW-BW-051706-MB-102** Collect Start: 05/17/2006 12:45 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-2

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**3.65E+02**	1.20E+02	1.59E+02	pCi/L		10	ml		06/05/06	60	M	+		
TOTAL SR	2018	2.92E-01	5.85E-01	**1.12E+00**	pCi/L		450	ml	05/17/06 12:45	06/07/06	150	M	U		
MN-54	2007	-2.82E-01	1.60E+00	**2.64E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
CO-58	2007	-6.23E-01	1.72E+00	**2.82E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
FE-59	2007	2.78E+00	3.70E+00	**6.24E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
CO-60	2007	8.28E-01	1.62E+00	**2.73E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
ZN-65	2007	5.04E+00	4.07E+00	**6.02E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
NB-95	2007	1.54E+00	1.84E+00	**3.08E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
ZR-95	2007	-4.85E-01	3.34E+00	**5.25E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
CS-134	2007	5.01E+00	3.76E+00	**3.03E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
CS-137	2007	2.03E-01	1.72E+00	**2.82E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
BA-140	2007	-6.05E+00	1.39E+01	**2.27E+01**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No
LA-140	2007	4.85E+00	4.46E+00	**7.71E+00**	pCi/L		3704.57	ml	05/17/06 12:45	06/03/06	48000	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **SW-BW-051706-MB-103** Collect Start: 05/17/2006 13:43 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-3

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.30E+02**	1.14E+02	1.63E+02	pCi/L		10	ml		06/05/06	60	M	+		
TOTAL SR	2018	5.65E-01	5.26E-01	**9.57E-01**	pCi/L		450	ml	05/17/06 13:43	06/07/06	150	M	U		
MN-54	2007	1.74E+00	1.79E+00	**3.06E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
CO-58	2007	-4.53E-01	1.91E+00	**3.13E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
FE-59	2007	3.69E+00	3.95E+00	**6.69E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
CO-60	2007	1.19E+00	1.74E+00	**2.95E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
ZN-65	2007	7.78E+00	4.25E+00	**6.60E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U*		No
NB-95	2007	5.59E-01	1.94E+00	**3.25E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
ZR-95	2007	4.05E-01	3.46E+00	**5.77E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
CS-134	2007	3.87E+00	3.55E+00	**3.26E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
CS-137	2007	1.98E+00	1.85E+00	**3.12E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
BA-140	2007	3.66E+00	1.46E+01	**2.42E+01**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No
LA-140	2007	-3.46E+00	4.73E+00	**7.52E+00**	pCi/L		3435.23	ml	05/17/06 13:43	06/03/06	48000	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **SW-BW-051706-MB-104** Collect Start: 05/17/2006 13:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-4

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.23E+02	1.04E+02	**1.57E+02**	pCi/L		10	ml		06/05/06	60	M	U		
TOTAL SR	2018	5.96E-01	6.75E-01	**1.25E+00**	pCi/L		450	ml	05/17/06 13:15	06/07/06	150	M	U		
MN-54	2007	9.16E-02	1.64E+00	**2.69E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
CO-58	2007	-5.95E-01	1.87E+00	**3.03E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
FE-59	2007	2.27E+00	3.80E+00	**6.36E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
CO-60	2007	-5.38E-02	1.55E+00	**2.55E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
ZN-65	2007	4.81E+00	4.25E+00	**6.18E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
NB-95	2007	7.89E-01	1.84E+00	**3.05E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
ZR-95	2007	-7.54E-01	3.32E+00	**5.41E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
CS-134	2007	6.53E+00	3.68E+00	**3.00E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U*		No
CS-137	2007	1.28E-01	1.68E+00	**2.79E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
BA-140	2007	1.03E+01	1.40E+01	**2.33E+01**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
LA-140	2007	1.33E+00	4.54E+00	**7.62E+00**	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	U		No
AC-228	2007	**1.16E+01**	5.65E+00	9.22E+00	pCi/L		3735.91	ml	05/17/06 13:15	06/03/06	48000	Sec	+		Yes

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **SW-BW-051706-MB-105**
Station:
Description:
LIMS Number: L28784-5

Collect Start: 05/17/2006 13:30
Collect Stop:
Receive Date: 05/30/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	5.69E+01	1.03E+02	**1.62E+02**	pCi/L		10	ml		06/05/06	60	M	U		
TOTAL SR	2018	2.64E-01	4.97E-01	**9.43E-01**	pCi/L		450	ml	05/17/06 13:30	06/07/06	150	M	U		
K-40	2007	**6.20E+01**	3.89E+01	5.13E+01	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	+		Yes
MN-54	2007	5.40E-01	2.96E+00	**4.88E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
CO-58	2007	-1.23E+00	3.42E+00	**5.46E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
FE-59	2007	1.22E+00	6.98E+00	**1.16E+01**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
CO-60	2007	-1.58E+00	3.16E+00	**5.21E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
ZN-65	2007	1.66E+01	8.38E+00	**1.37E+01**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U*		No
NB-95	2007	1.50E+00	3.48E+00	**5.86E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
ZR-95	2007	-2.42E+00	6.12E+00	**9.82E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
CS-134	2007	7.88E+00	4.99E+00	**5.84E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U*		No
CS-137	2007	3.22E+00	3.03E+00	**5.33E+00**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
BA-140	2007	5.83E-01	2.55E+01	**4.20E+01**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U		No
LA-140	2007	-5.75E+00	9.57E+00	**1.50E+01**	pCi/L		2868.61	ml	05/17/06 13:30	06/04/06	15440	Sec	U	Spec	No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **SW-BW-051706-MB-106** Collect Start: 05/17/2006 14:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-6

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.32E+02	1.08E+02	**1.63E+02**	pCi/L		10	ml		06/05/06	60	M	U		
TOTAL SR	2018	5.14E-01	5.72E-01	**1.06E+00**	pCi/L		450	ml	05/17/06 14:15	06/07/06	150	M	U		
MN-54	2007	8.10E-01	2.75E+00	**4.58E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
CO-58	2007	-1.42E+00	3.27E+00	**5.22E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
FE-59	2007	-3.21E+00	6.63E+00	**1.05E+01**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
CO-60	2007	2.52E+00	2.77E+00	**4.93E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
ZN-65	2007	9.26E+00	7.84E+00	**1.20E+01**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
NB-95	2007	2.24E-01	3.25E+00	**5.37E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
ZR-95	2007	-2.44E-01	5.43E+00	**8.91E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
CS-134	2007	1.14E+01	7.51E+00	**6.53E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U*	No	
CS-137	2007	-9.52E-01	2.83E+00	**4.61E+00**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
BA-140	2007	-4.76E+00	2.41E+01	**3.91E+01**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	
LA-140	2007	3.58E+00	7.98E+00	**1.36E+01**	pCi/L		3821.66	ml	05/17/06 14:15	06/04/06	11763	Sec	U	No	

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051506-MB-050** Collect Start: 05/15/2006 10:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-7

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.04E+02**	1.12E+02	1.61E+02	pCi/L		10	ml		06/05/06	60	M	+		
TOTAL SR	2018	2.12E-01	5.18E-01	**9.95E-01**	pCi/L		450	ml	05/15/06 10:00	06/07/06	150	M	U		
MN-54	2007	9.13E-01	2.43E+00	**4.10E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
CO-58	2007	-1.27E+00	2.84E+00	**4.61E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
FE-59	2007	-5.02E-01	5.97E+00	**9.70E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
CO-60	2007	9.82E-01	2.50E+00	**4.23E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
ZN-65	2007	5.38E+00	6.35E+00	**9.34E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
NB-95	2007	1.66E+00	3.04E+00	**5.07E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
ZR-95	2007	1.94E+00	5.25E+00	**8.70E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
CS-134	2007	7.68E+00	4.18E+00	**4.74E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U*		No
CS-137	2007	6.99E-01	2.62E+00	**4.34E+00**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
BA-140	2007	-1.41E+00	2.48E+01	**4.09E+01**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No
LA-140	2007	7.59E+00	7.20E+00	**1.28E+01**	pCi/L		3068.8	ml	05/15/06 10:00	06/04/06	24570	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051506-MB-052** Collect Start: 05/15/2006 10:05 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-8

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	**2.00E+02**	1.11E+02	1.60E+02	pCi/L		10	ml		06/06/06	60	M	+		
TOTAL SR	2018	-2.40E-01	5.78E-01	**1.19E+00**	pCi/L		450	ml	05/15/06 10:05	06/07/06	150	M	U		
MN-54	2007	2.90E-01	2.31E+00	**3.85E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
CO-58	2007	-4.54E-01	2.66E+00	**4.37E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
FE-59	2007	4.91E+00	6.07E+00	**1.03E+01**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
CO-60	2007	1.21E+00	2.43E+00	**4.13E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
ZN-65	2007	7.47E+00	6.26E+00	**9.58E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
NB-95	2007	6.32E-01	2.68E+00	**4.50E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
ZR-95	2007	-1.71E+00	4.82E+00	**7.87E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
CS-134	2007	6.29E+00	4.66E+00	**4.56E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
CS-137	2007	6.19E-01	2.48E+00	**4.11E+00**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
BA-140	2007	1.25E+01	2.31E+01	**3.91E+01**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No
LA-140	2007	-1.27E+00	8.08E+00	**1.32E+01**	pCi/L		3119.4	ml	05/15/06 10:05	06/04/06	24648	Sec	U		No

Flag Values
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U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

Bolded text indicates reportable value.

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Yes = Peak identified in gamma spectrum
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MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051906-MB-054** Collect Start: 05/19/2006 10:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-9

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	1.40E+02	1.07E+02	**1.60E+02**	pCi/L		10	ml		06/06/06	60	M	U		
TOTAL SR	2018	**9.29E-01**	5.27E-01	9.20E-01	pCi/L		450	ml	05/19/06 10:00	06/07/06	150	M	+		
MN-54	2007	1.57E+00	2.86E+00	**4.84E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
CO-58	2007	-3.06E+00	3.05E+00	**4.64E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
FE-59	2007	4.26E+00	6.45E+00	**1.12E+01**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
CO-60	2007	2.05E+00	2.83E+00	**4.91E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
ZN-65	2007	9.20E+00	6.99E+00	**1.11E+01**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
NB-95	2007	5.30E+00	3.46E+00	**6.16E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
ZR-95	2007	-4.09E+00	5.84E+00	**9.17E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
CS-134	2007	7.40E+00	4.42E+00	**5.73E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U*	No	
CS-137	2007	3.33E+00	3.10E+00	**5.29E+00**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
BA-140	2007	3.45E+00	2.28E+01	**3.73E+01**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
LA-140	2007	-4.35E+00	7.19E+00	**1.11E+01**	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	U	No	
TH-228	2007	**8.75E+00**	5.46E+00	8.18E+00	pCi/L		3554.3	ml	05/19/06 10:00	06/04/06	12077	Sec	+	Yes	

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-051906-MB-055** Collect Start: 05/19/2006 11:15 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-10

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	5.89E+01	1.16E+02	**1.85E+02**	pCi/L		10	ml		06/06/06	60	M	U		
TOTAL SR	2018	5.81E-01	7.05E-01	**1.31E+00**	pCi/L		450	ml	05/19/06 11:15	06/07/06	150	M	U		
MN-54	2007	3.50E-01	2.46E+00	**4.04E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
CO-58	2007	-3.87E+00	2.60E+00	**3.94E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
FE-59	2007	7.59E+00	5.55E+00	**9.71E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
CO-60	2007	2.12E-01	2.41E+00	**3.99E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
ZN-65	2007	1.36E+01	6.09E+00	**9.73E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U*		No
NB-95	2007	2.27E+00	2.62E+00	**4.45E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
ZR-95	2007	-6.39E-01	4.69E+00	**7.65E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
CS-134	2007	3.09E+00	5.86E+00	**4.32E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
CS-137	2007	-4.89E-01	2.42E+00	**3.97E+00**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
BA-140	2007	2.66E+00	1.94E+01	**3.19E+01**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No
LA-140	2007	4.29E+00	5.91E+00	**1.03E+01**	pCi/L		3573.33	ml	05/19/06 11:15	06/04/06	24675	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-052206-MB-056** Collect Start: 05/22/2006 10:00 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-11

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	9.56E+01	1.02E+02	**1.58E+02**	pCi/L		10	ml		06/06/06	60	M	U		
TOTAL SR	2018	2.52E-01	7.30E-01	**1.41E+00**	pCi/L		450	ml	05/22/06 10:00	06/07/06	150	M	U		
MN-54	2007	-1.81E+00	2.90E+00	**4.59E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
CO-58	2007	1.39E+00	3.03E+00	**5.07E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
FE-59	2007	4.87E+00	6.23E+00	**1.07E+01**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
CO-60	2007	-5.41E-01	2.87E+00	**4.63E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
ZN-65	2007	8.48E+00	7.34E+00	**1.11E+01**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
NB-95	2007	2.91E+00	3.13E+00	**5.35E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
ZR-95	2007	-6.85E-01	5.61E+00	**9.14E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
CS-134	2007	1.23E+01	6.05E+00	**5.35E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U*		No
CS-137	2007	-6.81E-01	2.97E+00	**4.84E+00**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
BA-140	2007	-1.17E+01	2.03E+01	**3.29E+01**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No
LA-140	2007	-1.98E+00	6.42E+00	**1.04E+01**	pCi/L		3596.81	ml	05/22/06 10:00	06/04/06	24769	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

06/08/06 19:18

TELEDYNE BROWN ENGINEERING, INC.
A Teledyne Technologies Company

L28784

Conestoga-Rovers & Associates

EX001-3ESPBRAID-06

Kathy Shaw

Sample ID: **WG-BW-052206-MB-057** Collect Start: 05/22/2006 10:30 Matrix: Ground Water (WG)
Station: Collect Stop: Volume:
Description: Receive Date: 05/30/2006 % Moisture:
LIMS Number: L28784-12

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3	2010	8.33E+01	1.02E+02	**1.58E+02**	pCi/L		10	ml		06/06/06	60	M	U		
TOTAL SR	2018	-7.11E-02	4.65E-01	**9.35E-01**	pCi/L		450	ml	05/22/06 10:30	06/07/06	150	M	U		
MN-54	2007	2.18E+00	2.56E+00	**4.72E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
CO-58	2007	1.58E-01	2.88E+00	**5.02E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
FE-59	2007	3.18E+00	5.93E+00	**1.09E+01**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
CO-60	2007	5.98E-01	2.44E+00	**4.44E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
ZN-65	2007	4.83E+00	6.54E+00	**1.05E+01**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
NB-95	2007	1.78E+00	3.06E+00	**5.49E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
ZR-95	2007	-2.09E+00	5.49E+00	**9.30E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
CS-134	2007	1.70E+00	3.22E+00	**5.68E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
CS-137	2007	-8.03E-01	2.84E+00	**4.87E+00**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
BA-140	2007	-4.15E+00	2.07E+01	**3.48E+01**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No
LA-140	2007	2.81E+00	5.60E+00	**1.06E+01**	pCi/L		3246.14	ml	05/22/06 10:30	06/04/06	12060	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
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L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report for L28784

6/8/2006 7:19:32PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

H-3

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG4082-1	H-3	WO	06/04/2006 10:37	< 1.710E+00	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG4082-2	H-3	WO	06/04/2006 11:41	5.05E+002	4.990E+02	pCi/Total	98.9	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000 WG4082-3		WO	06/04/2006 11:59	5.05E+002	4.990E+02	pCi/Total	98.9	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000 WG4082-4		WO	06/04/2006 12:18	5.05E+002	4.420E+02	pCi/Total	87.6	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000 WG4082-5		WO	06/04/2006 12:38	5.05E+002	4.940E+02	pCi/Total	97.9	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000 WG4082-6		WO	06/04/2006 12:58	5.05E+002	4.720E+02	pCi/Total	93.5	70-130	+	P
Spike ID: 3H-041706-1 Spike conc: 5.05E+002 Spike Vol: 1.00E+000										

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28784

6/8/2006 7:19:32PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

H-3

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG4082-7 L28784-1	H-3	WG	06/04/2006 13:17	3.980E+02	4.160E+02	pCi/L		<30	*	NE

L28784 **H-3**

Associated Samples for **WG4082**

SAMPLENUM	CLIENTID
L28784-1	SW-BW-051706-MB-101
L28784-2	SW-BW-051706-MB-102
L28784-3	SW-BW-051706-MB-103
L28784-4	SW-BW-051706-MB-104
L28784-5	SW-BW-051706-MB-105
L28784-6	SW-BW-051706-MB-106
L28784-7	WG-BW-051506-MB-050
L28784-8	WG-BW-051506-MB-052
L28784-9	WG-BW-051906-MB-054
L28784-10	WG-BW-051906-MB-055
L28784-11	WG-BW-052206-MB-056
L28784-12	WG-BW-052206-MB-057

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28784

6/8/2006 7:19:32PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

TOTAL SR

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	P/F
WG4100-1	TOTAL SR	WO	06/06/2006 16:48	< 7.520E-01	pCi/Total	U	P

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	P/F
WG4100-2	TOTAL SR	WO	06/07/2006 13:54	5.84E+001	6.430E+01	pCi/Total	110.2	70-130	+	P

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	P/F
WG4100-3 L28784-1	TOTAL SR	WG	06/07/2006 13:54	< 1.070E+00	< 1.240E+00	pCi/L		<30	**	NE

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L28784

6/8/2006 7:19:32PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

L28784 **SR-90 (FAST)**

Associated Samples for **WG4100**

SAMPLENUM	CLIENTID
L28784-1	SW-BW-051706-MB-101
L28784-2	SW-BW-051706-MB-102
L28784-3	SW-BW-051706-MB-103
L28784-4	SW-BW-051706-MB-104
L28784-5	SW-BW-051706-MB-105
L28784-6	SW-BW-051706-MB-106
L28784-7	WG-BW-051506-MB-050
L28784-8	WG-BW-051506-MB-052
L28784-9	WG-BW-051906-MB-054
L28784-10	WG-BW-051906-MB-055
L28784-11	WG-BW-052206-MB-056
L28784-12	WG-BW-052206-MB-057

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

Raw Data

Work Order: *L28784* Customer: *Exelon*

Nuclide: *SR-90 (FAST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Analyst
L28784-1		TOTAL SR	17-may-06		07-jun-06		0		07-jun-06	X1A	151	150	308	400	.346	.999	LCB
SW-BW-051706-MB-101			12:30	450 ml	08:30			90.05	13:53								
Activity: 7.61E-01		Error: 5.98E-01		MDC: 1.07E+00 *													
L28784-2		TOTAL SR	17-may-06		07-jun-06		0		07-jun-06	X1B	142	150	342	400	.343	.999	LCB
SW-BW-051706-MB-102			12:45	450 ml	08:30			91.67	13:53								
Activity: 2.92E-01		Error: 5.85E-01		MDC: 1.12E+00 *													
L28784-3		TOTAL SR	17-may-06		07-jun-06		0		07-jun-06	X1C	137	150	289	400	.354	.999	LCB
SW-BW-051706-MB-103			13:43	450 ml	08:30			95.70	13:53								
Activity: 5.65E-01		Error: 5.26E-01		MDC: 9.57E-01 *													
L28784-4		TOTAL SR	17-may-06		07-jun-06		0		07-jun-06	X1D	141	150	312	400	.344	.999	LCB
SW-BW-051706-MB-104			13:15	450 ml	08:30			78.23	13:53								
Activity: 5.96E-01		Error: 6.75E-01		MDC: 1.25E+00 *													
L28784-5		TOTAL SR	17-may-06		07-jun-06		0		07-jun-06	X2A	112	150	264	400	.354	.999	LCB
SW-BW-051706-MB-105			13:30	450 ml	08:30			92.74	13:53								
Activity: 2.64E-01		Error: 4.97E-01		MDC: 9.43E-01 *													
L28784-6		TOTAL SR	17-may-06		07-jun-06		0		07-jun-06	X2B	132	150	289	400	.345	.999	LCB
SW-BW-051706-MB-106			14:15	450 ml	08:30			88.98	13:53								
Activity: 5.14E-01		Error: 5.72E-01		MDC: 1.06E+00 *													
L28784-7		TOTAL SR	15-may-06		07-jun-06		0		07-jun-06	X2C	114	150	277	400	.344	.998	LCB
WG-BW-051506-MB-050			10:00	450 ml	08:30			92.74	13:53								
Activity: 2.12E-01		Error: 5.18E-01		MDC: 9.95E-01 *													
L28784-8		TOTAL SR	15-may-06		07-jun-06		0		07-jun-06	X2D	105	150	307	400	.343	.998	LCB
WG-BW-051506-MB-052			10:05	450 ml	08:30			81.99	13:53								
Activity: -2.4E-01		Error: 5.78E-01		MDC: 1.19E+00 *													
L28784-9		TOTAL SR	19-may-06		07-jun-06		0		07-jun-06	X3A	191	150	363	400	.335	.999	LCB
WG-BW-051906-MB-054			10:00	450 ml	08:30			117.74	13:53								
Activity: 9.29E-01 *		Error: 5.27E-01		MDC: 9.2E-01													
L28784-10		TOTAL SR	19-may-06		07-jun-06		0		07-jun-06	X3B	143	150	321	400	.343	.999	LCB
WG-BW-051906-MB-055			11:15	450 ml	08:30			75.81	13:53								
Activity: 5.81E-01		Error: 7.05E-01		MDC: 1.31E+00 *													
L28784-11		TOTAL SR	22-may-06		07-jun-06		0		07-jun-06	X3C	119	150	294	400	.345	.999	LCB
WG-BW-052206-MB-056			10:00	450 ml	08:30			67.20	13:53								
Activity: 2.52E-01		Error: 7.3E-01		MDC: 1.41E+00 *													

Sec. Review: JM Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-JUN-2006 11:44:28.11
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 2-JUN-2006 08:52:17.14

LIMS No., Customer Name, Client ID: L28784-1 WG EXELON/BRAID

Sample ID	: 07L28784-1			Smple Date	: 17-MAY-2006 12:30:00.
Sample Type	: WG			Geometry	: 0735L090904
Quantity	: 3.53200E+00 L			BKGFILE	: 07BG050506MT
Start Channel	: 40	Energy Tol	: 1.00000	Real Time	: 0 02:52:03.29
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 02:52:01.17
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	198.54*	98	195	1.25	398.05	1.98E+00	9.51E-03	28.3	1.93E+00
2	1	352.09*	54	102	2.04	705.35	1.43E+00	5.19E-03	41.2	1.99E+00
3	1	609.30*	50	90	1.61	1220.03	9.81E-01	4.82E-03	45.6	1.48E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28784-1 Acquisition date : 2-JUN-2006 08:52:17

Total number of lines in spectrum	3	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28784-1 Acquisition date : 2-JUN-2006 08:52:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	198.54	98	195	1.25	398.05	393	9	9.51E-03	56.6	1.98E+00	
1	352.09	54	102	2.04	705.35	701	10	5.19E-03	82.5	1.43E+00	
1	609.30	50	90	1.61	1220.03	1215	13	4.82E-03	91.1	9.81E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 3
Number of unidentified lines 3
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-9.691E+00		2.902E+01	4.704E+01	0.000E+00	-0.206
NA-24	-4.081E+01		6.762E+01	Half-Life too short		
K-40	-2.846E+00		3.724E+01	7.163E+01	0.000E+00	-0.040
CR-51	-1.950E+01		3.665E+01	5.872E+01	0.000E+00	-0.332
MN-54	-1.357E+00		2.922E+00	4.629E+00	0.000E+00	-0.293
CO-57	-1.837E+00		2.909E+00	4.709E+00	0.000E+00	-0.390
CO-58	-2.314E+00		3.077E+00	4.768E+00	0.000E+00	-0.485
FE-59	3.665E-01		7.076E+00	1.169E+01	0.000E+00	0.031
CO-60	1.508E+00		2.942E+00	5.094E+00	0.000E+00	0.296
ZN-65	2.521E+00		6.285E+00	1.065E+01	0.000E+00	0.237
SE-75	-1.595E+00		4.106E+00	6.682E+00	0.000E+00	-0.239
SR-85	2.284E+01		3.993E+00	7.927E+00	0.000E+00	2.882
Y-88	-3.113E-01		3.579E+00	5.856E+00	0.000E+00	-0.053
NB-94	-1.469E+00		2.811E+00	4.506E+00	0.000E+00	-0.326
NB-95	1.143E-01		3.408E+00	5.621E+00	0.000E+00	0.020
ZR-95	1.055E+00		5.948E+00	9.906E+00	0.000E+00	0.106
MO-99	-1.351E+02		1.135E+03	1.857E+03	0.000E+00	-0.073
RU-103	3.105E+00		3.831E+00	6.560E+00	0.000E+00	0.473
RU-106	3.228E+00		2.548E+01	4.178E+01	0.000E+00	0.077
AG-110m	6.505E-01		2.948E+00	4.955E+00	0.000E+00	0.131
SN-113	-3.258E+00		4.130E+00	6.441E+00	0.000E+00	-0.506
SB-124	-4.921E+00		4.467E+00	5.566E+00	0.000E+00	-0.884
SB-125	-1.181E+01		8.201E+00	1.263E+01	0.000E+00	-0.935
TE-129M	3.359E+00		4.329E+01	7.182E+01	0.000E+00	0.047
I-131	5.696E+00		1.118E+01	1.864E+01	0.000E+00	0.306

BA-133	4.266E+00	4.896E+00	7.106E+00	0.000E+00	0.600
CS-134	3.557E+00	4.004E+00	5.826E+00	0.000E+00	0.610
CS-136	1.115E+00	5.994E+00	9.960E+00	0.000E+00	0.112
CS-137	1.824E+00	3.115E+00	5.343E+00	0.000E+00	0.341
CE-139	1.670E+00	3.075E+00	5.111E+00	0.000E+00	0.327
BA-140	-1.003E+01	2.323E+01	3.713E+01	0.000E+00	-0.270
LA-140	9.684E-01	6.457E+00	1.076E+01	0.000E+00	0.090
CE-141	-7.726E+00	6.999E+00	1.111E+01	0.000E+00	-0.696
CE-144	-3.480E+01	2.304E+01	3.618E+01	0.000E+00	-0.962
EU-152	-1.164E+01	1.126E+01	1.445E+01	0.000E+00	-0.805
EU-154	-3.402E+00	5.908E+00	9.580E+00	0.000E+00	-0.355
RA-226	-5.415E+01	7.134E+01	1.154E+02	0.000E+00	-0.469
AC-228	1.323E+01	1.149E+01	2.073E+01	0.000E+00	0.638
TH-228	3.504E+00	5.397E+00	9.400E+00	0.000E+00	0.373
TH-232	1.316E+01	1.143E+01	2.062E+01	0.000E+00	0.638
U-235	1.358E+01	2.291E+01	3.814E+01	0.000E+00	0.356
U-238	8.565E+01	3.110E+02	5.265E+02	0.000E+00	0.163
AM-241	-5.061E+01	2.884E+01	4.442E+01	0.000E+00	-1.139

A,07L28784-1 ,06/02/2006 11:44,05/17/2006 12:30, 3.532E+00,L28784-1 WG EX
B,07L28784-1 ,LIBD ,06/02/2006 08:24,0735L090904

C,BE-7	,NO ,	-9.691E+00,	2.902E+01,	4.704E+01,,	-0.206
C,K-40	,NO ,	-2.846E+00,	3.724E+01,	7.163E+01,,	-0.040
C,CR-51	,NO ,	-1.950E+01,	3.665E+01,	5.872E+01,,	-0.332
C,MN-54	,NO ,	-1.357E+00,	2.922E+00,	4.629E+00,,	-0.293
C,CO-57	,NO ,	-1.837E+00,	2.909E+00,	4.709E+00,,	-0.390
C,CO-58	,NO ,	-2.314E+00,	3.077E+00,	4.768E+00,,	-0.485
C,FE-59	,NO ,	3.665E-01,	7.076E+00,	1.169E+01,,	0.031
C,CO-60	,NO ,	1.508E+00,	2.942E+00,	5.094E+00,,	0.296
C,ZN-65	,NO ,	2.521E+00,	6.285E+00,	1.065E+01,,	0.237
C,SE-75	,NO ,	-1.595E+00,	4.106E+00,	6.682E+00,,	-0.239
C,SR-85	,NO ,	2.284E+01,	3.993E+00,	7.927E+00,,	2.882
C,Y-88	,NO ,	-3.113E-01,	3.579E+00,	5.856E+00,,	-0.053
C,NB-94	,NO ,	-1.469E+00,	2.811E+00,	4.506E+00,,	-0.326
C,NB-95	,NO ,	1.143E-01,	3.408E+00,	5.621E+00,,	0.020
C,ZR-95	,NO ,	1.055E+00,	5.948E+00,	9.906E+00,,	0.106
C,MO-99	,NO ,	-1.351E+02,	1.135E+03,	1.857E+03,,	-0.073
C,RU-103	,NO ,	3.105E+00,	3.831E+00,	6.560E+00,,	0.473
C,RU-106	,NO ,	3.228E+00,	2.548E+01,	4.178E+01,,	0.077
C,AG-110m	,NO ,	6.505E-01,	2.948E+00,	4.955E+00,,	0.131
C,SN-113	,NO ,	-3.258E+00,	4.130E+00,	6.441E+00,,	-0.506
C,SB-124	,NO ,	-4.921E+00,	4.467E+00,	5.566E+00,,	-0.884
C,SB-125	,NO ,	-1.181E+01,	8.201E+00,	1.263E+01,,	-0.935
C,TE-129M	,NO ,	3.359E+00,	4.329E+01,	7.182E+01,,	0.047
C,I-131	,NO ,	5.696E+00,	1.118E+01,	1.864E+01,,	0.306
C,BA-133	,NO ,	4.266E+00,	4.896E+00,	7.106E+00,,	0.600
C,CS-134	,NO ,	3.557E+00,	4.004E+00,	5.826E+00,,	0.610
C,CS-136	,NO ,	1.115E+00,	5.994E+00,	9.960E+00,,	0.112
C,CS-137	,NO ,	1.824E+00,	3.115E+00,	5.343E+00,,	0.341
C,CE-139	,NO ,	1.670E+00,	3.075E+00,	5.111E+00,,	0.327
C,BA-140	,NO ,	-1.003E+01,	2.323E+01,	3.713E+01,,	-0.270
C,LA-140	,NO ,	9.684E-01,	6.457E+00,	1.076E+01,,	0.090
C,CE-141	,NO ,	-7.726E+00,	6.999E+00,	1.111E+01,,	-0.696
C,CE-144	,NO ,	-3.480E+01,	2.304E+01,	3.618E+01,,	-0.962
C,EU-152	,NO ,	-1.164E+01,	1.126E+01,	1.445E+01,,	-0.805
C,EU-154	,NO ,	-3.402E+00,	5.908E+00,	9.580E+00,,	-0.355
C,RA-226	,NO ,	-5.415E+01,	7.134E+01,	1.154E+02,,	-0.469
C,AC-228	,NO ,	1.323E+01,	1.149E+01,	2.073E+01,,	0.638
C,TH-228	,NO ,	3.504E+00,	5.397E+00,	9.400E+00,,	0.373
C,TH-232	,NO ,	1.316E+01,	1.143E+01,	2.062E+01,,	0.638
C,U-235	,NO ,	1.358E+01,	2.291E+01,	3.814E+01,,	0.356
C,U-238	,NO ,	8.565E+01,	3.110E+02,	5.265E+02,,	0.163
C,AM-241	,NO ,	-5.061E+01,	2.884E+01,	4.442E+01,,	-1.139

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 05:59:54.70
TBE10 12892256 HpGe ********** Aquisition Date/Time: 3-JUN-2006 16:39:39.84

LIMS No., Customer Name, Client ID: WG L28784-2 BRAIDWOOD

Sample ID : 10L28784-2
Sample Type : WG
Quantity : 3.70460E+00 L
Start Channel : 80 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 17-MAY-2006 12:45:00.
Geometry : 1035L091004
BKGFILE : 10BG060306MT
Real Time : 0 13:20:07.75
Live time : 0 13:20:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.25*	392	1636	1.54	131.80	6.32E-01	8.18E-03	21.0	1.24E+00
2	1	139.77	386	1288	1.31	278.97	1.68E+00	8.05E-03	16.8	1.55E+00
3	1	185.82*	53	1455	1.87	371.16	1.59E+00	1.11E-03	166.0	4.16E-01
4	1	198.27*	314	1046	1.82	396.07	1.55E+00	6.55E-03	23.5	3.14E+00
5	1	238.44*	92	1054	1.33	476.50	1.40E+00	1.91E-03	79.7	1.65E+00
6	1	294.97	78	573	1.19	589.67	1.21E+00	1.62E-03	51.2	2.63E+00
7	1	351.58*	34	677	1.57	703.00	1.07E+00	7.02E-04	186.0	4.29E+00
8	1	583.21*	36	308	2.24	1166.72	7.18E-01	7.57E-04	125.7	2.29E+00
9	1	595.94	179	310	1.47	1192.22	7.06E-01	3.74E-03	20.3	1.60E+00
10	1	609.11*	294	359	2.12	1218.60	6.94E-01	6.13E-03	18.6	1.13E+00
11	1	768.37	43	173	1.69	1537.45	5.79E-01	8.91E-04	56.6	1.56E+00
12	1	890.51	31	131	1.52	1782.02	5.16E-01	6.37E-04	69.1	7.54E+00
13	1	910.49*	24	130	2.62	1822.01	5.07E-01	4.94E-04	128.9	1.30E+00
14	1	1120.15*	18	119	1.56	2241.84	4.33E-01	3.76E-04	152.7	1.41E+00
15	1	1377.53	36	68	2.06	2757.24	3.71E-01	7.53E-04	45.2	2.85E+00
16	1	1996.76	54	54	9.80	3997.43	2.91E-01	1.12E-03	33.6	2.52E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	53	3.28*	1.594E+00	1.551E+01	1.551E+01	331.91
AC-228	835.50	------	1.75	5.422E-01	------	Line Not Found	------
	911.07	24	27.70*	5.072E-01	2.563E+00	2.578E+00	257.87
TH-228	238.63	92	44.60*	1.401E+00	2.232E+00	2.271E+00	159.49
	240.98	------	3.95	1.392E+00	------	Line Not Found	------
TH-232	583.14	36	30.25	7.183E-01	2.541E+00	2.541E+00	251.40
	911.07	24	27.70*	5.072E-01	2.563E+00	2.563E+00	257.87
	969.11	------	16.60	4.834E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	1.683E+00	------	Line Not Found	------
	163.35	------	4.70	1.659E+00	------	Line Not Found	------
	185.71	53	54.00	1.594E+00	9.422E-01	9.422E-01	331.91
	205.31	------	4.70	1.524E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28784-2

Acquisition date : 3-JUN-2006 16:39:39

Total number of lines in spectrum	16	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	4	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	1.551E+01	1.551E+01	5.149E+01	331.91	
AC-228	5.75Y	1.01	2.563E+00	2.578E+00	6.648E+00	257.87	
TH-228	1.91Y	1.02	2.232E+00	2.271E+00	3.622E+00	159.49	
TH-232	1.41E+10Y	1.00	2.563E+00	2.563E+00	6.609E+00	257.87	
U-235	7.04E+08Y	1.00	9.422E-01	9.422E-01	31.27E-01	331.91	K
			---------	---------			
	Total Activity :		2.381E+01	2.387E+01			

Grand Total Activity : 2.381E+01 2.387E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28784-2

Acquisition date : 3-JUN-2006 16:39:39

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.25	392	1636	1.54	131.80	128	9	8.18E-03	42.0	6.32E-01	
1	139.77	386	1288	1.31	278.97	275	8	8.05E-03	33.7	1.68E+00	
1	198.27	314	1046	1.82	396.07	391	9	6.55E-03	46.9	1.55E+00	
1	294.97	78	573	1.19	589.67	587	7	1.62E-03	****	1.21E+00	
1	351.58	34	677	1.57	703.00	697	12	7.02E-04	****	1.07E+00	
1	595.94	179	310	1.47	1192.22	1188	11	3.74E-03	40.7	7.06E-01	
1	609.11	294	359	2.12	1218.60	1211	17	6.13E-03	37.2	6.94E-01	
1	768.37	43	173	1.69	1537.45	1534	9	8.91E-04	****	5.79E-01	
1	890.51	31	131	1.52	1782.02	1777	9	6.37E-04	****	5.16E-01	
1	1120.15	18	119	1.56	2241.84	2237	9	3.76E-04	****	4.33E-01	
1	1377.53	36	68	2.06	2757.24	2753	9	7.53E-04	90.4	3.71E-01	
1	1996.76	54	54	9.80	3997.43	3989	17	1.12E-03	67.3	2.91E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	16	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	4	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	1.551E+01	1.551E+01	5.149E+01	331.91	
AC-228	5.75Y	1.01	2.258E-02	2.271E-02	924.4E-02	40700.37	
TH-228	1.91Y	1.02	2.232E+00	2.271E+00	3.622E+00	159.49	
TH-232	1.41E+10Y	1.00	2.541E+00	2.541E+00	6.387E+00	251.40	
	Total Activity :		2.031E+01	2.035E+01			

Grand Total Activity : 2.031E+01 2.035E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	1.551E+01	5.149E+01	6.207E+01	0.000E+00	0.250

AC-228	2.271E-02	9.244E+00	9.231E+00	0.000E+00	0.002
TH-228	2.271E+00	3.622E+00	4.624E+00	0.000E+00	0.491
TH-232	2.541E+00	6.387E+00	9.667E+00	0.000E+00	0.263

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	6.339E+00		1.575E+01	2.649E+01	0.000E+00	0.239
NA-24	-7.460E+01		2.379E+02	Half-Life too short		
K-40	-6.318E+00		2.587E+01	4.063E+01	0.000E+00	-0.155
CR-51	-3.124E+01		2.020E+01	3.223E+01	0.000E+00	-0.969
MN-54	-2.820E-01		1.601E+00	2.638E+00	0.000E+00	-0.107
CO-57	-1.181E+00		1.651E+00	2.702E+00	0.000E+00	-0.437
CO-58	-6.225E-01		1.721E+00	2.821E+00	0.000E+00	-0.221
FE-59	2.783E+00		3.697E+00	6.239E+00	0.000E+00	0.446
CO-60	8.283E-01		1.615E+00	2.733E+00	0.000E+00	0.303
ZN-65	5.040E+00		4.072E+00	6.017E+00	0.000E+00	0.838
SE-75	-7.401E-01		2.307E+00	3.808E+00	0.000E+00	-0.194
SR-85	1.832E+01		2.087E+00	4.062E+00	0.000E+00	4.509
Y-88	-2.097E-01		1.913E+00	3.137E+00	0.000E+00	-0.067
NB-94	1.293E+00		1.516E+00	2.546E+00	0.000E+00	0.508
NB-95	1.541E+00		1.841E+00	3.084E+00	0.000E+00	0.500
ZR-95	-4.847E-01		3.337E+00	5.253E+00	0.000E+00	-0.092
MO-99	2.054E+02		9.375E+02	1.540E+03	0.000E+00	0.133
RU-103	3.886E+00		2.086E+00	3.631E+00	0.000E+00	1.070
RU-106	-7.019E+00		1.535E+01	2.338E+01	0.000E+00	-0.300
AG-110m	9.969E-02		1.591E+00	2.613E+00	0.000E+00	0.038
SN-113	-1.332E-03		2.224E+00	3.636E+00	0.000E+00	0.000
SB-124	-1.381E+00		4.402E+00	2.973E+00	0.000E+00	-0.465
SB-125	-1.211E+00		4.511E+00	7.295E+00	0.000E+00	-0.166
TE-129M	1.761E+01		2.569E+01	4.247E+01	0.000E+00	0.415
I-131	-2.299E+00		7.129E+00	1.160E+01	0.000E+00	-0.198
BA-133	4.795E+00		2.645E+00	3.880E+00	0.000E+00	1.236
CS-134	5.010E+00		3.757E+00	3.033E+00	0.000E+00	1.652
CS-136	-3.547E+00		3.623E+00	5.794E+00	0.000E+00	-0.612
CS-137	2.030E-01		1.716E+00	2.824E+00	0.000E+00	0.072
CE-139	9.282E-01		1.735E+00	2.864E+00	0.000E+00	0.324
BA-140	-6.051E+00		1.386E+01	2.265E+01	0.000E+00	-0.267
LA-140	4.845E+00		4.459E+00	7.712E+00	0.000E+00	0.628
CE-141	4.487E+00		4.535E+00	6.459E+00	0.000E+00	0.695
CE-144	3.513E+00		1.500E+01	2.109E+01	0.000E+00	0.167
EU-152	-5.289E+00		5.948E+00	8.023E+00	0.000E+00	-0.659
EU-154	-1.082E+00		3.351E+00	5.512E+00	0.000E+00	-0.196
U-235	3.045E+01		1.462E+01	2.128E+01	0.000E+00	1.431
U-238	8.122E+01		1.683E+02	2.819E+02	0.000E+00	0.288
AM-241	-1.238E+01		1.616E+01	2.196E+01	0.000E+00	-0.564

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A,10L28784-2       ,06/04/2006 05:59,05/17/2006 12:45,   3.705E+00,WG L28784-2 BR
B,10L28784-2       ,LIBD                ,06/02/2006 08:22,1035L091004
C,RA-226   ,YES,    1.551E+01,   5.149E+01,   6.207E+01,,     0.250
C,AC-228   ,YES,    2.271E-02,   9.244E+00,   9.231E+00,,     0.002
C,TH-228   ,YES,    2.271E+00,   3.622E+00,   4.624E+00,,     0.491
C,TH-232   ,YES,    2.541E+00,   6.387E+00,   9.667E+00,,     0.263
C,BE-7     ,NO ,    6.339E+00,   1.575E+01,   2.649E+01,,     0.239
C,K-40     ,NO ,   -6.318E+00,   2.587E+01,   4.063E+01,,    -0.155
C,CR-51    ,NO ,   -3.124E+01,   2.020E+01,   3.223E+01,,    -0.969
C,MN-54    ,NO ,   -2.820E-01,   1.601E+00,   2.638E+00,,    -0.107
C,CO-57    ,NO ,   -1.181E+00,   1.651E+00,   2.702E+00,,    -0.437
C,CO-58    ,NO ,   -6.225E-01,   1.721E+00,   2.821E+00,,    -0.221
C,FE-59    ,NO ,    2.783E+00,   3.697E+00,   6.239E+00,,     0.446
C,CO-60    ,NO ,    8.283E-01,   1.615E+00,   2.733E+00,,     0.303
C,ZN-65    ,NO ,    5.040E+00,   4.072E+00,   6.017E+00,,     0.838
C,SE-75    ,NO ,   -7.401E-01,   2.307E+00,   3.808E+00,,    -0.194
C,SR-85    ,NO ,    1.832E+01,   2.087E+00,   4.062E+00,,     4.509
C,Y-88     ,NO ,   -2.097E-01,   1.913E+00,   3.137E+00,,    -0.067
C,NB-94    ,NO ,    1.293E+00,   1.516E+00,   2.546E+00,,     0.508
C,NB-95    ,NO ,    1.541E+00,   1.841E+00,   3.084E+00,,     0.500
C,ZR-95    ,NO ,   -4.847E-01,   3.337E+00,   5.253E+00,,    -0.092
C,MO-99    ,NO ,    2.054E+02,   9.375E+02,   1.540E+03,,     0.133
C,RU-103   ,NO ,    3.886E+00,   2.086E+00,   3.631E+00,,     1.070
C,RU-106   ,NO ,   -7.019E+00,   1.535E+01,   2.338E+01,,    -0.300
C,AG-110m  ,NO ,    9.969E-02,   1.591E+00,   2.613E+00,,     0.038
C,SN-113   ,NO ,   -1.332E-03,   2.224E+00,   3.636E+00,,     0.000
C,SB-124   ,NO ,   -1.381E+00,   4.402E+00,   2.973E+00,,    -0.465
C,SB-125   ,NO ,   -1.211E+00,   4.511E+00,   7.295E+00,,    -0.166
C,TE-129M  ,NO ,    1.761E+01,   2.569E+01,   4.247E+01,,     0.415
C,I-131    ,NO ,   -2.299E+00,   7.129E+00,   1.160E+01,,    -0.198
C,BA-133   ,NO ,    4.795E+00,   2.645E+00,   3.880E+00,,     1.236
C,CS-134   ,NO ,    5.010E+00,   3.757E+00,   3.033E+00,,     1.652
C,CS-136   ,NO ,   -3.547E+00,   3.623E+00,   5.794E+00,,    -0.612
C,CS-137   ,NO ,    2.030E-01,   1.716E+00,   2.824E+00,,     0.072
C,CE-139   ,NO ,    9.282E-01,   1.735E+00,   2.864E+00,,     0.324
C,BA-140   ,NO ,   -6.051E+00,   1.386E+01,   2.265E+01,,    -0.267
C,LA-140   ,NO ,    4.845E+00,   4.459E+00,   7.712E+00,,     0.628
C,CE-141   ,NO ,    4.487E+00,   4.535E+00,   6.459E+00,,     0.695
C,CE-144   ,NO ,    3.513E+00,   1.500E+01,   2.109E+01,,     0.167
C,EU-152   ,NO ,   -5.289E+00,   5.948E+00,   8.023E+00,,    -0.659
C,EU-154   ,NO ,   -1.082E+00,   3.351E+00,   5.512E+00,,    -0.196
C,U-235    ,NO ,    3.045E+01,   1.462E+01,   2.128E+01,,     1.431
C,U-238    ,NO ,    8.122E+01,   1.683E+02,   2.819E+02,,     0.288
C,AM-241   ,NO ,   -1.238E+01,   1.616E+01,   2.196E+01,,    -0.564
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 06:00:03.48
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 3-JUN-2006 16:39:41.04

LIMS No., Customer Name, Client ID: WG L28784-3 BRAIDWOOD

Sample ID : 11L28784-3
Sample Type : WG
Quantity : 3.43520E+00 L
Start Channel : 40 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 17-MAY-2006 13:43:00.
Geometry : 1135L090204
BKGFILE : 11BG060306MT
Real Time : 0 13:20:16.82
Live time : 0 13:20:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	66.34	347	2707	1.85	132.02	6.03E-01	7.22E-03	26.6	
2	0	139.79*	175	971	1.17	279.53	1.69E+00	3.65E-03	37.7	
3	0	174.85	120	821	0.93	349.94	1.65E+00	2.50E-03	40.6	
4	0	198.23	289	910	1.02	396.87	1.57E+00	6.02E-03	19.0	
5	0	238.41*	40	826	1.22	477.55	1.42E+00	8.28E-04	179.8	
6	0	295.41*	232	951	1.37	591.94	1.23E+00	4.83E-03	32.1	
7	0	337.96	138	448	1.50	677.33	1.11E+00	2.87E-03	29.0	
8	0	351.92*	224	683	1.38	705.35	1.08E+00	4.68E-03	30.6	
9	0	595.65	212	249	1.31	1194.13	7.15E-01	4.42E-03	15.5	
10	0	609.02*	215	381	1.36	1220.94	7.02E-01	4.48E-03	24.4	
11	0	910.04*	3	177	1.35	1823.94	5.14E-01	5.53E-05	*****	
12	0	1119.59*	11	169	1.56	2243.29	4.37E-01	2.20E-04	300.9	
13	0	1460.24*	51	113	2.44	2924.25	3.54E-01	1.05E-03	72.5	
14	0	1760.79	121	67	1.26	3524.30	3.05E-01	2.51E-03	18.1	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	51	10.67*	3.540E-01	2.194E+01	2.194E+01	145.06
TH-228	238.63	40	44.60*	1.422E+00	1.027E+00	1.045E+00	359.54
	240.98	------	3.95	1.413E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28784-3

Acquisition date : 3-JUN-2006 16:39:41

Total number of lines in spectrum	14	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	2	14.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.194E+01	2.194E+01	3.183E+01	145.06	
TH-228	1.91Y	1.02	1.027E+00	1.045E+00	3.757E+00	359.54	
			---------	---------			
	Total Activity :		2.297E+01	2.299E+01			
	Grand Total Activity :		2.297E+01	2.299E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28784-3

Acquisition date : 3-JUN-2006 16:39:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	66.34	347	2707	1.85	132.02	128	8	7.22E-03	53.1	6.03E-01	
0	139.79	175	971	1.17	279.53	276	7	3.65E-03	75.3	1.69E+00	
0	174.85	120	821	0.93	349.94	347	7	2.50E-03	81.2	1.65E+00	
0	198.23	289	910	1.02	396.87	393	8	6.02E-03	38.1	1.57E+00	
0	295.41	232	951	1.37	591.94	585	14	4.83E-03	64.2	1.23E+00	
0	337.96	138	448	1.50	677.33	673	9	2.87E-03	58.0	1.11E+00	
0	351.92	224	683	1.38	705.35	698	14	4.68E-03	61.2	1.08E+00	
0	595.65	212	249	1.31	1194.13	1190	10	4.42E-03	30.9	7.15E-01	
0	609.02	215	381	1.36	1220.94	1214	15	4.48E-03	48.9	7.02E-01	
0	910.04	3	177	1.35	1823.94	1818	14	5.53E-05	****	5.14E-01	
0	1119.59	11	169	1.56	2243.29	2239	15	2.20E-04	****	4.37E-01	
0	1760.79	121	67	1.26	3524.30	3516	17	2.51E-03	36.2	3.05E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	14	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	2	14.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.194E+01	2.194E+01	3.183E+01	145.06	
TH-228	1.91Y	1.02	1.027E+00	1.045E+00	3.757E+00	359.54	
	Total Activity :		2.297E+01	2.299E+01			

Grand Total Activity : 2.297E+01 2.299E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	2.194E+01	3.183E+01	2.745E+01	0.000E+00	0.800
TH-228	1.045E+00	3.757E+00	4.844E+00	0.000E+00	0.216

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	6.968E+00		1.675E+01	2.815E+01	0.000E+00	0.248
NA-24	-1.707E+02		2.143E+02	Half-Life too short		
CR-51	-2.877E+01		2.144E+01	3.437E+01	0.000E+00	-0.837
MN-54	1.742E+00		1.792E+00	3.058E+00	0.000E+00	0.570
CO-57	-8.710E-01		1.684E+00	2.771E+00	0.000E+00	-0.314
CO-58	-4.529E-01		1.908E+00	3.133E+00	0.000E+00	-0.145
FE-59	3.689E+00		3.950E+00	6.691E+00	0.000E+00	0.551
CO-60	1.188E+00		1.739E+00	2.953E+00	0.000E+00	0.402
ZN-65	7.784E+00		4.249E+00	6.598E+00	0.000E+00	1.180
SE-75	-1.562E+00		2.346E+00	3.851E+00	0.000E+00	-0.406
SR-85	1.934E+01		2.330E+00	4.473E+00	0.000E+00	4.324
Y-88	-4.666E-01		2.168E+00	3.511E+00	0.000E+00	-0.133
NB-94	-2.397E-01		1.637E+00	2.655E+00	0.000E+00	-0.090
NB-95	5.591E-01		1.937E+00	3.248E+00	0.000E+00	0.172
ZR-95	4.046E-01		3.459E+00	5.773E+00	0.000E+00	0.070
MO-99	-5.500E+02		1.014E+03	1.617E+03	0.000E+00	-0.340
RU-103	1.184E+00		2.265E+00	3.809E+00	0.000E+00	0.311
RU-106	5.453E+00		1.632E+01	2.635E+01	0.000E+00	0.207
AG-110m	3.921E-01		1.736E+00	2.861E+00	0.000E+00	0.137
SN-113	-1.181E+00		2.353E+00	3.798E+00	0.000E+00	-0.311
SB-124	-3.096E+00		4.970E+00	3.219E+00	0.000E+00	-0.962
SB-125	-3.257E+00		4.864E+00	7.777E+00	0.000E+00	-0.419
TE-129M	1.568E+01		2.645E+01	4.360E+01	0.000E+00	0.360
I-131	3.208E-01		7.326E+00	1.203E+01	0.000E+00	0.027
BA-133	6.492E+00		2.675E+00	4.009E+00	0.000E+00	1.619
CS-134	3.873E+00		3.550E+00	3.260E+00	0.000E+00	1.188
CS-136	-2.891E+00		3.966E+00	6.389E+00	0.000E+00	-0.452
CS-137	1.976E+00		1.845E+00	3.120E+00	0.000E+00	0.633
CE-139	-2.130E-01		1.790E+00	2.833E+00	0.000E+00	-0.075
BA-140	3.660E+00		1.456E+01	2.424E+01	0.000E+00	0.151
LA-140	-3.458E+00		4.732E+00	7.515E+00	0.000E+00	-0.460
CE-141	1.362E+00		4.508E+00	6.356E+00	0.000E+00	0.214
CE-144	-1.000E+01		1.493E+01	2.066E+01	0.000E+00	-0.484
EU-152	-1.304E+00		1.129E+01	8.211E+00	0.000E+00	-0.159
EU-154	-1.158E+00		3.397E+00	5.604E+00	0.000E+00	-0.207
RA-226	-4.911E+00		4.764E+01	6.684E+01	0.000E+00	-0.073
AC-228	-6.707E+00		9.148E+00	1.105E+01	0.000E+00	-0.607
TH-232	-6.668E+00		9.096E+00	1.099E+01	0.000E+00	-0.607
U-235	8.100E+00		1.475E+01	2.091E+01	0.000E+00	0.387
U-238	5.808E+01		1.864E+02	3.088E+02	0.000E+00	0.188
AM-241	-1.046E+01		2.472E+01	3.416E+01	0.000E+00	-0.306

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A,11L28784-3       ,06/04/2006 06:00,05/17/2006 13:43,   3.435E+00,WG L28784-3 BR
B,11L28784-3       ,LIBD                ,06/02/2006 08:22,1135L090204
C,K-40     ,YES,    2.194E+01,   3.183E+01,   2.745E+01,,     0.800
C,TH-228   ,YES,    1.045E+00,   3.757E+00,   4.844E+00,,     0.216
C,BE-7     ,NO ,    6.968E+00,   1.675E+01,   2.815E+01,,     0.248
C,CR-51    ,NO ,   -2.877E+01,   2.144E+01,   3.437E+01,,    -0.837
C,MN-54    ,NO ,    1.742E+00,   1.792E+00,   3.058E+00,,     0.570
C,CO-57    ,NO ,   -8.710E-01,   1.684E+00,   2.771E+00,,    -0.314
C,CO-58    ,NO ,   -4.529E-01,   1.908E+00,   3.133E+00,,    -0.145
C,FE-59    ,NO ,    3.689E+00,   3.950E+00,   6.691E+00,,     0.551
C,CO-60    ,NO ,    1.188E+00,   1.739E+00,   2.953E+00,,     0.402
C,ZN-65    ,NO ,    7.784E+00,   4.249E+00,   6.598E+00,,     1.180
C,SE-75    ,NO ,   -1.562E+00,   2.346E+00,   3.851E+00,,    -0.406
C,SR-85    ,NO ,    1.934E+01,   2.330E+00,   4.473E+00,,     4.324
C,Y-88     ,NO ,   -4.666E-01,   2.168E+00,   3.511E+00,,    -0.133
C,NB-94    ,NO ,   -2.397E-01,   1.637E+00,   2.655E+00,,    -0.090
C,NB-95    ,NO ,    5.591E-01,   1.937E+00,   3.248E+00,,     0.172
C,ZR-95    ,NO ,    4.046E-01,   3.459E+00,   5.773E+00,,     0.070
C,MO-99    ,NO ,   -5.500E+02,   1.014E+03,   1.617E+03,,    -0.340
C,RU-103   ,NO ,    1.184E+00,   2.265E+00,   3.809E+00,,     0.311
C,RU-106   ,NO ,    5.453E+00,   1.632E+01,   2.635E+01,,     0.207
C,AG-110m  ,NO ,    3.921E-01,   1.736E+00,   2.861E+00,,     0.137
C,SN-113   ,NO ,   -1.181E+00,   2.353E+00,   3.798E+00,,    -0.311
C,SB-124   ,NO ,   -3.096E+00,   4.970E+00,   3.219E+00,,    -0.962
C,SB-125   ,NO ,   -3.257E+00,   4.864E+00,   7.777E+00,,    -0.419
C,TE-129M  ,NO ,    1.568E+01,   2.645E+01,   4.360E+01,,     0.360
C,I-131    ,NO ,    3.208E-01,   7.326E+00,   1.203E+01,,     0.027
C,BA-133   ,NO ,    6.492E+00,   2.675E+00,   4.009E+00,,     1.619
C,CS-134   ,NO ,    3.873E+00,   3.550E+00,   3.260E+00,,     1.188
C,CS-136   ,NO ,   -2.891E+00,   3.966E+00,   6.389E+00,,    -0.452
C,CS-137   ,NO ,    1.976E+00,   1.845E+00,   3.120E+00,,     0.633
C,CE-139   ,NO ,   -2.130E-01,   1.790E+00,   2.833E+00,,    -0.075
C,BA-140   ,NO ,    3.660E+00,   1.456E+01,   2.424E+01,,     0.151
C,LA-140   ,NO ,   -3.458E+00,   4.732E+00,   7.515E+00,,    -0.460
C,CE-141   ,NO ,    1.362E+00,   4.508E+00,   6.356E+00,,     0.214
C,CE-144   ,NO ,   -1.000E+01,   1.493E+01,   2.066E+01,,    -0.484
C,EU-152   ,NO ,   -1.304E+00,   1.129E+01,   8.211E+00,,    -0.159
C,EU-154   ,NO ,   -1.158E+00,   3.397E+00,   5.604E+00,,    -0.207
C,RA-226   ,NO ,   -4.911E+00,   4.764E+01,   6.684E+01,,    -0.073
C,AC-228   ,NO ,   -6.707E+00,   9.148E+00,   1.105E+01,,    -0.607
C,TH-232   ,NO ,   -6.668E+00,   9.096E+00,   1.099E+01,,    -0.607
C,U-235    ,NO ,    8.100E+00,   1.475E+01,   2.091E+01,,     0.387
C,U-238    ,NO ,    5.808E+01,   1.864E+02,   3.088E+02,,     0.188
C,AM-241   ,NO ,   -1.046E+01,   2.472E+01,   3.416E+01,,    -0.306
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Sec. Review: Analyst: LIMS: ___

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 8-JUN-2006 19:28:44.40
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 3-JUN-2006 16:39:46.74

LIMS No., Customer Name, Client ID: WG L28784-4 BRAIDWOOD

Sample ID : 14L28784-4
Sample Type : WG
Quantity : 3.73590E+00 L
Start Channel : 90 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 17-MAY-2006 13:15:00.
Geometry : 1435L091304
BKGFILE : 14BG060306MT
Real Time : 0 13:20:07.73
Live time : 0 13:20:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.15	713	2356	2.43	133.28	4.48E-01	1.49E-02	14.5	2.51E+00
2	1	92.62*	223	1684	2.10	186.38	1.15E+00	4.65E-03	41.6	6.92E-01
3	1	140.10	313	1635	1.46	281.57	1.67E+00	6.53E-03	24.8	4.08E-01
4	1	186.28*	54	1302	1.86	374.11	1.64E+00	1.12E-03	153.4	1.35E+00
5	1	198.69*	239	1176	1.27	398.98	1.60E+00	4.97E-03	30.7	1.86E+00
6	1	239.04*	56	982	1.17	479.83	1.47E+00	1.16E-03	125.5	1.24E+00
7	1	295.34	166	671	1.31	592.57	1.29E+00	3.46E-03	27.8	3.09E+00
8	1	352.42*	132	689	2.22	706.81	1.14E+00	2.75E-03	51.3	1.63E+00
9	1	596.48	225	390	1.81	1194.74	7.78E-01	4.69E-03	19.3	1.84E+00
10	1	609.42*	303	434	2.31	1220.57	7.66E-01	6.32E-03	19.4	1.61E+00
11	1	709.84	96	485	4.73	1421.04	6.83E-01	2.00E-03	57.5	1.88E+00
12	1	912.02	120	171	2.28	1824.16	5.64E-01	2.50E-03	24.3	1.85E+00
13	1	1120.80*	61	154	3.32	2239.74	4.81E-01	1.26E-03	59.2	1.58E+00
14	1	1238.54	54	160	1.57	2473.80	4.45E-01	1.13E-03	49.8	6.89E-01
15	1	1461.83*	10	138	2.61	2917.08	3.93E-01	2.08E-04	427.6	2.96E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	54	3.28*	1.639E+00	1.506E+01	1.506E+01	306.80
AC-228	835.50	------	1.75	6.034E-01	------	Line Not Found	------
	911.07	120	27.70*	5.641E-01	1.158E+01	1.164E+01	48.55
TH-228	238.63	56	44.60*	1.467E+00	1.279E+00	1.301E+00	250.97
	240.98	------	3.95	1.461E+00	------	Line Not Found	------
U-235	143.76	------	10.50*	1.680E+00	------	Line Not Found	------
	163.35	------	4.70	1.685E+00	------	Line Not Found	------
	185.71	54	54.00	1.639E+00	9.149E-01	9.149E-01	306.80
	205.31	------	4.70	1.582E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L28784-4 Acquisition date : 3-JUN-2006 16:39:46

Total number of lines in spectrum	15	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	3	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	1.506E+01	1.506E+01	4.621E+01	306.80	
AC-228	5.75Y	1.01	1.158E+01	1.164E+01	0.565E+01	48.55	
TH-228	1.91Y	1.02	1.279E+00	1.301E+00	3.266E+00	250.97	
U-235	7.04E+08Y	1.00	9.149E-01	9.149E-01	28.07E-01	306.80	K
			---------	---------			
	Total Activity :		2.883E+01	2.892E+01			
	Grand Total Activity :		2.883E+01	2.892E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 14L28784-4

Acquisition date : 3-JUN-2006 16:39:46

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.15	713	2356	2.43	133.28	127	13	1.49E-02	29.1	4.48E-01	
1	92.62	223	1684	2.10	186.38	181	11	4.65E-03	83.2	1.15E+00	
1	140.10	313	1635	1.46	281.57	277	10	6.53E-03	49.6	1.67E+00	
1	198.69	239	1176	1.27	398.98	395	9	4.97E-03	61.5	1.60E+00	
1	295.34	166	671	1.31	592.57	589	8	3.46E-03	55.5	1.29E+00	
1	352.42	132	689	2.22	706.81	702	12	2.75E-03	****	1.14E+00	
1	596.48	225	390	1.81	1194.74	1188	13	4.69E-03	38.7	7.78E-01	
1	609.42	303	434	2.31	1220.57	1213	15	6.32E-03	38.8	7.66E-01	
1	709.84	96	485	4.73	1421.04	1409	20	2.00E-03	****	6.83E-01	
1	1120.80	61	154	3.32	2239.74	2231	15	1.26E-03	****	4.81E-01	
1	1238.54	54	160	1.57	2473.80	2467	13	1.13E-03	99.6	4.45E-01	
1	1461.83	10	138	2.61	2917.08	2907	22	2.08E-04	****	3.93E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	15	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	3	20.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	1.506E+01	1.506E+01	4.621E+01	306.80	
AC-228	5.75Y	1.01	1.158E+01	1.164E+01	0.565E+01	48.55	
TH-228	1.91Y	1.02	1.279E+00	1.301E+00	3.266E+00	250.97	
	Total Activity :		2.792E+01	2.801E+01			

Grand Total Activity : 2.792E+01 2.801E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	1.506E+01	4.621E+01	6.167E+01	0.000E+00	0.244
AC-228	1.164E+01	5.653E+00	9.220E+00	0.000E+00	1.263
TH-228	1.301E+00	3.266E+00	4.564E+00	0.000E+00	0.285

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-3.028E+00		1.622E+01	2.660E+01	0.000E+00	-0.114
NA-24	-7.112E+02		2.066E+02	Half-Life too short		
K-40	-1.140E+01		2.641E+01	4.125E+01	0.000E+00	-0.276
CR-51	-2.495E+01		2.013E+01	3.219E+01	0.000E+00	-0.775
MN-54	9.156E-02		1.643E+00	2.685E+00	0.000E+00	0.034
CO-57	-4.643E-01		1.641E+00	2.713E+00	0.000E+00	-0.171
CO-58	-5.947E-01		1.871E+00	3.026E+00	0.000E+00	-0.197
FE-59	2.274E+00		3.803E+00	6.363E+00	0.000E+00	0.357
CO-60	-5.383E-02		1.553E+00	2.552E+00	0.000E+00	-0.021
ZN-65	4.813E+00		4.247E+00	6.176E+00	0.000E+00	0.779
SE-75	-7.423E-01		2.314E+00	3.808E+00	0.000E+00	-0.195
SR-85	2.086E+01		2.125E+00	4.113E+00	0.000E+00	5.073
Y-88	-3.948E-01		1.910E+00	3.092E+00	0.000E+00	-0.128
NB-94	7.068E-01		1.807E+00	2.549E+00	0.000E+00	0.277
NB-95	7.887E-01		1.835E+00	3.050E+00	0.000E+00	0.259
ZR-95	-7.535E-01		3.321E+00	5.413E+00	0.000E+00	-0.139
MO-99	-5.895E+02		9.149E+02	1.473E+03	0.000E+00	-0.400
RU-103	3.648E+00		2.132E+00	3.647E+00	0.000E+00	1.000
RU-106	6.669E+00		1.523E+01	2.437E+01	0.000E+00	0.274
AG-110m	1.772E-01		1.579E+00	2.622E+00	0.000E+00	0.068
SN-113	2.897E-01		2.247E+00	3.656E+00	0.000E+00	0.079
SB-124	4.638E+00		4.018E+00	3.137E+00	0.000E+00	1.479
SB-125	-1.772E+00		4.570E+00	7.509E+00	0.000E+00	-0.236
TE-129M	1.678E+01		2.577E+01	4.317E+01	0.000E+00	0.389
I-131	-3.301E+00		7.204E+00	1.144E+01	0.000E+00	-0.289
BA-133	7.365E+00		2.619E+00	3.907E+00	0.000E+00	1.885
CS-134	6.531E+00		3.675E+00	2.998E+00	0.000E+00	2.178
CS-136	-1.534E+00		3.842E+00	6.191E+00	0.000E+00	-0.248
CS-137	1.282E-01		1.681E+00	2.788E+00	0.000E+00	0.046
CE-139	1.521E+00		1.713E+00	2.844E+00	0.000E+00	0.535
BA-140	1.028E+01		1.399E+01	2.334E+01	0.000E+00	0.441
LA-140	1.333E+00		4.543E+00	7.623E+00	0.000E+00	0.175
CE-141	3.647E-01		4.483E+00	6.288E+00	0.000E+00	0.058
CE-144	-1.146E+01		1.489E+01	2.060E+01	0.000E+00	-0.557
EU-152	-7.511E+00		6.008E+00	7.959E+00	0.000E+00	-0.944
EU-154	-7.098E-01		3.328E+00	5.506E+00	0.000E+00	-0.129
TH-232	1.158E+01	+	5.620E+00	9.738E+00	0.000E+00	1.189
U-235	1.990E+01		1.446E+01	2.082E+01	0.000E+00	0.956
U-238	2.895E+01		1.663E+02	2.757E+02	0.000E+00	0.105
AM-241	-1.756E+01		2.511E+01	3.466E+01	0.000E+00	-0.507

A,14L28784-4 ,06/08/2006 19:28,05/17/2006 13:15, 3.736E+00,WG L28784-4 BR
B,14L28784-4 ,LIBD ,06/02/2006 08:23,1435L091304

C,RA-226	,YES,	1.506E+01,	4.621E+01,	6.167E+01,,	0.244
C,AC-228	,YES,	1.164E+01,	5.653E+00,	9.220E+00,,	1.263
C,TH-228	,YES,	1.301E+00,	3.266E+00,	4.564E+00,,	0.285
C,BE-7	,NO ,	-3.028E+00,	1.622E+01,	2.660E+01,,	-0.114
C,K-40	,NO ,	-1.140E+01,	2.641E+01,	4.125E+01,,	-0.276
C,CR-51	,NO ,	-2.495E+01,	2.013E+01,	3.219E+01,,	-0.775
C,MN-54	,NO ,	9.156E-02,	1.643E+00,	2.685E+00,,	0.034
C,CO-57	,NO ,	-4.643E-01,	1.641E+00,	2.713E+00,,	-0.171
C,CO-58	,NO ,	-5.947E-01,	1.871E+00,	3.026E+00,,	-0.197
C,FE-59	,NO ,	2.274E+00,	3.803E+00,	6.363E+00,,	0.357
C,CO-60	,NO ,	-5.383E-02,	1.553E+00,	2.552E+00,,	-0.021
C,ZN-65	,NO ,	4.813E+00,	4.247E+00,	6.176E+00,,	0.779
C,SE-75	,NO ,	-7.423E-01,	2.314E+00,	3.808E+00,,	-0.195
C,SR-85	,NO ,	2.086E+01,	2.125E+00,	4.113E+00,,	5.073
C,Y-88	,NO ,	-3.948E-01,	1.910E+00,	3.092E+00,,	-0.128
C,NB-94	,NO ,	7.068E-01,	1.807E+00,	2.549E+00,,	0.277
C,NB-95	,NO ,	7.887E-01,	1.835E+00,	3.050E+00,,	0.259
C,ZR-95	,NO ,	-7.535E-01,	3.321E+00,	5.413E+00,,	-0.139
C,MO-99	,NO ,	-5.895E+02,	9.149E+02,	1.473E+03,,	-0.400
C,RU-103	,NO ,	3.648E+00,	2.132E+00,	3.647E+00,,	1.000
C,RU-106	,NO ,	6.669E+00,	1.523E+01,	2.437E+01,,	0.274
C,AG-110m	,NO ,	1.772E-01,	1.579E+00,	2.622E+00,,	0.068
C,SN-113	,NO ,	2.897E-01,	2.247E+00,	3.656E+00,,	0.079
C,SB-124	,NO ,	4.638E+00,	4.018E+00,	3.137E+00,,	1.479
C,SB-125	,NO ,	-1.772E+00,	4.570E+00,	7.509E+00,,	-0.236
C,TE-129M	,NO ,	1.678E+01,	2.577E+01,	4.317E+01,,	0.389
C,I-131	,NO ,	-3.301E+00,	7.204E+00,	1.144E+01,,	-0.289
C,BA-133	,NO ,	7.365E+00,	2.619E+00,	3.907E+00,,	1.885
C,CS-134	,NO ,	6.531E+00,	3.675E+00,	2.998E+00,,	2.178
C,CS-136	,NO ,	-1.534E+00,	3.842E+00,	6.191E+00,,	-0.248
C,CS-137	,NO ,	1.282E-01,	1.681E+00,	2.788E+00,,	0.046
C,CE-139	,NO ,	1.521E+00,	1.713E+00,	2.844E+00,,	0.535
C,BA-140	,NO ,	1.028E+01,	1.399E+01,	2.334E+01,,	0.441
C,LA-140	,NO ,	1.333E+00,	4.543E+00,	7.623E+00,,	0.175
C,CE-141	,NO ,	3.647E-01,	4.483E+00,	6.288E+00,,	0.058
C,CE-144	,NO ,	-1.146E+01,	1.489E+01,	2.060E+01,,	-0.557
C,EU-152	,NO ,	-7.511E+00,	6.008E+00,	7.959E+00,,	-0.944
C,EU-154	,NO ,	-7.098E-01,	3.328E+00,	5.506E+00,,	-0.129
C,TH-232	,NO ,	1.158E+01,	5.620E+00,	9.738E+00,,	1.189
C,U-235	,NO ,	1.990E+01,	1.446E+01,	2.082E+01,,	0.956
C,U-238	,NO ,	2.895E+01,	1.663E+02,	2.757E+02,,	0.105
C,AM-241	,NO ,	-1.756E+01,	2.511E+01,	3.466E+01,,	-0.507

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 13:48:50.80
TBE04 P-40312B HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:31:20.10

LIMS No., Customer Name, Client ID: WG L28784-5 EX BRAID

Sample ID : 04L28784-5
Sample Type : WG
Quantity : 2.86860E+00 L
Start Channel : 90 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 17-MAY-2006 13:30:00.
Geometry : 043L082004
BKGFILE : 04BG060305MT
Real Time : 0 04:17:22.30
Live time : 0 04:17:19.63

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.12*	167	488	1.86	132.69	6.56E-01	1.08E-02	26.6	1.27E+00
2	1	140.21*	78	393	1.84	280.86	2.04E+00	5.07E-03	48.6	1.81E+00
3	1	198.48*	83	383	1.31	397.37	1.86E+00	5.40E-03	48.1	2.21E+00
4	1	238.76*	28	223	1.14	477.94	1.68E+00	1.81E-03	101.6	1.01E+00
5	1	295.31*	5	198	0.87	591.02	1.45E+00	3.51E-04	487.3	7.40E-01
6	1	352.05*	64	177	1.30	704.47	1.28E+00	4.14E-03	47.7	7.05E-01
7	1	583.22*	41	67	1.67	1166.68	8.77E-01	2.69E-03	47.2	1.42E+00
8	1	596.15	61	107	1.66	1192.53	8.63E-01	3.98E-03	35.0	8.69E-01
9	1	609.18*	58	94	1.38	1218.58	8.49E-01	3.78E-03	41.2	1.92E+00
10	1	1120.01*	28	44	1.71	2239.79	5.27E-01	1.81E-03	54.1	3.65E-01
11	1	1380.28	33	38	0.98	2760.03	4.48E-01	2.15E-03	47.6	7.41E+00
12	1	1460.92*	47	6	3.82	2921.21	4.30E-01	3.02E-03	31.3	1.91E+00
13	1	1764.50*	32	9	2.68	3527.92	3.77E-01	2.07E-03	35.7	7.73E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	47	10.67*	4.295E-01	6.201E+01	6.201E+01	62.69
TH-228	238.63	28	44.60*	1.679E+00	2.274E+00	2.315E+00	203.26
	240.98	------	3.95	1.669E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 04L28784-5 Acquisition date : 4-JUN-2006 09:31:20

Total number of lines in spectrum	13	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	3	23.08%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.201E+01	6.201E+01	3.887E+01	62.69	
TH-228	1.91Y	1.02	2.274E+00	2.315E+00	4.705E+00	203.26	
	Total Activity :		6.428E+01	6.432E+01			
	Grand Total Activity :		6.428E+01	6.432E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 04L28784-5 Acquisition date : 4-JUN-2006 09:31:20

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.12	167	488	1.86	132.69	128	10	1.08E-02	53.2	6.56E-01	
1	140.21	78	393	1.84	280.86	277	9	5.07E-03	97.1	2.04E+00	
1	198.48	83	383	1.31	397.37	391	11	5.40E-03	96.1	1.86E+00	
1	295.31	5	198	0.87	591.02	588	8	3.51E-04	****	1.45E+00	
1	352.05	64	177	1.30	704.47	699	11	4.14E-03	95.4	1.28E+00	
1	583.22	41	67	1.67	1166.68	1162	11	2.69E-03	94.5	8.77E-01	T
1	596.15	61	107	1.66	1192.53	1186	11	3.98E-03	70.0	8.63E-01	
1	609.18	58	94	1.38	1218.58	1213	11	3.78E-03	82.5	8.49E-01	
1	1120.01	28	44	1.71	2239.79	2236	10	1.81E-03	****	5.27E-01	
1	1380.28	33	38	0.98	2760.03	2752	19	2.15E-03	95.2	4.48E-01	
1	1764.50	32	9	2.68	3527.92	3519	18	2.07E-03	71.5	3.77E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	13	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	3	23.08%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.201E+01	6.201E+01	3.887E+01	62.69	
TH-228	1.91Y	1.02	2.274E+00	2.315E+00	4.705E+00	203.26	
	Total Activity :		6.428E+01	6.432E+01			

Grand Total Activity : 6.428E+01 6.432E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	6.201E+01	3.887E+01	5.129E+01	0.000E+00	1.209
TH-228	2.315E+00	4.705E+00	8.137E+00	0.000E+00	0.284

---- Non-Identified Nuclides ----

	Key-Line Activity	K.L.	Act error	MDA	MDA error	Act/MDA

Nuclide	(pCi/L)	Ided	(pCi/L)		
BE-7	-1.487E+01	2.910E+01	4.688E+01	0.000E+00	-0.317
NA-24	2.061E+02	7.705E+02	Half-Life too short		
CR-51	-4.697E+01	3.660E+01	5.720E+01	0.000E+00	-0.821
MN-54	5.402E-01	2.958E+00	4.884E+00	0.000E+00	0.111
CO-57	1.633E+00	2.648E+00	4.506E+00	0.000E+00	0.362
CO-58	-1.233E+00	3.419E+00	5.459E+00	0.000E+00	-0.226
FE-59	1.218E+00	6.978E+00	1.157E+01	0.000E+00	0.105
CO-60	-1.579E+00	3.161E+00	5.210E+00	0.000E+00	-0.303
ZN-65	1.655E+01	8.379E+00	1.370E+01	0.000E+00	1.208
SE-75	-3.589E+00	3.947E+00	6.358E+00	0.000E+00	-0.564
SR-85	2.125E+01	4.053E+00	7.884E+00	0.000E+00	2.696
Y-88	3.170E-02	3.660E+00	5.990E+00	0.000E+00	0.005
NB-94	-8.942E-01	2.915E+00	4.737E+00	0.000E+00	-0.189
NB-95	1.504E+00	3.480E+00	5.861E+00	0.000E+00	0.257
ZR-95	-2.416E+00	6.124E+00	9.820E+00	0.000E+00	-0.246
MO-99	-1.318E+03	1.980E+03	3.127E+03	0.000E+00	-0.422
RU-103	1.846E+00	3.785E+00	6.390E+00	0.000E+00	0.289
RU-106	-7.731E+00	2.859E+01	4.568E+01	0.000E+00	-0.169
AG-110m	-1.872E-01	2.895E+00	4.788E+00	0.000E+00	-0.039
SN-113	1.761E+00	4.113E+00	6.813E+00	0.000E+00	0.258
SB-124	4.822E-01	7.718E+00	5.645E+00	0.000E+00	0.085
SB-125	3.514E+00	8.398E+00	1.423E+01	0.000E+00	0.247
TE-129M	-1.346E+01	4.491E+01	7.336E+01	0.000E+00	-0.184
I-131	6.111E+00	1.374E+01	2.285E+01	0.000E+00	0.267
BA-133	8.578E+00	4.925E+00	7.496E+00	0.000E+00	1.144
CS-134	7.881E+00	4.989E+00	5.839E+00	0.000E+00	1.350
CS-136	3.599E+00	7.330E+00	1.235E+01	0.000E+00	0.291
CS-137	3.217E+00	3.033E+00	5.329E+00	0.000E+00	0.604
CE-139	4.145E-01	2.825E+00	4.683E+00	0.000E+00	0.089
BA-140	5.834E-01	2.554E+01	4.195E+01	0.000E+00	0.014
LA-140	-5.752E+00	9.573E+00	1.501E+01	0.000E+00	-0.383
CE-141	3.477E+00	7.141E+00	1.035E+01	0.000E+00	0.336
CE-144	2.007E+00	2.316E+01	3.438E+01	0.000E+00	0.058
EU-152	-3.722E+00	1.074E+01	1.461E+01	0.000E+00	-0.255
EU-154	4.279E+00	5.391E+00	9.209E+00	0.000E+00	0.465
RA-226	1.236E+01	6.777E+01	1.120E+02	0.000E+00	0.110
AC-228	-1.058E+00	1.167E+01	1.972E+01	0.000E+00	-0.054
TH-232	-1.051E+00	1.160E+01	1.961E+01	0.000E+00	-0.054
U-235	1.360E+00	2.322E+01	3.303E+01	0.000E+00	0.041
U-238	-1.885E+02	3.076E+02	4.834E+02	0.000E+00	-0.390
AM-241	-1.562E+01	3.029E+01	4.412E+01	0.000E+00	-0.354

A,04L28784-5 ,06/04/2006 13:48,05/17/2006 13:30, 2.869E+00,WG L28784-5 EX
B,04L28784-5 ,LIBD ,06/02/2006 09:04,043L082004

C,K-40	,YES,	6.201E+01,	3.887E+01,	5.129E+01,,	1.209
C,TH-228	,YES,	2.315E+00,	4.705E+00,	8.137E+00,,	0.284
C,BE-7	,NO ,	-1.487E+01,	2.910E+01,	4.688E+01,,	-0.317
C,CR-51	,NO ,	-4.697E+01,	3.660E+01,	5.720E+01,,	-0.821
C,MN-54	,NO ,	5.402E-01,	2.958E+00,	4.884E+00,,	0.111
C,CO-57	,NO ,	1.633E+00,	2.648E+00,	4.506E+00,,	0.362
C,CO-58	,NO ,	-1.233E+00,	3.419E+00,	5.459E+00,,	-0.226
C,FE-59	,NO ,	1.218E+00,	6.978E+00,	1.157E+01,,	0.105
C,CO-60	,NO ,	-1.579E+00,	3.161E+00,	5.210E+00,,	-0.303
C,ZN-65	,NO ,	1.655E+01,	8.379E+00,	1.370E+01,,	1.208
C,SE-75	,NO ,	-3.589E+00,	3.947E+00,	6.358E+00,,	-0.564
C,SR-85	,NO ,	2.125E+01,	4.053E+00,	7.884E+00,,	2.696
C,Y-88	,NO ,	3.170E-02,	3.660E+00,	5.990E+00,,	0.005
C,NB-94	,NO ,	-8.942E-01,	2.915E+00,	4.737E+00,,	-0.189
C,NB-95	,NO ,	1.504E+00,	3.480E+00,	5.861E+00,,	0.257
C,ZR-95	,NO ,	-2.416E+00,	6.124E+00,	9.820E+00,,	-0.246
C,MO-99	,NO ,	-1.318E+03,	1.980E+03,	3.127E+03,,	-0.422
C,RU-103	,NO ,	1.846E+00,	3.785E+00,	6.390E+00,,	0.289
C,RU-106	,NO ,	-7.731E+00,	2.859E+01,	4.568E+01,,	-0.169
C,AG-110m	,NO ,	-1.872E-01,	2.895E+00,	4.788E+00,,	-0.039
C,SN-113	,NO ,	1.761E+00,	4.113E+00,	6.813E+00,,	0.258
C,SB-124	,NO ,	4.822E-01,	7.718E+00,	5.645E+00,,	0.085
C,SB-125	,NO ,	3.514E+00,	8.398E+00,	1.423E+01,,	0.247
C,TE-129M	,NO ,	-1.346E+01,	4.491E+01,	7.336E+01,,	-0.184
C,I-131	,NO ,	6.111E+00,	1.374E+01,	2.285E+01,,	0.267
C,BA-133	,NO ,	8.578E+00,	4.925E+00,	7.496E+00,,	1.144
C,CS-134	,NO ,	7.881E+00,	4.989E+00,	5.839E+00,,	1.350
C,CS-136	,NO ,	3.599E+00,	7.330E+00,	1.235E+01,,	0.291
C,CS-137	,NO ,	3.217E+00,	3.033E+00,	5.329E+00,,	0.604
C,CE-139	,NO ,	4.145E-01,	2.825E+00,	4.683E+00,,	0.089
C,BA-140	,NO ,	5.834E-01,	2.554E+01,	4.195E+01,,	0.014
C,LA-140	,NO ,	-5.752E+00,	9.573E+00,	1.501E+01,,	-0.383
C,CE-141	,NO ,	3.477E+00,	7.141E+00,	1.035E+01,,	0.336
C,CE-144	,NO ,	2.007E+00,	2.316E+01,	3.438E+01,,	0.058
C,EU-152	,NO ,	-3.722E+00,	1.074E+01,	1.461E+01,,	-0.255
C,EU-154	,NO ,	4.279E+00,	5.391E+00,	9.209E+00,,	0.465
C,RA-226	,NO ,	1.236E+01,	6.777E+01,	1.120E+02,,	0.110
C,AC-228	,NO ,	-1.058E+00,	1.167E+01,	1.972E+01,,	-0.054
C,TH-232	,NO ,	-1.051E+00,	1.160E+01,	1.961E+01,,	-0.054
C,U-235	,NO ,	1.360E+00,	2.322E+01,	3.303E+01,,	0.041
C,U-238	,NO ,	-1.885E+02,	3.076E+02,	4.834E+02,,	-0.390
C,AM-241	,NO ,	-1.562E+01,	3.029E+01,	4.412E+01,,	-0.354

Sec. Review: Analyst: LIMS: L

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 12:47:41.07
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:31:31.52

LIMS No., Customer Name, Client ID: WG L28784-6 EX BRAID

Sample ID : 07L28784-6
Sample Type : WG
Quantity : 3.82170E+00 L
Start Channel : 40 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 17-MAY-2006 14:15:00.
Geometry : 074L092204
BKGFILE : 07BG060306MT
Real Time : 0 03:16:05.12
Live time : 0 03:16:02.73

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	33.66	58	221	0.92	68.04	4.71E-03	4.93E-03	43.6	2.58E+00
2	1	66.14*	76	353	1.76	133.05	6.42E-01	6.44E-03	46.6	1.06E+00
3	1	198.53*	74	242	0.97	398.04	1.66E+00	6.29E-03	43.5	1.91E+00
4	1	295.03*	70	226	1.30	591.17	1.37E+00	5.91E-03	44.3	8.64E-01
5	1	351.91*	100	154	1.32	705.00	1.24E+00	8.48E-03	29.3	1.97E+00
6	1	595.73	46	98	2.17	1192.88	9.03E-01	3.95E-03	44.4	1.00E+00
7	1	609.18*	185	121	1.60	1219.80	8.90E-01	1.57E-02	15.7	1.07E+00
8	1	1120.05*	36	42	1.99	2241.76	5.73E-01	3.08E-03	40.6	2.31E-01
9	1	1764.82*	44	13	3.42	3531.02	4.14E-01	3.71E-03	26.7	8.38E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28784-6

Acquisition date : 4-JUN-2006 09:31:31

Total number of lines in spectrum	9	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28784-6

Acquisition date : 4-JUN-2006 09:31:31

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	33.66	58	221	0.92	68.04	66	7	4.93E-03	87.3	4.71E-03	
1	66.14	76	353	1.76	133.05	130	8	6.44E-03	93.2	6.42E-01	
1	198.53	74	242	0.97	398.04	394	9	6.29E-03	87.0	1.66E+00	
1	295.03	70	226	1.30	591.17	587	10	5.91E-03	88.5	1.37E+00	
1	351.91	100	154	1.32	705.00	700	11	8.48E-03	58.6	1.24E+00	
1	595.73	46	98	2.17	1192.88	1189	12	3.95E-03	88.8	9.03E-01	
1	609.18	185	121	1.60	1219.80	1213	14	1.57E-02	31.4	8.90E-01	
1	1120.05	36	42	1.99	2241.76	2237	10	3.08E-03	81.1	5.73E-01	
1	1764.82	44	13	3.42	3531.02	3525	15	3.71E-03	53.3	4.14E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 9
Number of unidentified lines 9
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	6.656E+00		2.799E+01	4.671E+01	0.000E+00	0.142
NA-24	-4.559E+02		6.349E+02	Half-Life too short		
K-40	-2.144E+01		3.712E+01	6.410E+01	0.000E+00	-0.334
CR-51	-1.813E+01		3.961E+01	6.375E+01	0.000E+00	-0.284
MN-54	8.104E-01		2.746E+00	4.582E+00	0.000E+00	0.177
CO-57	-7.361E-01		2.984E+00	4.893E+00	0.000E+00	-0.150
CO-58	-1.424E+00		3.270E+00	5.219E+00	0.000E+00	-0.273
FE-59	-3.211E+00		6.625E+00	1.051E+01	0.000E+00	-0.306
CO-60	2.524E+00		2.769E+00	4.929E+00	0.000E+00	0.512
ZN-65	9.260E+00		7.844E+00	1.204E+01	0.000E+00	0.769
SE-75	1.539E+00		4.216E+00	7.054E+00	0.000E+00	0.218
SR-85	2.371E+01		3.974E+00	7.850E+00	0.000E+00	3.020
Y-88	-2.785E+00		3.224E+00	4.830E+00	0.000E+00	-0.577
NB-94	-3.215E+00		2.623E+00	4.034E+00	0.000E+00	-0.797
NB-95	2.243E-01		3.247E+00	5.366E+00	0.000E+00	0.042
ZR-95	-2.440E-01		5.427E+00	8.914E+00	0.000E+00	-0.027
MO-99	1.619E+03		1.776E+03	3.086E+03	0.000E+00	0.525
RU-103	4.919E+00		3.815E+00	6.655E+00	0.000E+00	0.739
RU-106	1.305E+00		2.595E+01	4.119E+01	0.000E+00	0.032

AG-110m	6.417E-01	2.753E+00	4.629E+00	0.000E+00	0.139
SN-113	-1.310E+00	4.077E+00	6.516E+00	0.000E+00	-0.201
SB-124	-2.739E+00	8.716E+00	5.619E+00	0.000E+00	-0.487
SB-125	8.166E+00	8.244E+00	1.425E+01	0.000E+00	0.573
TE-129M	-2.472E-01	4.664E+01	7.706E+01	0.000E+00	-0.003
I-131	6.800E+00	1.294E+01	2.157E+01	0.000E+00	0.315
BA-133	1.249E+01	4.852E+00	7.667E+00	0.000E+00	1.629
CS-134	1.143E+01	7.513E+00	6.527E+00	0.000E+00	1.751
CS-136	1.397E+00	6.516E+00	1.083E+01	0.000E+00	0.129
CS-137	-9.516E-01	2.834E+00	4.612E+00	0.000E+00	-0.206
CE-139	2.352E+00	3.238E+00	5.402E+00	0.000E+00	0.435
BA-140	-4.761E+00	2.411E+01	3.909E+01	0.000E+00	-0.122
LA-140	3.578E+00	7.975E+00	1.360E+01	0.000E+00	0.263
CE-141	-7.567E+00	7.370E+00	1.175E+01	0.000E+00	-0.644
CE-144	-2.312E+01	2.369E+01	3.793E+01	0.000E+00	-0.610
EU-152	-5.786E+00	1.098E+01	1.462E+01	0.000E+00	-0.396
EU-154	-5.883E-01	6.052E+00	9.963E+00	0.000E+00	-0.059
RA-226	-6.146E+00	7.963E+01	1.298E+02	0.000E+00	-0.047
AC-228	-8.218E+00	1.128E+01	1.744E+01	0.000E+00	-0.471
TH-228	9.386E+00	6.132E+00	1.064E+01	0.000E+00	0.882
TH-232	-8.170E+00	1.122E+01	1.733E+01	0.000E+00	-0.471
U-235	2.254E+01	2.280E+01	3.846E+01	0.000E+00	0.586
U-238	2.199E+02	3.013E+02	5.227E+02	0.000E+00	0.421
AM-241	-3.121E+01	3.071E+01	4.230E+01	0.000E+00	-0.738

A,07L28784-6 ,06/04/2006 12:47,05/17/2006 14:15, 3.822E+00,WG L28784-6 EX
B,07L28784-6 ,LIBD ,06/02/2006 08:24,074L092204

C,BE-7	,NO ,	6.656E+00,	2.799E+01,	4.671E+01,,	0.142
C,K-40	,NO ,	-2.144E+01,	3.712E+01,	6.410E+01,,	-0.334
C,CR-51	,NO ,	-1.813E+01,	3.961E+01,	6.375E+01,,	-0.284
C,MN-54	,NO ,	8.104E-01,	2.746E+00,	4.582E+00,,	0.177
C,CO-57	,NO ,	-7.361E-01,	2.984E+00,	4.893E+00,,	-0.150
C,CO-58	,NO ,	-1.424E+00,	3.270E+00,	5.219E+00,,	-0.273
C,FE-59	,NO ,	-3.211E+00,	6.625E+00,	1.051E+01,,	-0.306
C,CO-60	,NO ,	2.524E+00,	2.769E+00,	4.929E+00,,	0.512
C,ZN-65	,NO ,	9.260E+00,	7.844E+00,	1.204E+01,,	0.769
C,SE-75	,NO ,	1.539E+00,	4.216E+00,	7.054E+00,,	0.218
C,SR-85	,NO ,	2.371E+01,	3.974E+00,	7.850E+00,,	3.020
C,Y-88	,NO ,	-2.785E+00,	3.224E+00,	4.830E+00,,	-0.577
C,NB-94	,NO ,	-3.215E+00,	2.623E+00,	4.034E+00,,	-0.797
C,NB-95	,NO ,	2.243E-01,	3.247E+00,	5.366E+00,,	0.042
C,ZR-95	,NO ,	-2.440E-01,	5.427E+00,	8.914E+00,,	-0.027
C,MO-99	,NO ,	1.619E+03,	1.776E+03,	3.086E+03,,	0.525
C,RU-103	,NO ,	4.919E+00,	3.815E+00,	6.655E+00,,	0.739
C,RU-106	,NO ,	1.305E+00,	2.595E+01,	4.119E+01,,	0.032
C,AG-110m	,NO ,	6.417E-01,	2.753E+00,	4.629E+00,,	0.139
C,SN-113	,NO ,	-1.310E+00,	4.077E+00,	6.516E+00,,	-0.201
C,SB-124	,NO ,	-2.739E+00,	8.716E+00,	5.619E+00,,	-0.487
C,SB-125	,NO ,	8.166E+00,	8.244E+00,	1.425E+01,,	0.573
C,TE-129M	,NO ,	-2.472E-01,	4.664E+01,	7.706E+01,,	-0.003
C,I-131	,NO ,	6.800E+00,	1.294E+01,	2.157E+01,,	0.315
C,BA-133	,NO ,	1.249E+01,	4.852E+00,	7.667E+00,,	1.629
C,CS-134	,NO ,	1.143E+01,	7.513E+00,	6.527E+00,,	1.751
C,CS-136	,NO ,	1.397E+00,	6.516E+00,	1.083E+01,,	0.129
C,CS-137	,NO ,	-9.516E-01,	2.834E+00,	4.612E+00,,	-0.206
C,CE-139	,NO ,	2.352E+00,	3.238E+00,	5.402E+00,,	0.435
C,BA-140	,NO ,	-4.761E+00,	2.411E+01,	3.909E+01,,	-0.122
C,LA-140	,NO ,	3.578E+00,	7.975E+00,	1.360E+01,,	0.263
C,CE-141	,NO ,	-7.567E+00,	7.370E+00,	1.175E+01,,	-0.644
C,CE-144	,NO ,	-2.312E+01,	2.369E+01,	3.793E+01,,	-0.610
C,EU-152	,NO ,	-5.786E+00,	1.098E+01,	1.462E+01,,	-0.396
C,EU-154	,NO ,	-5.883E-01,	6.052E+00,	9.963E+00,,	-0.059
C,RA-226	,NO ,	-6.146E+00,	7.963E+01,	1.298E+02,,	-0.047
C,AC-228	,NO ,	-8.218E+00,	1.128E+01,	1.744E+01,,	-0.471
C,TH-228	,NO ,	9.386E+00,	6.132E+00,	1.064E+01,,	0.882
C,TH-232	,NO ,	-8.170E+00,	1.122E+01,	1.733E+01,,	-0.471
C,U-235	,NO ,	2.254E+01,	2.280E+01,	3.846E+01,,	0.586
C,U-238	,NO ,	2.199E+02,	3.013E+02,	5.227E+02,,	0.421
C,AM-241	,NO ,	-3.121E+01,	3.071E+01,	4.230E+01,,	-0.738

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 16:21:26.26
TBE10 12892256 HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:31:46.37

LIMS No., Customer Name, Client ID: WG L28784-7 EX BRAID

Sample ID : 10L28784-7
Sample Type : WG
Quantity : 3.06880E+00 L
Start Channel : 80 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 15-MAY-2006 10:00:00.
Geometry : 103L083004
BKGFILE : 10BG060306MT
Real Time : 0 06:49:33.96
Live time : 0 06:49:29.92

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.46*	167	863	1.23	132.22	7.32E-01	6.78E-03	34.3	8.76E-01
2	1	139.80	220	776	1.71	279.03	1.91E+00	8.94E-03	24.6	4.30E-01
3	1	186.54*	18	653	2.24	372.59	1.77E+00	7.20E-04	304.6	2.32E+00
4	1	198.21*	148	709	1.61	395.96	1.72E+00	6.01E-03	40.1	1.25E+00
5	1	238.58*	60	399	1.46	476.78	1.54E+00	2.45E-03	70.1	2.47E+00
6	1	294.95	52	349	1.27	589.62	1.33E+00	2.13E-03	62.6	9.81E-01
7	1	352.02*	124	301	2.05	703.87	1.17E+00	5.06E-03	34.1	2.64E+00
8	1	595.57	86	174	1.43	1191.48	7.86E-01	3.51E-03	32.1	2.68E+00
9	1	609.15*	126	175	1.29	1218.67	7.73E-01	5.11E-03	26.0	2.15E+00
10	1	1120.01*	17	73	1.74	2241.56	4.79E-01	6.88E-04	118.8	1.21E+00
11	1	1460.06*	10	42	2.36	2922.52	3.89E-01	4.11E-04	226.9	2.16E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	10	10.67*	3.888E-01	8.724E+00	8.724E+00	453.87
RA-226	186.21	18	3.28*	1.768E+00	1.093E+01	1.093E+01	609.15
TH-228	238.63	60	44.60*	1.538E+00	3.145E+00	3.208E+00	140.15
	240.98	------	3.95	1.529E+00	------	Line Not Found	------
U-235	143.76	------	10.50*	1.905E+00	------	Line Not Found	------
	163.35	------	4.70	1.860E+00	------	Line Not Found	------
	185.71	18	54.00	1.768E+00	6.640E-01	6.640E-01	609.15
	205.31	------	4.70	1.684E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28784-7

Acquisition date : 4-JUN-2006 09:31:46

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.724E+00	8.724E+00	39.59E+00	453.87	
RA-226	1600.00Y	1.00	1.093E+01	1.093E+01	6.659E+01	609.15	
TH-228	1.91Y	1.02	3.145E+00	3.208E+00	4.496E+00	140.15	
U-235	7.04E+08Y	1.00	6.640E-01	6.640E-01	40.45E-01	609.15	K
			---------	---------			
	Total Activity :		2.346E+01	2.353E+01			
	Grand Total Activity :		2.346E+01	2.353E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28784-7

Acquisition date : 4-JUN-2006 09:31:46

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.46	167	863	1.23	132.22	127	9	6.78E-03	68.7	7.32E-01	
1	139.80	220	776	1.71	279.03	274	10	8.94E-03	49.2	1.91E+00	
1	198.21	148	709	1.61	395.96	391	12	6.01E-03	80.2	1.72E+00	
1	294.95	52	349	1.27	589.62	587	8	2.13E-03	****	1.33E+00	
1	352.02	124	301	2.05	703.87	697	13	5.06E-03	68.3	1.17E+00	
1	595.57	86	174	1.43	1191.48	1185	12	3.51E-03	64.2	7.86E-01	
1	609.15	126	175	1.29	1218.67	1213	12	5.11E-03	52.1	7.73E-01	
1	1120.01	17	73	1.74	2241.56	2236	12	6.88E-04	****	4.79E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	8.724E+00	8.724E+00	39.59E+00	453.87	
RA-226	1600.00Y	1.00	1.093E+01	1.093E+01	6.659E+01	609.15	
TH-228	1.91Y	1.02	3.145E+00	3.208E+00	4.496E+00	140.15	
	Total Activity :		2.280E+01	2.286E+01			

Grand Total Activity : 2.280E+01 2.286E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	8.724E+00	3.959E+01	3.301E+01	0.000E+00	0.264
RA-226	1.093E+01	6.659E+01	9.573E+01	0.000E+00	0.114
TH-228	3.208E+00	4.496E+00	7.335E+00	0.000E+00	0.437

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	1.546E+01	2.585E+01	4.392E+01	0.000E+00	0.352
NA-24	-1.022E+04	6.469E+03	Half-Life too short		
CR-51	-1.461E+01	3.383E+01	5.509E+01	0.000E+00	-0.265
MN-54	9.132E-01	2.425E+00	4.095E+00	0.000E+00	0.223
CO-57	4.568E-01	2.421E+00	4.015E+00	0.000E+00	0.114
CO-58	-1.268E+00	2.835E+00	4.607E+00	0.000E+00	-0.275
FE-59	-5.015E-01	5.968E+00	9.698E+00	0.000E+00	-0.052
CO-60	9.816E-01	2.499E+00	4.234E+00	0.000E+00	0.232
ZN-65	5.382E+00	6.348E+00	9.343E+00	0.000E+00	0.576
SE-75	-5.733E-01	3.599E+00	5.951E+00	0.000E+00	-0.096
SR-85	2.167E+01	3.370E+00	6.555E+00	0.000E+00	3.306
Y-88	-1.059E+00	2.884E+00	4.609E+00	0.000E+00	-0.230
NB-94	-1.162E+00	2.388E+00	3.816E+00	0.000E+00	-0.305
NB-95	1.662E+00	3.036E+00	5.065E+00	0.000E+00	0.328
ZR-95	1.938E+00	5.251E+00	8.699E+00	0.000E+00	0.223
MO-99	2.463E+02	2.737E+03	4.480E+03	0.000E+00	0.055
RU-103	8.729E-01	3.381E+00	5.669E+00	0.000E+00	0.154
RU-106	-4.505E+00	2.426E+01	3.906E+01	0.000E+00	-0.115
AG-110m	-1.774E+00	2.502E+00	3.970E+00	0.000E+00	-0.447
SN-113	-1.924E-01	3.577E+00	5.837E+00	0.000E+00	-0.033
SB-124	-1.313E+00	6.752E+00	4.581E+00	0.000E+00	-0.287
SB-125	4.153E-01	7.311E+00	1.193E+01	0.000E+00	0.035
TE-129M	-3.257E+01	4.125E+01	6.496E+01	0.000E+00	-0.501
I-131	3.457E+00	1.384E+01	2.288E+01	0.000E+00	0.151
BA-133	6.625E+00	3.943E+00	5.888E+00	0.000E+00	1.125
CS-134	7.676E+00	4.180E+00	4.739E+00	0.000E+00	1.620
CS-136	-1.284E+00	6.290E+00	1.033E+01	0.000E+00	-0.124
CS-137	6.990E-01	2.619E+00	4.344E+00	0.000E+00	0.161
CE-139	2.938E+00	2.655E+00	4.445E+00	0.000E+00	0.661
BA-140	-1.406E+00	2.475E+01	4.087E+01	0.000E+00	-0.034
LA-140	7.589E+00	7.202E+00	1.280E+01	0.000E+00	0.593
CE-141	2.929E+00	7.225E+00	1.020E+01	0.000E+00	0.287
CE-144	-8.541E+00	2.180E+01	3.016E+01	0.000E+00	-0.283
EU-152	-6.851E+00	9.377E+00	1.260E+01	0.000E+00	-0.544
EU-154	1.697E+00	4.890E+00	8.132E+00	0.000E+00	0.209
AC-228	8.716E+00	9.498E+00	1.526E+01	0.000E+00	0.571
TH-232	8.659E+00	9.435E+00	1.516E+01	0.000E+00	0.571
U-235	1.775E+01	2.193E+01	3.132E+01	0.000E+00	0.567
U-238	8.088E+01	2.410E+02	4.039E+02	0.000E+00	0.200
AM-241	-9.105E+00	2.486E+01	3.399E+01	0.000E+00	-0.268

```
A,10L28784-7       ,06/04/2006 16:21,05/15/2006 10:00,   3.069E+00,WG L28784-7 EX
B,10L28784-7       ,LIBD                ,06/02/2006 08:22,103L083004
C,K-40     ,YES,    8.724E+00,   3.959E+01,   3.301E+01,,     0.264
C,RA-226   ,YES,    1.093E+01,   6.659E+01,   9.573E+01,,     0.114
C,TH-228   ,YES,    3.208E+00,   4.496E+00,   7.335E+00,,     0.437
C,BE-7     ,NO ,    1.546E+01,   2.585E+01,   4.392E+01,,     0.352
C,CR-51    ,NO ,   -1.461E+01,   3.383E+01,   5.509E+01,,    -0.265
C,MN-54    ,NO ,    9.132E-01,   2.425E+00,   4.095E+00,,     0.223
C,CO-57    ,NO ,    4.568E-01,   2.421E+00,   4.015E+00,,     0.114
C,CO-58    ,NO ,   -1.268E+00,   2.835E+00,   4.607E+00,,    -0.275
C,FE-59    ,NO ,   -5.015E-01,   5.968E+00,   9.698E+00,,    -0.052
C,CO-60    ,NO ,    9.816E-01,   2.499E+00,   4.234E+00,,     0.232
C,ZN-65    ,NO ,    5.382E+00,   6.348E+00,   9.343E+00,,     0.576
C,SE-75    ,NO ,   -5.733E-01,   3.599E+00,   5.951E+00,,    -0.096
C,SR-85    ,NO ,    2.167E+01,   3.370E+00,   6.555E+00,,     3.306
C,Y-88     ,NO ,   -1.059E+00,   2.884E+00,   4.609E+00,,    -0.230
C,NB-94    ,NO ,   -1.162E+00,   2.388E+00,   3.816E+00,,    -0.305
C,NB-95    ,NO ,    1.662E+00,   3.036E+00,   5.065E+00,,     0.328
C,ZR-95    ,NO ,    1.938E+00,   5.251E+00,   8.699E+00,,     0.223
C,MO-99    ,NO ,    2.463E+02,   2.737E+03,   4.480E+03,,     0.055
C,RU-103   ,NO ,    8.729E-01,   3.381E+00,   5.669E+00,,     0.154
C,RU-106   ,NO ,   -4.505E+00,   2.426E+01,   3.906E+01,,    -0.115
C,AG-110m  ,NO ,   -1.774E+00,   2.502E+00,   3.970E+00,,    -0.447
C,SN-113   ,NO ,   -1.924E-01,   3.577E+00,   5.837E+00,,    -0.033
C,SB-124   ,NO ,   -1.313E+00,   6.752E+00,   4.581E+00,,    -0.287
C,SB-125   ,NO ,    4.153E-01,   7.311E+00,   1.193E+01,,     0.035
C,TE-129M  ,NO ,   -3.257E+01,   4.125E+01,   6.496E+01,,    -0.501
C,I-131    ,NO ,    3.457E+00,   1.384E+01,   2.288E+01,,     0.151
C,BA-133   ,NO ,    6.625E+00,   3.943E+00,   5.888E+00,,     1.125
C,CS-134   ,NO ,    7.676E+00,   4.180E+00,   4.739E+00,,     1.620
C,CS-136   ,NO ,   -1.284E+00,   6.290E+00,   1.033E+01,,    -0.124
C,CS-137   ,NO ,    6.990E-01,   2.619E+00,   4.344E+00,,     0.161
C,CE-139   ,NO ,    2.938E+00,   2.655E+00,   4.445E+00,,     0.661
C,BA-140   ,NO ,   -1.406E+00,   2.475E+01,   4.087E+01,,    -0.034
C,LA-140   ,NO ,    7.589E+00,   7.202E+00,   1.280E+01,,     0.593
C,CE-141   ,NO ,    2.929E+00,   7.225E+00,   1.020E+01,,     0.287
C,CE-144   ,NO ,   -8.541E+00,   2.180E+01,   3.016E+01,,    -0.283
C,EU-152   ,NO ,   -6.851E+00,   9.377E+00,   1.260E+01,,    -0.544
C,EU-154   ,NO ,    1.697E+00,   4.890E+00,   8.132E+00,,     0.209
C,AC-228   ,NO ,    8.716E+00,   9.498E+00,   1.526E+01,,     0.571
C,TH-232   ,NO ,    8.659E+00,   9.435E+00,   1.516E+01,,     0.571
C,U-235    ,NO ,    1.775E+01,   2.193E+01,   3.132E+01,,     0.567
C,U-238    ,NO ,    8.088E+01,   2.410E+02,   4.039E+02,,     0.200
C,AM-241   ,NO ,   -9.105E+00,   2.486E+01,   3.399E+01,,    -0.268
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 16:23:01.74
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:32:03.00

LIMS No., Customer Name, Client ID: WG L28784-8 EX BRAID

Sample ID : 11L28784-8
Sample Type : WG
Quantity : 3.11940E+00 L
Start Channel : 40 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 15-MAY-2006 10:05:00.
Geometry : 113L082304
BKGFILE : 11BG060306MT
Real Time : 0 06:50:56.78
Live time : 0 06:50:48.07

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	139.76*	86	579	1.07	279.47	1.90E+00	3.49E-03	55.4	
2	0	185.72*	63	654	1.34	371.75	1.80E+00	2.55E-03	88.7	
3	0	198.30	125	535	1.56	397.02	1.75E+00	5.07E-03	34.5	
4	0	238.48*	63	640	1.39	477.67	1.58E+00	2.57E-03	92.6	
5	0	295.62*	59	499	1.27	592.38	1.37E+00	2.39E-03	84.4	
6	0	338.28	103	224	1.12	677.97	1.24E+00	4.17E-03	29.0	
7	0	351.97*	37	301	1.21	705.44	1.20E+00	1.50E-03	104.8	
8	0	499.31	41	150	1.31	1000.99	9.21E-01	1.65E-03	54.6	
9	0	595.58	46	183	1.21	1193.99	8.04E-01	1.88E-03	58.3	
10	0	609.16*	153	166	1.78	1221.22	7.90E-01	6.21E-03	21.5	
11	0	911.30*	8	50	1.76	1826.47	5.74E-01	3.29E-04	257.2	
12	0	1120.78*	25	96	2.19	2245.66	4.86E-01	1.00E-03	94.5	
13	0	1460.60*	27	77	2.50	2924.96	3.92E-01	1.10E-03	89.6	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	27	10.67*	3.919E-01	2.287E+01	2.287E+01	179.25
RA-226	186.21	63	3.28*	1.799E+00	3.743E+01	3.743E+01	177.36
AC-228	835.50	------	1.75	6.158E-01	------ Line Not Found		------
	911.07	8	27.70*	5.744E-01	1.790E+00	1.802E+00	514.45
TH-228	238.63	63	44.60*	1.577E+00	3.169E+00	3.232E+00	185.29
	240.98	------	3.95	1.567E+00	------ Line Not Found		------
U-235	143.76	------	10.50*	1.906E+00	------ Line Not Found		------
	163.35	------	4.70	1.876E+00	------ Line Not Found		------
	185.71	63	54.00	1.799E+00	2.274E+00	2.274E+00	177.36
	205.31	------	4.70	1.718E+00	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28784-8

Acquisition date : 4-JUN-2006 09:32:03

Total number of lines in spectrum	13	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	4	30.77%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.287E+01	2.287E+01	4.100E+01	179.25	
RA-226	1600.00Y	1.00	3.743E+01	3.743E+01	6.639E+01	177.36	
AC-228	5.75Y	1.01	1.790E+00	1.802E+00	9.270E+00	514.45	
TH-228	1.91Y	1.02	3.169E+00	3.232E+00	5.989E+00	185.29	
U-235	7.04E+08Y	1.00	2.274E+00	2.274E+00	4.033E+00	177.36	K
			---------	---------			
	Total Activity :		6.754E+01	6.761E+01			
	Grand Total Activity :		6.754E+01	6.761E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28784-8

Acquisition date : 4-JUN-2006 09:32:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	139.76	86	579	1.07	279.47	276	8	3.49E-03	****	1.90E+00	
0	198.30	125	535	1.56	397.02	393	9	5.07E-03	69.1	1.75E+00	
0	295.62	59	499	1.27	592.38	586	13	2.39E-03	****	1.37E+00	
0	338.28	103	224	1.12	677.97	673	10	4.17E-03	58.0	1.24E+00	
0	351.97	37	301	1.21	705.44	701	10	1.50E-03	****	1.20E+00	
0	499.31	41	150	1.31	1000.99	999	8	1.65E-03	****	9.21E-01	
0	595.58	46	183	1.21	1193.99	1189	11	1.88E-03	****	8.04E-01	
0	609.16	153	166	1.78	1221.22	1214	13	6.21E-03	43.1	7.90E-01	
0	1120.78	25	96	2.19	2245.66	2240	15	1.00E-03	****	4.86E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	13	
Number of unidentified lines	9	
Number of lines tentatively identified by NID	4	30.77%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.287E+01	2.287E+01	4.100E+01	179.25	
RA-226	1600.00Y	1.00	3.743E+01	3.743E+01	6.639E+01	177.36	
AC-228	5.75Y	1.01	1.790E+00	1.802E+00	9.270E+00	514.45	
TH-228	1.91Y	1.02	3.169E+00	3.232E+00	5.989E+00	185.29	
	Total Activity :		6.526E+01	6.534E+01			

Grand Total Activity : 6.526E+01 6.534E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	2.287E+01	4.100E+01	3.780E+01	0.000E+00	0.605
RA-226	3.743E+01	6.639E+01	8.822E+01	0.000E+00	0.424
AC-228	1.802E+00	9.270E+00	1.298E+01	0.000E+00	0.139
TH-228	3.232E+00	5.989E+00	6.634E+00	0.000E+00	0.487

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	3.036E+00		2.372E+01	3.961E+01	0.000E+00	0.077
NA-24	-5.511E+03		6.339E+03	Half-Life too short		
CR-51	-4.003E+01		3.189E+01	5.068E+01	0.000E+00	-0.790
MN-54	2.902E-01		2.313E+00	3.849E+00	0.000E+00	0.075
CO-57	6.848E-01		2.285E+00	3.812E+00	0.000E+00	0.180
CO-58	-4.542E-01		2.661E+00	4.370E+00	0.000E+00	-0.104
FE-59	4.913E+00		6.065E+00	1.033E+01	0.000E+00	0.476
CO-60	1.212E+00		2.428E+00	4.125E+00	0.000E+00	0.294
ZN-65	7.472E+00		6.256E+00	9.584E+00	0.000E+00	0.780
SE-75	-4.231E+00		3.385E+00	5.445E+00	0.000E+00	-0.777
SR-85	2.027E+01		3.301E+00	6.358E+00	0.000E+00	3.188
Y-88	2.158E+00		3.135E+00	5.415E+00	0.000E+00	0.399
NB-94	1.453E+00		2.310E+00	3.869E+00	0.000E+00	0.375
NB-95	6.324E-01		2.679E+00	4.500E+00	0.000E+00	0.141
ZR-95	-1.707E+00		4.816E+00	7.871E+00	0.000E+00	-0.217
MO-99	-7.430E+02		2.676E+03	4.288E+03	0.000E+00	-0.173
RU-103	4.067E-01		3.385E+00	5.640E+00	0.000E+00	0.072
RU-106	-1.291E+01		2.202E+01	3.519E+01	0.000E+00	-0.367
AG-110m	6.163E-01		2.323E+00	3.846E+00	0.000E+00	0.160
SN-113	-1.643E+00		3.241E+00	5.203E+00	0.000E+00	-0.316
SB-124	-2.647E+00		7.023E+00	4.609E+00	0.000E+00	-0.574
SB-125	2.813E+00		6.751E+00	1.115E+01	0.000E+00	0.252
TE-129M	-1.447E+01		3.880E+01	6.203E+01	0.000E+00	-0.233
I-131	9.378E+00		1.324E+01	2.220E+01	0.000E+00	0.422
BA-133	3.154E+00		3.909E+00	5.617E+00	0.000E+00	0.562
CS-134	6.285E+00		4.663E+00	4.556E+00	0.000E+00	1.379
CS-136	2.564E-02		6.193E+00	1.025E+01	0.000E+00	0.003
CS-137	6.190E-01		2.483E+00	4.106E+00	0.000E+00	0.151
CE-139	6.823E-01		2.447E+00	4.042E+00	0.000E+00	0.169
BA-140	1.247E+01		2.314E+01	3.907E+01	0.000E+00	0.319
LA-140	-1.270E+00		8.075E+00	1.322E+01	0.000E+00	-0.096
CE-141	4.116E+00		6.559E+00	9.365E+00	0.000E+00	0.440
CE-144	-1.539E+00		2.083E+01	2.920E+01	0.000E+00	-0.053
EU-152	1.448E+01		1.377E+01	1.154E+01	0.000E+00	1.255
EU-154	3.143E+00		4.596E+00	7.721E+00	0.000E+00	0.407
TH-232	1.790E+00	+	9.208E+00	1.494E+01	0.000E+00	0.120
U-235	-1.342E+00		2.046E+01	2.861E+01	0.000E+00	-0.047
U-238	3.988E+01		2.511E+02	4.146E+02	0.000E+00	0.096
AM-241	-7.022E+01		2.975E+01	4.691E+01	0.000E+00	-1.497

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A,11L28784-8       ,06/04/2006 16:23,05/15/2006 10:05,   3.119E+00,WG L28784-8 EX
B,11L28784-8       ,LIBD                ,06/02/2006 08:22,113L082304
C,K-40     ,YES,    2.287E+01,   4.100E+01,   3.780E+01,,     0.605
C,RA-226   ,YES,    3.743E+01,   6.639E+01,   8.822E+01,,     0.424
C,AC-228   ,YES,    1.802E+00,   9.270E+00,   1.298E+01,,     0.139
C,TH-228   ,YES,    3.232E+00,   5.989E+00,   6.634E+00,,     0.487
C,BE-7     ,NO ,    3.036E+00,   2.372E+01,   3.961E+01,,     0.077
C,CR-51    ,NO ,   -4.003E+01,   3.189E+01,   5.068E+01,,    -0.790
C,MN-54    ,NO ,    2.902E-01,   2.313E+00,   3.849E+00,,     0.075
C,CO-57    ,NO ,    6.848E-01,   2.285E+00,   3.812E+00,,     0.180
C,CO-58    ,NO ,   -4.542E-01,   2.661E+00,   4.370E+00,,    -0.104
C,FE-59    ,NO ,    4.913E+00,   6.065E+00,   1.033E+01,,     0.476
C,CO-60    ,NO ,    1.212E+00,   2.428E+00,   4.125E+00,,     0.294
C,ZN-65    ,NO ,    7.472E+00,   6.256E+00,   9.584E+00,,     0.780
C,SE-75    ,NO ,   -4.231E+00,   3.385E+00,   5.445E+00,,    -0.777
C,SR-85    ,NO ,    2.027E+01,   3.301E+00,   6.358E+00,,     3.188
C,Y-88     ,NO ,    2.158E+00,   3.135E+00,   5.415E+00,,     0.399
C,NB-94    ,NO ,    1.453E+00,   2.310E+00,   3.869E+00,,     0.375
C,NB-95    ,NO ,    6.324E-01,   2.679E+00,   4.500E+00,,     0.141
C,ZR-95    ,NO ,   -1.707E+00,   4.816E+00,   7.871E+00,,    -0.217
C,MO-99    ,NO ,   -7.430E+02,   2.676E+03,   4.288E+03,,    -0.173
C,RU-103   ,NO ,    4.067E-01,   3.385E+00,   5.640E+00,,     0.072
C,RU-106   ,NO ,   -1.291E+01,   2.202E+01,   3.519E+01,,    -0.367
C,AG-110m  ,NO ,    6.163E-01,   2.323E+00,   3.846E+00,,     0.160
C,SN-113   ,NO ,   -1.643E+00,   3.241E+00,   5.203E+00,,    -0.316
C,SB-124   ,NO ,   -2.647E+00,   7.023E+00,   4.609E+00,,    -0.574
C,SB-125   ,NO ,    2.813E+00,   6.751E+00,   1.115E+01,,     0.252
C,TE-129M  ,NO ,   -1.447E+01,   3.880E+01,   6.203E+01,,    -0.233
C,I-131    ,NO ,    9.378E+00,   1.324E+01,   2.220E+01,,     0.422
C,BA-133   ,NO ,    3.154E+00,   3.909E+00,   5.617E+00,,     0.562
C,CS-134   ,NO ,    6.285E+00,   4.663E+00,   4.556E+00,,     1.379
C,CS-136   ,NO ,    2.564E-02,   6.193E+00,   1.025E+01,,     0.003
C,CS-137   ,NO ,    6.190E-01,   2.483E+00,   4.106E+00,,     0.151
C,CE-139   ,NO ,    6.823E-01,   2.447E+00,   4.042E+00,,     0.169
C,BA-140   ,NO ,    1.247E+01,   2.314E+01,   3.907E+01,,     0.319
C,LA-140   ,NO ,   -1.270E+00,   8.075E+00,   1.322E+01,,    -0.096
C,CE-141   ,NO ,    4.116E+00,   6.559E+00,   9.365E+00,,     0.440
C,CE-144   ,NO ,   -1.539E+00,   2.083E+01,   2.920E+01,,    -0.053
C,EU-152   ,NO ,    1.448E+01,   1.377E+01,   1.154E+01,,     1.255
C,EU-154   ,NO ,    3.143E+00,   4.596E+00,   7.721E+00,,     0.407
C,TH-232   ,NO ,    1.790E+00,   9.208E+00,   1.494E+01,,     0.120
C,U-235    ,NO ,   -1.342E+00,   2.046E+01,   2.861E+01,,    -0.047
C,U-238    ,NO ,    3.988E+01,   2.511E+02,   4.146E+02,,     0.096
C,AM-241   ,NO ,   -7.022E+01,   2.975E+01,   4.691E+01,,    -1.497
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 12:53:59.40
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:32:24.82

LIMS No., Customer Name, Client ID: WG L28784-9 EX BRAID

Sample ID : 13L28784-9
Sample Type : WG
Quantity : 3.55430E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 19-MAY-2006 10:00:00.
Geometry : 1335L090904
BKGFILE : 13BG060306MT
Real Time : 0 03:21:20.72
Live time : 0 03:21:17.18

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	63.38*	60	353	1.14	126.79	6.23E-01	4.94E-03	60.6	3.40E+00
2	1	66.44	94	371	1.14	132.90	7.28E-01	7.82E-03	35.4	
3	1	77.22*	49	273	1.07	154.44	1.09E+00	4.09E-03	56.3	2.38E+00
4	3	84.80*	12	252	1.42	169.60	1.32E+00	1.02E-03	236.1	1.13E+00
5	3	87.34*	97	378	1.42	174.68	1.39E+00	7.99E-03	40.1	
6	3	90.23	78	294	1.12	180.45	1.46E+00	6.42E-03	38.8	
7	3	92.67*	67	336	1.38	185.34	1.52E+00	5.53E-03	58.5	
8	1	139.91*	3	439	0.96	279.76	2.02E+00	2.85E-04	*****	2.75E+00
9	1	185.91*	27	509	1.51	371.72	1.95E+00	2.22E-03	186.8	1.97E+00
10	1	198.71*	119	332	1.74	397.31	1.90E+00	9.88E-03	31.6	2.17E+00
11	2	238.50*	106	238	1.45	476.87	1.73E+00	8.76E-03	31.2	2.34E+00
12	2	241.82	105	166	1.29	483.50	1.72E+00	8.68E-03	21.4	
13	1	295.04*	127	254	1.63	589.91	1.52E+00	1.05E-02	27.6	5.50E+00
14	1	351.73*	196	177	1.12	703.29	1.34E+00	1.62E-02	15.8	5.04E+00
15	1	583.33*	36	157	2.76	1166.54	9.26E-01	2.99E-03	88.4	1.02E+00
16	1	595.84	89	83	1.70	1191.57	9.11E-01	7.40E-03	22.5	1.10E+00
17	1	609.31*	260	106	1.37	1218.53	8.96E-01	2.15E-02	11.1	8.01E-01
18	1	785.68	26	42	1.32	1571.49	7.42E-01	2.13E-03	49.9	1.97E+00
19	1	911.23*	5	62	1.67	1822.81	6.64E-01	4.52E-04	337.7	8.69E-01
20	1	1120.61*	51	70	1.71	2242.09	5.69E-01	4.24E-03	41.6	8.24E-01
21	1	1238.73*	26	19	2.00	2478.69	5.29E-01	2.19E-03	40.4	5.95E-01
22	1	1461.31*	24	32	2.20	2924.69	4.69E-01	2.01E-03	77.7	1.14E+00
23	1	1764.21*	65	4	2.71	3531.93	4.11E-01	5.39E-03	17.2	1.37E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	24	10.67*	4.687E-01	3.057E+01	3.057E+01	155.44
RA-226	186.21	27	3.28*	1.946E+00	2.644E+01	2.644E+01	373.55
AC-228	835.50	------	1.75	7.084E-01	------	Line Not Found	------
	911.07	5	27.70*	6.640E-01	1.868E+00	1.878E+00	675.39
TH-228	238.63	106	44.60*	1.733E+00	8.614E+00	8.752E+00	62.35
	240.98	105	3.95	1.720E+00	9.713E+01	9.869E+01	42.88
TH-232	583.14	36	30.25	9.260E-01	8.130E+00	8.130E+00	176.86

	911.07	5	27.70*	6.640E-01	1.868E+00	1.868E+00	675.39
	969.11	------	16.60	6.342E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	2.023E+00	------	Line Not Found	------
	163.35	------	4.70	2.011E+00	------	Line Not Found	------
	185.71	27	54.00	1.946E+00	1.606E+00	1.606E+00	373.55
	205.31	------	4.70	1.871E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28784-9

Acquisition date : 4-JUN-2006 09:32:24

Total number of lines in spectrum	23	
Number of unidentified lines	17	
Number of lines tentatively identified by NID	6	26.09%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.057E+01	3.057E+01	4.752E+01	155.44	
RA-226	1600.00Y	1.00	2.644E+01	2.644E+01	9.877E+01	373.55	
AC-228	5.75Y	1.01	1.868E+00	1.878E+00	12.68E+00	675.39	
TH-228	1.91Y	1.02	8.614E+00	8.752E+00	5.457E+00	62.35	
TH-232	1.41E+10Y	1.00	1.868E+00	1.868E+00	12.62E+00	675.39	
U-235	7.04E+08Y	1.00	1.606E+00	1.606E+00	5.999E+00	373.55	K
			---------	---------			
	Total Activity :		7.097E+01	7.112E+01			

Grand Total Activity :	7.097E+01	7.112E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28784-9

Acquisition date : 4-JUN-2006 09:32:24

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	63.38	60	353	1.14	126.79	122	15	4.94E-03	****	6.23E-01	
1	66.44	94	371	1.14	132.90	122	15	7.82E-03	70.8	7.28E-01	
1	77.22	49	273	1.07	154.44	153	5	4.09E-03	****	1.09E+00	
3	84.80	12	252	1.42	169.60	166	27	1.02E-03	****	1.32E+00	
3	87.34	97	378	1.42	174.68	166	27	7.99E-03	80.2	1.39E+00	
3	90.23	78	294	1.12	180.45	166	27	6.42E-03	77.6	1.46E+00	
3	92.67	67	336	1.38	185.34	166	27	5.53E-03	****	1.52E+00	
1	139.91	3	439	0.96	279.76	276	8	2.85E-04	****	2.02E+00	
1	198.71	119	332	1.74	397.31	392	10	9.88E-03	63.3	1.90E+00	
1	295.04	127	254	1.63	589.91	586	11	1.05E-02	55.2	1.52E+00	
1	351.73	196	177	1.12	703.29	699	10	1.62E-02	31.6	1.34E+00	
1	595.84	89	83	1.70	1191.57	1186	11	7.40E-03	45.0	9.11E-01	
1	609.31	260	106	1.37	1218.53	1212	13	2.15E-02	22.1	8.96E-01	
1	785.68	26	42	1.32	1571.49	1568	9	2.13E-03	99.7	7.42E-01	
1	1120.61	51	70	1.71	2242.09	2236	16	4.24E-03	83.2	5.69E-01	
1	1238.73	26	19	2.00	2478.69	2474	9	2.19E-03	80.9	5.29E-01	
1	1764.21	65	4	2.71	3531.93	3526	14	5.39E-03	34.3	4.11E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	23	
Number of unidentified lines	17	
Number of lines tentatively identified by NID	6	26.09%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.057E+01	3.057E+01	4.752E+01	155.44	
RA-226	1600.00Y	1.00	2.644E+01	2.644E+01	9.877E+01	373.55	
TH-228	1.91Y	1.02	8.614E+00	8.752E+00	5.457E+00	62.35	
TH-232	1.41E+10Y	1.00	4.592E+00	4.592E+00	9.484E+00	206.52	
	Total Activity :		7.022E+01	7.036E+01			

Grand Total Activity : 7.022E+01 7.036E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	3.057E+01	4.752E+01	4.098E+01	0.000E+00	0.746
RA-226	2.644E+01	9.877E+01	1.074E+02	0.000E+00	0.246
TH-228	8.752E+00	5.457E+00	8.177E+00	0.000E+00	1.070
TH-232	4.592E+00	9.484E+00	1.465E+01	0.000E+00	0.314

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-6.606E+00		2.747E+01	4.432E+01	0.000E+00	-0.149
NA-24	-1.811E+02		8.484E+01	Half-Life too short		
CR-51	-5.250E+01		3.489E+01	5.477E+01	0.000E+00	-0.959
MN-54	1.565E+00		2.859E+00	4.838E+00	0.000E+00	0.324
CO-57	1.110E+00		2.880E+00	4.844E+00	0.000E+00	0.229
CO-58	-3.064E+00		3.054E+00	4.644E+00	0.000E+00	-0.660
FE-59	4.264E+00		6.447E+00	1.116E+01	0.000E+00	0.382
CO-60	2.049E+00		2.830E+00	4.913E+00	0.000E+00	0.417
ZN-65	9.199E+00		6.988E+00	1.111E+01	0.000E+00	0.828
SE-75	-7.502E-01		4.141E+00	6.669E+00	0.000E+00	-0.112
SR-85	1.746E+01		3.971E+00	7.486E+00	0.000E+00	2.333
Y-88	-2.789E+00		3.084E+00	4.480E+00	0.000E+00	-0.622
NB-94	-2.243E+00		2.627E+00	4.112E+00	0.000E+00	-0.546
NB-95	5.298E+00		3.458E+00	6.160E+00	0.000E+00	0.860
ZR-95	-4.093E+00		5.838E+00	9.172E+00	0.000E+00	-0.446
MO-99	8.186E+02		1.125E+03	1.936E+03	0.000E+00	0.423
RU-103	-7.891E-01		3.725E+00	6.009E+00	0.000E+00	-0.131
RU-106	-1.205E+01		2.705E+01	4.383E+01	0.000E+00	-0.275
AG-110m	-1.013E+00		2.757E+00	4.465E+00	0.000E+00	-0.227
SN-113	7.946E-02		3.642E+00	6.011E+00	0.000E+00	0.013
SB-124	1.745E-01		7.300E+00	5.505E+00	0.000E+00	0.032
SB-125	6.850E-01		8.252E+00	1.360E+01	0.000E+00	0.050
TE-129M	-1.066E+00		4.284E+01	7.002E+01	0.000E+00	-0.015
I-131	1.049E+01		1.107E+01	1.902E+01	0.000E+00	0.552
BA-133	5.880E+00		4.507E+00	6.828E+00	0.000E+00	0.861
CS-134	7.397E+00		4.422E+00	5.727E+00	0.000E+00	1.291
CS-136	9.131E-01		5.992E+00	9.905E+00	0.000E+00	0.092
CS-137	3.330E+00		3.103E+00	5.291E+00	0.000E+00	0.629
CE-139	1.518E+00		2.940E+00	4.921E+00	0.000E+00	0.308
BA-140	3.451E+00		2.277E+01	3.730E+01	0.000E+00	0.093
LA-140	-4.348E+00		7.186E+00	1.114E+01	0.000E+00	-0.390
CE-141	2.089E+00		7.507E+00	1.075E+01	0.000E+00	0.194
CE-144	-3.574E+00		2.640E+01	3.731E+01	0.000E+00	-0.096
EU-152	-5.687E+00		1.012E+01	1.430E+01	0.000E+00	-0.398
EU-154	4.435E+00		5.840E+00	9.915E+00	0.000E+00	0.447
AC-228	1.878E+00		1.268E+01	1.792E+01	0.000E+00	0.105
U-235	1.856E+00		2.554E+01	3.600E+01	0.000E+00	0.052
U-238	-1.982E+02		3.181E+02	4.881E+02	0.000E+00	-0.406
AM-241	-8.165E+00		2.918E+01	4.035E+01	0.000E+00	-0.202

A,13L28784-9 ,06/04/2006 12:54,05/19/2006 10:00, 3.554E+00,WG L28784-9 EX
B,13L28784-9 ,LIBD ,06/01/2006 10:13,1335L090904

C,K-40	,YES,	3.057E+01,	4.752E+01,	4.098E+01,,	0.746
C,RA-226	,YES,	2.644E+01,	9.877E+01,	1.074E+02,,	0.246
C,TH-228	,YES,	8.752E+00,	5.457E+00,	8.177E+00,,	1.070
C,TH-232	,YES,	4.592E+00,	9.484E+00,	1.465E+01,,	0.314
C,BE-7	,NO ,	-6.606E+00,	2.747E+01,	4.432E+01,,	-0.149
C,CR-51	,NO ,	-5.250E+01,	3.489E+01,	5.477E+01,,	-0.959
C,MN-54	,NO ,	1.565E+00,	2.859E+00,	4.838E+00,,	0.324
C,CO-57	,NO ,	1.110E+00,	2.880E+00,	4.844E+00,,	0.229
C,CO-58	,NO ,	-3.064E+00,	3.054E+00,	4.644E+00,,	-0.660
C,FE-59	,NO ,	4.264E+00,	6.447E+00,	1.116E+01,,	0.382
C,CO-60	,NO ,	2.049E+00,	2.830E+00,	4.913E+00,,	0.417
C,ZN-65	,NO ,	9.199E+00,	6.988E+00,	1.111E+01,,	0.828
C,SE-75	,NO ,	-7.502E-01,	4.141E+00,	6.669E+00,,	-0.112
C,SR-85	,NO ,	1.746E+01,	3.971E+00,	7.486E+00,,	2.333
C,Y-88	,NO ,	-2.789E+00,	3.084E+00,	4.480E+00,,	-0.622
C,NB-94	,NO ,	-2.243E+00,	2.627E+00,	4.112E+00,,	-0.546
C,NB-95	,NO ,	5.298E+00,	3.458E+00,	6.160E+00,,	0.860
C,ZR-95	,NO ,	-4.093E+00,	5.838E+00,	9.172E+00,,	-0.446
C,MO-99	,NO ,	8.186E+02,	1.125E+03,	1.936E+03,,	0.423
C,RU-103	,NO ,	-7.891E-01,	3.725E+00,	6.009E+00,,	-0.131
C,RU-106	,NO ,	-1.205E+01,	2.705E+01,	4.383E+01,,	-0.275
C,AG-110m	,NO ,	-1.013E+00,	2.757E+00,	4.465E+00,,	-0.227
C,SN-113	,NO ,	7.946E-02,	3.642E+00,	6.011E+00,,	0.013
C,SB-124	,NO ,	1.745E-01,	7.300E+00,	5.505E+00,,	0.032
C,SB-125	,NO ,	6.850E-01,	8.252E+00,	1.360E+01,,	0.050
C,TE-129M	,NO ,	-1.066E+00,	4.284E+01,	7.002E+01,,	-0.015
C,I-131	,NO ,	1.049E+01,	1.107E+01,	1.902E+01,,	0.552
C,BA-133	,NO ,	5.880E+00,	4.507E+00,	6.828E+00,,	0.861
C,CS-134	,NO ,	7.397E+00,	4.422E+00,	5.727E+00,,	1.291
C,CS-136	,NO ,	9.131E-01,	5.992E+00,	9.905E+00,,	0.092
C,CS-137	,NO ,	3.330E+00,	3.103E+00,	5.291E+00,,	0.629
C,CE-139	,NO ,	1.518E+00,	2.940E+00,	4.921E+00,,	0.308
C,BA-140	,NO ,	3.451E+00,	2.277E+01,	3.730E+01,,	0.093
C,LA-140	,NO ,	-4.348E+00,	7.186E+00,	1.114E+01,,	-0.390
C,CE-141	,NO ,	2.089E+00,	7.507E+00,	1.075E+01,,	0.194
C,CE-144	,NO ,	-3.574E+00,	2.640E+01,	3.731E+01,,	-0.096
C,EU-152	,NO ,	-5.687E+00,	1.012E+01,	1.430E+01,,	-0.398
C,EU-154	,NO ,	4.435E+00,	5.840E+00,	9.915E+00,,	0.447
C,AC-228	,NO ,	1.878E+00,	1.268E+01,	1.792E+01,,	0.105
C,U-235	,NO ,	1.856E+00,	2.554E+01,	3.600E+01,,	0.052
C,U-238	,NO ,	-1.982E+02,	3.181E+02,	4.881E+02,,	-0.406
C,AM-241	,NO ,	-8.165E+00,	2.918E+01,	4.035E+01,,	-0.202

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 16:24:16.40
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:32:50.91

LIMS No., Customer Name, Client ID: WG L28784-10 EX BRAID

Sample ID	: 14L28784-10			Smple Date:	19-MAY-2006 11:15:00.
Sample Type	: WG			Geometry	: 1435L091304
Quantity	: 3.57330E+00 L			BKGFILE	: 14BG060306MT
Start Channel	: 90	Energy Tol	: 1.00000	Real Time	: 0 06:51:19.19
End Channel	: 4090	Pk Srch Sens:	5.00000	Live time	: 0 06:51:15.17
MDA Constant	: 0.00	Library Used:	LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.37	294	959	1.75	133.72	4.54E-01	1.19E-02	20.6	4.92E-01
2	1	139.91	247	773	1.79	281.19	1.67E+00	1.00E-02	21.9	8.97E-01
3	1	198.59*	196	798	1.81	398.79	1.60E+00	7.93E-03	32.3	1.10E+00
4	1	295.47	59	375	1.19	592.82	1.29E+00	2.41E-03	57.5	3.55E+00
5	1	352.50*	36	288	1.28	706.97	1.14E+00	1.47E-03	106.8	2.41E+00
6	1	583.71*	24	175	1.55	1169.23	7.91E-01	9.65E-04	137.0	1.18E+00
7	1	596.66	111	254	3.90	1195.10	7.78E-01	4.50E-03	36.0	1.55E+00
8	1	609.73*	88	253	1.59	1221.21	7.65E-01	3.55E-03	44.3	7.09E-01
9	1	911.71*	11	82	1.84	1823.52	5.64E-01	4.55E-04	177.9	7.01E-01
10	1	1120.66*	42	75	1.90	2239.45	4.81E-01	1.68E-03	54.7	7.79E-01
11	1	1461.91*	34	47	2.57	2917.23	3.93E-01	1.38E-03	77.5	1.60E+00
12	1	1766.99*	69	13	3.17	3521.64	3.43E-01	2.81E-03	23.4	1.06E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
AC-228	835.50	------	1.75	6.034E-01	------	Line Not Found	------
	911.07	11	27.70*	5.643E-01	2.199E+00	2.211E+00	355.78
TH-232	583.14	24	30.25	7.907E-01	3.051E+00	3.051E+00	273.95
	911.07	11	27.70*	5.643E-01	2.199E+00	2.199E+00	355.78
	969.11	------	16.60	5.383E-01	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L28784-10 Acquisition date : 4-JUN-2006 09:32:50

Total number of lines in spectrum	12	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	2	16.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.01	2.199E+00	2.211E+00	7.867E+00	355.78	
TH-232	1.41E+10Y	1.00	2.199E+00	2.199E+00	7.825E+00	355.78	
	Total Activity :		4.399E+00	4.410E+00			
	Grand Total Activity :		4.399E+00	4.410E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 14L28784-10 Acquisition date : 4-JUN-2006 09:32:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.37	294	959	1.75	133.72	129	10	1.19E-02	41.1	4.54E-01	
1	139.91	247	773	1.79	281.19	277	10	1.00E-02	43.8	1.67E+00	
1	198.59	196	798	1.81	398.79	392	13	7.93E-03	64.6	1.60E+00	
1	295.47	59	375	1.19	592.82	590	8	2.41E-03	****	1.29E+00	
1	352.50	36	288	1.28	706.97	703	9	1.47E-03	****	1.14E+00	
1	596.66	111	254	3.90	1195.10	1187	19	4.50E-03	72.1	7.78E-01	
1	609.73	88	253	1.59	1221.21	1215	13	3.55E-03	88.6	7.65E-01	
1	1120.66	42	75	1.90	2239.45	2231	13	1.68E-03	****	4.81E-01	
1	1461.91	34	47	2.57	2917.23	2908	21	1.38E-03	****	3.93E-01	
1	1766.99	69	13	3.17	3521.64	3513	17	2.81E-03	46.8	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	12	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	2	16.67%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-232	1.41E+10Y	1.00	2.597E+00	2.597E+00	5.712E+00	219.94	
	Total Activity :		2.597E+00	2.597E+00			
	Grand Total Activity :		2.597E+00	2.597E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
TH-232	2.597E+00	5.712E+00	1.249E+01	0.000E+00	0.208

---- Non-Identified Nuclides ----

Key-Line Activity	K.L.	Act error	MDA	MDA error	Act/MDA

Nuclide	(pCi/L)	Ided	(pCi/L)		
BE-7	-4.016E+00	2.433E+01	3.986E+01	0.000E+00	-0.101
NA-24	-1.977E+01	6.519E+01	Half-Life too short		
K-40	1.142E+01	3.530E+01	6.227E+01	0.000E+00	0.183
CR-51	-5.407E+01	2.932E+01	4.567E+01	0.000E+00	-1.184
MN-54	3.496E-01	2.464E+00	4.043E+00	0.000E+00	0.086
CO-57	-8.878E-01	2.430E+00	4.006E+00	0.000E+00	-0.222
CO-58	-3.865E+00	2.599E+00	3.944E+00	0.000E+00	-0.980
FE-59	7.590E+00	5.550E+00	9.709E+00	0.000E+00	0.782
CO-60	2.116E-01	2.409E+00	3.988E+00	0.000E+00	0.053
ZN-65	1.360E+01	6.091E+00	9.726E+00	0.000E+00	1.398
SE-75	1.043E-01	3.335E+00	5.522E+00	0.000E+00	0.019
SR-85	2.023E+01	3.078E+00	5.897E+00	0.000E+00	3.431
Y-88	-2.329E+00	2.909E+00	4.483E+00	0.000E+00	-0.520
NB-94	-4.864E-01	2.228E+00	3.642E+00	0.000E+00	-0.134
NB-95	2.267E+00	2.617E+00	4.452E+00	0.000E+00	0.509
ZR-95	-6.386E-01	4.690E+00	7.652E+00	0.000E+00	-0.083
MO-99	-2.764E+02	9.745E+02	1.582E+03	0.000E+00	-0.175
RU-103	8.914E-01	3.114E+00	5.167E+00	0.000E+00	0.173
RU-106	2.237E+01	2.317E+01	3.804E+01	0.000E+00	0.588
AG-110m	-1.953E+00	2.299E+00	3.677E+00	0.000E+00	-0.531
SN-113	2.753E+00	3.336E+00	5.547E+00	0.000E+00	0.496
SB-124	-1.876E+00	6.822E+00	4.486E+00	0.000E+00	-0.418
SB-125	5.395E-01	6.728E+00	1.118E+01	0.000E+00	0.048
TE-129M	3.444E+01	3.514E+01	5.986E+01	0.000E+00	0.575
I-131	3.108E+00	9.319E+00	1.533E+01	0.000E+00	0.203
BA-133	7.304E+00	3.886E+00	5.761E+00	0.000E+00	1.268
CS-134	3.087E+00	5.855E+00	4.321E+00	0.000E+00	0.714
CS-136	-2.301E+00	5.092E+00	8.135E+00	0.000E+00	-0.283
CS-137	-4.886E-01	2.419E+00	3.971E+00	0.000E+00	-0.123
CE-139	6.271E-01	2.463E+00	4.060E+00	0.000E+00	0.154
BA-140	2.657E+00	1.937E+01	3.186E+01	0.000E+00	0.083
LA-140	4.290E+00	5.908E+00	1.025E+01	0.000E+00	0.418
CE-141	-3.494E-02	6.464E+00	9.049E+00	0.000E+00	-0.004
CE-144	8.186E-01	2.211E+01	3.112E+01	0.000E+00	0.026
EU-152	-2.464E+00	8.711E+00	1.224E+01	0.000E+00	-0.201
EU-154	-1.521E+00	4.959E+00	8.181E+00	0.000E+00	-0.186
RA-226	-3.622E+01	6.270E+01	9.516E+01	0.000E+00	-0.381
AC-228	2.211E+00	7.867E+00	1.508E+01	0.000E+00	0.147
TH-228	5.014E+00	4.747E+00	7.624E+00	0.000E+00	0.658
U-235	1.889E+01	2.148E+01	3.083E+01	0.000E+00	0.613
U-238	-7.081E+01	2.547E+02	4.137E+02	0.000E+00	-0.171
AM-241	-1.602E+01	3.714E+01	5.138E+01	0.000E+00	-0.312

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A,14L28784-10     ,06/04/2006 16:24,05/19/2006 11:15,   3.573E+00,WG L28784-10 E
B,14L28784-10     ,LIBD                ,06/02/2006 08:23,1435L091304
C,TH-232  ,YES,   2.597E+00,   5.712E+00,   1.249E+01,,    0.208
C,BE-7    ,NO ,  -4.016E+00,   2.433E+01,   3.986E+01,,   -0.101
C,K-40    ,NO ,   1.142E+01,   3.530E+01,   6.227E+01,,    0.183
C,CR-51   ,NO ,  -5.407E+01,   2.932E+01,   4.567E+01,,   -1.184
C,MN-54   ,NO ,   3.496E-01,   2.464E+00,   4.043E+00,,    0.086
C,CO-57   ,NO ,  -8.878E-01,   2.430E+00,   4.006E+00,,   -0.222
C,CO-58   ,NO ,  -3.865E+00,   2.599E+00,   3.944E+00,,   -0.980
C,FE-59   ,NO ,   7.590E+00,   5.550E+00,   9.709E+00,,    0.782
C,CO-60   ,NO ,   2.116E-01,   2.409E+00,   3.988E+00,,    0.053
C,ZN-65   ,NO ,   1.360E+01,   6.091E+00,   9.726E+00,,    1.398
C,SE-75   ,NO ,   1.043E-01,   3.335E+00,   5.522E+00,,    0.019
C,SR-85   ,NO ,   2.023E+01,   3.078E+00,   5.897E+00,,    3.431
C,Y-88    ,NO ,  -2.329E+00,   2.909E+00,   4.483E+00,,   -0.520
C,NB-94   ,NO ,  -4.864E-01,   2.228E+00,   3.642E+00,,   -0.134
C,NB-95   ,NO ,   2.267E+00,   2.617E+00,   4.452E+00,,    0.509
C,ZR-95   ,NO ,  -6.386E-01,   4.690E+00,   7.652E+00,,   -0.083
C,MO-99   ,NO ,  -2.764E+02,   9.745E+02,   1.582E+03,,   -0.175
C,RU-103  ,NO ,   8.914E-01,   3.114E+00,   5.167E+00,,    0.173
C,RU-106  ,NO ,   2.237E+01,   2.317E+01,   3.804E+01,,    0.588
C,AG-110m ,NO ,  -1.953E+00,   2.299E+00,   3.677E+00,,   -0.531
C,SN-113  ,NO ,   2.753E+00,   3.336E+00,   5.547E+00,,    0.496
C,SB-124  ,NO ,  -1.876E+00,   6.822E+00,   4.486E+00,,   -0.418
C,SB-125  ,NO ,   5.395E-01,   6.728E+00,   1.118E+01,,    0.048
C,TE-129M ,NO ,   3.444E+01,   3.514E+01,   5.986E+01,,    0.575
C,I-131   ,NO ,   3.108E+00,   9.319E+00,   1.533E+01,,    0.203
C,BA-133  ,NO ,   7.304E+00,   3.886E+00,   5.761E+00,,    1.268
C,CS-134  ,NO ,   3.087E+00,   5.855E+00,   4.321E+00,,    0.714
C,CS-136  ,NO ,  -2.301E+00,   5.092E+00,   8.135E+00,,   -0.283
C,CS-137  ,NO ,  -4.886E-01,   2.419E+00,   3.971E+00,,   -0.123
C,CE-139  ,NO ,   6.271E-01,   2.463E+00,   4.060E+00,,    0.154
C,BA-140  ,NO ,   2.657E+00,   1.937E+01,   3.186E+01,,    0.083
C,LA-140  ,NO ,   4.290E+00,   5.908E+00,   1.025E+01,,    0.418
C,CE-141  ,NO ,  -3.494E-02,   6.464E+00,   9.049E+00,,   -0.004
C,CE-144  ,NO ,   8.186E-01,   2.211E+01,   3.112E+01,,    0.026
C,EU-152  ,NO ,  -2.464E+00,   8.711E+00,   1.224E+01,,   -0.201
C,EU-154  ,NO ,  -1.521E+00,   4.959E+00,   8.181E+00,,   -0.186
C,RA-226  ,NO ,  -3.622E+01,   6.270E+01,   9.516E+01,,   -0.381
C,AC-228  ,NO ,   2.211E+00,   7.867E+00,   1.508E+01,,    0.147
C,TH-228  ,NO ,   5.014E+00,   4.747E+00,   7.624E+00,,    0.658
C,U-235   ,NO ,   1.889E+01,   2.148E+01,   3.083E+01,,    0.613
C,U-238   ,NO ,  -7.081E+01,   2.547E+02,   4.137E+02,,   -0.171
C,AM-241  ,NO ,  -1.602E+01,   3.714E+01,   5.138E+01,,   -0.312
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Sec. Review: Analyst: LIMS: 1

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 16:26:02.70
TBE15 P-10635B HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:33:07.47

LIMS No., Customer Name, Client ID: WG L28784-11 EX BRAID

Sample ID : 15L28784-11
Sample Type : WG
Quantity : 3.59680E+00 L
Start Channel : 40 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 22-MAY-2006 10:00:00.
Geometry : 1535L090104
BKGFILE : 15BG060306MT
Real Time : 0 06:52:51.70
Live time : 0 06:52:49.21

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	139.33	187	798	1.94	266.30	1.48E+00	7.56E-03	30.2	3.45E+00
2	1	198.27	129	509	1.11	384.68	1.37E+00	5.22E-03	32.7	1.90E+00
3	1	351.45*	111	387	2.26	692.33	9.17E-01	4.46E-03	44.7	1.02E+00
4	1	595.50	95	112	1.96	1182.34	5.97E-01	3.84E-03	24.1	1.33E+00
5	1	608.97	141	153	1.75	1209.38	5.87E-01	5.68E-03	19.5	4.96E-01
6	1	1119.04	54	81	2.41	2232.90	3.58E-01	2.19E-03	39.3	1.00E+00
7	1	1764.42	39	30	2.43	3526.79	2.54E-01	1.56E-03	31.5	1.66E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L28784-11

Acquisition date : 4-JUN-2006 09:33:07

Total number of lines in spectrum	7	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L28784-11

Acquisition date : 4-JUN-2006 09:33:07

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	139.33	187	798	1.94	266.30	262	11	7.56E-03	60.4	1.48E+00	
1	198.27	129	509	1.11	384.68	381	9	5.22E-03	65.4	1.37E+00	
1	351.45	111	387	2.26	692.33	685	17	4.46E-03	89.3	9.17E-01	
1	595.50	95	112	1.96	1182.34	1178	11	3.84E-03	48.2	5.97E-01	
1	608.97	141	153	1.75	1209.38	1203	12	5.68E-03	39.0	5.87E-01	
1	1119.04	54	81	2.41	2232.90	2226	16	2.19E-03	78.6	3.58E-01	
1	1764.42	39	30	2.43	3526.79	3521	11	1.56E-03	62.9	2.54E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 7
Number of unidentified lines 7
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.253E+01		2.737E+01	4.386E+01	0.000E+00	-0.286
NA-24	-4.076E+00		2.938E+00	Half-Life too short		
K-40	1.390E+02		3.957E+01	7.352E+01	0.000E+00	1.891
CR-51	1.085E+01		3.260E+01	5.424E+01	0.000E+00	0.200
MN-54	-1.813E+00		2.900E+00	4.593E+00	0.000E+00	-0.395
CO-57	-3.767E-02		2.995E+00	4.796E+00	0.000E+00	-0.008
CO-58	1.393E+00		3.030E+00	5.070E+00	0.000E+00	0.275
FE-59	4.872E+00		6.233E+00	1.073E+01	0.000E+00	0.454
CO-60	-5.412E-01		2.869E+00	4.628E+00	0.000E+00	-0.117
ZN-65	8.479E+00		7.339E+00	1.109E+01	0.000E+00	0.764
SE-75	2.586E+00		3.992E+00	6.715E+00	0.000E+00	0.385
SR-85	1.931E+01		3.563E+00	6.687E+00	0.000E+00	2.888
Y-88	4.098E-01		3.415E+00	5.656E+00	0.000E+00	0.072
NB-94	-2.057E+00		2.743E+00	4.365E+00	0.000E+00	-0.471
NB-95	2.911E+00		3.131E+00	5.350E+00	0.000E+00	0.544
ZR-95	-6.851E-01		5.607E+00	9.144E+00	0.000E+00	-0.075
MO-99	-1.824E+02		5.790E+02	9.370E+02	0.000E+00	-0.195
RU-103	2.151E+00		3.635E+00	6.041E+00	0.000E+00	0.356
RU-106	3.424E+00		2.789E+01	4.419E+01	0.000E+00	0.077
AG-110m	-1.357E+00		2.744E+00	4.425E+00	0.000E+00	-0.307
SN-113	-5.692E-01		4.058E+00	6.627E+00	0.000E+00	-0.086

SB-124	3.382E+00	7.649E+00	5.381E+00	0.000E+00	0.628
SB-125	-5.741E+00	8.250E+00	1.318E+01	0.000E+00	-0.436
TE-129M	1.810E+01	4.020E+01	6.666E+01	0.000E+00	0.272
I-131	7.459E+00	9.397E+00	1.459E+01	0.000E+00	0.511
BA-133	7.804E+00	4.634E+00	6.864E+00	0.000E+00	1.137
CS-134	1.234E+01	6.052E+00	5.354E+00	0.000E+00	2.305
CS-136	-2.475E+00	5.441E+00	8.695E+00	0.000E+00	-0.285
CS-137	-6.806E-01	2.965E+00	4.838E+00	0.000E+00	-0.141
CE-139	1.239E+00	2.992E+00	4.932E+00	0.000E+00	0.251
BA-140	-1.171E+01	2.028E+01	3.294E+01	0.000E+00	-0.356
LA-140	-1.977E+00	6.419E+00	1.036E+01	0.000E+00	-0.191
CE-141	4.279E+00	7.491E+00	1.050E+01	0.000E+00	0.407
CE-144	9.957E-01	2.639E+01	3.655E+01	0.000E+00	0.027
EU-152	-9.230E+00	1.074E+01	1.431E+01	0.000E+00	-0.645
EU-154	5.364E-01	6.138E+00	9.846E+00	0.000E+00	0.054
RA-226	-6.403E+01	7.580E+01	1.148E+02	0.000E+00	-0.558
AC-228	1.178E+01	1.068E+01	1.834E+01	0.000E+00	0.642
TH-228	8.690E-01	5.596E+00	8.811E+00	0.000E+00	0.099
TH-232	1.173E+01	1.064E+01	1.826E+01	0.000E+00	0.642
U-235	3.188E+01	2.639E+01	3.762E+01	0.000E+00	0.847
U-238	2.689E+02	3.185E+02	5.495E+02	0.000E+00	0.489
AM-241	-5.296E+01	3.658E+01	5.941E+01	0.000E+00	-0.891

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A,15L28784-11      ,06/04/2006 16:26,05/22/2006 10:00,   3.597E+00,WG L28784-11 E
B,15L28784-11      ,LIBD                ,06/04/2006 09:00,1535L090104
C,BE-7     ,NO ,  -1.253E+01,   2.737E+01,   4.386E+01,,    -0.286
C,K-40     ,NO ,   1.390E+02,   3.957E+01,   7.352E+01,,     1.891
C,CR-51    ,NO ,   1.085E+01,   3.260E+01,   5.424E+01,,     0.200
C,MN-54    ,NO ,  -1.813E+00,   2.900E+00,   4.593E+00,,    -0.395
C,CO-57    ,NO ,  -3.767E-02,   2.995E+00,   4.796E+00,,    -0.008
C,CO-58    ,NO ,   1.393E+00,   3.030E+00,   5.070E+00,,     0.275
C,FE-59    ,NO ,   4.872E+00,   6.233E+00,   1.073E+01,,     0.454
C,CO-60    ,NO ,  -5.412E-01,   2.869E+00,   4.628E+00,,    -0.117
C,ZN-65    ,NO ,   8.479E+00,   7.339E+00,   1.109E+01,,     0.764
C,SE-75    ,NO ,   2.586E+00,   3.992E+00,   6.715E+00,,     0.385
C,SR-85    ,NO ,   1.931E+01,   3.563E+00,   6.687E+00,,     2.888
C,Y-88     ,NO ,   4.098E-01,   3.415E+00,   5.656E+00,,     0.072
C,NB-94    ,NO ,  -2.057E+00,   2.743E+00,   4.365E+00,,    -0.471
C,NB-95    ,NO ,   2.911E+00,   3.131E+00,   5.350E+00,,     0.544
C,ZR-95    ,NO ,  -6.851E-01,   5.607E+00,   9.144E+00,,    -0.075
C,MO-99    ,NO ,  -1.824E+02,   5.790E+02,   9.370E+02,,    -0.195
C,RU-103   ,NO ,   2.151E+00,   3.635E+00,   6.041E+00,,     0.356
C,RU-106   ,NO ,   3.424E+00,   2.789E+01,   4.419E+01,,     0.077
C,AG-110m  ,NO ,  -1.357E+00,   2.744E+00,   4.425E+00,,    -0.307
C,SN-113   ,NO ,  -5.692E-01,   4.058E+00,   6.627E+00,,    -0.086
C,SB-124   ,NO ,   3.382E+00,   7.649E+00,   5.381E+00,,     0.628
C,SB-125   ,NO ,  -5.741E+00,   8.250E+00,   1.318E+01,,    -0.436
C,TE-129M  ,NO ,   1.810E+01,   4.020E+01,   6.666E+01,,     0.272
C,I-131    ,NO ,   7.459E+00,   9.397E+00,   1.459E+01,,     0.511
C,BA-133   ,NO ,   7.804E+00,   4.634E+00,   6.864E+00,,     1.137
C,CS-134   ,NO ,   1.234E+01,   6.052E+00,   5.354E+00,,     2.305
C,CS-136   ,NO ,  -2.475E+00,   5.441E+00,   8.695E+00,,    -0.285
C,CS-137   ,NO ,  -6.806E-01,   2.965E+00,   4.838E+00,,    -0.141
C,CE-139   ,NO ,   1.239E+00,   2.992E+00,   4.932E+00,,     0.251
C,BA-140   ,NO ,  -1.171E+01,   2.028E+01,   3.294E+01,,    -0.356
C,LA-140   ,NO ,  -1.977E+00,   6.419E+00,   1.036E+01,,    -0.191
C,CE-141   ,NO ,   4.279E+00,   7.491E+00,   1.050E+01,,     0.407
C,CE-144   ,NO ,   9.957E-01,   2.639E+01,   3.655E+01,,     0.027
C,EU-152   ,NO ,  -9.230E+00,   1.074E+01,   1.431E+01,,    -0.645
C,EU-154   ,NO ,   5.364E-01,   6.138E+00,   9.846E+00,,     0.054
C,RA-226   ,NO ,  -6.403E+01,   7.580E+01,   1.148E+02,,    -0.558
C,AC-228   ,NO ,   1.178E+01,   1.068E+01,   1.834E+01,,     0.642
C,TH-228   ,NO ,   8.690E-01,   5.596E+00,   8.811E+00,,     0.099
C,TH-232   ,NO ,   1.173E+01,   1.064E+01,   1.826E+01,,     0.642
C,U-235    ,NO ,   3.188E+01,   2.639E+01,   3.762E+01,,     0.847
C,U-238    ,NO ,   2.689E+02,   3.185E+02,   5.495E+02,,     0.489
C,AM-241   ,NO ,  -5.296E+01,   3.658E+01,   5.941E+01,,    -0.891
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 12:54:47.26
TBE23 03017322 HpGe ********** Aquisition Date/Time: 4-JUN-2006 09:33:31.57

LIMS No., Customer Name, Client ID: WG L28784-12 EX BRAID

Sample ID : 23L28784-12
Sample Type : WG
Quantity : 3.24610E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 22-MAY-2006 10:30:00.
Geometry : 233L082404
BKGFILE : 23BG060306MT
Real Time : 0 03:21:08.27
Live time : 0 03:20:59.79

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	4	33.77*	22	15	1.19	67.86	8.22E-02	1.81E-03	75.3	2.89E+00
2	0	92.61*	4	532	0.84	185.46	1.94E+00	3.56E-04	*****	
3	0	139.69*	68	302	1.59	279.56	2.32E+00	5.67E-03	45.6	
4	0	185.29*	28	346	1.15	370.70	2.18E+00	2.36E-03	134.2	
5	0	198.38*	87	307	1.61	396.86	2.11E+00	7.21E-03	38.7	
6	0	240.03	138	513	4.12	480.09	1.89E+00	1.14E-02	38.8	
7	0	353.50	54	264	4.94	706.89	1.43E+00	4.45E-03	71.2	
8	0	866.19	45	39	1.68	1731.93	7.33E-01	3.73E-03	32.3	
9	0	910.99*	45	33	3.42	1821.52	7.08E-01	3.74E-03	34.5	
10	0	1122.16	45	56	3.43	2243.85	6.15E-01	3.76E-03	45.9	
11	0	1766.29	27	23	1.38	3532.47	4.37E-01	2.21E-03	43.8	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	28	3.28*	2.176E+00	2.751E+01	2.751E+01	268.43
AC-228	835.50	------	1.75	7.515E-01	------	Line Not Found	------
	911.07	45	27.70*	7.084E-01	1.587E+01	1.593E+01	69.01
TH-228	238.63	138	44.60*	1.893E+00	1.127E+01	1.141E+01	77.57
	240.98	138	3.95	1.893E+00	1.272E+02	1.289E+02	77.57

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28784-12

Acquisition date : 4-JUN-2006 09:33:31

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	2.751E+01	2.751E+01	7.385E+01	268.43	
AC-228	5.75Y	1.00	1.587E+01	1.593E+01	1.100E+01	69.01	
TH-228	1.91Y	1.01	1.127E+01	1.141E+01	0.885E+01	77.57	
	Total Activity :		5.464E+01	5.486E+01			
	Grand Total Activity :		5.464E+01	5.486E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28784-12 Acquisition date : 4-JUN-2006 09:33:31

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	33.77	22	15	1.19	67.86	65	19	1.81E-03	****	8.22E-02	
0	92.61	4	532	0.84	185.46	181	9	3.56E-04	****	1.94E+00	
0	139.69	68	302	1.59	279.56	277	6	5.67E-03	91.2	2.32E+00	
0	198.38	87	307	1.61	396.86	393	8	7.21E-03	77.4	2.11E+00	
0	353.50	54	264	4.94	706.89	697	17	4.45E-03	****	1.43E+00	
0	866.19	45	39	1.68	1731.93	1724	13	3.73E-03	64.5	7.33E-01	
0	1122.16	45	56	3.43	2243.85	2234	23	3.76E-03	91.8	6.15E-01	
0	1766.29	27	23	1.38	3532.47	3523	14	2.21E-03	87.6	4.37E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	2.751E+01	2.751E+01	7.385E+01	268.43	
AC-228	5.75Y	1.00	1.587E+01	1.593E+01	1.100E+01	69.01	
TH-228	1.91Y	1.01	1.127E+01	1.141E+01	0.885E+01	77.57	
	Total Activity :		5.464E+01	5.486E+01			
	Grand Total Activity :		5.464E+01	5.486E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	2.751E+01	7.385E+01	1.202E+02	0.000E+00	0.229
AC-228	1.593E+01	1.100E+01	1.558E+01	0.000E+00	1.023
TH-228	1.141E+01	8.852E+00	9.422E+00	0.000E+00	1.211

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	-6.647E+00		2.710E+01	4.557E+01	0.000E+00	-0.146
NA-24	-5.847E+00		2.586E+00	Half-Life too short		
K-40	9.826E-01		4.130E+01	8.402E+01	0.000E+00	0.012
CR-51	-9.893E+00		3.321E+01	5.612E+01	0.000E+00	-0.176
MN-54	2.178E+00		2.564E+00	4.717E+00	0.000E+00	0.462
CO-57	-9.313E-01		3.092E+00	5.168E+00	0.000E+00	-0.180
CO-58	1.580E-01		2.876E+00	5.017E+00	0.000E+00	0.031
FE-59	3.178E+00		5.927E+00	1.087E+01	0.000E+00	0.292
CO-60	5.983E-01		2.436E+00	4.444E+00	0.000E+00	0.135
ZN-65	4.832E+00		6.541E+00	1.054E+01	0.000E+00	0.458
SE-75	5.127E-01		4.243E+00	7.286E+00	0.000E+00	0.070
SR-85	1.241E+01		3.611E+00	6.897E+00	0.000E+00	1.799
Y-88	-1.731E+00		2.757E+00	4.643E+00	0.000E+00	-0.373
NB-94	1.300E+00		2.631E+00	4.694E+00	0.000E+00	0.277
NB-95	1.775E+00		3.058E+00	5.487E+00	0.000E+00	0.323
ZR-95	-2.094E+00		5.491E+00	9.297E+00	0.000E+00	-0.225
MO-99	-3.516E+02		5.224E+02	8.688E+02	0.000E+00	-0.405
RU-103	1.016E+00		3.605E+00	6.205E+00	0.000E+00	0.164
RU-106	-6.932E+00		2.608E+01	4.473E+01	0.000E+00	-0.155
AG-110m	-3.513E-01		2.673E+00	4.620E+00	0.000E+00	-0.076
SN-113	5.641E-01		3.900E+00	6.694E+00	0.000E+00	0.084
SB-124	-8.186E+00		3.625E+00	5.601E+00	0.000E+00	-1.462
SB-125	-3.743E+00		8.139E+00	1.357E+01	0.000E+00	-0.276
TE-129M	-3.013E+01		4.033E+01	6.614E+01	0.000E+00	-0.455
I-131	6.070E+00		8.989E+00	1.511E+01	0.000E+00	0.402
BA-133	1.369E+00		4.637E+00	6.814E+00	0.000E+00	0.201
CS-134	1.701E+00		3.219E+00	5.680E+00	0.000E+00	0.300
CS-136	2.009E+00		4.914E+00	8.790E+00	0.000E+00	0.229
CS-137	-8.034E-01		2.843E+00	4.871E+00	0.000E+00	-0.165
CE-139	2.179E+00		3.246E+00	5.519E+00	0.000E+00	0.395
BA-140	-4.149E+00		2.073E+01	3.480E+01	0.000E+00	-0.119
LA-140	2.810E+00		5.596E+00	1.061E+01	0.000E+00	0.265
CE-141	3.098E+00		7.924E+00	1.143E+01	0.000E+00	0.271
CE-144	-2.291E+01		2.877E+01	3.989E+01	0.000E+00	-0.574
EU-152	-8.884E+00		1.113E+01	1.534E+01	0.000E+00	-0.579
EU-154	-8.568E-01		6.318E+00	1.060E+01	0.000E+00	-0.081
TH-232	1.587E+01	+	1.095E+01	1.910E+01	0.000E+00	0.831
U-235	2.481E+00		2.898E+01	4.084E+01	0.000E+00	0.061
U-238	2.470E+01		3.143E+02	5.374E+02	0.000E+00	0.046
AM-241	-5.309E+00		1.732E+01	2.839E+01	0.000E+00	-0.187

A,23L28784-12 ,06/04/2006 12:54,05/22/2006 10:30, 3.246E+00,WG L28784-12 E
B,23L28784-12 ,LIBD ,06/01/2006 10:14,233L082404

C,RA-226	,YES,	2.751E+01,	7.385E+01,	1.202E+02,,		0.229
C,AC-228	,YES,	1.593E+01,	1.100E+01,	1.558E+01,,		1.023
C,TH-228	,YES,	1.141E+01,	8.852E+00,	9.422E+00,,		1.211
C,BE-7	,NO ,	-6.647E+00,	2.710E+01,	4.557E+01,,		-0.146
C,K-40	,NO ,	9.826E-01,	4.130E+01,	8.402E+01,,		0.012
C,CR-51	,NO ,	-9.893E+00,	3.321E+01,	5.612E+01,,		-0.176
C,MN-54	,NO ,	2.178E+00,	2.564E+00,	4.717E+00,,		0.462
C,CO-57	,NO ,	-9.313E-01,	3.092E+00,	5.168E+00,,		-0.180
C,CO-58	,NO ,	1.580E-01,	2.876E+00,	5.017E+00,,		0.031
C,FE-59	,NO ,	3.178E+00,	5.927E+00,	1.087E+01,,		0.292
C,CO-60	,NO ,	5.983E-01,	2.436E+00,	4.444E+00,,		0.135
C,ZN-65	,NO ,	4.832E+00,	6.541E+00,	1.054E+01,,		0.458
C,SE-75	,NO ,	5.127E-01,	4.243E+00,	7.286E+00,,		0.070
C,SR-85	,NO ,	1.241E+01,	3.611E+00,	6.897E+00,,		1.799
C,Y-88	,NO ,	-1.731E+00,	2.757E+00,	4.643E+00,,		-0.373
C,NB-94	,NO ,	1.300E+00,	2.631E+00,	4.694E+00,,		0.277
C,NB-95	,NO ,	1.775E+00,	3.058E+00,	5.487E+00,,		0.323
C,ZR-95	,NO ,	-2.094E+00,	5.491E+00,	9.297E+00,,		-0.225
C,MO-99	,NO ,	-3.516E+02,	5.224E+02,	8.688E+02,,		-0.405
C,RU-103	,NO ,	1.016E+00,	3.605E+00,	6.205E+00,,		0.164
C,RU-106	,NO ,	-6.932E+00,	2.608E+01,	4.473E+01,,		-0.155
C,AG-110m	,NO ,	-3.513E-01,	2.673E+00,	4.620E+00,,		-0.076
C,SN-113	,NO ,	5.641E-01,	3.900E+00,	6.694E+00,,		0.084
C,SB-124	,NO ,	-8.186E+00,	3.625E+00,	5.601E+00,,		-1.462
C,SB-125	,NO ,	-3.743E+00,	8.139E+00,	1.357E+01,,		-0.276
C,TE-129M	,NO ,	-3.013E+01,	4.033E+01,	6.614E+01,,		-0.455
C,I-131	,NO ,	6.070E+00,	8.989E+00,	1.511E+01,,		0.402
C,BA-133	,NO ,	1.369E+00,	4.637E+00,	6.814E+00,,		0.201
C,CS-134	,NO ,	1.701E+00,	3.219E+00,	5.680E+00,,		0.300
C,CS-136	,NO ,	2.009E+00,	4.914E+00,	8.790E+00,,		0.229
C,CS-137	,NO ,	-8.034E-01,	2.843E+00,	4.871E+00,,		-0.165
C,CE-139	,NO ,	2.179E+00,	3.246E+00,	5.519E+00,,		0.395
C,BA-140	,NO ,	-4.149E+00,	2.073E+01,	3.480E+01,,		-0.119
C,LA-140	,NO ,	2.810E+00,	5.596E+00,	1.061E+01,,		0.265
C,CE-141	,NO ,	3.098E+00,	7.924E+00,	1.143E+01,,		0.271
C,CE-144	,NO ,	-2.291E+01,	2.877E+01,	3.989E+01,,		-0.574
C,EU-152	,NO ,	-8.884E+00,	1.113E+01,	1.534E+01,,		-0.579
C,EU-154	,NO ,	-8.568E-01,	6.318E+00,	1.060E+01,,		-0.081
C,TH-232	,NO ,	1.587E+01,	1.095E+01,	1.910E+01,,		0.831
C,U-235	,NO ,	2.481E+00,	2.898E+01,	4.084E+01,,		0.061
C,U-238	,NO ,	2.470E+01,	3.143E+02,	5.374E+02,,		0.046
C,AM-241	,NO ,	-5.309E+00,	1.732E+01,	2.839E+01,,		-0.187

Sec. Review: Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 15:30:44.65
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 4-JUN-2006 12:50:52.71

LIMS No., Customer Name, Client ID: WG L28785-1 CLINTON

Sample ID	: 07L28785-1			Smple Date	: 22-MAY-2006 17:20:00.
Sample Type	: WG			Geometry	: 0735L090904
Quantity	: 3.34450E+00 L			BKGFILE	: 07BG050506MT
Start Channel	: 40	Energy Tol	: 1.00000	Real Time	: 0 02:39:40.28
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 02:39:38.36
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	92.86*	62	193	1.59	186.54	1.56E+00	6.43E-03	45.5	1.81E+00
2	1	139.63*	85	326	1.16	280.14	2.09E+00	8.86E-03	43.0	1.32E+00
3	1	198.40*	77	255	2.06	397.77	1.98E+00	8.09E-03	44.0	2.12E+00
4	1	595.84	35	86	1.83	1193.10	9.96E-01	3.64E-03	57.5	1.25E+00
5	1	609.12*	83	76	1.92	1219.68	9.81E-01	8.63E-03	26.8	1.22E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28785-1

Acquisition date : 4-JUN-2006 12:50:52

Total number of lines in spectrum	5	
Number of unidentified lines	5	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines

Sample ID : 07L28785-1 Acquisition date : 4-JUN-2006 12:50:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	92.86	62	193	1.59	186.54	183	8	6.43E-03	91.0	1.56E+00	
1	139.63	85	326	1.16	280.14	277	11	8.86E-03	85.9	2.09E+00	
1	198.40	77	255	2.06	397.77	393	12	8.09E-03	88.0	1.98E+00	
1	595.84	35	86	1.83	1193.10	1188	13	3.64E-03	****	9.96E-01	
1	609.12	83	76	1.92	1219.68	1213	14	8.63E-03	53.6	9.81E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 5
Number of unidentified lines 5
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-1.762E+01		2.856E+01	4.542E+01	0.000E+00	-0.388
NA-24	-3.037E+00		2.620E+00	Half-Life too short		
K-40	3.616E+01		4.375E+01	8.661E+01	0.000E+00	0.417
CR-51	-8.364E+00		3.727E+01	6.046E+01	0.000E+00	-0.138
MN-54	-4.054E-03		3.124E+00	5.115E+00	0.000E+00	-0.001
CO-57	-5.688E-02		3.112E+00	5.135E+00	0.000E+00	-0.011
CO-58	2.273E-01		3.542E+00	5.836E+00	0.000E+00	0.039
FE-59	2.076E+00		7.006E+00	1.180E+01	0.000E+00	0.176
CO-60	1.754E+00		3.125E+00	5.449E+00	0.000E+00	0.322
ZN-65	3.586E+00		6.846E+00	1.172E+01	0.000E+00	0.306
SE-75	-2.380E+00		4.474E+00	7.235E+00	0.000E+00	-0.329
SR-85	2.515E+01		4.320E+00	8.624E+00	0.000E+00	2.917
Y-88	-2.452E+00		3.676E+00	5.600E+00	0.000E+00	-0.438
NB-94	7.919E-01		3.247E+00	5.445E+00	0.000E+00	0.145
NB-95	3.610E+00		3.387E+00	5.969E+00	0.000E+00	0.605
ZR-95	-3.515E+00		5.752E+00	9.047E+00	0.000E+00	-0.389
MO-99	2.082E+02		5.853E+02	9.880E+02	0.000E+00	0.211
RU-103	6.505E+00		3.961E+00	7.062E+00	0.000E+00	0.921
RU-106	-8.335E+00		2.768E+01	4.407E+01	0.000E+00	-0.189
AG-110m	1.353E-01		3.017E+00	5.023E+00	0.000E+00	0.027
SN-113	4.084E+00		4.119E+00	7.030E+00	0.000E+00	0.581
SB-124	1.519E+00		7.960E+00	5.758E+00	0.000E+00	0.264
SB-125	1.591E+00		8.851E+00	1.481E+01	0.000E+00	0.107

TE-129M	-1.284E+00	4.505E+01	7.433E+01	0.000E+00	-0.017
I-131	-1.137E+00	9.707E+00	1.571E+01	0.000E+00	-0.072
BA-133	3.418E+00	4.745E+00	7.970E+00	0.000E+00	0.429
CS-134	8.475E+00	7.165E+00	6.263E+00	0.000E+00	1.353
CS-136	-7.082E-02	6.005E+00	9.836E+00	0.000E+00	-0.007
CS-137	-6.591E-01	3.348E+00	5.489E+00	0.000E+00	-0.120
CE-139	2.021E-01	3.259E+00	5.336E+00	0.000E+00	0.038
BA-140	6.964E+00	2.130E+01	3.559E+01	0.000E+00	0.196
LA-140	3.555E+00	6.862E+00	1.185E+01	0.000E+00	0.300
CE-141	3.426E+00	8.077E+00	1.147E+01	0.000E+00	0.299
CE-144	1.772E+01	2.778E+01	4.003E+01	0.000E+00	0.443
EU-152	-1.752E+01	1.085E+01	1.649E+01	0.000E+00	-1.063
EU-154	1.512E+00	6.379E+00	1.061E+01	0.000E+00	0.143
RA-226	2.562E+01	7.886E+01	1.322E+02	0.000E+00	0.194
AC-228	-8.184E-01	1.127E+01	1.911E+01	0.000E+00	-0.043
TH-228	2.135E+00	6.213E+00	1.070E+01	0.000E+00	0.200
TH-232	-8.150E-01	1.122E+01	1.903E+01	0.000E+00	-0.043
U-235	4.158E+01	2.858E+01	4.258E+01	0.000E+00	0.977
U-238	1.673E+02	3.166E+02	5.488E+02	0.000E+00	0.305
AM-241	-9.567E+01	3.152E+01	4.616E+01	0.000E+00	-2.072

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A,07L28785-1       ,06/04/2006 15:30,05/22/2006 17:20,   3.345E+00,WG L28785-1 CL
B,07L28785-1       ,LIBD                ,06/02/2006 08:24,0735L090904
C,BE-7     ,NO ,  -1.762E+01,   2.856E+01,   4.542E+01,,   -0.388
C,K-40     ,NO ,   3.616E+01,   4.375E+01,   8.661E+01,,    0.417
C,CR-51    ,NO ,  -8.364E+00,   3.727E+01,   6.046E+01,,   -0.138
C,MN-54    ,NO ,  -4.054E-03,   3.124E+00,   5.115E+00,,   -0.001
C,CO-57    ,NO ,  -5.688E-02,   3.112E+00,   5.135E+00,,   -0.011
C,CO-58    ,NO ,   2.273E-01,   3.542E+00,   5.836E+00,,    0.039
C,FE-59    ,NO ,   2.076E+00,   7.006E+00,   1.180E+01,,    0.176
C,CO-60    ,NO ,   1.754E+00,   3.125E+00,   5.449E+00,,    0.322
C,ZN-65    ,NO ,   3.586E+00,   6.846E+00,   1.172E+01,,    0.306
C,SE-75    ,NO ,  -2.380E+00,   4.474E+00,   7.235E+00,,   -0.329
C,SR-85    ,NO ,   2.515E+01,   4.320E+00,   8.624E+00,,    2.917
C,Y-88     ,NO ,  -2.452E+00,   3.676E+00,   5.600E+00,,   -0.438
C,NB-94    ,NO ,   7.919E-01,   3.247E+00,   5.445E+00,,    0.145
C,NB-95    ,NO ,   3.610E+00,   3.387E+00,   5.969E+00,,    0.605
C,ZR-95    ,NO ,  -3.515E+00,   5.752E+00,   9.047E+00,,   -0.389
C,MO-99    ,NO ,   2.082E+02,   5.853E+02,   9.880E+02,,    0.211
C,RU-103   ,NO ,   6.505E+00,   3.961E+00,   7.062E+00,,    0.921
C,RU-106   ,NO ,  -8.335E+00,   2.768E+01,   4.407E+01,,   -0.189
C,AG-110m  ,NO ,   1.353E-01,   3.017E+00,   5.023E+00,,    0.027
C,SN-113   ,NO ,   4.084E+00,   4.119E+00,   7.030E+00,,    0.581
C,SB-124   ,NO ,   1.519E+00,   7.960E+00,   5.758E+00,,    0.264
C,SB-125   ,NO ,   1.591E+00,   8.851E+00,   1.481E+01,,    0.107
C,TE-129M  ,NO ,  -1.284E+00,   4.505E+01,   7.433E+01,,   -0.017
C,I-131    ,NO ,  -1.137E+00,   9.707E+00,   1.571E+01,,   -0.072
C,BA-133   ,NO ,   3.418E+00,   4.745E+00,   7.970E+00,,    0.429
C,CS-134   ,NO ,   8.475E+00,   7.165E+00,   6.263E+00,,    1.353
C,CS-136   ,NO ,  -7.082E-02,   6.005E+00,   9.836E+00,,   -0.007
C,CS-137   ,NO ,  -6.591E-01,   3.348E+00,   5.489E+00,,   -0.120
C,CE-139   ,NO ,   2.021E-01,   3.259E+00,   5.336E+00,,    0.038
C,BA-140   ,NO ,   6.964E+00,   2.130E+01,   3.559E+01,,    0.196
C,LA-140   ,NO ,   3.555E+00,   6.862E+00,   1.185E+01,,    0.300
C,CE-141   ,NO ,   3.426E+00,   8.077E+00,   1.147E+01,,    0.299
C,CE-144   ,NO ,   1.772E+01,   2.778E+01,   4.003E+01,,    0.443
C,EU-152   ,NO ,  -1.752E+01,   1.085E+01,   1.649E+01,,   -1.063
C,EU-154   ,NO ,   1.512E+00,   6.379E+00,   1.061E+01,,    0.143
C,RA-226   ,NO ,   2.562E+01,   7.886E+01,   1.322E+02,,    0.194
C,AC-228   ,NO ,  -8.184E-01,   1.127E+01,   1.911E+01,,   -0.043
C,TH-228   ,NO ,   2.135E+00,   6.213E+00,   1.070E+01,,    0.200
C,TH-232   ,NO ,  -8.150E-01,   1.122E+01,   1.903E+01,,   -0.043
C,U-235    ,NO ,   4.158E+01,   2.858E+01,   4.258E+01,,    0.977
C,U-238    ,NO ,   1.673E+02,   3.166E+02,   5.488E+02,,    0.305
C,AM-241   ,NO ,  -9.567E+01,   3.152E+01,   4.616E+01,,   -2.072
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Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 16:16:56.01
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 4-JUN-2006 12:57:50.18

LIMS No., Customer Name, Client ID: WG L28785-2 CLINTON

Sample ID : 13L28785-2
Sample Type : WG
Quantity : 3.50540E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 23-MAY-2006 08:30:00.
Geometry : 1335L090904
BKGFILE : 13BG060306MT
Real Time : 0 03:18:52.28
Live time : 0 03:18:48.89

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	5	63.77*	90	440	1.66	127.56	6.36E-01	7.57E-03	48.0	3.98E+00
2	5	66.72	113	301	1.14	133.47	7.38E-01	9.44E-03	27.6	
3	3	77.10*	8	257	0.89	154.22	1.09E+00	6.81E-04	336.0	8.28E+00
4	1	140.14*	41	356	1.38	280.23	2.02E+00	3.48E-03	86.2	2.89E+00
5	1	185.69*	35	281	1.19	371.28	1.95E+00	2.94E-03	100.3	3.37E+00
6	1	198.60*	91	271	1.46	397.09	1.90E+00	7.62E-03	36.5	2.08E+00
7	1	238.63*	44	260	0.88	477.12	1.73E+00	3.70E-03	74.9	1.12E+00
8	1	351.82*	8	149	1.51	703.47	1.34E+00	6.77E-04	310.8	1.80E+00
9	1	596.19	35	123	1.23	1192.28	9.11E-01	2.97E-03	69.1	1.04E+00
10	1	609.41*	19	96	1.42	1218.72	8.96E-01	1.57E-03	120.0	1.05E+00
11	1	1096.81	63	43	9.69	2194.41	5.78E-01	5.30E-03	25.4	1.76E+00
12	1	1120.65*	28	38	2.98	2242.15	5.69E-01	2.38E-03	59.9	6.20E-01
13	1	1461.07*	17	34	1.97	2924.20	4.69E-01	1.39E-03	112.3	4.69E-01
14	1	1846.67	11	15	1.65	3697.30	3.99E-01	9.58E-04	70.3	9.77E-01

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	17	10.67*	4.688E-01	2.149E+01	2.149E+01	224.50
RA-226	186.21	35	3.28*	1.946E+00	3.553E+01	3.553E+01	200.66
TH-228	238.63	44	44.60*	1.733E+00	3.694E+00	3.739E+00	149.77
	240.98	------	3.95	1.723E+00	------	Line Not Found	------
U-235	143.76	------	10.50*	2.023E+00	------	Line Not Found	------
	163.35	------	4.70	2.011E+00	------	Line Not Found	------
	185.71	35	54.00	1.946E+00	2.158E+00	2.158E+00	200.66
	205.31	------	4.70	1.871E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28785-2

Acquisition date : 4-JUN-2006 12:57:50

Total number of lines in spectrum	14	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	3	21.43%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.149E+01	2.149E+01	4.824E+01	224.50	
RA-226	1600.00Y	1.00	3.553E+01	3.553E+01	7.130E+01	200.66	
TH-228	1.91Y	1.01	3.694E+00	3.739E+00	5.600E+00	149.77	
U-235	7.04E+08Y	1.00	2.158E+00	2.158E+00	4.330E+00	200.66	K
			---------	---------			
	Total Activity :		6.287E+01	6.291E+01			

Grand Total Activity : 6.287E+01 6.291E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28785-2

Acquisition date : 4-JUN-2006 12:57:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	63.77	90	440	1.66	127.56	123	14	7.57E-03	96.0	6.36E-01	
5	66.72	113	301	1.14	133.47	123	14	9.44E-03	55.2	7.38E-01	
3	77.10	8	257	0.89	154.22	147	10	6.81E-04	****	1.09E+00	
1	140.14	41	356	1.38	280.23	276	8	3.48E-03	****	2.02E+00	
1	198.60	91	271	1.46	397.09	393	9	7.62E-03	72.9	1.90E+00	
1	351.82	8	149	1.51	703.47	700	9	6.77E-04	****	1.34E+00	
1	596.19	35	123	1.23	1192.28	1185	14	2.97E-03	****	9.11E-01	
1	609.41	19	96	1.42	1218.72	1214	11	1.57E-03	****	8.96E-01	
1	1096.81	63	43	9.69	2194.41	2191	17	5.30E-03	50.8	5.78E-01	
1	1120.65	28	38	2.98	2242.15	2235	17	2.38E-03	****	5.69E-01	
1	1846.67	11	15	1.65	3697.30	3690	10	9.58E-04	****	3.99E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	14	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	3	21.43%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.149E+01	2.149E+01	4.824E+01	224.50	
RA-226	1600.00Y	1.00	3.553E+01	3.553E+01	7.130E+01	200.66	
TH-228	1.91Y	1.01	3.694E+00	3.739E+00	5.600E+00	149.77	
	Total Activity :		6.071E+01	6.076E+01			

Grand Total Activity : 6.071E+01 6.076E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	2.149E+01	4.824E+01	3.817E+01	0.000E+00	0.563
RA-226	3.553E+01	7.130E+01	1.066E+02	0.000E+00	0.333
TH-228	3.739E+00	5.600E+00	8.128E+00	0.000E+00	0.460

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	2.439E+01		2.677E+01	4.575E+01	0.000E+00	0.533
NA-24	-1.119E+00		1.154E+00	Half-Life too short		
CR-51	-1.091E+01		3.135E+01	5.145E+01	0.000E+00	-0.212
MN-54	4.117E+00		2.972E+00	5.273E+00	0.000E+00	0.781
CO-57	3.719E-01		2.813E+00	4.702E+00	0.000E+00	0.079
CO-58	7.174E-01		3.035E+00	5.047E+00	0.000E+00	0.142
FE-59	4.352E+00		5.963E+00	1.040E+01	0.000E+00	0.419
CO-60	3.364E+00		2.742E+00	4.979E+00	0.000E+00	0.676
ZN-65	3.356E+00		6.696E+00	9.872E+00	0.000E+00	0.340
SE-75	-3.898E-01		4.015E+00	6.485E+00	0.000E+00	-0.060
SR-85	1.689E+01		3.785E+00	7.179E+00	0.000E+00	2.352
Y-88	4.039E+00		3.491E+00	5.819E+00	0.000E+00	0.694
NB-94	-6.765E-02		2.595E+00	4.273E+00	0.000E+00	-0.016
NB-95	7.901E-01		3.055E+00	5.100E+00	0.000E+00	0.155
ZR-95	-1.063E+00		5.867E+00	9.534E+00	0.000E+00	-0.112
MO-99	-1.040E+02		4.512E+02	7.313E+02	0.000E+00	-0.142
RU-103	-6.922E-01		3.544E+00	5.722E+00	0.000E+00	-0.121
RU-106	-6.291E+00		2.669E+01	4.373E+01	0.000E+00	-0.144
AG-110m	-6.531E-01		2.626E+00	4.280E+00	0.000E+00	-0.153
SN-113	1.546E+00		3.746E+00	6.291E+00	0.000E+00	0.246
SB-124	-4.432E+00		7.387E+00	4.850E+00	0.000E+00	-0.914
SB-125	1.488E+00		7.820E+00	1.296E+01	0.000E+00	0.115
TE-129M	2.416E+01		3.964E+01	6.683E+01	0.000E+00	0.361
I-131	-5.141E+00		7.745E+00	1.243E+01	0.000E+00	-0.414
BA-133	2.238E+00		4.204E+00	6.125E+00	0.000E+00	0.365
CS-134	-4.760E-01		5.291E+00	4.671E+00	0.000E+00	-0.102
CS-136	-1.962E+00		4.719E+00	7.478E+00	0.000E+00	-0.262
CS-137	-3.577E-01		2.970E+00	4.720E+00	0.000E+00	-0.076
CE-139	8.368E-01		2.892E+00	4.811E+00	0.000E+00	0.174
BA-140	-2.154E+01		1.919E+01	2.915E+01	0.000E+00	-0.739
LA-140	-2.241E+00		5.852E+00	9.280E+00	0.000E+00	-0.241
CE-141	2.586E+00		6.562E+00	9.451E+00	0.000E+00	0.274
CE-144	1.233E+01		2.513E+01	3.641E+01	0.000E+00	0.339
EU-152	-6.599E+00		9.787E+00	1.416E+01	0.000E+00	-0.466
EU-154	4.096E-01		5.693E+00	9.498E+00	0.000E+00	0.043
AC-228	-1.640E+01		1.144E+01	1.633E+01	0.000E+00	-1.005
TH-232	-1.634E+01		1.140E+01	1.627E+01	0.000E+00	-1.005
U-235	-5.427E+00		2.459E+01	3.421E+01	0.000E+00	-0.159
U-238	9.011E+01		3.445E+02	5.657E+02	0.000E+00	0.159
AM-241	1.474E+00		2.857E+01	4.008E+01	0.000E+00	0.037

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A,13L28785-2       ,06/04/2006 16:16,05/23/2006 08:30,   3.505E+00,WG L28785-2 CL
B,13L28785-2       ,LIBD                ,06/01/2006 10:13,1335L090904
C,K-40     ,YES,    2.149E+01,   4.824E+01,   3.817E+01,,     0.563
C,RA-226   ,YES,    3.553E+01,   7.130E+01,   1.066E+02,,     0.333
C,TH-228   ,YES,    3.739E+00,   5.600E+00,   8.128E+00,,     0.460
C,BE-7     ,NO ,    2.439E+01,   2.677E+01,   4.575E+01,,     0.533
C,CR-51    ,NO ,   -1.091E+01,   3.135E+01,   5.145E+01,,    -0.212
C,MN-54    ,NO ,    4.117E+00,   2.972E+00,   5.273E+00,,     0.781
C,CO-57    ,NO ,    3.719E-01,   2.813E+00,   4.702E+00,,     0.079
C,CO-58    ,NO ,    7.174E-01,   3.035E+00,   5.047E+00,,     0.142
C,FE-59    ,NO ,    4.352E+00,   5.963E+00,   1.040E+01,,     0.419
C,CO-60    ,NO ,    3.364E+00,   2.742E+00,   4.979E+00,,     0.676
C,ZN-65    ,NO ,    3.356E+00,   6.696E+00,   9.872E+00,,     0.340
C,SE-75    ,NO ,   -3.898E-01,   4.015E+00,   6.485E+00,,    -0.060
C,SR-85    ,NO ,    1.689E+01,   3.785E+00,   7.179E+00,,     2.352
C,Y-88     ,NO ,    4.039E+00,   3.491E+00,   5.819E+00,,     0.694
C,NB-94    ,NO ,   -6.765E-02,   2.595E+00,   4.273E+00,,    -0.016
C,NB-95    ,NO ,    7.901E-01,   3.055E+00,   5.100E+00,,     0.155
C,ZR-95    ,NO ,   -1.063E+00,   5.867E+00,   9.534E+00,,    -0.112
C,MO-99    ,NO ,   -1.040E+02,   4.512E+02,   7.313E+02,,    -0.142
C,RU-103   ,NO ,   -6.922E-01,   3.544E+00,   5.722E+00,,    -0.121
C,RU-106   ,NO ,   -6.291E+00,   2.669E+01,   4.373E+01,,    -0.144
C,AG-110m  ,NO ,   -6.531E-01,   2.626E+00,   4.280E+00,,    -0.153
C,SN-113   ,NO ,    1.546E+00,   3.746E+00,   6.291E+00,,     0.246
C,SB-124   ,NO ,   -4.432E+00,   7.387E+00,   4.850E+00,,    -0.914
C,SB-125   ,NO ,    1.488E+00,   7.820E+00,   1.296E+01,,     0.115
C,TE-129M  ,NO ,    2.416E+01,   3.964E+01,   6.683E+01,,     0.361
C,I-131    ,NO ,   -5.141E+00,   7.745E+00,   1.243E+01,,    -0.414
C,BA-133   ,NO ,    2.238E+00,   4.204E+00,   6.125E+00,,     0.365
C,CS-134   ,NO ,   -4.760E-01,   5.291E+00,   4.671E+00,,    -0.102
C,CS-136   ,NO ,   -1.962E+00,   4.719E+00,   7.478E+00,,    -0.262
C,CS-137   ,NO ,   -3.577E-01,   2.970E+00,   4.720E+00,,    -0.076
C,CE-139   ,NO ,    8.368E-01,   2.892E+00,   4.811E+00,,     0.174
C,BA-140   ,NO ,   -2.154E+01,   1.919E+01,   2.915E+01,,    -0.739
C,LA-140   ,NO ,   -2.241E+00,   5.852E+00,   9.280E+00,,    -0.241
C,CE-141   ,NO ,    2.586E+00,   6.562E+00,   9.451E+00,,     0.274
C,CE-144   ,NO ,    1.233E+01,   2.513E+01,   3.641E+01,,     0.339
C,EU-152   ,NO ,   -6.599E+00,   9.787E+00,   1.416E+01,,    -0.466
C,EU-154   ,NO ,    4.096E-01,   5.693E+00,   9.498E+00,,     0.043
C,AC-228   ,NO ,   -1.640E+01,   1.144E+01,   1.633E+01,,    -1.005
C,TH-232   ,NO ,   -1.634E+01,   1.140E+01,   1.627E+01,,    -1.005
C,U-235    ,NO ,   -5.427E+00,   2.459E+01,   3.421E+01,,    -0.159
C,U-238    ,NO ,    9.011E+01,   3.445E+02,   5.657E+02,,     0.159
C,AM-241   ,NO ,    1.474E+00,   2.857E+01,   4.008E+01,,     0.037
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 16:19:11.05
TBE23 03017322 HpGe ********** Aquisition Date/Time: 4-JUN-2006 12:57:50.74

LIMS No., Customer Name, Client ID: WG L28785-3 CLINTON

Sample ID : 23L28785-3
Sample Type : WG
Quantity : 3.56800E+00 L
Start Channel : 50 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 23-MAY-2006 09:30:00.
Geometry : 2335L090704
BKGFILE : 23BG060306MT
Real Time : 0 03:21:07.50
Live time : 0 03:20:59.06

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	5	33.85*	57	16	1.30	68.03	9.48E-02	4.73E-03	33.4	2.86E+00
2	5	35.45*	18	85	1.94	71.22	1.21E-01	1.48E-03	186.7	
3	5	38.04*	53	187	1.95	76.39	1.70E-01	4.44E-03	63.1	
4	5	41.10*	3	252	1.90	82.52	2.40E-01	2.27E-04	*****	
5	5	63.22*	31	396	1.40	126.71	9.38E-01	2.58E-03	121.1	1.51E+00
6	5	65.98	122	458	1.72	132.24	1.03E+00	1.01E-02	35.3	
7	0	139.84*	58	495	1.59	279.85	2.05E+00	4.84E-03	72.9	
8	0	596.72	95	98	2.05	1193.13	8.73E-01	7.88E-03	27.6	
9	0	1460.77*	5	39	1.84	2921.17	4.59E-01	3.95E-04	410.4	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	5	10.67*	4.595E-01	6.105E+00	6.105E+00	820.87

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 23L28785-3

Acquisition date : 4-JUN-2006 12:57:50

Total number of lines in spectrum	9	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	1	11.11%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.105E+00	6.105E+00	50.11E+00	820.87	
	Total Activity :		6.105E+00	6.105E+00			
	Grand Total Activity :		6.105E+00	6.105E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 23L28785-3

Acquisition date : 4-JUN-2006 12:57:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	33.85	57	16	1.30	68.03	65	26	4.73E-03	66.7	9.48E-02	
5	35.45	18	85	1.94	71.22	65	26	1.48E-03	****	1.21E-01	
5	38.04	53	187	1.95	76.39	65	26	4.44E-03	****	1.70E-01	
5	41.10	3	252	1.90	82.52	65	26	2.27E-04	****	2.40E-01	
5	63.22	31	396	1.40	126.71	123	14	2.58E-03	****	9.38E-01	
5	65.98	122	458	1.72	132.24	123	14	1.01E-02	70.6	1.03E+00	
0	139.84	58	495	1.59	279.85	276	9	4.84E-03	****	2.05E+00	
0	596.72	95	98	2.05	1193.13	1183	19	7.88E-03	55.3	8.73E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	9	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	1	11.11%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	6.105E+00	6.105E+00	50.11E+00	820.87	
	Total Activity :		6.105E+00	6.105E+00			
	Grand Total Activity :		6.105E+00	6.105E+00			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	6.105E+00	5.011E+01	4.353E+01	0.000E+00	0.140

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-3.530E+00		2.620E+01	4.433E+01	0.000E+00	-0.080
NA-24	-2.805E+00		1.067E+00	Half-Life too short		
CR-51	-1.199E+01		3.224E+01	5.431E+01	0.000E+00	-0.221

MN-54	-1.662E+00	2.690E+00	4.467E+00	0.000E+00	-0.372
CO-57	3.018E+00	3.216E+00	5.525E+00	0.000E+00	0.546
CO-58	-3.380E-01	2.923E+00	5.036E+00	0.000E+00	-0.067
FE-59	1.699E+00	5.295E+00	9.666E+00	0.000E+00	0.176
CO-60	-2.589E-01	2.692E+00	4.724E+00	0.000E+00	-0.055
ZN-65	3.099E+00	5.834E+00	1.067E+01	0.000E+00	0.290
SE-75	3.651E+00	4.020E+00	7.084E+00	0.000E+00	0.515
SR-85	1.636E+01	3.477E+00	6.931E+00	0.000E+00	2.360
Y-88	-4.989E-01	3.151E+00	5.576E+00	0.000E+00	-0.089
NB-94	1.809E+00	2.536E+00	4.592E+00	0.000E+00	0.394
NB-95	-1.218E+00	3.016E+00	5.097E+00	0.000E+00	-0.239
ZR-95	2.815E+00	5.437E+00	9.726E+00	0.000E+00	0.289
MO-99	3.136E+02	4.287E+02	7.787E+02	0.000E+00	0.403
RU-103	2.854E+00	3.367E+00	5.970E+00	0.000E+00	0.478
RU-106	-1.952E+01	2.537E+01	4.226E+01	0.000E+00	-0.462
AG-110m	-1.636E+00	2.643E+00	4.434E+00	0.000E+00	-0.369
SN-113	-1.373E+00	3.845E+00	6.457E+00	0.000E+00	-0.213
SB-124	-2.999E+00	3.793E+00	5.217E+00	0.000E+00	-0.575
SB-125	5.891E+00	7.745E+00	1.369E+01	0.000E+00	0.430
TE-129M	2.835E+01	3.972E+01	6.992E+01	0.000E+00	0.405
I-131	-7.826E+00	8.155E+00	1.337E+01	0.000E+00	-0.585
BA-133	2.933E+00	3.872E+00	6.803E+00	0.000E+00	0.431
CS-134	5.871E+00	3.077E+00	5.178E+00	0.000E+00	1.134
CS-136	-2.431E+00	4.727E+00	7.922E+00	0.000E+00	-0.307
CS-137	1.284E+00	2.960E+00	5.275E+00	0.000E+00	0.243
CE-139	4.176E-01	3.172E+00	5.328E+00	0.000E+00	0.078
BA-140	5.840E+00	1.825E+01	3.162E+01	0.000E+00	0.185
LA-140	-2.297E+00	5.788E+00	1.003E+01	0.000E+00	-0.229
CE-141	4.389E-01	7.940E+00	1.132E+01	0.000E+00	0.039
CE-144	-9.742E+00	2.897E+01	4.083E+01	0.000E+00	-0.239
EU-152	-6.345E+00	8.943E+00	1.484E+01	0.000E+00	-0.427
EU-154	6.318E+00	6.555E+00	1.127E+01	0.000E+00	0.561
RA-226	-5.106E+01	7.944E+01	1.275E+02	0.000E+00	-0.401
AC-228	-2.172E-01	1.123E+01	1.829E+01	0.000E+00	-0.012
TH-228	3.677E+00	5.799E+00	9.589E+00	0.000E+00	0.383
TH-232	-2.164E-01	1.118E+01	1.822E+01	0.000E+00	-0.012
U-235	-3.860E+00	2.959E+01	4.139E+01	0.000E+00	-0.093
U-238	1.573E+02	3.063E+02	5.412E+02	0.000E+00	0.291
AM-241	2.922E+01	1.898E+01	2.830E+01	0.000E+00	1.032

A,23L28785-3 ,06/04/2006 16:19,05/23/2006 09:30, 3.568E+00,WG L28785-3 CL
B,23L28785-3 ,LIBD ,06/01/2006 10:14,2335L090704

C,K-40	,YES,	6.105E+00,	5.011E+01,	4.353E+01,,	0.140
C,BE-7	,NO ,	-3.530E+00,	2.620E+01,	4.433E+01,,	-0.080
C,CR-51	,NO ,	-1.199E+01,	3.224E+01,	5.431E+01,,	-0.221
C,MN-54	,NO ,	-1.662E+00,	2.690E+00,	4.467E+00,,	-0.372
C,CO-57	,NO ,	3.018E+00,	3.216E+00,	5.525E+00,,	0.546
C,CO-58	,NO ,	-3.380E-01,	2.923E+00,	5.036E+00,,	-0.067
C,FE-59	,NO ,	1.699E+00,	5.295E+00,	9.666E+00,,	0.176
C,CO-60	,NO ,	-2.589E-01,	2.692E+00,	4.724E+00,,	-0.055
C,ZN-65	,NO ,	3.099E+00,	5.834E+00,	1.067E+01,,	0.290
C,SE-75	,NO ,	3.651E+00,	4.020E+00,	7.084E+00,,	0.515
C,SR-85	,NO ,	1.636E+01,	3.477E+00,	6.931E+00,,	2.360
C,Y-88	,NO ,	-4.989E-01,	3.151E+00,	5.576E+00,,	-0.089
C,NB-94	,NO ,	1.809E+00,	2.536E+00,	4.592E+00,,	0.394
C,NB-95	,NO ,	-1.218E+00,	3.016E+00,	5.097E+00,,	-0.239
C,ZR-95	,NO ,	2.815E+00,	5.437E+00,	9.726E+00,,	0.289
C,MO-99	,NO ,	3.136E+02,	4.287E+02,	7.787E+02,,	0.403
C,RU-103	,NO ,	2.854E+00,	3.367E+00,	5.970E+00,,	0.478
C,RU-106	,NO ,	-1.952E+01,	2.537E+01,	4.226E+01,,	-0.462
C,AG-110m	,NO ,	-1.636E+00,	2.643E+00,	4.434E+00,,	-0.369
C,SN-113	,NO ,	-1.373E+00,	3.845E+00,	6.457E+00,,	-0.213
C,SB-124	,NO ,	-2.999E+00,	3.793E+00,	5.217E+00,,	-0.575
C,SB-125	,NO ,	5.891E+00,	7.745E+00,	1.369E+01,,	0.430
C,TE-129M	,NO ,	2.835E+01,	3.972E+01,	6.992E+01,,	0.405
C,I-131	,NO ,	-7.826E+00,	8.155E+00,	1.337E+01,,	-0.585
C,BA-133	,NO ,	2.933E+00,	3.872E+00,	6.803E+00,,	0.431
C,CS-134	,NO ,	5.871E+00,	3.077E+00,	5.178E+00,,	1.134
C,CS-136	,NO ,	-2.431E+00,	4.727E+00,	7.922E+00,,	-0.307
C,CS-137	,NO ,	1.284E+00,	2.960E+00,	5.275E+00,,	0.243
C,CE-139	,NO ,	4.176E-01,	3.172E+00,	5.328E+00,,	0.078
C,BA-140	,NO ,	5.840E+00,	1.825E+01,	3.162E+01,,	0.185
C,LA-140	,NO ,	-2.297E+00,	5.788E+00,	1.003E+01,,	-0.229
C,CE-141	,NO ,	4.389E-01,	7.940E+00,	1.132E+01,,	0.039
C,CE-144	,NO ,	-9.742E+00,	2.897E+01,	4.083E+01,,	-0.239
C,EU-152	,NO ,	-6.345E+00,	8.943E+00,	1.484E+01,,	-0.427
C,EU-154	,NO ,	6.318E+00,	6.555E+00,	1.127E+01,,	0.561
C,RA-226	,NO ,	-5.106E+01,	7.944E+01,	1.275E+02,,	-0.401
C,AC-228	,NO ,	-2.172E-01,	1.123E+01,	1.829E+01,,	-0.012
C,TH-228	,NO ,	3.677E+00,	5.799E+00,	9.589E+00,,	0.383
C,TH-232	,NO ,	-2.164E-01,	1.118E+01,	1.822E+01,,	-0.012
C,U-235	,NO ,	-3.860E+00,	2.959E+01,	4.139E+01,,	-0.093
C,U-238	,NO ,	1.573E+02,	3.063E+02,	5.412E+02,,	0.291
C,AM-241	,NO ,	2.922E+01,	1.898E+01,	2.830E+01,,	1.032

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 22:49:42.43
TBE07 P-10768B HpGe ********** Aquisition Date/Time: 4-JUN-2006 15:34:26.77

LIMS No., Customer Name, Client ID: WG L28785-4 CLINTON

Sample ID	: 07L28785-4		Smple Date: 23-MAY-2006 10:05:00.
Sample Type	: WG		Geometry : 0735L090904
Quantity	: 3.64420E+00 L		BKGFILE : 07BG060306MT
Start Channel	: 40	Energy Tol : 1.00000	Real Time : 0 07:15:05.10
End Channel	: 4090	Pk Srch Sens: 5.00000	Live time : 0 07:15:00.00
MDA Constant	: 0.00	Library Used: LIBD	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	52.61	108	609	1.39	105.98	2.73E-01	4.14E-03	42.0	2.78E-01
2	1	65.11	96	1106	1.24	131.00	6.81E-01	3.70E-03	75.1	1.87E+01
3	1	139.82*	234	574	1.28	280.53	2.09E+00	8.97E-03	21.3	3.91E-01
4	1	198.40*	166	645	1.22	397.77	1.98E+00	6.37E-03	33.0	6.97E-01
5	1	351.84*	85	303	1.29	704.85	1.43E+00	3.24E-03	50.5	1.62E+00
6	1	596.09	139	182	2.00	1193.60	9.96E-01	5.34E-03	20.6	1.75E+00
7	1	1460.67*	49	55	2.48	2922.93	5.15E-01	1.87E-03	53.6	1.45E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	49	10.67*	5.152E-01	2.523E+01	2.523E+01	107.28

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 07L28785-4

Acquisition date : 4-JUN-2006 15:34:26

Total number of lines in spectrum	7	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	1	14.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.523E+01	2.523E+01	2.707E+01	107.28	
	Total Activity :		2.523E+01	2.523E+01			
	Grand Total Activity :		2.523E+01	2.523E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 07L28785-4

Acquisition date : 4-JUN-2006 15:34:26

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	52.61	108	609	1.39	105.98	102	9	4.14E-03	84.0	2.73E-01	
1	65.11	96	1106	1.24	131.00	124	13	3.70E-03	****	6.81E-01	
1	139.82	234	574	1.28	280.53	277	8	8.97E-03	42.5	2.09E+00	
1	198.40	166	645	1.22	397.77	393	10	6.37E-03	66.0	1.98E+00	
1	351.84	85	303	1.29	704.85	700	11	3.24E-03	****	1.43E+00	
1	596.09	139	182	2.00	1193.60	1189	11	5.34E-03	41.2	9.96E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	7	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	1	14.29%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.523E+01	2.523E+01	2.707E+01	107.28	
	Total Activity :		2.523E+01	2.523E+01			
	Grand Total Activity :		2.523E+01	2.523E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	2.523E+01	2.707E+01	2.700E+01	0.000E+00	0.935

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	8.848E+00		1.677E+01	2.813E+01	0.000E+00	0.315
NA-24	-1.271E-01		8.139E-01	Half-Life too short		
CR-51	-1.878E+01		2.002E+01	3.198E+01	0.000E+00	-0.587
MN-54	-3.596E-02		1.777E+00	2.908E+00	0.000E+00	-0.012
CO-57	-4.776E-02		1.781E+00	2.939E+00	0.000E+00	-0.016

CO-58	-8.664E-01	1.969E+00	3.171E+00	0.000E+00	-0.273
FE-59	5.885E+00	3.793E+00	6.711E+00	0.000E+00	0.877
CO-60	-8.371E-02	1.737E+00	2.871E+00	0.000E+00	-0.029
ZN-65	1.411E+00	3.813E+00	6.379E+00	0.000E+00	0.221
SE-75	-2.734E+00	2.433E+00	3.908E+00	0.000E+00	-0.700
SR-85	2.097E+01	2.369E+00	4.676E+00	0.000E+00	4.486
Y-88	-5.495E-01	2.057E+00	3.334E+00	0.000E+00	-0.165
NB-94	-4.453E-01	1.724E+00	2.825E+00	0.000E+00	-0.158
NB-95	-6.739E-01	1.843E+00	2.986E+00	0.000E+00	-0.226
ZR-95	1.605E+00	3.274E+00	5.503E+00	0.000E+00	0.292
MO-99	-4.134E+01	2.746E+02	4.499E+02	0.000E+00	-0.092
RU-103	-1.982E+00	2.177E+00	3.477E+00	0.000E+00	-0.570
RU-106	-7.743E+00	1.613E+01	2.573E+01	0.000E+00	-0.301
AG-110m	4.183E-01	1.665E+00	2.791E+00	0.000E+00	0.150
SN-113	7.863E-01	2.413E+00	3.953E+00	0.000E+00	0.199
SB-124	-8.216E+00	2.794E+00	3.269E+00	0.000E+00	-2.513
SB-125	2.490E-01	4.975E+00	8.264E+00	0.000E+00	0.030
TE-129M	9.872E+00	2.482E+01	4.152E+01	0.000E+00	0.238
I-131	-4.723E+00	5.029E+00	7.953E+00	0.000E+00	-0.594
BA-133	7.598E+00	2.823E+00	4.314E+00	0.000E+00	1.761
CS-134	4.880E+00	2.169E+00	3.297E+00	0.000E+00	1.480
CS-136	-7.904E-01	3.226E+00	5.232E+00	0.000E+00	-0.151
CS-137	-1.070E+00	1.803E+00	2.924E+00	0.000E+00	-0.366
CE-139	5.184E-01	1.817E+00	2.986E+00	0.000E+00	0.174
BA-140	-2.901E+00	1.188E+01	1.930E+01	0.000E+00	-0.150
LA-140	8.609E-01	3.779E+00	6.277E+00	0.000E+00	0.137
CE-141	2.332E+00	4.325E+00	6.119E+00	0.000E+00	0.381
CE-144	-3.083E+00	1.581E+01	2.197E+01	0.000E+00	-0.140
EU-152	-8.730E+00	6.739E+00	8.778E+00	0.000E+00	-0.995
EU-154	-1.109E+00	3.634E+00	5.964E+00	0.000E+00	-0.186
RA-226	4.173E+00	4.750E+01	7.480E+01	0.000E+00	0.056
AC-228	-1.039E+00	7.556E+00	1.137E+01	0.000E+00	-0.091
TH-228	2.816E+00	3.616E+00	5.826E+00	0.000E+00	0.483
TH-232	-1.034E+00	7.525E+00	1.132E+01	0.000E+00	-0.091
U-235	2.857E+01	1.552E+01	2.276E+01	0.000E+00	1.255
U-238	2.323E+01	1.865E+02	3.104E+02	0.000E+00	0.075
AM-241	1.499E+01	2.730E+01	2.711E+01	0.000E+00	0.553

A,07L28785-4 ,06/04/2006 22:49,05/23/2006 10:05, 3.644E+00,WG L28785-4 CL
B,07L28785-4 ,LIBD ,06/02/2006 08:24,0735L090904

C,K-40	,YES,	2.523E+01,	2.707E+01,	2.700E+01,,	0.935
C,BE-7	,NO ,	8.848E+00,	1.677E+01,	2.813E+01,,	0.315
C,CR-51	,NO ,	-1.878E+01,	2.002E+01,	3.198E+01,,	-0.587
C,MN-54	,NO ,	-3.596E-02,	1.777E+00,	2.908E+00,,	-0.012
C,CO-57	,NO ,	-4.776E-02,	1.781E+00,	2.939E+00,,	-0.016
C,CO-58	,NO ,	-8.664E-01,	1.969E+00,	3.171E+00,,	-0.273
C,FE-59	,NO ,	5.885E+00,	3.793E+00,	6.711E+00,,	0.877
C,CO-60	,NO ,	-8.371E-02,	1.737E+00,	2.871E+00,,	-0.029
C,ZN-65	,NO ,	1.411E+00,	3.813E+00,	6.379E+00,,	0.221
C,SE-75	,NO ,	-2.734E+00,	2.433E+00,	3.908E+00,,	-0.700
C,SR-85	,NO ,	2.097E+01,	2.369E+00,	4.676E+00,,	4.486
C,Y-88	,NO ,	-5.495E-01,	2.057E+00,	3.334E+00,,	-0.165
C,NB-94	,NO ,	-4.453E-01,	1.724E+00,	2.825E+00,,	-0.158
C,NB-95	,NO ,	-6.739E-01,	1.843E+00,	2.986E+00,,	-0.226
C,ZR-95	,NO ,	1.605E+00,	3.274E+00,	5.503E+00,,	0.292
C,MO-99	,NO ,	-4.134E+01,	2.746E+02,	4.499E+02,,	-0.092
C,RU-103	,NO ,	-1.982E+00,	2.177E+00,	3.477E+00,,	-0.570
C,RU-106	,NO ,	-7.743E+00,	1.613E+01,	2.573E+01,,	-0.301
C,AG-110m	,NO ,	4.183E-01,	1.665E+00,	2.791E+00,,	0.150
C,SN-113	,NO ,	7.863E-01,	2.413E+00,	3.953E+00,,	0.199
C,SB-124	,NO ,	-8.216E+00,	2.794E+00,	3.269E+00,,	-2.513
C,SB-125	,NO ,	2.490E-01,	4.975E+00,	8.264E+00,,	0.030
C,TE-129M	,NO ,	9.872E+00,	2.482E+01,	4.152E+01,,	0.238
C,I-131	,NO ,	-4.723E+00,	5.029E+00,	7.953E+00,,	-0.594
C,BA-133	,NO ,	7.598E+00,	2.823E+00,	4.314E+00,,	1.761
C,CS-134	,NO ,	4.880E+00,	2.169E+00,	3.297E+00,,	1.480
C,CS-136	,NO ,	-7.904E-01,	3.226E+00,	5.232E+00,,	-0.151
C,CS-137	,NO ,	-1.070E+00,	1.803E+00,	2.924E+00,,	-0.366
C,CE-139	,NO ,	5.184E-01,	1.817E+00,	2.986E+00,,	0.174
C,BA-140	,NO ,	-2.901E+00,	1.188E+01,	1.930E+01,,	-0.150
C,LA-140	,NO ,	8.609E-01,	3.779E+00,	6.277E+00,,	0.137
C,CE-141	,NO ,	2.332E+00,	4.325E+00,	6.119E+00,,	0.381
C,CE-144	,NO ,	-3.083E+00,	1.581E+01,	2.197E+01,,	-0.140
C,EU-152	,NO ,	-8.730E+00,	6.739E+00,	8.778E+00,,	-0.995
C,EU-154	,NO ,	-1.109E+00,	3.634E+00,	5.964E+00,,	-0.186
C,RA-226	,NO ,	4.173E+00,	4.750E+01,	7.480E+01,,	0.056
C,AC-228	,NO ,	-1.039E+00,	7.556E+00,	1.137E+01,,	-0.091
C,TH-228	,NO ,	2.816E+00,	3.616E+00,	5.826E+00,,	0.483
C,TH-232	,NO ,	-1.034E+00,	7.525E+00,	1.132E+01,,	-0.091
C,U-235	,NO ,	2.857E+01,	1.552E+01,	2.276E+01,,	1.255
C,U-238	,NO ,	2.323E+01,	1.865E+02,	3.104E+02,,	0.075
C,AM-241	,NO ,	1.499E+01,	2.730E+01,	2.711E+01,,	0.553

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 22:53:16.24
TBE10 12892256 HpGe ********** Aquisition Date/Time: 4-JUN-2006 16:38:02.54

LIMS No., Customer Name, Client ID: WG L28784-5 CLINTON

Sample ID : 10L28785-5
Sample Type : WG
Quantity : 3.68800E+00 L
Start Channel : 80 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 23-MAY-2006 11:40:00.
Geometry : 1035L091004
BKGFILE : 10BG060306MT
Real Time : 0 06:15:03.66
Live time : 0 06:15:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.22*	186	737	1.60	131.73	6.31E-01	8.28E-03	28.5	1.77E+00
2	1	139.58	111	572	1.46	278.59	1.68E+00	4.92E-03	39.2	5.56E+00
3	1	198.95	240	605	2.12	397.45	1.55E+00	1.07E-02	21.6	3.29E+00
4	1	352.87*	29	379	1.58	705.58	1.06E+00	1.29E-03	150.0	7.40E+00
5	1	499.91	39	125	1.45	999.96	8.11E-01	1.72E-03	56.5	1.26E+00
6	1	596.09	124	125	2.11	1192.51	7.06E-01	5.53E-03	20.9	2.37E+00
7	1	609.23*	64	178	1.37	1218.83	6.94E-01	2.85E-03	50.1	1.03E+00
8	1	909.53	92	77	6.02	1820.09	5.08E-01	4.08E-03	22.4	5.45E+00
9	1	1119.32*	9	52	2.00	2240.17	4.33E-01	4.04E-04	177.0	2.05E+00
10	1	1764.40*	46	22	6.57	3532.04	3.13E-01	2.02E-03	36.4	2.61E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L28785-5

Acquisition date : 4-JUN-2006 16:38:02

Total number of lines in spectrum	10	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	0	0.00%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 10L28785-5

Acquisition date : 4-JUN-2006 16:38:02

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.22	186	737	1.60	131.73	128	9	8.28E-03	57.0	6.31E-01	
1	139.58	111	572	1.46	278.59	275	8	4.92E-03	78.4	1.68E+00	
1	198.95	240	605	2.12	397.45	392	12	1.07E-02	43.3	1.55E+00	
1	352.87	29	379	1.58	705.58	698	13	1.29E-03	****	1.06E+00	
1	499.91	39	125	1.45	999.96	994	10	1.72E-03	****	8.11E-01	
1	596.09	124	125	2.11	1192.51	1187	13	5.53E-03	41.7	7.06E-01	
1	609.23	64	178	1.37	1218.83	1212	13	2.85E-03	****	6.94E-01	
1	909.53	92	77	6.02	1820.09	1817	15	4.08E-03	44.9	5.08E-01	
1	1119.32	9	52	2.00	2240.17	2236	9	4.04E-04	****	4.33E-01	
1	1764.40	46	22	6.57	3532.04	3523	24	2.02E-03	72.7	3.13E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 10
Number of unidentified lines 10
Number of lines tentatively identified by NID 0 0.00%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	1.427E+01		2.177E+01	3.712E+01	0.000E+00	0.385
NA-24	-8.205E-01		1.051E+00	Half-Life too short		
K-40	-1.012E+01		3.416E+01	5.962E+01	0.000E+00	-0.170
CR-51	-9.940E+00		2.667E+01	4.349E+01	0.000E+00	-0.229
MN-54	-2.918E-01		2.240E+00	3.689E+00	0.000E+00	-0.079
CO-57	-1.038E+00		2.430E+00	3.981E+00	0.000E+00	-0.261
CO-58	7.445E-01		2.551E+00	4.298E+00	0.000E+00	0.173
FE-59	2.509E+00		5.119E+00	8.620E+00	0.000E+00	0.291
CO-60	-7.799E-01		2.409E+00	3.884E+00	0.000E+00	-0.201
ZN-65	6.192E+00		4.975E+00	8.737E+00	0.000E+00	0.709
SE-75	5.835E-01		3.265E+00	5.446E+00	0.000E+00	0.107
SR-85	1.880E+01		2.860E+00	5.650E+00	0.000E+00	3.328
Y-88	3.564E-01		2.860E+00	4.767E+00	0.000E+00	0.075
NB-94	4.338E-01		2.293E+00	3.780E+00	0.000E+00	0.115
NB-95	-4.606E-01		2.501E+00	4.028E+00	0.000E+00	-0.114
ZR-95	1.832E+00		4.525E+00	7.521E+00	0.000E+00	0.244
MO-99	-4.175E+01		3.864E+02	6.261E+02	0.000E+00	-0.067
RU-103	9.245E-01		2.721E+00	4.579E+00	0.000E+00	0.202

RU-106	9.468E+00	2.239E+01	3.705E+01	0.000E+00	0.256
AG-110m	2.188E+00	2.342E+00	4.004E+00	0.000E+00	0.546
SN-113	-4.318E-01	3.239E+00	5.272E+00	0.000E+00	-0.082
SB-124	-5.784E-01	6.039E+00	4.171E+00	0.000E+00	-0.139
SB-125	-2.164E+00	6.610E+00	1.063E+01	0.000E+00	-0.204
TE-129M	1.776E+01	3.230E+01	5.361E+01	0.000E+00	0.331
I-131	-1.294E+00	6.938E+00	1.131E+01	0.000E+00	-0.114
BA-133	4.903E+00	3.930E+00	5.763E+00	0.000E+00	0.851
CS-134	5.939E+00	5.257E+00	4.391E+00	0.000E+00	1.352
CS-136	-1.250E+00	4.302E+00	7.035E+00	0.000E+00	-0.178
CS-137	-4.631E-01	2.561E+00	4.161E+00	0.000E+00	-0.111
CE-139	-1.127E+00	2.462E+00	3.993E+00	0.000E+00	-0.282
BA-140	-4.853E-01	1.553E+01	2.568E+01	0.000E+00	-0.019
LA-140	2.049E+00	5.139E+00	8.650E+00	0.000E+00	0.237
CE-141	1.139E+00	5.934E+00	8.329E+00	0.000E+00	0.137
CE-144	-1.316E+01	2.172E+01	2.984E+01	0.000E+00	-0.441
EU-152	-6.237E+00	8.592E+00	1.151E+01	0.000E+00	-0.542
EU-154	3.107E-01	4.941E+00	8.173E+00	0.000E+00	0.038
RA-226	8.509E+00	6.306E+01	9.810E+01	0.000E+00	0.087
AC-228	-5.530E-01	9.504E+00	1.472E+01	0.000E+00	-0.038
TH-228	6.236E-02	4.700E+00	7.455E+00	0.000E+00	0.008
TH-232	-5.507E-01	9.466E+00	1.466E+01	0.000E+00	-0.038
U-235	2.249E+01	2.112E+01	3.044E+01	0.000E+00	0.739
U-238	1.901E+02	2.490E+02	4.274E+02	0.000E+00	0.445
AM-241	8.230E-01	2.361E+01	3.267E+01	0.000E+00	0.025

A,10L28785-5 ,06/04/2006 22:53,05/23/2006 11:40, 3.688E+00,WG L28784-5 CL
B,10L28785-5 ,LIBD ,06/02/2006 08:22,1035L091004

C,BE-7	,NO ,	1.427E+01,	2.177E+01,	3.712E+01,,	0.385
C,K-40	,NO ,	-1.012E+01,	3.416E+01,	5.962E+01,,	-0.170
C,CR-51	,NO ,	-9.940E+00,	2.667E+01,	4.349E+01,,	-0.229
C,MN-54	,NO ,	-2.918E-01,	2.240E+00,	3.689E+00,,	-0.079
C,CO-57	,NO ,	-1.038E+00,	2.430E+00,	3.981E+00,,	-0.261
C,CO-58	,NO ,	7.445E-01,	2.551E+00,	4.298E+00,,	0.173
C,FE-59	,NO ,	2.509E+00,	5.119E+00,	8.620E+00,,	0.291
C,CO-60	,NO ,	-7.799E-01,	2.409E+00,	3.884E+00,,	-0.201
C,ZN-65	,NO ,	6.192E+00,	4.975E+00,	8.737E+00,,	0.709
C,SE-75	,NO ,	5.835E-01,	3.265E+00,	5.446E+00,,	0.107
C,SR-85	,NO ,	1.880E+01,	2.860E+00,	5.650E+00,,	3.328
C,Y-88	,NO ,	3.564E-01,	2.860E+00,	4.767E+00,,	0.075
C,NB-94	,NO ,	4.338E-01,	2.293E+00,	3.780E+00,,	0.115
C,NB-95	,NO ,	-4.606E-01,	2.501E+00,	4.028E+00,,	-0.114
C,ZR-95	,NO ,	1.832E+00,	4.525E+00,	7.521E+00,,	0.244
C,MO-99	,NO ,	-4.175E+01,	3.864E+02,	6.261E+02,,	-0.067
C,RU-103	,NO ,	9.245E-01,	2.721E+00,	4.579E+00,,	0.202
C,RU-106	,NO ,	9.468E+00,	2.239E+01,	3.705E+01,,	0.256
C,AG-110m	,NO ,	2.188E+00,	2.342E+00,	4.004E+00,,	0.546
C,SN-113	,NO ,	-4.318E-01,	3.239E+00,	5.272E+00,,	-0.082
C,SB-124	,NO ,	-5.784E-01,	6.039E+00,	4.171E+00,,	-0.139
C,SB-125	,NO ,	-2.164E+00,	6.610E+00,	1.063E+01,,	-0.204
C,TE-129M	,NO ,	1.776E+01,	3.230E+01,	5.361E+01,,	0.331
C,I-131	,NO ,	-1.294E+00,	6.938E+00,	1.131E+01,,	-0.114
C,BA-133	,NO ,	4.903E+00,	3.930E+00,	5.763E+00,,	0.851
C,CS-134	,NO ,	5.939E+00,	5.257E+00,	4.391E+00,,	1.352
C,CS-136	,NO ,	-1.250E+00,	4.302E+00,	7.035E+00,,	-0.178
C,CS-137	,NO ,	-4.631E-01,	2.561E+00,	4.161E+00,,	-0.111
C,CE-139	,NO ,	-1.127E+00,	2.462E+00,	3.993E+00,,	-0.282
C,BA-140	,NO ,	-4.853E-01,	1.553E+01,	2.568E+01,,	-0.019
C,LA-140	,NO ,	2.049E+00,	5.139E+00,	8.650E+00,,	0.237
C,CE-141	,NO ,	1.139E+00,	5.934E+00,	8.329E+00,,	0.137
C,CE-144	,NO ,	-1.316E+01,	2.172E+01,	2.984E+01,,	-0.441
C,EU-152	,NO ,	-6.237E+00,	8.592E+00,	1.151E+01,,	-0.542
C,EU-154	,NO ,	3.107E-01,	4.941E+00,	8.173E+00,,	0.038
C,RA-226	,NO ,	8.509E+00,	6.306E+01,	9.810E+01,,	0.087
C,AC-228	,NO ,	-5.530E-01,	9.504E+00,	1.472E+01,,	-0.038
C,TH-228	,NO ,	6.236E-02,	4.700E+00,	7.455E+00,,	0.008
C,TH-232	,NO ,	-5.507E-01,	9.466E+00,	1.466E+01,,	-0.038
C,U-235	,NO ,	2.249E+01,	2.112E+01,	3.044E+01,,	0.739
C,U-238	,NO ,	1.901E+02,	2.490E+02,	4.274E+02,,	0.445
C,AM-241	,NO ,	8.230E-01,	2.361E+01,	3.267E+01,,	0.025

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 22:54:17.68
TBE11 P-20610B HpGe ********** Aquisition Date/Time: 4-JUN-2006 16:39:04.27

LIMS No., Customer Name, Client ID: WG L28785-6 CLINTON

Sample ID : 11L28785-6
Sample Type : WG
Quantity : 3.51190E+00 L
Start Channel : 40 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 23-MAY-2006 11:48:00.
Geometry : 1135L090204
BKGFILE : 11BG060306MT
Real Time : 0 06:15:07.82
Live time : 0 06:15:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	0	66.38	282	1364	1.67	132.09	6.04E-01	1.25E-02	24.4	
2	0	140.12*	145	540	1.61	280.20	1.69E+00	6.44E-03	32.9	
3	0	198.58	196	530	1.69	397.59	1.57E+00	8.71E-03	23.1	
4	0	238.96*	119	537	1.44	478.64	1.42E+00	5.29E-03	46.9	
5	0	352.68	175	313	1.79	706.86	1.08E+00	7.78E-03	23.1	
6	0	583.23*	39	75	1.38	1169.24	7.27E-01	1.74E-03	62.9	
7	0	596.02	135	108	1.87	1194.88	7.14E-01	5.98E-03	17.2	
8	0	609.18*	78	111	1.60	1221.25	7.02E-01	3.46E-03	33.2	
9	0	1120.08*	24	42	3.50	2244.26	4.37E-01	1.05E-03	67.3	
10	0	1460.15*	42	63	2.11	2924.07	3.54E-01	1.85E-03	59.0	
11	0	1760.76	47	33	2.22	3524.23	3.05E-01	2.08E-03	30.8	

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	42	10.67*	3.541E-01	3.774E+01	3.774E+01	118.07
TH-228	238.63	119	44.60*	1.420E+00	6.426E+00	6.505E+00	93.79
	240.98	------	3.95	1.413E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 11L28785-6

Acquisition date : 4-JUN-2006 16:39:04

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.774E+01	3.774E+01	4.456E+01	118.07	
TH-228	1.91Y	1.01	6.426E+00	6.505E+00	6.101E+00	93.79	
	Total Activity :		4.417E+01	4.425E+01			
	Grand Total Activity :		4.417E+01	4.425E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 11L28785-6

Acquisition date : 4-JUN-2006 16:39:04

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	66.38	282	1364	1.67	132.09	128	9	1.25E-02	48.7	6.04E-01	
0	140.12	145	540	1.61	280.20	276	9	6.44E-03	65.8	1.69E+00	
0	198.58	196	530	1.69	397.59	393	10	8.71E-03	46.2	1.57E+00	
0	352.68	175	313	1.79	706.86	702	15	7.78E-03	46.3	1.08E+00	
0	583.23	39	75	1.38	1169.24	1164	11	1.74E-03	****	7.27E-01	T
0	596.02	135	108	1.87	1194.88	1190	11	5.98E-03	34.5	7.14E-01	
0	609.18	78	111	1.60	1221.25	1216	10	3.46E-03	66.4	7.02E-01	
0	1120.08	24	42	3.50	2244.26	2238	12	1.05E-03	****	4.37E-01	
0	1760.76	47	33	2.22	3524.23	3513	16	2.08E-03	61.5	3.05E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.774E+01	3.774E+01	4.456E+01	118.07	
TH-228	1.91Y	1.01	6.426E+00	6.505E+00	6.101E+00	93.79	
	Total Activity :		4.417E+01	4.425E+01			

Grand Total Activity : 4.417E+01 4.425E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	3.774E+01	4.456E+01	3.334E+01	0.000E+00	1.132
TH-228	6.505E+00	6.101E+00	6.783E+00	0.000E+00	0.959

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA

BE-7	-8.601E+00	2.234E+01	3.658E+01	0.000E+00	-0.235
NA-24	-2.117E+00	1.156E+00	Half-Life too short		
CR-51	-1.463E+01	2.800E+01	4.548E+01	0.000E+00	-0.322
MN-54	-4.017E-01	2.463E+00	4.038E+00	0.000E+00	-0.099
CO-57	-7.052E-01	2.341E+00	3.858E+00	0.000E+00	-0.183
CO-58	-2.460E+00	2.657E+00	4.189E+00	0.000E+00	-0.587
FE-59	3.267E+00	5.226E+00	8.845E+00	0.000E+00	0.369
CO-60	1.851E+00	2.508E+00	4.334E+00	0.000E+00	0.427
ZN-65	6.351E+00	5.693E+00	8.786E+00	0.000E+00	0.723
SE-75	-3.714E+00	3.281E+00	5.284E+00	0.000E+00	-0.703
SR-85	2.063E+01	3.140E+00	6.150E+00	0.000E+00	3.355
Y-88	2.166E+00	3.111E+00	5.388E+00	0.000E+00	0.402
NB-94	7.142E-01	2.433E+00	4.019E+00	0.000E+00	0.178
NB-95	7.697E-01	2.558E+00	4.312E+00	0.000E+00	0.178
ZR-95	-2.789E+00	4.672E+00	7.537E+00	0.000E+00	-0.370
MO-99	-1.475E+02	4.207E+02	6.718E+02	0.000E+00	-0.220
RU-103	2.635E+00	2.898E+00	4.974E+00	0.000E+00	0.530
RU-106	-2.248E+01	2.281E+01	3.570E+01	0.000E+00	-0.630
AG-110m	1.027E+00	2.413E+00	4.027E+00	0.000E+00	0.255
SN-113	-8.345E-01	3.241E+00	5.248E+00	0.000E+00	-0.159
SB-124	1.202E-01	6.212E+00	4.367E+00	0.000E+00	0.028
SB-125	-5.493E+00	6.994E+00	1.104E+01	0.000E+00	-0.498
TE-129M	-7.127E+00	3.433E+01	5.522E+01	0.000E+00	-0.129
I-131	-5.828E+00	7.625E+00	1.107E+01	0.000E+00	-0.527
BA-133	7.246E+00	3.885E+00	5.867E+00	0.000E+00	1.235
CS-134	4.841E+00	5.570E+00	4.471E+00	0.000E+00	1.083
CS-136	2.597E+00	4.381E+00	7.474E+00	0.000E+00	0.348
CS-137	8.917E-01	2.598E+00	4.318E+00	0.000E+00	0.207
CE-139	-6.241E-01	2.375E+00	3.875E+00	0.000E+00	-0.161
BA-140	-6.254E+00	1.600E+01	2.601E+01	0.000E+00	-0.240
LA-140	-6.396E-01	5.391E+00	8.847E+00	0.000E+00	-0.072
CE-141	5.598E+00	5.687E+00	8.222E+00	0.000E+00	0.681
CE-144	2.644E+00	2.125E+01	2.998E+01	0.000E+00	0.088
EU-152	-3.784E+00	8.643E+00	1.213E+01	0.000E+00	-0.312
EU-154	-1.260E+00	4.808E+00	7.926E+00	0.000E+00	-0.159
RA-226	-1.223E+01	6.186E+01	9.426E+01	0.000E+00	-0.130
AC-228	-4.504E+00	1.107E+01	1.572E+01	0.000E+00	-0.287
TH-232	-4.485E+00	1.103E+01	1.565E+01	0.000E+00	-0.287
U-235	3.571E+01	2.050E+01	3.033E+01	0.000E+00	1.177
U-238	2.265E+02	2.665E+02	4.576E+02	0.000E+00	0.495
AM-241	-9.334E+00	3.561E+01	4.925E+01	0.000E+00	-0.190

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A,11L28785-6       ,06/04/2006 22:54,05/23/2006 11:48,   3.512E+00,WG L28785-6 CL
B,11L28785-6       ,LIBD                ,06/02/2006 08:22,1135L090204
C,K-40     ,YES,    3.774E+01,   4.456E+01,   3.334E+01,,    1.132
C,TH-228   ,YES,    6.505E+00,   6.101E+00,   6.783E+00,,    0.959
C,BE-7     ,NO ,   -8.601E+00,   2.234E+01,   3.658E+01,,   -0.235
C,CR-51    ,NO ,   -1.463E+01,   2.800E+01,   4.548E+01,,   -0.322
C,MN-54    ,NO ,   -4.017E-01,   2.463E+00,   4.038E+00,,   -0.099
C,CO-57    ,NO ,   -7.052E-01,   2.341E+00,   3.858E+00,,   -0.183
C,CO-58    ,NO ,   -2.460E+00,   2.657E+00,   4.189E+00,,   -0.587
C,FE-59    ,NO ,    3.267E+00,   5.226E+00,   8.845E+00,,    0.369
C,CO-60    ,NO ,    1.851E+00,   2.508E+00,   4.334E+00,,    0.427
C,ZN-65    ,NO ,    6.351E+00,   5.693E+00,   8.786E+00,,    0.723
C,SE-75    ,NO ,   -3.714E+00,   3.281E+00,   5.284E+00,,   -0.703
C,SR-85    ,NO ,    2.063E+01,   3.140E+00,   6.150E+00,,    3.355
C,Y-88     ,NO ,    2.166E+00,   3.111E+00,   5.388E+00,,    0.402
C,NB-94    ,NO ,    7.142E-01,   2.433E+00,   4.019E+00,,    0.178
C,NB-95    ,NO ,    7.697E-01,   2.558E+00,   4.312E+00,,    0.178
C,ZR-95    ,NO ,   -2.789E+00,   4.672E+00,   7.537E+00,,   -0.370
C,MO-99    ,NO ,   -1.475E+02,   4.207E+02,   6.718E+02,,   -0.220
C,RU-103   ,NO ,    2.635E+00,   2.898E+00,   4.974E+00,,    0.530
C,RU-106   ,NO ,   -2.248E+01,   2.281E+01,   3.570E+01,,   -0.630
C,AG-110m  ,NO ,    1.027E+00,   2.413E+00,   4.027E+00,,    0.255
C,SN-113   ,NO ,   -8.345E-01,   3.241E+00,   5.248E+00,,   -0.159
C,SB-124   ,NO ,    1.202E-01,   6.212E+00,   4.367E+00,,    0.028
C,SB-125   ,NO ,   -5.493E+00,   6.994E+00,   1.104E+01,,   -0.498
C,TE-129M  ,NO ,   -7.127E+00,   3.433E+01,   5.522E+01,,   -0.129
C,I-131    ,NO ,   -5.828E+00,   7.625E+00,   1.107E+01,,   -0.527
C,BA-133   ,NO ,    7.246E+00,   3.885E+00,   5.867E+00,,    1.235
C,CS-134   ,NO ,    4.841E+00,   5.570E+00,   4.471E+00,,    1.083
C,CS-136   ,NO ,    2.597E+00,   4.381E+00,   7.474E+00,,    0.348
C,CS-137   ,NO ,    8.917E-01,   2.598E+00,   4.318E+00,,    0.207
C,CE-139   ,NO ,   -6.241E-01,   2.375E+00,   3.875E+00,,   -0.161
C,BA-140   ,NO ,   -6.254E+00,   1.600E+01,   2.601E+01,,   -0.240
C,LA-140   ,NO ,   -6.396E-01,   5.391E+00,   8.847E+00,,   -0.072
C,CE-141   ,NO ,    5.598E+00,   5.687E+00,   8.222E+00,,    0.681
C,CE-144   ,NO ,    2.644E+00,   2.125E+01,   2.998E+01,,    0.088
C,EU-152   ,NO ,   -3.784E+00,   8.643E+00,   1.213E+01,,   -0.312
C,EU-154   ,NO ,   -1.260E+00,   4.808E+00,   7.926E+00,,   -0.159
C,RA-226   ,NO ,   -1.223E+01,   6.186E+01,   9.426E+01,,   -0.130
C,AC-228   ,NO ,   -4.504E+00,   1.107E+01,   1.572E+01,,   -0.287
C,TH-232   ,NO ,   -4.485E+00,   1.103E+01,   1.565E+01,,   -0.287
C,U-235    ,NO ,    3.571E+01,   2.050E+01,   3.033E+01,,    1.177
C,U-238    ,NO ,    2.265E+02,   2.665E+02,   4.576E+02,,    0.495
C,AM-241   ,NO ,   -9.334E+00,   3.561E+01,   4.925E+01,,   -0.190
```

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 22:55:12.25
TBE13 P-10727B HpGe ********** Aquisition Date/Time: 4-JUN-2006 16:39:56.84

LIMS No., Customer Name, Client ID: WG L28785-7 CLINTON

Sample ID : 13L28785-7
Sample Type : WG
Quantity : 3.66160E+00 L
Start Channel : 25 Energy Tol : 1.50000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 23-MAY-2006 14:43:00.
Geometry : 1335L090904
BKGFILE : 13BG060306MT
Real Time : 0 06:15:06.36
Live time : 0 06:15:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	5	63.28*	96	782	1.47	126.60	6.20E-01	4.25E-03	60.7	1.43E+00
2	5	66.36	205	698	1.62	132.74	7.26E-01	9.10E-03	23.4	
3	3	77.19*	46	536	1.04	154.40	1.09E+00	2.03E-03	93.2	1.16E+00
4	1	92.63*	39	806	1.27	185.26	1.52E+00	1.72E-03	158.1	4.03E+00
5	1	139.58*	182	643	1.23	279.11	2.02E+00	8.11E-03	27.4	4.01E+00
6	1	185.75*	55	608	1.04	371.39	1.95E+00	2.45E-03	95.1	2.66E-01
7	1	198.53*	161	597	1.19	396.94	1.90E+00	7.14E-03	31.2	2.11E+00
8	1	351.61*	49	350	1.34	703.04	1.34E+00	2.18E-03	86.0	1.71E+00
9	1	583.26*	22	118	1.52	1166.42	9.26E-01	9.94E-04	119.7	1.34E+00
10	1	596.40	191	162	3.13	1192.71	9.11E-01	8.49E-03	15.5	2.41E+00
11	1	609.19*	109	185	2.32	1218.29	8.97E-01	4.85E-03	32.1	3.20E+00
12	1	708.07	31	89	1.01	1416.16	8.01E-01	1.40E-03	52.2	2.93E+00
13	1	911.33*	28	127	3.02	1823.00	6.64E-01	1.26E-03	100.5	3.34E+00
14	1	1764.30*	27	33	2.62	3532.12	4.11E-01	1.19E-03	64.9	1.04E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	55	3.28*	1.946E+00	2.835E+01	2.835E+01	190.15
AC-228	835.50	------	1.75	7.084E-01	------	Line Not Found	------
	911.07	28	27.70*	6.639E-01	5.068E+00	5.088E+00	201.05
TH-232	583.14	22	30.25	9.261E-01	2.620E+00	2.620E+00	239.46
	911.07	28	27.70*	6.639E-01	5.068E+00	5.068E+00	201.05
	969.11	------	16.60	6.342E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	2.023E+00	------	Line Not Found	------
	163.35	------	4.70	2.011E+00	------	Line Not Found	------
	185.71	55	54.00	1.946E+00	1.722E+00	1.722E+00	190.15
	205.31	------	4.70	1.871E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 13L28785-7

Acquisition date : 4-JUN-2006 16:39:56

Total number of lines in spectrum	14	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	4	28.57%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	2.835E+01	2.835E+01	5.390E+01	190.15	
AC-228	5.75Y	1.00	5.068E+00	5.088E+00	10.23E+00	201.05	
TH-232	1.41E+10Y	1.00	5.068E+00	5.068E+00	10.19E+00	201.05	
U-235	7.04E+08Y	1.00	1.722E+00	1.722E+00	3.274E+00	190.15	K
			---------	---------			
	Total Activity :		4.020E+01	4.022E+01			
	Grand Total Activity :		4.020E+01	4.022E+01			

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 13L28785-7

Acquisition date : 4-JUN-2006 16:39:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	63.28	96	782	1.47	126.60	121	16	4.25E-03	****	6.20E-01	
5	66.36	205	698	1.62	132.74	121	16	9.10E-03	46.9	7.26E-01	
3	77.19	46	536	1.04	154.40	140	18	2.03E-03	****	1.09E+00	
1	92.63	39	806	1.27	185.26	181	9	1.72E-03	****	1.52E+00	
1	139.58	182	643	1.23	279.11	275	8	8.11E-03	54.7	2.02E+00	
1	198.53	161	597	1.19	396.94	393	9	7.14E-03	62.3	1.90E+00	
1	351.61	49	350	1.34	703.04	698	11	2.18E-03	****	1.34E+00	
1	596.40	191	162	3.13	1192.71	1186	13	8.49E-03	30.9	9.11E-01	
1	609.19	109	185	2.32	1218.29	1211	13	4.85E-03	64.3	8.97E-01	
1	708.07	31	89	1.01	1416.16	1412	7	1.40E-03	****	8.01E-01	T
1	1764.30	27	33	2.62	3532.12	3525	16	1.19E-03	****	4.11E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	14	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	4	28.57%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	2.835E+01	2.835E+01	5.390E+01	190.15	
AC-228	5.75Y	1.00	2.448E+00	2.457E+00	12.01E+00	488.88	
TH-232	1.41E+10Y	1.00	2.620E+00	2.620E+00	6.274E+00	239.46	
	Total Activity :		3.341E+01	3.342E+01			

Grand Total Activity : 3.341E+01 3.342E+01

Flags: "K" = Keyline not found
"E" = Manually edited
"M" = Manually accepted
"A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	2.835E+01	5.390E+01	7.264E+01	0.000E+00	0.390
AC-228	2.457E+00	1.201E+01	1.043E+01	0.000E+00	0.236
TH-232	2.620E+00	6.274E+00	1.318E+01	0.000E+00	0.199

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-2.501E+00		1.850E+01	3.006E+01	0.000E+00	-0.083
NA-24	-7.710E-02		6.969E-01	Half-Life too short		
K-40	1.191E+01		2.943E+01	5.360E+01	0.000E+00	0.222
CR-51	-1.952E+01		2.155E+01	3.492E+01	0.000E+00	-0.559
MN-54	-2.189E-02		1.942E+00	3.171E+00	0.000E+00	-0.007
CO-57	8.579E-01		1.916E+00	3.219E+00	0.000E+00	0.267
CO-58	-2.167E+00		2.042E+00	3.155E+00	0.000E+00	-0.687
FE-59	8.829E-01		4.184E+00	6.989E+00	0.000E+00	0.126
CO-60	-9.172E-01		2.028E+00	3.206E+00	0.000E+00	-0.286
ZN-65	3.673E+00		4.330E+00	7.458E+00	0.000E+00	0.493
SE-75	8.410E-01		2.731E+00	4.465E+00	0.000E+00	0.188
SR-85	1.686E+01		2.727E+00	5.156E+00	0.000E+00	3.270
Y-88	-1.672E+00		2.161E+00	3.294E+00	0.000E+00	-0.507
NB-94	-1.773E+00		2.251E+00	2.978E+00	0.000E+00	-0.595
NB-95	1.462E-01		2.010E+00	3.312E+00	0.000E+00	0.044
ZR-95	1.430E+00		3.602E+00	6.033E+00	0.000E+00	0.237
MO-99	-8.249E+01		3.049E+02	4.952E+02	0.000E+00	-0.167
RU-103	8.678E-01		2.382E+00	3.937E+00	0.000E+00	0.220
RU-106	-1.364E-01		1.763E+01	2.926E+01	0.000E+00	-0.005
AG-110m	9.158E-01		1.908E+00	3.223E+00	0.000E+00	0.284
SN-113	1.594E+00		2.560E+00	4.309E+00	0.000E+00	0.370
SB-124	2.038E+00		4.217E+00	3.421E+00	0.000E+00	0.596
SB-125	1.676E-01		5.647E+00	9.284E+00	0.000E+00	0.018
TE-129M	1.540E+01		2.745E+01	4.585E+01	0.000E+00	0.336
I-131	-1.209E+00		5.296E+00	8.695E+00	0.000E+00	-0.139
BA-133	2.451E+00		2.948E+00	4.313E+00	0.000E+00	0.568
CS-134	4.164E+00		3.276E+00	3.392E+00	0.000E+00	1.228
CS-136	4.506E-01		3.367E+00	5.546E+00	0.000E+00	0.081
CS-137	1.342E+00		2.215E+00	3.525E+00	0.000E+00	0.381
CE-139	8.701E-01		2.016E+00	3.355E+00	0.000E+00	0.259
BA-140	5.910E+00		1.288E+01	2.131E+01	0.000E+00	0.277
LA-140	3.111E+00		3.999E+00	6.973E+00	0.000E+00	0.446
CE-141	2.593E+00		4.803E+00	6.912E+00	0.000E+00	0.375
CE-144	1.876E+00		1.703E+01	2.427E+01	0.000E+00	0.077
EU-152	-1.189E+01		7.313E+00	9.572E+00	0.000E+00	-1.242
EU-154	2.038E+00		3.953E+00	6.650E+00	0.000E+00	0.306
TH-228	5.725E+00		4.138E+00	6.654E+00	0.000E+00	0.860
U-235	-1.140E+01		1.808E+01	2.432E+01	0.000E+00	-0.469
U-238	1.630E+02		2.338E+02	3.721E+02	0.000E+00	0.438
AM-241	6.675E+00		2.005E+01	2.836E+01	0.000E+00	0.235

A,13L28785-7 ,06/04/2006 22:55,05/23/2006 14:43, 3.662E+00,WG L28785-7 CL
B,13L28785-7 ,LIBD ,06/01/2006 10:13,1335L090904

C,RA-226	,YES,	2.835E+01,	5.390E+01,	7.264E+01,,	0.390
C,AC-228	,YES,	2.457E+00,	1.201E+01,	1.043E+01,,	0.236
C,TH-232	,YES,	2.620E+00,	6.274E+00,	1.318E+01,,	0.199
C,BE-7	,NO ,	-2.501E+00,	1.850E+01,	3.006E+01,,	-0.083
C,K-40	,NO ,	1.191E+01,	2.943E+01,	5.360E+01,,	0.222
C,CR-51	,NO ,	-1.952E+01,	2.155E+01,	3.492E+01,,	-0.559
C,MN-54	,NO ,	-2.189E-02,	1.942E+00,	3.171E+00,,	-0.007
C,CO-57	,NO ,	8.579E-01,	1.916E+00,	3.219E+00,,	0.267
C,CO-58	,NO ,	-2.167E+00,	2.042E+00,	3.155E+00,,	-0.687
C,FE-59	,NO ,	8.829E-01,	4.184E+00,	6.989E+00,,	0.126
C,CO-60	,NO ,	-9.172E-01,	2.028E+00,	3.206E+00,,	-0.286
C,ZN-65	,NO ,	3.673E+00,	4.330E+00,	7.458E+00,,	0.493
C,SE-75	,NO ,	8.410E-01,	2.731E+00,	4.465E+00,,	0.188
C,SR-85	,NO ,	1.686E+01,	2.727E+00,	5.156E+00,,	3.270
C,Y-88	,NO ,	-1.672E+00,	2.161E+00,	3.294E+00,,	-0.507
C,NB-94	,NO ,	-1.773E+00,	2.251E+00,	2.978E+00,,	-0.595
C,NB-95	,NO ,	1.462E-01,	2.010E+00,	3.312E+00,,	0.044
C,ZR-95	,NO ,	1.430E+00,	3.602E+00,	6.033E+00,,	0.237
C,MO-99	,NO ,	-8.249E+01,	3.049E+02,	4.952E+02,,	-0.167
C,RU-103	,NO ,	8.678E-01,	2.382E+00,	3.937E+00,,	0.220
C,RU-106	,NO ,	-1.364E-01,	1.763E+01,	2.926E+01,,	-0.005
C,AG-110m	,NO ,	9.158E-01,	1.908E+00,	3.223E+00,,	0.284
C,SN-113	,NO ,	1.594E+00,	2.560E+00,	4.309E+00,,	0.370
C,SB-124	,NO ,	2.038E+00,	4.217E+00,	3.421E+00,,	0.596
C,SB-125	,NO ,	1.676E-01,	5.647E+00,	9.284E+00,,	0.018
C,TE-129M	,NO ,	1.540E+01,	2.745E+01,	4.585E+01,,	0.336
C,I-131	,NO ,	-1.209E+00,	5.296E+00,	8.695E+00,,	-0.139
C,BA-133	,NO ,	2.451E+00,	2.948E+00,	4.313E+00,,	0.568
C,CS-134	,NO ,	4.164E+00,	3.276E+00,	3.392E+00,,	1.228
C,CS-136	,NO ,	4.506E-01,	3.367E+00,	5.546E+00,,	0.081
C,CS-137	,NO ,	1.342E+00,	2.215E+00,	3.525E+00,,	0.381
C,CE-139	,NO ,	8.701E-01,	2.016E+00,	3.355E+00,,	0.259
C,BA-140	,NO ,	5.910E+00,	1.288E+01,	2.131E+01,,	0.277
C,LA-140	,NO ,	3.111E+00,	3.999E+00,	6.973E+00,,	0.446
C,CE-141	,NO ,	2.593E+00,	4.803E+00,	6.912E+00,,	0.375
C,CE-144	,NO ,	1.876E+00,	1.703E+01,	2.427E+01,,	0.077
C,EU-152	,NO ,	-1.189E+01,	7.313E+00,	9.572E+00,,	-1.242
C,EU-154	,NO ,	2.038E+00,	3.953E+00,	6.650E+00,,	0.306
C,TH-228	,NO ,	5.725E+00,	4.138E+00,	6.654E+00,,	0.860
C,U-235	,NO ,	-1.140E+01,	1.808E+01,	2.432E+01,,	-0.469
C,U-238	,NO ,	1.630E+02,	2.338E+02,	3.721E+02,,	0.438
C,AM-241	,NO ,	6.675E+00,	2.005E+01,	2.836E+01,,	0.235

Sec. Review: Analyst: LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 4-JUN-2006 22:56:17.34
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 4-JUN-2006 16:40:59.91

LIMS No., Customer Name, Client ID: WG L28785-8 CLINTON

Sample ID : 14L28785-8
Sample Type : WG
Quantity : 3.62160E+00 L
Start Channel : 90 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 23-MAY-2006 15:00:00.
Geometry : 1435L091304
BKGFILE : 14BG060306MT
Real Time : 0 06:15:03.62
Live time : 0 06:15:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.39	212	718	1.23	133.77	4.54E-01	9.43E-03	22.9	6.98E-01
2	1	93.03*	59	775	1.91	187.20	1.16E+00	2.62E-03	97.3	4.99E-01
3	1	140.12	157	571	1.28	281.60	1.67E+00	6.96E-03	27.6	9.43E-01
4	1	198.70*	93	642	1.57	399.01	1.60E+00	4.13E-03	55.5	5.21E-01
5	1	239.06*	30	395	1.55	479.86	1.47E+00	1.35E-03	134.2	1.44E+00
6	1	352.17*	5	314	1.88	706.31	1.14E+00	2.25E-04	768.5	1.37E+00
7	1	583.53*	15	152	1.90	1168.88	7.91E-01	6.50E-04	198.9	7.60E-01
8	1	596.06	100	160	1.98	1193.90	7.79E-01	4.43E-03	27.6	1.30E+00
9	1	609.80*	72	178	2.10	1221.34	7.65E-01	3.20E-03	47.9	9.34E-01
10	1	911.44*	30	58	2.10	1823.00	5.64E-01	1.32E-03	61.0	1.11E+00
11	1	1766.19*	25	38	3.28	3520.05	3.43E-01	1.10E-03	73.9	1.57E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
AC-228	835.50	------	1.75	6.034E-01	------ Line Not Found		------
	911.07	30	27.70*	5.644E-01	6.282E+00	6.308E+00	121.95
TH-228	238.63	30	44.60*	1.467E+00	1.540E+00	1.559E+00	268.41
	240.98	------	3.95	1.461E+00	------ Line Not Found		------
TH-232	583.14	15	30.25	7.909E-01	2.029E+00	2.029E+00	397.79
	911.07	30	27.70*	5.644E-01	6.282E+00	6.282E+00	121.95
	969.11	------	16.60	5.383E-01	------ Line Not Found		------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L28785-8 Acquisition date : 4-JUN-2006 16:40:59

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	6.282E+00	6.308E+00	7.693E+00	121.95	
TH-228	1.91Y	1.01	1.540E+00	1.559E+00	4.185E+00	268.41	
TH-232	1.41E+10Y	1.00	6.282E+00	6.282E+00	7.662E+00	121.95	
			---------	---------			
	Total Activity :		1.411E+01	1.415E+01			
	Grand Total Activity :		1.411E+01	1.415E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 14L28785-8 Acquisition date : 4-JUN-2006 16:40:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.39	212	718	1.23	133.77	130	8	9.43E-03	45.8	4.54E-01	
1	93.03	59	775	1.91	187.20	183	10	2.62E-03	****	1.16E+00	
1	140.12	157	571	1.28	281.60	278	8	6.96E-03	55.2	1.67E+00	
1	198.70	93	642	1.57	399.01	394	10	4.13E-03	****	1.60E+00	
1	352.17	5	314	1.88	706.31	702	10	2.25E-04	****	1.14E+00	
1	596.06	100	160	1.98	1193.90	1189	12	4.43E-03	55.1	7.79E-01	
1	609.80	72	178	2.10	1221.34	1215	14	3.20E-03	95.8	7.65E-01	
1	1766.19	25	38	3.28	3520.05	3511	17	1.10E-03	****	3.43E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	11	
Number of unidentified lines	8	
Number of lines tentatively identified by NID	3	27.27%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
AC-228	5.75Y	1.00	4.253E+00	4.271E+00	11.17E+00	261.64	
TH-228	1.91Y	1.01	1.540E+00	1.559E+00	4.185E+00	268.41	
TH-232	1.41E+10Y	1.00	2.029E+00	2.029E+00	8.071E+00	397.79	
	Total Activity :		7.823E+00	7.859E+00			

Grand Total Activity : 7.823E+00 7.859E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
AC-228	4.271E+00	1.117E+01	1.445E+01	0.000E+00	0.295
TH-228	1.559E+00	4.185E+00	7.029E+00	0.000E+00	0.222
TH-232	2.029E+00	8.071E+00	1.603E+01	0.000E+00	0.127

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	-6.818E+00		2.324E+01	3.789E+01	0.000E+00	-0.180
NA-24	-9.661E-01		9.191E-01	Half-Life too short		
K-40	-1.192E+01		3.493E+01	6.094E+01	0.000E+00	-0.196
CR-51	-3.427E+01		2.720E+01	4.299E+01	0.000E+00	-0.797
MN-54	4.302E-01		2.424E+00	3.987E+00	0.000E+00	0.108
CO-57	-1.339E+00		2.442E+00	4.008E+00	0.000E+00	-0.334
CO-58	-1.837E+00		2.563E+00	4.039E+00	0.000E+00	-0.455
FE-59	3.117E+00		5.364E+00	9.053E+00	0.000E+00	0.344
CO-60	2.392E+00		2.443E+00	4.270E+00	0.000E+00	0.560
ZN-65	3.855E+00		5.477E+00	9.276E+00	0.000E+00	0.416
SE-75	-3.180E+00		3.355E+00	5.418E+00	0.000E+00	-0.587
SR-85	2.010E+01		3.046E+00	5.876E+00	0.000E+00	3.421
Y-88	8.035E-01		2.789E+00	4.670E+00	0.000E+00	0.172
NB-94	-2.150E-02		2.331E+00	3.842E+00	0.000E+00	-0.006
NB-95	3.648E+00		2.615E+00	4.552E+00	0.000E+00	0.801
ZR-95	-5.298E+00		4.672E+00	7.262E+00	0.000E+00	-0.730
MO-99	-9.848E+01		3.643E+02	5.912E+02	0.000E+00	-0.167
RU-103	8.137E-01		2.987E+00	4.956E+00	0.000E+00	0.164
RU-106	-2.569E+01		2.381E+01	3.502E+01	0.000E+00	-0.734
AG-110m	9.454E-01		2.310E+00	3.891E+00	0.000E+00	0.243
SN-113	2.949E+00		3.357E+00	5.599E+00	0.000E+00	0.527
SB-124	9.866E-01		6.179E+00	4.357E+00	0.000E+00	0.226
SB-125	1.245E-01		6.789E+00	1.126E+01	0.000E+00	0.011
TE-129M	-2.904E+00		3.423E+01	5.635E+01	0.000E+00	-0.052
I-131	-1.095E+00		6.826E+00	1.106E+01	0.000E+00	-0.099
BA-133	5.423E+00		3.988E+00	5.812E+00	0.000E+00	0.933
CS-134	8.289E+00		4.848E+00	4.286E+00	0.000E+00	1.934
CS-136	-1.270E+00		4.327E+00	6.964E+00	0.000E+00	-0.182
CS-137	2.060E+00		2.466E+00	4.224E+00	0.000E+00	0.488
CE-139	1.795E+00		2.499E+00	4.161E+00	0.000E+00	0.431
BA-140	1.029E+01		1.617E+01	2.711E+01	0.000E+00	0.380
LA-140	6.127E-01		4.956E+00	8.275E+00	0.000E+00	0.074
CE-141	1.497E+00		6.010E+00	8.479E+00	0.000E+00	0.177
CE-144	8.470E-01		2.176E+01	3.064E+01	0.000E+00	0.028
EU-152	-7.562E+00		9.025E+00	1.196E+01	0.000E+00	-0.632
EU-154	7.791E-01		4.962E+00	8.259E+00	0.000E+00	0.094
RA-226	-1.829E+01		6.356E+01	9.762E+01	0.000E+00	-0.187
U-235	2.549E+01		2.176E+01	3.155E+01	0.000E+00	0.808
U-238	-6.293E+01		2.478E+02	4.023E+02	0.000E+00	-0.156
AM-241	-2.803E+01		3.697E+01	5.257E+01	0.000E+00	-0.533

A,14L28785-8 ,06/04/2006 22:56,05/23/2006 15:00, 3.622E+00,WG L28785-8 CL
B,14L28785-8 ,LIBD ,06/02/2006 08:23,1435L091304

C,AC-228	,YES,	4.271E+00,	1.117E+01,	1.445E+01,,	0.295
C,TH-228	,YES,	1.559E+00,	4.185E+00,	7.029E+00,,	0.222
C,TH-232	,YES,	2.029E+00,	8.071E+00,	1.603E+01,,	0.127
C,BE-7	,NO ,	-6.818E+00,	2.324E+01,	3.789E+01,,	-0.180
C,K-40	,NO ,	-1.192E+01,	3.493E+01,	6.094E+01,,	-0.196
C,CR-51	,NO ,	-3.427E+01,	2.720E+01,	4.299E+01,,	-0.797
C,MN-54	,NO ,	4.302E-01,	2.424E+00,	3.987E+00,,	0.108
C,CO-57	,NO ,	-1.339E+00,	2.442E+00,	4.008E+00,,	-0.334
C,CO-58	,NO ,	-1.837E+00,	2.563E+00,	4.039E+00,,	-0.455
C,FE-59	,NO ,	3.117E+00,	5.364E+00,	9.053E+00,,	0.344
C,CO-60	,NO ,	2.392E+00,	2.443E+00,	4.270E+00,,	0.560
C,ZN-65	,NO ,	3.855E+00,	5.477E+00,	9.276E+00,,	0.416
C,SE-75	,NO ,	-3.180E+00,	3.355E+00,	5.418E+00,,	-0.587
C,SR-85	,NO ,	2.010E+01,	3.046E+00,	5.876E+00,,	3.421
C,Y-88	,NO ,	8.035E-01,	2.789E+00,	4.670E+00,,	0.172
C,NB-94	,NO ,	-2.150E-02,	2.331E+00,	3.842E+00,,	-0.006
C,NB-95	,NO ,	3.648E+00,	2.615E+00,	4.552E+00,,	0.801
C,ZR-95	,NO ,	-5.298E+00,	4.672E+00,	7.262E+00,,	-0.730
C,MO-99	,NO ,	-9.848E+01,	3.643E+02,	5.912E+02,,	-0.167
C,RU-103	,NO ,	8.137E-01,	2.987E+00,	4.956E+00,,	0.164
C,RU-106	,NO ,	-2.569E+01,	2.381E+01,	3.502E+01,,	-0.734
C,AG-110m	,NO ,	9.454E-01,	2.310E+00,	3.891E+00,,	0.243
C,SN-113	,NO ,	2.949E+00,	3.357E+00,	5.599E+00,,	0.527
C,SB-124	,NO ,	9.866E-01,	6.179E+00,	4.357E+00,,	0.226
C,SB-125	,NO ,	1.245E-01,	6.789E+00,	1.126E+01,,	0.011
C,TE-129M	,NO ,	-2.904E+00,	3.423E+01,	5.635E+01,,	-0.052
C,I-131	,NO ,	-1.095E+00,	6.826E+00,	1.106E+01,,	-0.099
C,BA-133	,NO ,	5.423E+00,	3.988E+00,	5.812E+00,,	0.933
C,CS-134	,NO ,	8.289E+00,	4.848E+00,	4.286E+00,,	1.934
C,CS-136	,NO ,	-1.270E+00,	4.327E+00,	6.964E+00,,	-0.182
C,CS-137	,NO ,	2.060E+00,	2.466E+00,	4.224E+00,,	0.488
C,CE-139	,NO ,	1.795E+00,	2.499E+00,	4.161E+00,,	0.431
C,BA-140	,NO ,	1.029E+01,	1.617E+01,	2.711E+01,,	0.380
C,LA-140	,NO ,	6.127E-01,	4.956E+00,	8.275E+00,,	0.074
C,CE-141	,NO ,	1.497E+00,	6.010E+00,	8.479E+00,,	0.177
C,CE-144	,NO ,	8.470E-01,	2.176E+01,	3.064E+01,,	0.028
C,EU-152	,NO ,	-7.562E+00,	9.025E+00,	1.196E+01,,	-0.632
C,EU-154	,NO ,	7.791E-01,	4.962E+00,	8.259E+00,,	0.094
C,RA-226	,NO ,	-1.829E+01,	6.356E+01,	9.762E+01,,	-0.187
C,U-235	,NO ,	2.549E+01,	2.176E+01,	3.155E+01,,	0.808
C,U-238	,NO ,	-6.293E+01,	2.478E+02,	4.023E+02,,	-0.156
C,AM-241	,NO ,	-2.803E+01,	3.697E+01,	5.257E+01,,	-0.533

TELEDYNE
BROWN ENGINEERING
A Teledyne Technologies Company

2508 Quality Lane
Knoxville, TN 37931
865-690-6819 (Phone)

Work Order #: L29406

Exelon

August 3, 2006

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville CT 06062

Case Narrative - L29406
EX001-3ESPBRAID-06

08/03/2006 13:39

Sample Receipt

The following samples were received on August 1, 2006 in good condition, unless otherwise noted.

Cross Reference Table

Client ID	Laboratory ID	Station ID(if applicable)
WG-BW-208D-072806-JL-100	L29406-1	
WG-BW-207-072806-JL-101	L29406-2	
WG-BW-207-072806-JL-102	L29406-3	

Analytical Method Cross Reference Table

Radiological Parameter	TBE Knoxville Method	Reference Method
Gamma Spectrometry	TBE-2007	EPA 901.1
H-3 (DIST)	TBE-2010	
TOTAL SR	TBE-2018	EPA 905.0

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L29406
EX001-3ESPBRAID-06

08/03/2006 13:39

Gamma Spectroscopy

Quality Control

Quality control samples were analyzed as WG4276.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-ZION-MW-ZN-10U-072806-MS-003	L29402-1	WG4276-1

H-3 (DIST)

Quality Control

Quality control samples were analyzed as WG4273.

Method Blank

All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample

All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample

Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-ZION-MW-ZN-10U-072806-MS-003	L29402-1	WG4273-3

TELEDYNE
BROWN ENGINEERING, INC.
A Teledyne Technologies Company
2508 Quality Lane
Knoxville, TN 37931-3133

Case Narrative - L29406
EX001-3ESPBRAID-06

08/03/2006 13:39

TOTAL SR

Quality Control

Quality control samples were analyzed as WG4288.

Method Blank
All blanks were within acceptance limits, unless otherwise noted.

Laboratory Control Sample
All laboratory control samples were within acceptance limits, unless otherwise noted.

Duplicate Sample
Duplicates were analyzed for the following samples. All duplicate results were within acceptance limits, unless otherwise noted.

Client ID	Laboratory ID	QC Sample #
WG-BW-207-072806-JL-101	L29406-2	WG4288-3

Certification

This is to certify that Teledyne Brown Engineering - Environmental Services, located at 2508 Quality Lane, Knoxville, Tennessee, 37931, has analyzed, tested and documented samples as specified in the applicable purchase order.

This also certifies that requirements of applicable codes, standards and specifications have been fully met and that any quality assurance documentation which verified conformance to the purchase order is on file and may be examined upon request.

I hereby certify that the above statements are true and correct.

R. Charles for K. Jeter
Keith Jeter
Operations Manager

Sample Receipt Summary

L29406

CONESTOGA-ROVERS & ASSOCIATES
8615 W. Bryn Mawr Avenue
Chicago, Illinois 60631
(773)380-9933 phone
(773)380-6421 fax

SHIPPED TO (Laboratory Name): Teledyne Brown

REFERENCE NUMBER: 45136-20

PROJECT NAME: Braidwood Generating Station

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: Julie Luzwick **PRINTED NAME:** Julie Luzwick

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS: Tritium	Strontium 89/90	Gamma	REMARKS
	7/28/06	1210	WG-BW-208D-072806-JL-100	W	2	X	X	X	
		1405	WG-BW-207-072806-JL-101	W	2	X	X	X	
	↓	1410	WG-BW-207-072806-JL-102	W	2	X	X	X	

TOTAL NUMBER OF CONTAINERS 6

RELINQUISHED BY: ① Julie Luzwick	DATE: 7/28/06 TIME: 15:00	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: **AIR BILL No.**

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: Julie L. Patrick C.

RECEIVED FOR LABORATORY BY: Pat Marshall DATE: 8/1/06 TIME: 1120

12525

1001-00(SOURCE)GN-CO004

08/01/06 10:34

SR #: SR09622

Sample Receipt Verification/Variance Report

Client: Exelon

Project #: EX001-3ESPBRAID-06

LIMS #: L29406

Initiated By: RCHARLES
Init Date: 07/29/06 Receive Date: 08/01/06

Notification of Variance

Person Notified: Contacted By:

Notify Date:

Notify Method:

Notify Comment:

Client Response

Person Responding:

Response Date:

Response Method:

Response Comment

	Criteria	Yes No NA	Comment
1	Shipping container custody seals present and intact.	NA	
2	Sample container custody seals present and intact.	NA	
3	Sample containers received in good condition	Y	
4	Chain of custody received with samples	Y	
5	All samples listed on chain of custody received	Y	
6	Sample container labels present and legible.	Y	
7	Information on container labels correspond with chain of custody	Y	
8	Sample(s) properly preserved and in appropriate container(s)	Y	pH at or below 2
9	Other (Describe)	NA	

TELEDYNE BROWN ENGINEERING
2508 Quality Lane
Knoxville, TN 37931-3133

AUG 0 1 2006

ACKNOWLEDGEMENT
This is not an invoice

August 01, 2006

Kathy Shaw
Conestoga-Rovers & Associates
45 Farmington Valley Drive
Plainville, CT 06062

The following sample(s) were received at Teledyne Brown Engineering Knoxville laboratory on August 01, 2006. The sample(s) have been scheduled for the analyses listed below and the report is scheduled for completion by August 08, 2006. Please review the following login information and pricing. Contact me if anything is incorrect or you have questions about the status of your sample(s).

Thank you for choosing Teledyne Brown Engineering for your analytical needs.

Sincerely,
Rebecca Charles
Project Manager
(865)934-0379

Project ID: EX001-3ESPBRAID-06
P.O. #: 00411203
Release #:
Contract#: 00411203
Kathy Shaw, FAX#:860-747-1900, larry.walton@exeloncorp.com

Client ID/ Station	Laboratory ID Analysis	Vol/Units Price	Start Collect Date/Time	End Collect Date/Time
WG-BW-208D-072806-JL-100	**L29406-1**		**07/28/06:1210**	
WG	GELI	162.00		
WG	H-3 (DIST)	162.00		
WG	SR-90 (FAST)	210.00		
WG-BW-207-072806-JL-101	**L29406-2**		**07/28/06:1405**	
WG	GELI	162.00		
WG	H-3 (DIST)	162.00		
WG	SR-90 (FAST)	210.00		
WG-BW-207-072806-JL-102	**L29406-3**		**07/28/06:1410**	
WG	GELI	162.00		
WG	H-3 (DIST)	162.00		
WG	SR-90 (FAST)	210.00		

End of document

Internal Chain of Custody

Internal Chain of Custody

****

Sample # L29406-1 Containernum 1

Prod	Analyst
H-3 (DIST)	EJ
SR-90 (FAST)	LCB
GELI	DW

Relinquish Date	Relinquish By		Received By	
07/29/2006 00:00			099999	Sample Custodian
08/01/2006 12:24	030854	Donna Webb	029728	Lauren Larsen
08/01/2006 12:24	099999	Sample Custodian	030854	Donna Webb
08/02/2006 15:38	029728	Lauren Larsen	030854	Donna Webb
08/02/2006 15:38	030854	Donna Webb	099999	Sample Custodian

****

Sample # L29406-1 Containernum 2

Prod	Analyst
H-3 (DIST)	EJ
SR-90 (FAST)	LCB
GELI	DW

Relinquish Date	Relinquish By		Received By	
07/29/2006 00:00			099999	Sample Custodian
08/01/2006 12:24	030854	Donna Webb	029728	Lauren Larsen
08/01/2006 12:24	099999	Sample Custodian	030854	Donna Webb
08/02/2006 15:38	029728	Lauren Larsen	030854	Donna Webb
08/02/2006 15:38	030854	Donna Webb	099999	Sample Custodian

****

Sample # L29406-2 Containernum 1

Prod	Analyst
H-3 (DIST)	EJ
SR-90 (FAST)	LCB
GELI	DW

Relinquish Date	Relinquish By		Received By	
07/29/2006 00:00			099999	Sample Custodian
08/01/2006 12:24	030854	Donna Webb	029728	Lauren Larsen
08/01/2006 12:24	099999	Sample Custodian	030854	Donna Webb
08/02/2006 15:38	029728	Lauren Larsen	030854	Donna Webb
08/02/2006 15:38	030854	Donna Webb	099999	Sample Custodian

****

Sample # L29406-2 Containernum 2

Prod	Analyst
H-3 (DIST)	EJ
SR-90 (FAST)	LCB
GELI	DW

Relinquish Date	Relinquish By		Received By	
07/29/2006 00:00			099999	Sample Custodian
08/01/2006 12:24	030854	Donna Webb	029728	Lauren Larsen
08/01/2006 12:24	099999	Sample Custodian	030854	Donna Webb

Internal Chain of Custody

****

Sample # L29406-2 Containernum 2

Relinquish Date			Received By	
08/02/2006 15:38	029728	Lauren Larsen	030854	Donna Webb
08/02/2006 15:38	030854	Donna Webb	099999	Sample Custodian

****

Sample # L29406-3 Containernum 1

Prod	Analyst
H-3 (DIST)	EJ
GELI	DW
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
07/29/2006 00:00			099999	Sample Custodian
08/01/2006 12:24	030854	Donna Webb	029728	Lauren Larsen
08/01/2006 12:24	099999	Sample Custodian	030854	Donna Webb
08/02/2006 15:38	029728	Lauren Larsen	030854	Donna Webb
08/02/2006 15:38	030854	Donna Webb	099999	Sample Custodian

****

Sample # L29406-3 Containernum 2

Prod	Analyst
H-3 (DIST)	EJ
GELI	DW
SR-90 (FAST)	LCB

Relinquish Date	Relinquish By		Received By	
07/29/2006 00:00			099999	Sample Custodian
08/01/2006 12:24	030854	Donna Webb	029728	Lauren Larsen
08/01/2006 12:24	099999	Sample Custodian	030854	Donna Webb
08/02/2006 15:38	029728	Lauren Larsen	030854	Donna Webb
08/02/2006 15:38	030854	Donna Webb	099999	Sample Custodian

08/03/06 Teledyne Brown Engineering

Internal Chain of Custody
Supplemental Sheet

L29406

****

L29406-1 WG WG-BW-208D-072806-JL-100

Process step	Prod	Analyst	Date
Login		RCHARLES	08/01/06
Aliquot	GELI	DW	08/01/06
Aliquot	H-3 (DIST)	EJ	08/01/06
Aliquot	SR-90 (FAST)	LCB	08/01/06
Count Room	GELI	KOJ	08/01/06
Count Room	H-3 (DIST)	KOJ	08/02/06
Count Room	SR-90 (FAST)	KOJ	08/03/06

****

L29406-2 WG WG-BW-207-072806-JL-101

Process step	Prod	Analyst	Date
Login		RCHARLES	08/01/06
Aliquot	GELI	DW	08/01/06
Aliquot	H-3 (DIST)	EJ	08/01/06
Aliquot	SR-90 (FAST)	LCB	08/01/06
Count Room	GELI	ILL	08/01/06
Count Room	H-3 (DIST)	KOJ	08/02/06
Count Room	SR-90 (FAST)	KOJ	08/03/06

****

L29406-3 WG WG-BW-207-072806-JL-102

Process step	Prod	Analyst	Date
Login		RCHARLES	08/01/06
Aliquot	GELI	DW	08/01/06
Aliquot	H-3 (DIST)	EJ	08/01/06
Aliquot	SR-90 (FAST)	LCB	08/01/06
Count Room	GELI	ILL	08/01/06
Count Room	H-3 (DIST)	KOJ	08/02/06
Count Room	SR-90 (FAST)	KOJ	08/03/06

Analytical Results Summary

Report of Analysis

08/03/06 13:37

TELEDYNE BROWN ENGINEERING, II
A Teledyne Technologies Company

L29406

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-208D-072806-JL-100**
Station:
Description:
LIMS Number: L29406-1

Collect Start: 07/28/2006 12:10
Collect Stop:
Receive Date: 08/01/2006

Matrix: Ground Water (WG
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3 (DIST)	2010	7.01E+01	1.11E+02	**1.75E+02**	pCi/L		10	ml		08/02/06	60	M	U		
TOTAL SR	2018	-5.10E-01	5.92E-01	**1.40E+00**	pCi/L		450	ml	07/28/06 12:10	08/03/06	80	M	U		
MN-54	2007	9.76E-01	2.14E+00	**3.60E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
CO-58	2007	-1.05E+00	2.20E+00	**3.53E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
FE-59	2007	2.15E+00	4.13E+00	**7.05E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
CO-60	2007	1.73E+00	2.27E+00	**3.92E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
ZN-65	2007	5.74E+00	5.28E+00	**8.04E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
NB-95	2007	2.57E+00	2.65E+00	**3.91E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
ZR-95	2007	-2.60E+00	4.24E+00	**6.37E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
CS-134	2007	5.68E+00	4.01E+00	**4.39E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
CS-137	2007	1.92E+00	2.30E+00	**3.95E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
BA-140	2007	-2.89E+00	9.97E+00	**1.60E+01**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
LA-140	2007	2.92E+00	3.09E+00	**5.39E+00**	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	U		No
TH-228	2007	**1.05E+01**	4.90E+00	7.04E+00	pCi/L		3000.67	ml	07/28/06 12:10	08/01/06	28800	Sec	+		Yes

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/03/06 13:37

TELEDYNE BROWN ENGINEERING, IN
A Teledyne Technologies Company

L29406

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-207-072806-JL-101**
Station:
Description:
LIMS Number: L29406-2

Collect Start: 07/28/2006 14:05
Collect Stop:
Receive Date: 08/01/2006

Matrix: Ground Water (WG
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3 (DIST)	2010	**4.38E+02**	1.33E+02	1.77E+02	pCi/L		10	ml		08/02/06	60	M	+		
TOTAL SR	2018	8.44E-02	6.60E-01	**1.38E+00**	pCi/L		450	ml	07/28/06 14:05	08/03/06	80	M	U		
MN-54	2007	-1.27E+00	1.99E+00	**3.15E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
CO-58	2007	-5.76E-01	2.10E+00	**3.39E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
FE-59	2007	3.11E+00	3.98E+00	**6.86E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
CO-60	2007	-1.35E+00	1.90E+00	**2.96E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
ZN-65	2007	2.60E+00	5.20E+00	**7.57E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
NB-95	2007	1.22E+00	2.11E+00	**3.55E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
ZR-95	2007	9.02E-01	3.44E+00	**5.72E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
CS-134	2007	1.59E+00	4.10E+00	**3.41E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
CS-137	2007	-1.76E-01	2.18E+00	**3.60E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
BA-140	2007	-5.88E+00	8.67E+00	**1.36E+01**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No
LA-140	2007	1.98E+00	2.64E+00	**4.61E+00**	pCi/L		3056.58	ml	07/28/06 14:05	08/01/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

Report of Analysis

08/03/06 13:37

TELEDYNE BROWN ENGINEERING, IN
A Teledyne Technologies Company

L29406

Conestoga-Rovers & Associates

Kathy Shaw

EX001-3ESPBRAID-06

Sample ID: **WG-BW-207-072806-JL-102**
Station:
Description: Duplicate
LIMS Number: L29406-3

Collect Start: 07/28/2006 14:10
Collect Stop:
Receive Date: 08/01/2006

Matrix: Ground Water (WG)
Volume:
% Moisture:

Radionuclide	SOP#	Activity Conc	Uncertainty 2 Sigma	MDC	Units	Run #	Aliquot Volume	Aliquot Units	Reference Date	Count Date	Count Time	Count Units	Flag Values		
H-3 (DIST)	2010	**4.71E+02**	1.37E+02	1.80E+02	pCi/L		10	ml		08/02/06	60	M	+		
TOTAL SR	2018	1.70E-01	7.88E-01	**1.64E+00**	pCi/L		450	ml	07/28/06 14:10	08/03/06	80	M	U		
MN-54	2007	1.49E+00	2.56E+00	**4.27E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
CO-58	2007	-1.55E+00	2.58E+00	**4.07E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
FE-59	2007	2.47E+00	4.76E+00	**7.98E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
CO-60	2007	1.33E+00	2.59E+00	**4.39E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
ZN-65	2007	1.98E+01	6.61E+00	**1.10E+01**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U*		No
NB-95	2007	2.86E+00	2.63E+00	**4.50E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
ZR-95	2007	-4.21E+00	4.66E+00	**7.31E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
CS-134	2007	1.73E+01	4.59E+00	**5.51E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U*		No
CS-137	2007	6.84E-01	2.53E+00	**4.23E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
BA-140	2007	3.42E+00	1.07E+01	**1.77E+01**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No
LA-140	2007	1.62E+00	3.60E+00	**6.11E+00**	pCi/L		3240.4	ml	07/28/06 14:10	08/01/06	28800	Sec	U		No

Flag Values
U = Compound/Analyte not detected or less than 3 sigma
\+ = Activity concentration exceeds MDC and 3 sigma; peak identified(gamma only)
U* = Compound/Analyte not detected. Peak not identified, but forced activity concentration exceeds MDC and 3 sigma
High = Activity concentration exceeds customer reporting value
Spec = MDC exceeds customer technical specification
L = Low recovery
H = High recovery

Bolded text indicates reportable value.

No = Peak not identified in gamma spectrum
Yes = Peak identified in gamma spectrum
**** Results are reported on an as received basis unless otherwise noted

MDC - Minimum Detectable Concentration

QC Results Summary

QC Summary Report for L29406

8/3/2006 1:38:04PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

H-3 (DIST)

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier
WG4273-1	H-3 (DIST)	WO	07/31/2006 17:40	< 1.810E+00	pCi/Total	U

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier
WG4273-2	H-3 (DIST)	WO	07/31/2006 18:44	5.05E+002	4.760E+02	pCi/Total	94.3	70-130	+

Spike ID: 3H-041706-1
Spike conc: 5.05E+002
Spike Vol: 1.00E+000

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier
WG4273-3	H-3 (DIST)	WG	07/31/2006 19:03	< 1.780E+02	< 1.820E+02	pCi/L		<30	**
L29402-1									

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

QC Summary Report for L29406

8/3/2006 1:38:04PM

TELEDYNE BROWN ENGINEERING
A Teledyne Technologies Company

TOTAL SR

Method Blank Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Blank Result	Units	Qualifier	I
WG4288-1	TOTAL SR	WO	08/03/2006 13:02	< 8.640E-01	pCi/Total	U	

LCS Sample Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Spike Value	LCS Result	Units	Spike Recovery	Range	Qualifier	I
WG4288-2	TOTAL SR	WO	08/03/2006 13:02	5.84E+001	6.420E+01	pCi/Total	110.0	70-130	+	

Spike ID: 90SR-011905
Spike conc: 2.34E+002
Spike Vol: 2.50E-001

Duplicate Summary

TBE Sample ID	Radionuclide	Matrix	Count Date/Time	Original Result	DUP Result	Units	RPD	Range	Qualifier	I
WG4288-3 L29406-2	TOTAL SR	WG	08/03/2006 13:02	< 1.380E+00	< 1.440E+00	pCi/L		<30	**	

+	Positive Result
U	Compound/analyte was analyzed, peak not identified and/or not detected above MDC
*	< 5 times the MDC are not evaluated
**	Nuclide not detected
***	Spiking level < 5 times activity
P	Pass
F	Fail
NE	Not evaluated

Raw Data

Raw Data Sheet (rawdata)
Aug 03 2006, 01:52 pm

Work Order: *L29406* Customer: *Exelon*

Nuclide: *H-3 (DIST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	Ana
L29406-1		H-3 DIST					0		02-aug-06	LS7	132	60	1.87	60	.212		
				10 ml					02:15								
WG-BW-208D-072806-JL-100																	
Activity: 7.01E+01		Error: 1.11E+02	MDC: 1.75E+02 *														
L29406-2		H-3 DIST					0		02-aug-06	LS7	235	60	1.87	60	.21		
				10 ml					03:18								
WG-BW-207-072806-JL-101																	
Activity: 4.38E+02 *		Error: 1.33E+02	MDC: 1.77E+02														
L29406-3		H-3 DIST					0		02-aug-06	LS7	241	60	1.87	60	.206		
				10 ml					04:22								
WG-BW-207-072806-JL-102																	
Activity: 4.71E+02 *		Error: 1.37E+02	MDC: 1.8E+02														

Work Order: *L29406* Customer: *Exelon* Page: 2

Nuclide: *SR-90 (FAST)* Project : *EX001-3ESPBRAID-06*

Sample ID / Client ID	Run #	Analysis	Reference Date/time	Volume/ Aliquot	Scavenge Date/time	Milking Date/time	Mount Weight	Recovery	Count Date/time	Counter ID	Total counts	Sample dt(min)	Bkg counts	Bkg dt(min)	Eff.	Decay & Ingrowth Factor	An
L29406-1		TOTAL SR	28-jul-06 12:10	450 ml	03-aug-06 08:30		0	87.91	03-aug-06 13:02	X4A	44	80	284	400	.358	1	
WG-BW-208D-072806-JL-100																	
Activity: -5.1E-01 Error: 5.92E-01 MDC: 1.4E+00 *																	
L29406-2		TOTAL SR	28-jul-06 14:05	450 ml	03-aug-06 08:30		0	93.13	03-aug-06 13:02	X4C	62	80	299	400	.35	1	
WG-BW-207-072806-JL-101																	
Activity: 8.44E-02 Error: 6.6E-01 MDC: 1.38E+00 *																	
L29406-3		TOTAL SR	28-jul-06 14:10	450 ml	03-aug-06 08:30		0	83.24	03-aug-06 13:02	X4D	72	80	340	400	.353	1	
WG-BW-207-072806-JL-102																	
Activity: 1.7E-01 Error: 7.88E-01 MDC: 1.64E+00 *																	

Sec. Review: Analyst: KG LIMS: ✓

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-AUG-2006 09:47:15.25
TBE10 12892256 HpGe ********** Aquisition Date/Time: 1-AUG-2006 18:27:41.18

LIMS No., Customer Name, Client ID: L29406-1 WG EX/BRAID

Sample ID : 10L29406-1
Sample Type : WG
Quantity : 3.00070E+00 L
Start Channel : 80 Energy Tol : 1.00000
End Channel : 4090 Pk Srch Sens: 5.00000
MDA Constant : 0.00 Library Used: LIBD

Smple Date: 28-JUL-2006 12:10:00.
Geometry : 103L083004
BKGFILE : 10BG072806MT
Real Time : 0 08:00:04.85
Live time : 0 08:00:00.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.28	271	794	1.24	132.00	7.26E-01	9.42E-03	18.2	1.74E+00
2	1	93.13*	193	1012	2.14	185.75	1.53E+00	6.70E-03	35.2	2.18E+00
3	1	140.00	276	1037	1.57	279.56	1.91E+00	9.58E-03	22.4	4.49E+00
4	1	185.75*	15	589	1.24	371.15	1.77E+00	5.11E-04	324.9	2.84E-01
5	1	198.26*	106	726	1.54	396.20	1.72E+00	3.69E-03	50.6	2.75E+00
6	1	238.55*	229	609	1.65	476.85	1.54E+00	7.97E-03	23.3	3.45E+00
7	1	294.98*	145	450	1.36	589.80	1.33E+00	5.04E-03	29.0	2.96E+00
8	1	351.50*	196	318	1.35	702.94	1.17E+00	6.80E-03	20.5	9.75E+00
9	1	499.78	49	258	2.06	999.78	8.98E-01	1.70E-03	67.4	1.75E+00
10	1	583.16*	59	170	2.51	1166.70	7.99E-01	2.07E-03	50.2	9.90E-01
11	1	595.85	84	171	1.35	1192.10	7.86E-01	2.93E-03	29.7	5.26E-01
12	1	609.11*	203	211	1.68	1218.64	7.73E-01	7.04E-03	18.4	8.05E-01
13	1	767.77	180	307	20.72	1536.27	6.46E-01	6.26E-03	29.3	1.78E+00
14	1	911.05*	22	104	2.18	1823.10	5.65E-01	7.74E-04	98.8	2.75E+00
15	1	1120.19*	42	62	2.47	2241.78	4.79E-01	1.45E-03	45.7	8.07E-01
16	1	1764.92*	23	53	2.24	3532.52	3.39E-01	8.14E-04	73.3	4.94E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
RA-226	186.21	15	3.28*	1.771E+00	7.923E+00	7.923E+00	649.76
AC-228	835.50	------	1.75	6.047E-01	------	Line Not Found	------
	911.07	22	27.70*	5.647E-01	4.459E+00	4.466E+00	197.51
TH-228	238.63	229	44.60*	1.539E+00	1.046E+01	1.050E+01	46.63
	240.98	------	3.95	1.529E+00	------	Line Not Found	------
TH-232	583.14	59	30.25	7.987E-01	7.701E+00	7.701E+00	100.32
	911.07	22	27.70*	5.647E-01	4.459E+00	4.459E+00	197.51
	969.11	------	16.60	5.377E-01	------	Line Not Found	------
U-235	143.76	------	10.50*	1.905E+00	------	Line Not Found	------
	163.35	------	4.70	1.860E+00	------	Line Not Found	------
	185.71	15	54.00	1.771E+00	4.813E-01	4.813E-01	649.76
	205.31	------	4.70	1.684E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 10L29406-1 Acquisition date : 1-AUG-2006 18:27:41

Total number of lines in spectrum	16	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	4	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	7.923E+00	7.923E+00	51.48E+00	649.76	
AC-228	5.75Y	1.00	4.459E+00	4.466E+00	8.820E+00	197.51	
TH-228	1.91Y	1.00	1.046E+01	1.050E+01	0.490E+01	46.63	
TH-232	1.41E+10Y	1.00	4.459E+00	4.459E+00	8.807E+00	197.51	
U-235	7.04E+08Y	1.00	4.813E-01	4.813E-01	31.27E-01	649.76	K
	Total Activity :		2.778E+01	2.783E+01			
	Grand Total Activity :		2.778E+01	2.783E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines

Sample ID : 10L29406-1 Acquisition date : 1-AUG-2006 18:27:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.28	271	794	1.24	132.00	129	7	9.42E-03	36.5	7.26E-01	
1	93.13	193	1012	2.14	185.75	181	11	6.70E-03	70.3	1.53E+00	
1	140.00	276	1037	1.57	279.56	274	10	9.58E-03	44.8	1.91E+00	
1	198.26	106	726	1.54	396.20	392	9	3.69E-03	****	1.72E+00	
1	294.98	145	450	1.36	589.80	585	9	5.04E-03	58.0	1.33E+00	
1	351.50	196	318	1.35	702.94	699	10	6.80E-03	41.0	1.17E+00	
1	499.78	49	258	2.06	999.78	995	12	1.70E-03	****	8.98E-01	
1	595.85	84	171	1.35	1192.10	1188	9	2.93E-03	59.3	7.86E-01	
1	609.11	203	211	1.68	1218.64	1214	14	7.04E-03	36.7	7.73E-01	
1	767.77	180	307	20.72	1536.27	1531	31	6.26E-03	58.7	6.46E-01	
1	1120.19	42	62	2.47	2241.78	2237	13	1.45E-03	91.4	4.79E-01	
1	1764.92	23	53	2.24	3532.52	3525	13	8.14E-04	****	3.39E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	16	
Number of unidentified lines	12	
Number of lines tentatively identified by NID	4	25.00%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-226	1600.00Y	1.00	7.923E+00	7.923E+00	51.48E+00	649.76	
TH-228	1.91Y	1.00	1.046E+01	1.050E+01	0.490E+01	46.63	
TH-232	1.41E+10Y	1.00	6.291E+00	6.291E+00	5.808E+00	92.31	
	Total Activity :		2.467E+01	2.472E+01			

Grand Total Activity : 2.467E+01 2.472E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
TH-232	911.07	AC-228	911.07

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
RA-226	7.923E+00	5.148E+01	8.988E+01	0.000E+00	0.088
TH-228	1.050E+01	4.897E+00	7.040E+00	0.000E+00	1.492

TH-232	6.291E+00	5.808E+00	1.320E+01	0.000E+00	0.476

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/L)	K.L. Ided	Act error	MDA (pCi/L)	MDA error	Act/MDA
BE-7	1.047E+01		1.966E+01	3.274E+01	0.000E+00	0.320
NA-24	-4.191E+02		3.273E+02	4.915E+02	0.000E+00	-0.853
K-40	1.197E+01		3.293E+01	6.188E+01	0.000E+00	0.193
CR-51	-1.706E+01		2.217E+01	3.603E+01	0.000E+00	-0.473
MN-54	9.757E-01		2.144E+00	3.595E+00	0.000E+00	0.271
CO-57	1.069E-01		2.272E+00	3.752E+00	0.000E+00	0.029
CO-58	-1.048E+00		2.201E+00	3.532E+00	0.000E+00	-0.297
FE-59	2.146E+00		4.128E+00	7.048E+00	0.000E+00	0.304
CO-60	1.725E+00		2.274E+00	3.920E+00	0.000E+00	0.440
ZN-65	5.740E+00		5.277E+00	8.037E+00	0.000E+00	0.714
SE-75	-6.424E-01		3.173E+00	5.263E+00	0.000E+00	-0.122
SR-85	1.886E+01		2.670E+00	5.170E+00	0.000E+00	3.648
Y-88	-8.564E-01		2.365E+00	3.788E+00	0.000E+00	-0.226
NB-94	2.207E-01		2.191E+00	3.636E+00	0.000E+00	0.061
NB-95	2.570E+00		2.646E+00	3.912E+00	0.000E+00	0.657
ZR-95	-2.604E+00		4.241E+00	6.371E+00	0.000E+00	-0.409
MO-99	4.179E+00		4.832E+01	8.002E+01	0.000E+00	0.052
RU-103	3.097E+00		2.848E+00	4.147E+00	0.000E+00	0.747
RU-106	8.403E+00		2.141E+01	3.470E+01	0.000E+00	0.242
AG-110m	-1.569E-01		2.081E+00	3.438E+00	0.000E+00	-0.046
SN-113	1.624E+00		3.015E+00	5.043E+00	0.000E+00	0.322
SB-124	-2.474E+00		5.577E+00	3.722E+00	0.000E+00	-0.665
SB-125	-1.247E+00		6.562E+00	1.070E+01	0.000E+00	-0.117
TE-129M	5.331E+00		2.725E+01	4.490E+01	0.000E+00	0.119
I-131	1.144E+00		3.266E+00	5.445E+00	0.000E+00	0.210
BA-133	8.394E+00		3.803E+00	5.783E+00	0.000E+00	1.451
CS-134	5.680E+00		4.010E+00	4.388E+00	0.000E+00	1.294
CS-136	-5.464E-02		2.623E+00	4.302E+00	0.000E+00	-0.013
CS-137	1.917E+00		2.300E+00	3.945E+00	0.000E+00	0.486
CE-139	-1.357E+00		2.367E+00	3.837E+00	0.000E+00	-0.354
BA-140	-2.888E+00		9.971E+00	1.604E+01	0.000E+00	-0.180
LA-140	2.915E+00		3.093E+00	5.388E+00	0.000E+00	0.541
CE-141	2.562E+00		4.934E+00	6.976E+00	0.000E+00	0.367
CE-144	-2.601E+00		2.064E+01	2.876E+01	0.000E+00	-0.090
EU-152	-1.249E+01		8.815E+00	1.162E+01	0.000E+00	-1.075
EU-154	5.846E-01		4.749E+00	7.850E+00	0.000E+00	0.074
AC-228	4.466E+00		8.820E+00	1.552E+01	0.000E+00	0.288
U-235	2.559E+01		2.111E+01	3.037E+01	0.000E+00	0.843
U-238	-6.666E+01		2.432E+02	3.897E+02	0.000E+00	-0.171
AM-241	-7.631E+00		2.299E+01	3.248E+01	0.000E+00	-0.235

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A,10L29406-1       ,08/02/2006 09:47,07/28/2006 12:10,   3.001E+00,L29406-1 WG EX
B,10L29406-1       ,LIBD                ,07/28/2006 09:50,103L083004
C,RA-226   ,YES,    7.923E+00,    5.148E+01,    8.988E+01,,     0.088
C,TH-228   ,YES,    1.050E+01,    4.897E+00,    7.040E+00,,     1.492
C,TH-232   ,YES,    6.291E+00,    5.808E+00,    1.320E+01,,     0.476
C,BE-7     ,NO ,    1.047E+01,    1.966E+01,    3.274E+01,,     0.320
C,NA-24    ,NO ,   -4.191E+02,    3.273E+02,    4.915E+02,,    -0.853
C,K-40     ,NO ,    1.197E+01,    3.293E+01,    6.188E+01,,     0.193
C,CR-51    ,NO ,   -1.706E+01,    2.217E+01,    3.603E+01,,    -0.473
C,MN-54    ,NO ,    9.757E-01,    2.144E+00,    3.595E+00,,     0.271
C,CO-57    ,NO ,    1.069E-01,    2.272E+00,    3.752E+00,,     0.029
C,CO-58    ,NO ,   -1.048E+00,    2.201E+00,    3.532E+00,,    -0.297
C,FE-59    ,NO ,    2.146E+00,    4.128E+00,    7.048E+00,,     0.304
C,CO-60    ,NO ,    1.725E+00,    2.274E+00,    3.920E+00,,     0.440
C,ZN-65    ,NO ,    5.740E+00,    5.277E+00,    8.037E+00,,     0.714
C,SE-75    ,NO ,   -6.424E-01,    3.173E+00,    5.263E+00,,    -0.122
C,SR-85    ,NO ,    1.886E+01,    2.670E+00,    5.170E+00,,     3.648
C,Y-88     ,NO ,   -8.564E-01,    2.365E+00,    3.788E+00,,    -0.226
C,NB-94    ,NO ,    2.207E-01,    2.191E+00,    3.636E+00,,     0.061
C,NB-95    ,NO ,    2.570E+00,    2.646E+00,    3.912E+00,,     0.657
C,ZR-95    ,NO ,   -2.604E+00,    4.241E+00,    6.371E+00,,    -0.409
C,MO-99    ,NO ,    4.179E+00,    4.832E+01,    8.002E+01,,     0.052
C,RU-103   ,NO ,    3.097E+00,    2.848E+00,    4.147E+00,,     0.747
C,RU-106   ,NO ,    8.403E+00,    2.141E+01,    3.470E+01,,     0.242
C,AG-110m  ,NO ,   -1.569E-01,    2.081E+00,    3.438E+00,,    -0.046
C,SN-113   ,NO ,    1.624E+00,    3.015E+00,    5.043E+00,,     0.322
C,SB-124   ,NO ,   -2.474E+00,    5.577E+00,    3.722E+00,,    -0.665
C,SB-125   ,NO ,   -1.247E+00,    6.562E+00,    1.070E+01,,    -0.117
C,TE-129M  ,NO ,    5.331E+00,    2.725E+01,    4.490E+01,,     0.119
C,I-131    ,NO ,    1.144E+00,    3.266E+00,    5.445E+00,,     0.210
C,BA-133   ,NO ,    8.394E+00,    3.803E+00,    5.783E+00,,     1.451
C,CS-134   ,NO ,    5.680E+00,    4.010E+00,    4.388E+00,,     1.294
C,CS-136   ,NO ,   -5.464E-02,    2.623E+00,    4.302E+00,,    -0.013
C,CS-137   ,NO ,    1.917E+00,    2.300E+00,    3.945E+00,,     0.486
C,CE-139   ,NO ,   -1.357E+00,    2.367E+00,    3.837E+00,,    -0.354
C,BA-140   ,NO ,   -2.888E+00,    9.971E+00,    1.604E+01,,    -0.180
C,LA-140   ,NO ,    2.915E+00,    3.093E+00,    5.388E+00,,     0.541
C,CE-141   ,NO ,    2.562E+00,    4.934E+00,    6.976E+00,,     0.367
C,CE-144   ,NO ,   -2.601E+00,    2.064E+01,    2.876E+01,,    -0.090
C,EU-152   ,NO ,   -1.249E+01,    8.815E+00,    1.162E+01,,    -1.075
C,EU-154   ,NO ,    5.846E-01,    4.749E+00,    7.850E+00,,     0.074
C,AC-228   ,NO ,    4.466E+00,    8.820E+00,    1.552E+01,,     0.288
C,U-235    ,NO ,    2.559E+01,    2.111E+01,    3.037E+01,,     0.843
C,U-238    ,NO ,   -6.666E+01,    2.432E+02,    3.897E+02,,    -0.171
C,AM-241   ,NO ,   -7.631E+00,    2.299E+01,    3.248E+01,,    -0.235
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Sec. Review: Analyst: LIMS: ✓

10

VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-AUG-2006 09:42:16.07
TBE14 P-10933A HpGe ********** Aquisition Date/Time: 1-AUG-2006 18:27:50.30

LIMS No., Customer Name, Client ID: L29406-2 WG EX/BRAID

Sample ID	: 14L29406-2			Smple Date:	28-JUL-2006 14:05:00.
Sample Type	: WG			Geometry	: 143L082304
Quantity	: 3.05660E+00 L			BKGFILE	: 14BG072806MT
Start Channel	: 90	Energy Tol	: 1.00000	Real Time	: 0 08:00:04.91
End Channel	: 4090	Pk Srch Sens:	5.00000	Live time	: 0 08:00:00.00
MDA Constant	: 0.00	Library Used:	LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	66.44*	251	1074	2.00	134.27	5.15E-01	8.72E-03	25.3	1.63E+00
2	1	139.63*	210	961	1.61	281.41	1.89E+00	7.31E-03	28.2	3.13E+00
3	1	198.42*	144	952	1.21	399.51	1.83E+00	5.02E-03	43.9	1.85E+00
4	1	238.89*	69	650	1.46	480.78	1.67E+00	2.41E-03	71.4	6.88E-01
5	1	242.15	135	653	1.69	487.33	1.66E+00	4.70E-03	37.3	
6	1	295.26*	198	576	1.61	593.93	1.46E+00	6.87E-03	26.3	9.55E-01
7	1	352.27*	242	446	1.62	708.32	1.28E+00	8.42E-03	19.7	3.32E+00
8	1	595.69	163	318	2.99	1196.07	8.48E-01	5.67E-03	27.6	1.75E+00
9	1	609.17*	421	265	2.22	1223.05	8.34E-01	1.46E-02	11.1	2.59E+00
10	1	1120.40*	72	127	2.18	2244.02	5.30E-01	2.51E-03	41.6	1.50E+00
11	1	1461.61*	77	81	2.46	2922.97	4.36E-01	2.67E-03	40.8	7.27E-01
12	1	1512.68	172	83	1.24	3024.42	4.25E-01	5.98E-03	11.6	1.07E+02
13	1	1767.08	146	38	3.85	3529.15	3.79E-01	5.07E-03	13.9	4.87E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Nuclide Type: natural

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/L	Decay Corr pCi/L	2-Sigma %Error
K-40	1460.81	77	10.67*	4.361E-01	5.072E+01	5.072E+01	81.68
TH-228	238.63	69	44.60*	1.674E+00	2.857E+00	2.870E+00	142.75
	240.98	------	3.95	1.666E+00	------	Line Not Found	------

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 14L29406-2 Acquisition date : 1-AUG-2006 18:27:50

Total number of lines in spectrum	13	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	2	15.38%

Nuclide Type : natural

Nuclide	Hlife	Decay	Uncorrected pCi/L	Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.072E+01	5.072E+01	4.142E+01	81.68	
TH-228	1.91Y	1.00	2.857E+00	2.870E+00	4.096E+00	142.75	
	Total Activity :		5.357E+01	5.359E+01			
	Grand Total Activity :		5.357E+01	5.359E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 14L29406-2

Acquisition date : 1-AUG-2006 18:27:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.44	251	1074	2.00	134.27	130	9	8.72E-03	50.6	5.15E-01	
1	139.63	210	961	1.61	281.41	278	9	7.31E-03	56.5	1.89E+00	
1	198.42	144	952	1.21	399.51	394	11	5.02E-03	87.8	1.83E+00	
1	242.15	135	653	1.69	487.33	476	18	4.70E-03	74.5	1.66E+00	
1	295.26	198	576	1.61	593.93	588	11	6.87E-03	52.6	1.46E+00	
1	352.27	242	446	1.62	708.32	703	11	8.42E-03	39.4	1.28E+00	
1	595.69	163	318	2.99	1196.07	1186	19	5.67E-03	55.1	8.48E-01	
1	609.17	421	265	2.22	1223.05	1214	18	1.46E-02	22.3	8.34E-01	
1	1120.40	72	127	2.18	2244.02	2235	18	2.51E-03	83.3	5.30E-01	
1	1512.68	172	83	1.24	3024.42	3016	14	5.98E-03	23.1	4.25E-01	
1	1767.08	146	38	3.85	3529.15	3520	20	5.07E-03	27.8	3.79E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum	13	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	2	15.38%

Nuclide Type : natural

Nuclide	Hlife	Decay	Wtd Mean Uncorrected pCi/L	Wtd Mean Decay Corr pCi/L	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	5.072E+01	5.072E+01	4.142E+01	81.68	
TH-228	1.91Y	1.00	2.857E+00	2.870E+00	4.096E+00	142.75	
	Total Activity :		5.357E+01	5.359E+01			
	Grand Total Activity :		5.357E+01	5.359E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/L)	Act error	MDA (pCi/L)	MDA error	Act/MDA
K-40	5.072E+01	4.142E+01	3.025E+01	0.000E+00	1.677
TH-228	2.870E+00	4.096E+00	5.988E+00	0.000E+00	0.479

---- Non-Identified Nuclides ----

	Key-Line Activity	K.L.	Act error	MDA	MDA error	Act/MDA

Nuclide	(pCi/L)	Ided	(pCi/L)		
BE-7	8.581E+00	1.796E+01	2.969E+01	0.000E+00	0.289
NA-24	-1.338E+02	2.340E+02	3.663E+02	0.000E+00	-0.365
CR-51	-1.925E+01	1.825E+01	2.930E+01	0.000E+00	-0.657
MN-54	-1.265E+00	1.988E+00	3.146E+00	0.000E+00	-0.402
CO-57	-1.120E+00	2.074E+00	3.376E+00	0.000E+00	-0.332
CO-58	-5.756E-01	2.100E+00	3.393E+00	0.000E+00	-0.170
FE-59	3.113E+00	3.979E+00	6.858E+00	0.000E+00	0.454
CO-60	-1.346E+00	1.904E+00	2.959E+00	0.000E+00	-0.455
ZN-65	2.596E+00	5.199E+00	7.565E+00	0.000E+00	0.343
SE-75	-2.750E+00	2.646E+00	4.296E+00	0.000E+00	-0.640
SR-85	1.116E+01	2.525E+00	4.578E+00	0.000E+00	2.439
Y-88	8.089E-01	1.907E+00	3.259E+00	0.000E+00	0.248
NB-94	-9.184E-01	2.028E+00	3.283E+00	0.000E+00	-0.280
NB-95	1.218E+00	2.107E+00	3.546E+00	0.000E+00	0.343
ZR-95	9.024E-01	3.440E+00	5.721E+00	0.000E+00	0.158
MO-99	8.523E+00	4.438E+01	7.362E+01	0.000E+00	0.116
RU-103	1.294E+00	2.171E+00	3.599E+00	0.000E+00	0.360
RU-106	-1.517E+01	1.822E+01	2.919E+01	0.000E+00	-0.520
AG-110m	3.892E-01	1.922E+00	3.207E+00	0.000E+00	0.121
SN-113	7.755E-01	2.649E+00	4.384E+00	0.000E+00	0.177
SB-124	-1.873E+00	4.206E+00	3.104E+00	0.000E+00	-0.603
SB-125	3.726E+00	5.736E+00	9.575E+00	0.000E+00	0.389
TE-129M	2.731E+01	2.440E+01	4.129E+01	0.000E+00	0.661
I-131	-9.679E-01	2.978E+00	4.850E+00	0.000E+00	-0.200
BA-133	3.715E+00	3.335E+00	4.900E+00	0.000E+00	0.758
CS-134	1.587E+00	4.103E+00	3.412E+00	0.000E+00	0.465
CS-136	-2.415E-02	2.431E+00	3.975E+00	0.000E+00	-0.006
CS-137	-1.755E-01	2.184E+00	3.600E+00	0.000E+00	-0.049
CE-139	-7.220E-01	1.996E+00	3.227E+00	0.000E+00	-0.224
BA-140	-5.878E+00	8.673E+00	1.361E+01	0.000E+00	-0.432
LA-140	1.975E+00	2.637E+00	4.614E+00	0.000E+00	0.428
CE-141	-3.378E+00	4.446E+00	6.099E+00	0.000E+00	-0.554
CE-144	-3.742E+00	1.780E+01	2.596E+01	0.000E+00	-0.144
EU-152	-7.046E+00	6.747E+00	9.765E+00	0.000E+00	-0.722
EU-154	-2.678E+00	4.319E+00	7.015E+00	0.000E+00	-0.382
RA-226	6.383E+00	5.281E+01	8.351E+01	0.000E+00	0.076
AC-228	-4.919E+00	8.652E+00	1.272E+01	0.000E+00	-0.387
TH-232	-4.912E+00	8.639E+00	1.270E+01	0.000E+00	-0.387
U-235	-1.885E+01	1.933E+01	2.573E+01	0.000E+00	-0.733
U-238	9.297E+01	2.143E+02	3.648E+02	0.000E+00	0.255
AM-241	-3.685E+01	2.885E+01	4.350E+01	0.000E+00	-0.847

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A,14L29406-2      ,08/02/2006 09:42,07/28/2006 14:05,   3.057E+00,L29406-2 WG EX
B,14L29406-2      ,LIBD                ,07/31/2006 09:34,143L082304
C,K-40    ,YES,    5.072E+01,   4.142E+01,   3.025E+01,,    1.677
C,TH-228  ,YES,    2.870E+00,   4.096E+00,   5.988E+00,,    0.479
C,BE-7    ,NO ,    8.581E+00,   1.796E+01,   2.969E+01,,    0.289
C,NA-24   ,NO ,   -1.338E+02,   2.340E+02,   3.663E+02,,   -0.365
C,CR-51   ,NO ,   -1.925E+01,   1.825E+01,   2.930E+01,,   -0.657
C,MN-54   ,NO ,   -1.265E+00,   1.988E+00,   3.146E+00,,   -0.402
C,CO-57   ,NO ,   -1.120E+00,   2.074E+00,   3.376E+00,,   -0.332
C,CO-58   ,NO ,   -5.756E-01,   2.100E+00,   3.393E+00,,   -0.170
C,FE-59   ,NO ,    3.113E+00,   3.979E+00,   6.858E+00,,    0.454
C,CO-60   ,NO ,   -1.346E+00,   1.904E+00,   2.959E+00,,   -0.455
C,ZN-65   ,NO ,    2.596E+00,   5.199E+00,   7.565E+00,,    0.343
C,SE-75   ,NO ,   -2.750E+00,   2.646E+00,   4.296E+00,,   -0.640
C,SR-85   ,NO ,    1.116E+01,   2.525E+00,   4.578E+00,,    2.439
C,Y-88    ,NO ,    8.089E-01,   1.907E+00,   3.259E+00,,    0.248
C,NB-94   ,NO ,   -9.184E-01,   2.028E+00,   3.283E+00,,   -0.280
C,NB-95   ,NO ,    1.218E+00,   2.107E+00,   3.546E+00,,    0.343
C,ZR-95   ,NO ,    9.024E-01,   3.440E+00,   5.721E+00,,    0.158
C,MO-99   ,NO ,    8.523E+00,   4.438E+01,   7.362E+01,,    0.116
C,RU-103  ,NO ,    1.294E+00,   2.171E+00,   3.599E+00,,    0.360
C,RU-106  ,NO ,   -1.517E+01,   1.822E+01,   2.919E+01,,   -0.520
C,AG-110m ,NO ,    3.892E-01,   1.922E+00,   3.207E+00,,    0.121
C,SN-113  ,NO ,    7.755E-01,   2.649E+00,   4.384E+00,,    0.177
C,SB-124  ,NO ,   -1.873E+00,   4.206E+00,   3.104E+00,,   -0.603
C,SB-125  ,NO ,    3.726E+00,   5.736E+00,   9.575E+00,,    0.389
C,TE-129M ,NO ,    2.731E+01,   2.440E+01,   4.129E+01,,    0.661
C,I-131   ,NO ,   -9.679E-01,   2.978E+00,   4.850E+00,,   -0.200
C,BA-133  ,NO ,    3.715E+00,   3.335E+00,   4.900E+00,,    0.758
C,CS-134  ,NO ,    1.587E+00,   4.103E+00,   3.412E+00,,    0.465
C,CS-136  ,NO ,   -2.415E-02,   2.431E+00,   3.975E+00,,   -0.006
C,CS-137  ,NO ,   -1.755E-01,   2.184E+00,   3.600E+00,,   -0.049
C,CE-139  ,NO ,   -7.220E-01,   1.996E+00,   3.227E+00,,   -0.224
C,BA-140  ,NO ,   -5.878E+00,   8.673E+00,   1.361E+01,,   -0.432
C,LA-140  ,NO ,    1.975E+00,   2.637E+00,   4.614E+00,,    0.428
C,CE-141  ,NO ,   -3.378E+00,   4.446E+00,   6.099E+00,,   -0.554
C,CE-144  ,NO ,   -3.742E+00,   1.780E+01,   2.596E+01,,   -0.144
C,EU-152  ,NO ,   -7.046E+00,   6.747E+00,   9.765E+00,,   -0.722
C,EU-154  ,NO ,   -2.678E+00,   4.319E+00,   7.015E+00,,   -0.382
C,RA-226  ,NO ,    6.383E+00,   5.281E+01,   8.351E+01,,    0.076
C,AC-228  ,NO ,   -4.919E+00,   8.652E+00,   1.272E+01,,   -0.387
C,TH-232  ,NO ,   -4.912E+00,   8.639E+00,   1.270E+01,,   -0.387
C,U-235   ,NO ,   -1.885E+01,   1.933E+01,   2.573E+01,,   -0.733
C,U-238   ,NO ,    9.297E+01,   2.143E+02,   3.648E+02,,    0.255
C,AM-241  ,NO ,   -3.685E+01,   2.885E+01,   4.350E+01,,   -0.847
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Sec. Review: KD Analyst: LIMS: ✓

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VAX/VMS Teledyne Brown Eng. Laboratory Gamma Report: 2-AUG-2006 09:44:56.60
TBE15 P-10635B HpGe ********** Aquisition Date/Time: 1-AUG-2006 18:27:54.10

LIMS No., Customer Name, Client ID: L29406-3 WG EX/BRAID

Sample ID	: 15L29406-3			Smple Date	: 28-JUL-2006 14:10:00.
Sample Type	: wg			Geometry	: 153L082604
Quantity	: 3.24040E+00 l			BKGFILE	: 15BG072806MT
Start Channel	: 40	Energy Tol	: 1.00000	Real Time	: 0 08:00:03.03
End Channel	: 4090	Pk Srch Sens	: 5.00000	Live time	: 0 08:00:00.00
MDA Constant	: 0.00	Library Used	: LIBD		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	%Eff	Cts/Sec	%Err	Fit
1	1	295.11*	132	494	1.61	580.31	1.18E+00	4.57E-03	37.6	1.96E+00
2	1	351.79*	258	360	1.35	694.31	1.02E+00	8.96E-03	17.0	2.65E+00
3	1	595.37	124	149	2.60	1184.10	6.55E-01	4.30E-03	21.7	1.28E+00
4	1	608.80*	219	231	1.51	1211.11	6.43E-01	7.61E-03	17.5	1.31E+00
5	1	707.64	65	235	5.13	1409.82	5.69E-01	2.27E-03	57.4	1.68E+00
6	1	1119.59*	74	90	2.24	2237.80	3.97E-01	2.57E-03	31.2	9.60E+00
7	1	1764.07*	64	51	3.24	3532.40	2.78E-01	2.21E-03	31.6	1.24E+00

Flag: "*" = Peak area was modified by background subtraction

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : 15L29406-3 Acquisition date : 1-AUG-2006 18:27:54

Total number of lines in spectrum	7	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	1	14.29%

**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : 15L29406-3

Acquisition date : 1-AUG-2006 18:27:54

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	295.11	132	494	1.61	580.31	575	12	4.57E-03	75.1	1.18E+00	
1	351.79	258	360	1.35	694.31	688	11	8.96E-03	33.9	1.02E+00	
1	595.37	124	149	2.60	1184.10	1179	12	4.30E-03	43.3	6.55E-01	
1	608.80	219	231	1.51	1211.11	1205	13	7.61E-03	35.0	6.43E-01	
1	707.64	65	235	5.13	1409.82	1402	19	2.27E-03	****	5.69E-01	T
1	1119.59	74	90	2.24	2237.80	2232	12	2.57E-03	62.4	3.97E-01	
1	1764.07	64	51	3.24	3532.40	3524	17	2.21E-03	63.3	2.78E-01	

Flags: "T" = Tentatively associated

Summary of Nuclide Activity

Total number of lines in spectrum 7
Number of unidentified lines 6
Number of lines tentatively identified by NID 1 14.29%
**** There are no nuclides meeting summary criteria ****

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Interference Report

No interference correction performed

Combined Activity-MDA Report

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/l)	K.L. Ided	Act error	MDA (pCi/l)	MDA error	Act/MDA
BE-7	-5.335E+00		2.131E+01	3.479E+01	0.000E+00	-0.153
NA-24	-3.263E+02		3.386E+02	5.190E+02	0.000E+00	-0.629
K-40	3.263E+01		3.711E+01	6.920E+01	0.000E+00	0.472
CR-51	-1.035E+01		2.204E+01	3.570E+01	0.000E+00	-0.290
MN-54	1.494E+00		2.560E+00	4.274E+00	0.000E+00	0.349
CO-57	1.166E+00		2.215E+00	3.736E+00	0.000E+00	0.312
CO-58	-1.553E+00		2.576E+00	4.072E+00	0.000E+00	-0.381
FE-59	2.469E+00		4.755E+00	7.982E+00	0.000E+00	0.309
CO-60	1.325E+00		2.589E+00	4.385E+00	0.000E+00	0.302
ZN-65	1.978E+01		6.612E+00	1.104E+01	0.000E+00	1.791
SE-75	9.883E-02		3.112E+00	5.169E+00	0.000E+00	0.019
SR-85	1.465E+01		2.779E+00	5.228E+00	0.000E+00	2.801
Y-88	2.484E+00		2.620E+00	4.671E+00	0.000E+00	0.532
NB-94	-2.611E+00		2.927E+00	3.828E+00	0.000E+00	-0.682
NB-95	2.860E+00		2.625E+00	4.497E+00	0.000E+00	0.636
ZR-95	-4.213E+00		4.658E+00	7.313E+00	0.000E+00	-0.576
MO-99	-2.366E+01		5.569E+01	8.959E+01	0.000E+00	-0.264
RU-103	1.307E+00		2.622E+00	4.384E+00	0.000E+00	0.298
RU-106	4.899E+00		2.246E+01	3.763E+01	0.000E+00	0.130
AG-110m	-5.195E-02		2.296E+00	3.793E+00	0.000E+00	-0.014
SN-113	-4.641E-01		3.200E+00	5.161E+00	0.000E+00	-0.090

SB-124	2.764E+00	5.310E+00	4.134E+00	0.000E+00	0.669
SB-125	-5.678E-01	6.812E+00	1.127E+01	0.000E+00	-0.050
TE-129M	3.918E-01	2.831E+01	4.678E+01	0.000E+00	0.008
I-131	4.086E-01	3.473E+00	5.675E+00	0.000E+00	0.072
BA-133	4.851E+00	3.938E+00	5.726E+00	0.000E+00	0.847
CS-134	1.726E+01	4.585E+00	5.507E+00	0.000E+00	3.134
CS-136	-1.164E+00	3.079E+00	4.919E+00	0.000E+00	-0.237
CS-137	6.837E-01	2.526E+00	4.225E+00	0.000E+00	0.162
CE-139	4.174E-02	2.226E+00	3.666E+00	0.000E+00	0.011
BA-140	3.419E+00	1.071E+01	1.773E+01	0.000E+00	0.193
LA-140	1.624E+00	3.596E+00	6.110E+00	0.000E+00	0.266
CE-141	-6.294E+00	4.094E+00	6.586E+00	0.000E+00	-0.956
CE-144	-2.506E+01	1.718E+01	2.782E+01	0.000E+00	-0.901
EU-152	-1.061E+01	8.806E+00	1.153E+01	0.000E+00	-0.920
EU-154	-3.608E+00	4.789E+00	7.652E+00	0.000E+00	-0.471
RA-226	2.467E-02	5.857E+01	9.288E+01	0.000E+00	0.000
AC-228	5.312E+00	9.909E+00	1.649E+01	0.000E+00	0.322
TH-228	6.962E+00	4.497E+00	7.551E+00	0.000E+00	0.922
TH-232	5.304E+00	9.894E+00	1.647E+01	0.000E+00	0.322
U-235	-2.298E+01	1.758E+01	2.772E+01	0.000E+00	-0.829
U-238	-3.666E+01	2.983E+02	4.797E+02	0.000E+00	-0.076
AM-241	-2.337E+01	2.569E+01	4.179E+01	0.000E+00	-0.559

A,15L29406-3 ,08/02/2006 09:44,07/28/2006 14:10, 3.240E+00,L29406-3 WG EX
B,15L29406-3 ,LIBD ,07/31/2006 10:01,153L082604

C,BE-7	,NO ,	-5.335E+00,	2.131E+01,	3.479E+01,,	-0.153
C,NA-24	,NO ,	-3.263E+02,	3.386E+02,	5.190E+02,,	-0.629
C,K-40	,NO ,	3.263E+01,	3.711E+01,	6.920E+01,,	0.472
C,CR-51	,NO ,	-1.035E+01,	2.204E+01,	3.570E+01,,	-0.290
C,MN-54	,NO ,	1.494E+00,	2.560E+00,	4.274E+00,,	0.349
C,CO-57	,NO ,	1.166E+00,	2.215E+00,	3.736E+00,,	0.312
C,CO-58	,NO ,	-1.553E+00,	2.576E+00,	4.072E+00,,	-0.381
C,FE-59	,NO ,	2.469E+00,	4.755E+00,	7.982E+00,,	0.309
C,CO-60	,NO ,	1.325E+00,	2.589E+00,	4.385E+00,,	0.302
C,ZN-65	,NO ,	1.978E+01,	6.612E+00,	1.104E+01,,	1.791
C,SE-75	,NO ,	9.883E-02,	3.112E+00,	5.169E+00,,	0.019
C,SR-85	,NO ,	1.465E+01,	2.779E+00,	5.228E+00,,	2.801
C,Y-88	,NO ,	2.484E+00,	2.620E+00,	4.671E+00,,	0.532
C,NB-94	,NO ,	-2.611E+00,	2.927E+00,	3.828E+00,,	-0.682
C,NB-95	,NO ,	2.860E+00,	2.625E+00,	4.497E+00,,	0.636
C,ZR-95	,NO ,	-4.213E+00,	4.658E+00,	7.313E+00,,	-0.576
C,MO-99	,NO ,	-2.366E+01,	5.569E+01,	8.959E+01,,	-0.264
C,RU-103	,NO ,	1.307E+00,	2.622E+00,	4.384E+00,,	0.298
C,RU-106	,NO ,	4.899E+00,	2.246E+01,	3.763E+01,,	0.130
C,AG-110m	,NO ,	-5.195E-02,	2.296E+00,	3.793E+00,,	-0.014
C,SN-113	,NO ,	-4.641E-01,	3.200E+00,	5.161E+00,,	-0.090
C,SB-124	,NO ,	2.764E+00,	5.310E+00,	4.134E+00,,	0.669
C,SB-125	,NO ,	-5.678E-01,	6.812E+00,	1.127E+01,,	-0.050
C,TE-129M	,NO ,	3.918E-01,	2.831E+01,	4.678E+01,,	0.008
C,I-131	,NO ,	4.086E-01,	3.473E+00,	5.675E+00,,	0.072
C,BA-133	,NO ,	4.851E+00,	3.938E+00,	5.726E+00,,	0.847
C,CS-134	,NO ,	1.726E+01,	4.585E+00,	5.507E+00,,	3.134
C,CS-136	,NO ,	-1.164E+00,	3.079E+00,	4.919E+00,,	-0.237
C,CS-137	,NO ,	6.837E-01,	2.526E+00,	4.225E+00,,	0.162
C,CE-139	,NO ,	4.174E-02,	2.226E+00,	3.666E+00,,	0.011
C,BA-140	,NO ,	3.419E+00,	1.071E+01,	1.773E+01,,	0.193
C,LA-140	,NO ,	1.624E+00,	3.596E+00,	6.110E+00,,	0.266
C,CE-141	,NO ,	-6.294E+00,	4.094E+00,	6.586E+00,,	-0.956
C,CE-144	,NO ,	-2.506E+01,	1.718E+01,	2.782E+01,,	-0.901
C,EU-152	,NO ,	-1.061E+01,	8.806E+00,	1.153E+01,,	-0.920
C,EU-154	,NO ,	-3.608E+00,	4.789E+00,	7.652E+00,,	-0.471
C,RA-226	,NO ,	2.467E-02,	5.857E+01,	9.288E+01,,	0.000
C,AC-228	,NO ,	5.312E+00,	9.909E+00,	1.649E+01,,	0.322
C,TH-228	,NO ,	6.962E+00,	4.497E+00,	7.551E+00,,	0.922
C,TH-232	,NO ,	5.304E+00,	9.894E+00,	1.647E+01,,	0.322
C,U-235	,NO ,	-2.298E+01,	1.758E+01,	2.772E+01,,	-0.829
C,U-238	,NO ,	-3.666E+01,	2.983E+02,	4.797E+02,,	-0.076
C,AM-241	,NO ,	-2.337E+01,	2.569E+01,	4.179E+01,,	-0.559

APPENDIX E

DATA VALIDATION MEMORANDUM

CONESTOGA-ROVERS & ASSOCIATES

45 Farmington Valley Drive
Plainville, Connecticut 06062
Telephone: (860) 747-1800 Fax: (860) 747-1900
www.CRAworld.com

MEMORANDUM

TO: Steve Quigley

FROM: Kathy Shaw/ks/1/CT

REF. NO.: 45136-20

DATE: June 12, 2006

Revision Date: August 23, 2006

RE: Data Quality Assessment and Verification
Fleetwide Assessment - Hydrogeologic Investigation
Braidwood Station, Braceville, Illinois

This memorandum details a data verification of the radiochemical data resulting from the collection of 47 groundwater, 10 surface water and seven (7) quality control samples from the Braidwood Station in Braceville, Illinois. The sample summary detailing sample identification, sample location, quality control samples, and analytical parameters is presented in Table 1. Sample analysis was completed at Teledyne Brown Engineering in Knoxville, Tennessee (TBE) in accordance with the methodologies presented in Table 2. The quality control criteria used to assess the data were established by the methods.[1]

Sample Quantitation

The laboratory reported several radionuclides with activity concentrations above the minimum detectable concentration (MDC) and greater than the three (3) sigma critical level (99% confidence interval), but qualified them as not detected due to the presence of interference preventing identification of the major peaks, with a U* flag. Based on the laboratory qualification definition these concentrations should be qualified as not-detected (U*) above MDC reported by the laboratory.

Sample Preservation

Samples collected for gamma scan and total strontium analyses are to be preserved to a pH of less than or equal to two (2) during shipment and laboratory storage with nitric acid at the time of collection.
The samples were shipped and maintained in accordance with the sample preservation requirements.

Method Blank Samples

Contamination of samples contributed by laboratory conditions or procedures was monitored by concurrent preparation and analysis of method blank samples.
The method blank samples were reported to be free of radioactive material contamination produced by the laboratory conditions or procedures.

[1] PRESCRIBED PROCEDURE FOR MEASUREMENT OF RADIOACTIVITY IN DRINKING WATER EPA-600/4-80-032

Laboratory Control Sample Analysis

The laboratory control sample (LCS) is a sample containing a known amount of a radionuclide that is equivalent to internal or external control samples prepared by the analytical laboratory or a Federal/State agency. The LCS percent recoveries were within the laboratory or agency control limits, indicating that an acceptable level of overall performance was achieved.

Duplicate Sample Analyses

The laboratory precision of matrix-specific measurement system was monitored by the analyses of duplicate samples. The duplicate relative percent difference (RPD) data were within the acceptance criteria. No targeted analytes were reported as detected in the laboratory duplicate sample sets.

Field Quality Assurance/Quality Control

The field quality assurance/quality control consisted of seven (7) field duplicate sample sets. Overall precision for the sampling event and laboratory procedures was monitored using the results of the field duplicate sample sets. Table 3 summarizes the results of the detected analytes in the field duplicate sample set. The data indicate that an adequate level of precision was achieved for the sampling event.

Overall Assessment

The data were found to exhibit acceptable levels of accuracy and precision, based on the provided information, and may be used with the qualifications noted.

TABLE 1

SAMPLE KEY
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*QC Sample*	*Date*	*Matrix*	*Analysis*
TB-1-9D	WG-BW-050906-JL-001		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-6	WG-BW-050906-MS-002		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-5D	WG-BW-050906-JL-003		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-3D	WG-BW-050906-MS-004		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-1D	WG-BW-050906-JL-005		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-8	WG-BW-050906-MS-006		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-16	WG-BW-050906-JL-007		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-6	WG-BW-050906-MS-008		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-10D	WG-BW-051006-JL-009		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-5	WG-BW-050906-MS-010		5/9/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-10D	WG-BW-051006-JL-011	Duplicate (009)	5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-11	WG-BW-051006-MS-012		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-4D	WG-BW-051006-JL-013		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-23	WG-BW-051006-MS-014		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-3	WG-BW-051006-JL-015		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-10	WG-BW-051006-MS-016		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-2	WG-BW-051006-JL-017		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-13	WG-BW-051006-MS-018		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-2D	WG-BW-051006-JL-019		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-15	WG-BW-051006-MS-020		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-7D	WG-BW-051006-JL-021		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-15	WG-BW-051006-MS-022	Duplicate (020)	5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-14	WG-BW-051006-MS-024		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-8D	WG-BW-051006-JL-025		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-12	WG-BW-051006-MS-026		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-22	WG-BW-051106-JL-027		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-24	WG-BW-051006-MS-028		5/10/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-9	WG-BW-051106-JL-029		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-4	WG-BW-051106-MS-030		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-9	WG-BW-051106-JL-031	Duplicate (029)	5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-7	WG-BW-051106-MS-032		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TB-1-6D	WG-BW-051106-JL-033		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-21	WG-BW-051106-MS-034		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-202I	WG-BW-051106-JL-035		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum

TABLE 1

SAMPLE KEY
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Sample Location	*Sample Identification*	*QC Sample*	*Date*	*Matrix*	*Analysis*
MW-BW-203S	WG-BW-051106-MS-036		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-202S	WG-BW-051106-JL-037		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-203I	WG-BW-051106-MS-038		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201S	WG-BW-051106-JL-039		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201I	WG-BW-051106-MS-040		5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-204I	WG-BW-051206-JL-041		5/12/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201I	WG-BW-051106-MS-042	Duplicate (040)	5/11/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-205I	WG-BW-051206-JL-043		5/12/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-26	WG-BW-051206-MS-044		5/12/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-18	WG-BW-051206-MS-046		5/12/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-206I	WG-BW-051206-MS-048		5/12/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-24	WG-BW-051506-MB-050		5/15/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-24	WG-BW-051506-MB-052	Duplicate (050)	5/15/06	Groundwater	Tritium/Strontium/Gamma Spectrum
SG-BW-101	SW-BW-051706-MB-101		5/17/06	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-102	SW-BW-051706-MB-102		5/17/06	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-103	SW-BW-051706-MB-103		5/17/06	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-104	SW-BW-051706-MB-104		5/17/06	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-105	SW-BW-051706-MB-105		5/17/06	Surface Water	Tritium/Strontium/Gamma Spectrum
SG-BW-106	SW-BW-051706-MB-106		5/17/06	Surface Water	Tritium/Strontium/Gamma Spectrum
TW-25	WG-BW-051906-MB-054		5/19/06	Groundwater	Tritium/Strontium/Gamma Spectrum
TW-26	WG-BW-051906-MB-055		5/19/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201BD	WG-BW-052206-MB-056		5/22/06	Groundwater	Tritium/Strontium/Gamma Spectrum
MW-BW-201BD	WG-BW-052206-MB-057	Duplicate (056)	5/22/06	Groundwater	Tritium/Strontium/Gamma Spectrum
BW-208D	WG-BW-208D-072806-JL-100		7/28/06	Groundwater	Tritium/Strontium/Gamma Spectrum
BW-207	WG-BW-207-072806-JL-101		7/28/06	Groundwater	Tritium/Strontium/Gamma Spectrum
BW-207	WG-BW-207-072806-JL-102	Duplicate (101)	7/28/06	Groundwater	Tritium/Strontium/Gamma Spectrum

QC - Quality Control

Gamma Spec - Barium-140, Cesium-134, Cesium-137, Cobalt-58, Cobalt-60, Iron-59, Lanthanum-140, Manganese-54, Niobium-95, Zinc-65, Zirconium-95

Isotopes not listed in Table 1, but typically detected in environmental samples (i.e. K-40, Be-7, Ra-226, Th-232, etc.) may also be present .

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Parameter	*Method* [1]	*Matrix*	*Holding Time*	*Preservation*
Tritium	EPA 906.0	Water	- 6 months	None
Strontium - 89/90 (Total)	EPA 905.0	Water	- 6 months	HNO3 to pH<2
Gamma Spectrum	EPA 901.1	Water	- 6 months	HNO3 to pH<2

[1] EPA-60/40-80-032 August 1980 "Precribed Procedures For Measurement of Radioactivity In Drinking Water

TABLE 3

SUMMARY OF DETECTED ANALYTES IN FIELD DUPLICATE SAMPLE SETS
FLEETWIDE ASSESSMENT
BRAIDWOOD GENERATING STATION
BRACEVILLE, ILLINOIS

Parameter	*Original Sample ID*	*Original Result*	*Uncertainty @ 2 sigma*	*Duplicate Sample ID*	*Duplicate Result*	*Uncertainty @ 2 sigma*	*RPD*	*Units*
Tritium	WG-BW-051106-MS-040	261	+/- 104	WG-BW-051106-MS-042	182	+/- 97.5	36	pCi/L
Tritium	WG-BW-207-072806-JL-101	438	+/- 133	WG-BW-207-072806-JL-102	471	+/- 137	7.3	pCi/L

RPD Relative Percent Difference