The RETEC Group, Inc.
8605 W. Bryn Mawr Avenue, Suite 301
Chicago, IL 60631

RETEC

(773) 714-9900 Phone
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January 16, 2004

Mr. Peter B. McCauley
Project Manager
Commonwealth Edison
Environmental Services
227 West Monroe Street, 9th Floor
Chicago, Illinois 60606

RE: Semiannual Groundwater Monitoring Report - December 2003
Environmental Land Use Control Implementation
Midwest Generation Waukegan Generating Station

Dear Pete:

The RETEC Group, Inc. (RETEC) is pleased to submit to Commonwealth Edison (ComEd) two copies of the semiannual groundwater monitoring report for the period ending December 2003. This report was prepared in accordance with Section Nine of the Environmental Land Use Control (ELUC) for the Midwest Generation Waukegan Generating Station. The following paragraphs describe the installation of a new monitoring well, the groundwater sampling, and the analytical results. A survey map (Plat of Survey) of the property, including a legal description, prepared by McClure Engineering Associates, Inc. of Waukegan, Illinois, is provided in Attachment 1.

Well Installation

A new monitoring well, MW-15, was installed on December 02, 2003 along the southern boundary of the ELUC area by K&S Engineers, Inc. of Highland, Indiana using 4.25-inch inside diameter (ID) hollow stem augers. The location of the well is shown in Figure 1. The well was constructed of a 2-inch ID threaded, flush joint Type 304 stainless steel riser and a 0.010-inch slot, wire-wrapped screen. The well was installed to a depth of approximately 12 feet below ground surface and contains a 10 foot screened interval. A sand pack consisting of #5 silica sand was placed in the annular space to a depth of 1-foot bgs. An integrity seal consisting of medium bentonite chips was placed above the sand pack to a depth of 0.5 feet below ground surface. An 8-inch diameter flush mount well box was installed and cemented into place at ground level, and a pressure cap and lock were installed at the top of the well riser. Well development was completed using a 3-foot polyethylene bailer. During development 30 well casing volumes, approximately 37 gallons, were purged and containerized. The containerized development water and soil cuttings generated during drilling activities were transported off Midwest Generation property. A boring log, including well construction diagram, and well development record are provided in Attachments 2 and 3, respectively.

Groundwater Sampling

Groundwater sampling was conducted on December 17, 2003. Samples were collected from all six wells within the ELUC area, MW-10, MW-11, MW-12, MW-13, MW-14, and MW-15. The

locations of these wells are shown on Figure 1. Prior to sampling, water levels were measured, and each monitoring well was purged three to four well casing volumes using a low flow peristaltic pump. During purging, water quality parameters (i.e., temperature, pH, conductivity, and oxidation reduction potential) were recorded. Samples were collected from each well using a low flow peristaltic pump, then were allowed to settle in a refrigerator for 24 hours in laboratory provided non-preservative bottles. The samples were then decanted into appropriate laboratory supplied bottles with preservative, except for total dissolved solids (TDS) samples which do not require preservative. The groundwater samples were shipped via lab courier service to Severn Trent Laboratories Inc (STL) of University Park, Illinois, a National Environmental Laboratory Accreditation Conference (NELAC) certified laboratory. Groundwater samples were analyzed for arsenic using EPA Method 7060A, iron and manganese using EPA Method 6010B, and TDS using EPA Method 160.1.

Results

Water level measurements and elevation for the six wells obtained on December 17, 2003 are summarized in Table 1. The analytical results for the groundwater samples collected on December 17, 2003 and analyzed for arsenic, iron, manganese, and TDS, are summarized in Table 2. A copy of the laboratory analytical report is provided in Attachment 4.

If you have any questions or comments regarding this report, please call me at (773) 714-9900 ext. 11.

Sincerely,

The RETEC Group, Inc.

David Meiri, Ph.D., CGWP
Vice President

Attachments

cc: Ms. Maria L. Race, Midwest Generation EME (3 copies)
File: CEDI4-15159-790

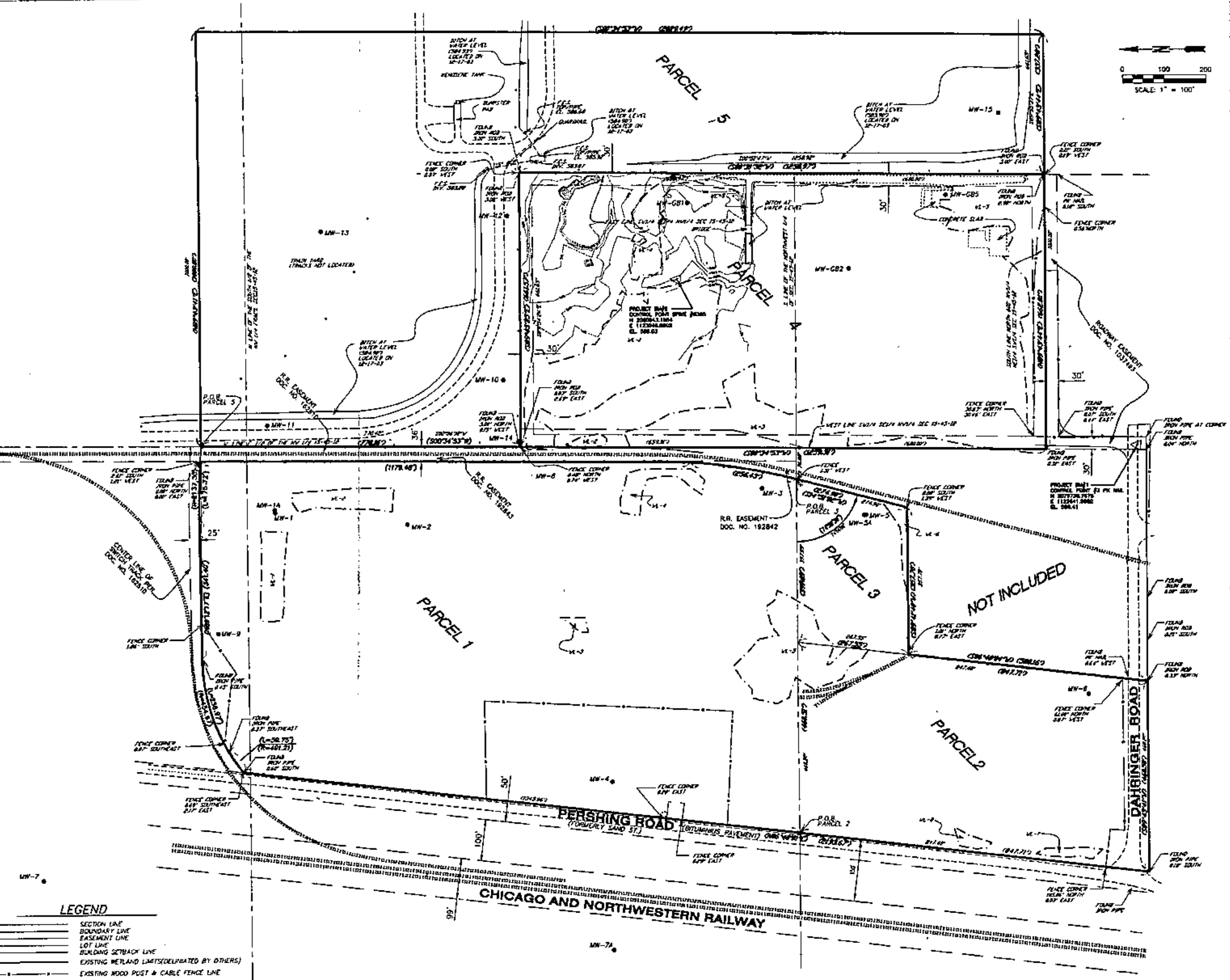
Table 1 **Water Level Elevations for Midwest Generation ELUC Area**

		December 17, 2003	
Well Number	Well Riser Elevation ft MSL	Depth to Water Below Riser ft	Water Level Elevation ft MSL
MW-10	587.94	4.33	583.61
MW-11	587.03	2.37	584.66
MW-12	587.25	3.71	583.54
MW-13	586.26	1.77	584.49
MW-14	586.69	1.61	585.08
MW-15	588.03	4.31	583.72

Table 2 Groundwater Analytical Results from Midwest Generation ELUC Area

Chemical	CAS No.	Sample Name: MW-10 Sample Location: MW-10 Sample Date: 12/17/2003 Sample Type: Investigation Area: MWG ELUC	Sample Name: MW-11 Sample Location: MW-11 Sample Date: 12/17/2003 Sample Type: Investigation Area: MWG ELUC	Sample Name: MW-12 Sample Location: MW-12 Sample Date: 12/17/2003 Sample Type: Investigation Area: MWG ELUC	Sample Name: MW-13 Sample Location: MW-13 Sample Date: 12/17/2003 Sample Type: Investigation Area: MWG ELUC	Sample Name: MW-14 Sample Location: MW-14 Sample Date: 12/17/2003 Sample Type: Investigation Area: MWG ELUC	Sample Name: DUP-01 Sample Location: MW-14 Sample Date: 12/17/2003 Sample Type: Duplicate Area: MWG ELUC	Sample Name: MW-15 Sample Location: MW-15 Sample Date: 12/17/2003 Sample Type: Investigation Area: MWG ELUC
METALS (mg/L)								
Arsenic	7440382	0.15	0.86	0.003	< 0.002	0.16	0.18	0.0022
Iron	15438310	1.4	2.9	0.296	0.296	0.83	0.95	1.3
Manganese	7439965	0.19	0.35	0.055	0.055	0.14	0.15	0.64
INORGANICS (mg/L)								
Solids, Total Dissolved (TDS)		560	600	0.02	0.02	560	360	740

Notes:
<: Less than; when appearing in the results column indicates the analyte was not detected above the reported concentration.



PLAT OF SURVEY OF

PARCEL 1: THAT PART OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE 3RD P.M., LYING EAST OF AND ADJOINING SAND STREET AND SOUTHERLY OF AND ADJOINING THE SWITCH RAILWAY RIGHT OF WAY OF THE CHICAGO AND NORTHWESTERN RAILWAY COMPANY AS ESTABLISHED IN THE DEED FROM JAMES MORROW AND WIFE, TO WILDER TANNING COMPANY, DATED DECEMBER 23, 1915 AND RECORDED DECEMBER 23, 1915, AS DOCUMENT 162510, IN BOOK 205 OF DEEDS, PAGE 471, (EXCEPTING THEREFROM THAT PART CONVEYED BY THE GRIESS-PFLEGER TANNING COMPANY TO ELGIN, JOLIET AND EASTERN RAILWAY COMPANY BY DEED DATED MARCH 23, 1920 AND RECORDED MAY 20, 1920, AS DOCUMENT 192642, IN BOOK 228 OF DEEDS, PAGE 395, ALSO EXCEPTING THAT PART THEREOF CONVEYED BY THE GRIESS-PFLEGER TANNING COMPANY, TO THE ELGIN, JOLIET AND EASTERN RAILWAY COMPANY, BY DEED DATED MARCH 31, 1920 AND RECORDED MAY 20, 1920, AS DOCUMENT 192643, IN BOOK 228 OF DEEDS, PAGE 396), IN LAKE COUNTY, ILLINOIS.

PARCEL 2: THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE 3RD P.M., DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF FRACTIONAL SECTION 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE 3RD P.M.; THENCE EASTERLY WITH AND ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION, A DISTANCE OF 390.7 FEET MORE OR LESS, TO THE PLACE OF BEGINNING IN THE EASTERLY LINE OF SAND STREET, SAID POINT BEING 150 FEET EASTERLY FROM, MEASURED AT RIGHT ANGLES, TO THE EASTERLY RIGHT OF WAY LINE OF THE CHICAGO AND NORTHWESTERN RAILWAY COMPANY; THENCE SOUTHERLY WITH AND ALONG THE EASTERLY LINE OF SAID SAND STREET, BEING PARALLEL WITH THE SAID EASTERLY RIGHT OF WAY LINE OF SAID RAILWAY COMPANY, A DISTANCE OF 847.4 FEET TO A POINT IN THE NORTH LINE OF THE PROPERTY OF THE NORTH SHORE GAS COMPANY, SAID POINT BEING 841.5 FEET DUE SOUTH FROM THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION; THENCE EASTERLY WITH AND ALONG THE NORTH LINE OF THE PROPERTY OF THE NORTH SHORE GAS COMPANY, A DISTANCE OF 460.2 FEET TO A POINT, SAID POINT BEING 841.5 FEET DUE SOUTH FROM THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION; THENCE NORTHERLY ALONG A LINE A DISTANCE OF 847.4 FEET TO A POINT IN THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION, SAID POINT BEING 460.2 FEET DUE EAST OF THE PLACE OF BEGINNING; THENCE WEST ALONG THE NORTH LINE OF SAID SOUTHWEST QUARTER SECTION, 460.2 FEET TO THE PLACE OF BEGINNING, IN LAKE COUNTY, ILLINOIS.

PARCEL 3: THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE 3RD P.M., DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE SOUTH LINE OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE 3RD P.M., SAID POINT BEING 76.06 FEET WESTERLY FROM THE SOUTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 15, MEASURED WITH AND ALONG THE SOUTH LINE OF SAID QUARTER QUARTER SECTION; THENCE SOUTHWESTERLY ALONG A LINE MAKING A SOUTHWEST ANGLE OF 74 DEGREES AND 54 MINUTES WITH THE SOUTH LINE OF SAID QUARTER QUARTER SECTION, 274.9 FEET; THENCE WESTERLY ALONG A LINE MAKING A NORTHWEST ANGLE OF 105 DEGREES AND 6 MINUTES WITH THE LAST DESCRIBED COURSE AND PARALLEL TO THE SOUTH LINE OF SAID QUARTER QUARTER SECTION, 357.7 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF THE ELGIN, JOLIET AND EASTERN RAILWAY COMPANY; THENCE NORTHEASTERLY WITH AND ALONG SAID WESTERLY RIGHT OF WAY LINE AND MAKING A NORTHEAST ANGLE OF 83 DEGREES AND 4 MINUTES WITH THE LAST DESCRIBED COURSE 287.55 FEET TO A POINT ON THE SOUTH LINE OF SAID QUARTER QUARTER SECTION; THENCE EASTERLY WITH AND ALONG THE SOUTH LINE OF SAID QUARTER QUARTER SECTION, MAKING A SOUTHEAST ANGLE OF 96 DEGREES AND 56 MINUTES WITH THE LAST DESCRIBED COURSE 397.09 FEET TO THE PLACE OF BEGINNING OF PROPERTY HEREIN DESCRIBED, IN LAKE COUNTY, ILLINOIS.

PARCEL 4: THE SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 AND THE NORTH 600 FEET OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 15, TOWNSHIP 45 NORTH, RANGE 12, EAST OF THE THIRD PRINCIPAL MERIDIAN, IN LAKE COUNTY, IL.

PARCEL 5: A PORTION OF THE EAST 1/2 OF THE WEST 1/2 OF SECTION 15, TOWNSHIP 45 NORTH, RANGE 12 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS:
BEGINNING AT THE POINT OF INTERSECTION BETWEEN THE NORTHERLY LINE OF THE 50 FOOT SWITCH RAILWAY RIGHT OF WAY DESCRIBED IN DOCUMENT NO. 162510, RECORDED DECEMBER 23, 1915, AND THE WEST LINE OF THE EAST 1/2 OF THE NORTHWEST QUARTER OF SAID SECTION 15, SAID POINT BEING THE NORTHEAST CORNER OF THAT CERTAIN PREMISES CONVEYED TO WILDER TANNING CO. BY SAID DOCUMENT NO. 162510; THENCE SOUTH 00 DEGREES 56 MINUTES 10 SECONDS WEST A DISTANCE OF 770.42 FEET; THENCE SOUTH 89 DEGREES 54 MINUTES 28 SECONDS EAST A DISTANCE OF 661.65 FEET; THENCE SOUTH 00 DEGREES 51 MINUTES 47 SECONDS WEST A DISTANCE OF 1,258.92 FEET; THENCE SOUTH 89 DEGREES 55 MINUTES 37 SECONDS EAST TO A POINT ON THE SOUTH LINE OF THE NORTH 600 FEET OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 15, WHICH POINT LIES 1,000 FEET EASTERLY ALONG SUCH SOUTH LINE FROM THE WEST LINE OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 15; THENCE NORTHERLY, PARALLEL TO THE EAST LINE OF THE NORTHWEST 1/4 OF SAID SECTION 15, TO A POINT LYING ON A LINE EXTENDING EASTERLY FROM THE POINT OF BEGINNING THAT IS PARALLEL TO THE NORTH LINE OF THE SOUTHEAST 1/4 OF THE NORTHWEST 1/4 OF SAID SECTION 15; THENCE WESTERLY ALONG SUCH LINE A DISTANCE OF 1,000 FEET (MORE OR LESS) TO THE POINT OF BEGINNING.

LEGEND

- SECTION LINE
- BOUNDARY LINE
- EASEMENT LINE
- LOT LINE
- BUILDING SETBACK LINE
- EXISTING WETLAND LIMITS(DELINEATED BY OTHERS)
- EXISTING WOOD POST & CABLE FENCE LINE
- EXISTING FENCE LINE
- EXISTING FOUNDATION
- EXISTING MONITORING WELL
- FOUND IRON PIPE
- EXISTING LIGHT POLE
- EXISTING POWER POLE
- 50.00' PLAT DISTANCE
- MEASURED DISTANCE
- EXISTING RAILROAD TRACKS
- SOIL BORING LOCATION PER METCALF & EDDY FIGURE 1 SOIL BORING LOCATION & FLY ASH THICKNESS MAP
- SOIL SAMPLE LOCATION PER METCALF & EDDY FIGURE 2-7 PROPOSED SOIL BORING LOCATION MAP
- BOTH SUBSURFACE & SURFACE SAMPLE LOCATION PER METCALF & EDDY FIGURE 2-7 PROPOSED SOIL BORING LOCATION MAP

MONITORING WELLS

WELL #	NORTHING	EASTING	TOP OF CASING ELEVATION
MW-1	2081810.1353	1122490.2393	591.59
MW-1A	2081811.3372	1122497.1070	591.10
MW-2	2081492.0000	1122459.3475	593.06
MW-3	2080639.7330	1122540.5328	589.46
MW-4	2081003.6079	1121832.4366	591.63
MW-5	2080390.3677	1122474.9250	590.10
MW-5A	2080394.9636	1122475.1472	590.06
MW-6	2079857.3121	1122037.8378	590.54
MW-7	2082375.4774	1121603.8967	593.57
MW-7A	2081001.7300	1121423.5534	591.58
MW-8	2081192.4284	1122576.3322	590.24
MW-9	2081948.7152	1122197.4816	589.50
MW-10	2081260.3459	1122807.7880	588.12
MW-11	2081828.5634	1122701.6615	587.24
MW-12	2081250.2416	1123202.7414	587.43
MW-13	2081898.0942	1123168.8482	588.67
MW-14	2081224.1054	1122658.8465	588.90
MW-15	2080071.9978	1123444.2215	585.32
MW-GB1	2080617.9533	1123230.9315	590.30
MW-GB2	2080432.3251	1123071.0353	588.06
MW-GB5	2080199.1131	1123246.9398	585.28

NOTES:

1. COORDINATES SHOWN HEREON ARE STATE PLANE COORDINATES ILLINOIS EAST ZONE. (CONVERTED TO U.S. SURVEY FEET)
   LABELED BEARINGS ARE REFERENCED TO STATE COORDINATES ILLINOIS EAST ZONE. (CONVERTED TO U.S. SURVEY FEET)
   LABELED DISTANCES ARE GROUND DISTANCES. TO CONVERT GROUND DISTANCES TO GRID DISTANCES, MULTIPLY BY 0.99996847
2. ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM.
3. NO DIMENSION SHALL BE ASSUMED BY SCALE.
4. REFER TO DEED, ABSTRACT TITLE POLICY OR BUILDING OFFICIAL FOR BUILDING LINES, SETBACK LINES OR EASEMENT.
5. GENERAL BOILER SITE B-1 THRU B-14 LOCATED FROM FENCE GRID BY DIMENSIONS TAKEN FROM METCALF & EDDY FIGURE 1 SOIL BORING LOCATION & FLY ASH THICKNESS MAP.
6. GRIESS PFLEGER TANNERY SB01 THRU SB10 & SB33 THRU SB40 SCALED FROM METCALF & EDDY FIGURE 2-7 PROPOSED SOIL BORING LOCATION MAP.
7. GRIESS PFLEGER TANNERY SB11 THRU SB32 LOCATED BY DIMENSIONS TAKEN FROM METCALF & EDDY FIGURE 2-7 PROPOSED SOIL BORING LOCATION MAP.
8. SB-20 THROUGH SB-25 LOCATED BY DIMENSION USING SOUTH FENCE LINE INSTEAD OF SOUTH PROPERTY LINE, WITH INFORMATION SUPPLIED BY RETEC.
9. CHANGED GRID LINE N TO GRID LINE X (NORTH EAST GRID) & CHANGED GRID LINE M TO GRID LINE T (SOUTH WEST GRID) WITH INFORMATION SUPPLIED BY RETEC.
10. LOT 4 (FORMERLY US RADIATOR) WETLAND AREAS 1-5 (FLAGGED BY OTHERS) LOCATED ON 03-04-03
11. LOT 4 (FORMERLY US RADIATOR) WETLAND AREAS 1-5 (FLAGGED BY OTHERS) UPDATED ON 06-03-03
12. LOT 4 (FORMERLY US RADIATOR) WETLAND AREAS 1-5 (FLAGGED BY OTHERS) UPDATED ON 06-19-03
13. LOT 4 (FORMERLY US RADIATOR) ADDITIONAL TOPO UPDATED ON 09-16-03

STATE OF ILLINOIS) S.S.
COUNTY OF LAKE)

I, HARLAN M. DOLAND, AN ILLINOIS REGISTERED PROFESSIONAL LAND SURVEYOR WITH McCLURE ENGINEERING ASSOCIATES, INC. DO HEREBY CERTIFY THAT A SURVEY WAS MADE, UNDER MY DIRECT SUPERVISION, OF THE ABOVE DESCRIBED PROPERTY AND THAT THIS PLAT CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THE SURVEY AND THAT THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT APPLICABLE ILLINOIS PROFESSIONAL LAND SURVEYOR ASSOCIATION STANDARDS.

DIMENSIONS ARE SHOWN IN FEET AND DECIMAL PARTS THEREOF AND ARE CORRECTED TO A TEMPERATURE OF 68 DEGREES FAHRENHEIT.

WAUKEGAN, ILLINOIS, THIS 9th DAY OF January, A.D., 2004

BY: ______________________
ILLINOIS PROFESSIONAL LAND SURVEYOR NO. 35-3121
LICENSE EXPIRES 11/04

STATE OF ILLINOIS HARLAN M. DOLAND 35-3121 WAUKEGAN PROFESSIONAL LAND SURVEYOR

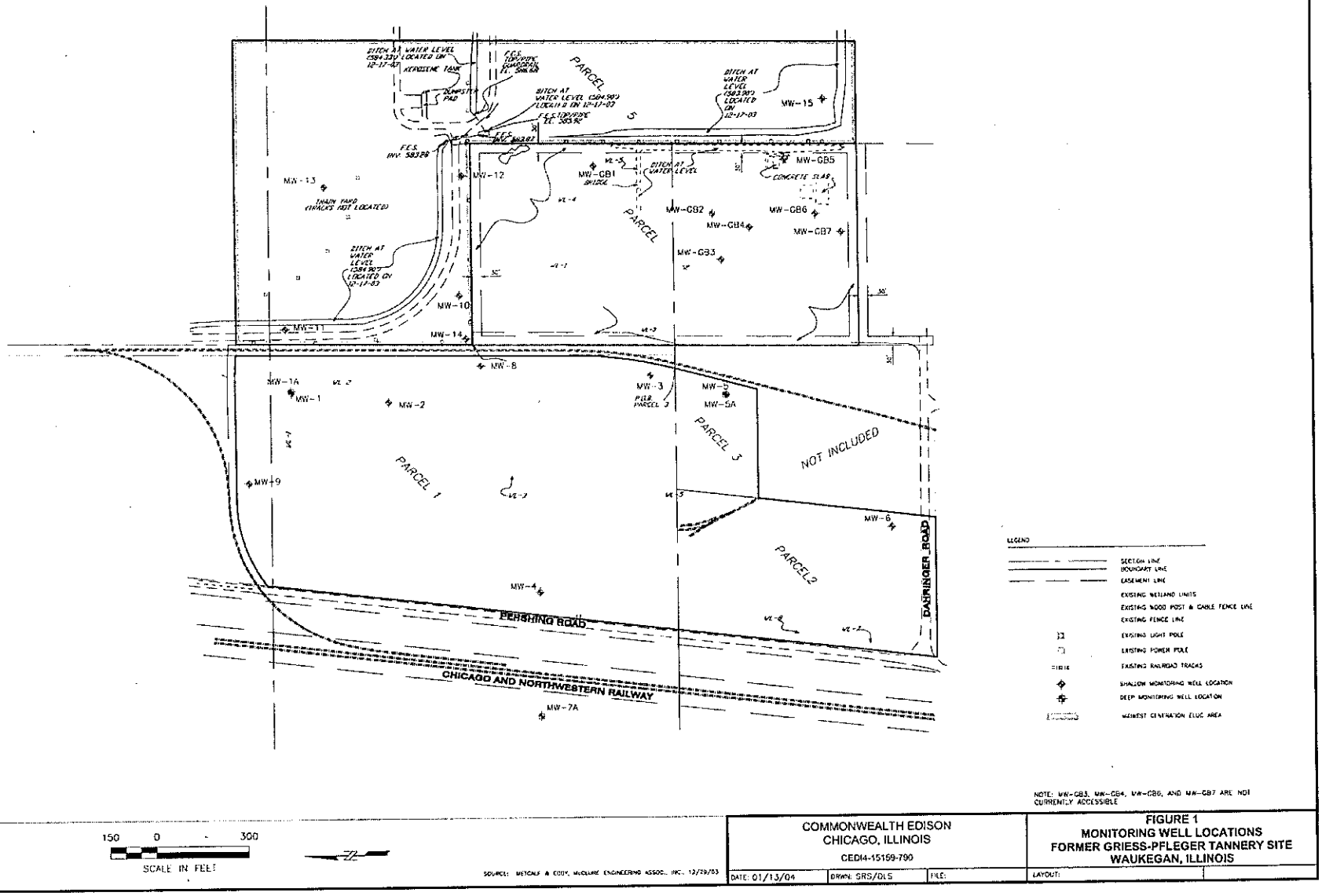
McCLURE ENGINEERING ASSOCIATES, INC.

PLAT OF SURVEY

CITY OF WAUKEGAN, LAKE COUNTY, ILLINOIS

SHEET NO. 1 of 1

MWG13-15_11928



MWG13-15_11929

Attachment 1

Plat of Survey

Attachment 2

Soil Boring Log

MWG13-15_11931

RETEC

MW-15 Boring Log

Boring #: MW-15
Sheet 1 of 1

Project: Former Griess-Pfleger Tannery	Operator: Carlos Santana	Location: Midwest Gen. Waukegan, IL
Project #: CEDI4-15159-790	Drill Rig Type: Diedrich D-120	Northing: 2080071 Easting: 1123444
Client: Commonwealth Edison	Method: Hollow Stem Auger	Surface Elevation (ft AMSL): 588.32
Contractor: K & S Engineering	Casing ID: 2" Stainless Steel	Total Depth (ft bgs): 13.0
Start Date & Time: 12/2/2003 08:50	Bit Type: Hollow Stem Auger	Seal: Medium Bentonite Chips
Finish Date & Time: 12/2/2003 10:00	Boring ID: 4.25" Boring OD: 6.25"	Logged By: Glenn Kays

Depth Range	blows/ 6 inch	% Rec	Graphic	Depth (ft)	Soil and Rock Description	Well Construction
0-2	5, 6, 7, 8	75		0	SM: Silty Sand, black, medium-stiff, organic, some clay.	S.S. Riser; Seal
2-4	3, 5, 4, 4	100		2	SM: Silty Sand, black, medium-stiff, moist-wet, some clay.	Screen 0.010" Stainless Steel
4-6	2, 5, 6, 4	75		4	SM: Same as above, increased sand.	Silica sand #5
6-8	3, 5, 6, 11	50		5	SP: Sand, tan, poorly graded, wet.	
8-10	2, 3, 6, 9	40		6	SM: Sand, tan, loose-medium dense, wet.	
10-12	4, 9, 10, 12	50		7		
12-13	3, 4	50		8	SW: Gravelly Sand, tan to grey, well graded, medium dense-loose, wet.	
				9		
				10	SW: Same as above.	
				11		
				12	SW: Same as above.	
				13		

Remarks and Datum Used: Water table approximately 5 ft bgs.

The RETEC Group
8605 W. Bryn Mawr Avenue, #301
Chicago, IL 60631
Phone: (773) 714-9900
Fax: (773) 714-9805

Attachment 3

Well Development Record

MWG13-15_11933

MONITORING WELL DEVELOPMENT RECORD

RETEC

Site: Former Griess-Pfleger Tannery		Client: Commonwealth Edison	
Project No.: CEDI4-15159	Sample ID: N/A	Well No.: MW-15	
Development Start Date/Time: 12/02/03 12:31		Development End Date/Time: 12/2/2003	13:50
Developed By: Glenn B. Kays			

Depth Measurement Ref. Point* Top of Riser Well Casing ID: 2" 4" 6" Other ____

Well Headspace/Odor No LNAPL Check (Yes/No) DNAPL Check (Yes/No)

Equipment used to measure thickness and sample free product (Make, Model, etc.) N/A

Depth to top and bottom of screened interval T =2.20 B=12.20 Depth to LNAPL N/A

Original DTW 4.7 Final DTW 4.72 Depth to DNAPL N/A

LNAPL/DNAPL Thickness N/A LNAPL/DNAPL Sample and Volume N/A

Measured Well TD: 12.21 (-) Original DTW: 4.7 (=) Ht. Wtr Col.: 7.51

DEVELOPMENT METHOD:

☐ Submersible Pump	☐ Dedicated Bladder Pump	☐ Bladder Pump		☐ SS
☐ Centrifugal Pump	☐ Peristaltic Pump	☐ Hand Pump	☒ Bailer	☐ Tef
☐ Gas Lift/Displacement Pump	☐ Inertial Lift Pump	☐ Other ____		☐ PVC

Development Equip. (Make, Model, etc.) Polyethylene Bailer

Development Water Containerized? (Yes / No) Development Equip. Decontaminated? ☐ Yes ☒ No

Average Development Rate: 0.47 gpm Weather Sunny, Cold

Actual Time (min.)	Volumes Purged (gals.)	Depth to Water (ft.)	Temp (°C)	pH	Conductivity (mS/cm)	D.O. (mg/L)	Comments
0	0	4.7	12.8	6.87	1287.0	212	Brown
2	1.2		11.8	7.11	673.8	146	Brown
5	2.4		11.7	7.02	737.3	144	Brown
8	3.6		11.6	7.05	784.5	137	Brown
11	4.8		11.7	7.07	860.2	122	Brown
14	6		11.8	7.12	907.4	95	Brown
18	7.2		11.7	7.14	939.9	71	Brown
21	8.4		11.8	7.17	928.9	54	Brown
25	9.6		11.7	7.17	969.0	28	Brown
28	10.8		11.7	7.17	988.1	-525	Brown
31	12		11.8	7.17	1000.0	-5	Light Brown
33	13.2		11.7	7.16	1002.0	-8	Light Brown
37	14.4		11.8	7.18	999.6	-11	Light Brown
39	15.6		12	7.2	1004.0	-25	Light Brown
42	16.8		11.8	7.2	1020.0	-30	Light Brown
44	18		11.9	7.19	1018.0	-35	Light Brown
46	19.2		11.9	7.19	1027.0	-41	Light Brown
48	20.4		11.9	7.18	1032.0	-44	Light Brown

* All depths in feet below reference point on wellhead, generally Top of Casing; DTW = Depth to Water; LNAPL/DNAPL = Light/Dense Non-Aqueous Phase Liquid

Actual Time (min.)	Vols. Purged (gals.)	Depth to Water (ft.)	Temp (°C)	pH	Conductivity (mS/cm)	D.O. (mg/L)	Comments
50	21.6		11.9	7.19	1018.0	-42	Light Brown
52	22.8		11.7	7.18	1037.0	-40	Light Brown
54	24		11.9	7.17	1024.0	-45	Light Brown
56	25.2		12.1	7.22	1021.0	-57	Light Brown
58	26.4		11.9	7.22	993.4	-45	Light Brown
60	28.6		11.2	7.23	1012.0	-51	Light Brown
62	29.8		11.8	7.24	972.9	-44	Light Brown
64	31		11.6	7.22	1044.0	-48	Light Brown
66	32.2		11.3	7.22	1023.0	-49	Light Brown
69	33.4		11.6	7.21	1038.0	-51	Light Brown
71	34.6		11.8	7.21	1021.0	-70	Clear
74	35.8		11.7	7.21	1042.0	-58	Clear
79	37	4.72	11.8	7.2	1030.0	-56	Clear

* All depths in feet below reference point on wellhead, generally Top of Casing; DTW = Depth to Water; LNAPL/DNAPL = Light/Dense Non-Aqueous Phase Liquid

MWG13-15_11935

Attachment 4

Laboratory Analytical Report

MWG13-15_11936

SEVERN TRENT STL

STL Chicago
2417 Bond Street
University Park, IL 60466

Tel: 708 534 5200 Fax: 708 534 5211
www.stl-inc.com

December 31, 2003

Mr. David Meiri
The RETEC Group, Inc.
8605 W. Bryn Mawr Ave., Suite 301
Chicago, IL 60631

RE: ComEd Waukegan
Analytical Report
Job# 223208

Dear Mr. Meiri:

The enclosed analytical report is for the project and job number listed above. These analyses were performed to meet the requirements of the Retec Quality Assurance Project Plan dated November 15, 2002. If you have any questions, please contact me at 708-534-5200.

Sincerely,

Severn Trent Laboratories

for Nancy S. McDonald

Eric A. Lang
Project Manager

kl

Enclosure

SEVERN TRENT STL

STL Chicago
2417 Bond Street
University Park, IL 60466

Tel: 708 534 5200 Fax: 708 534 5211
www.stl-inc.com

SEVERN TRENT LABORATORIES
ANALYTICAL REPORT

JOB NUMBER: 223208

Prepared For:

The RETEC Group Inc.
8605 W. Bryn Mawr Ave.
Suite 301
Chicago, IL 60631

Project: ComEd - Waukegan

Attention: David Meiri

Date: 12/31/2003

Mary S. McDonald for
Signature

12/31/03
Date

Name: Eric A. Lang

Title: Project Manager

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This Report Contains (16) Pages

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SAMPLE INFORMATION
Date: 12/31/2003

Job Number.: 223208
Customer...: The RETEC Group Inc.
Attn.....: David Meiri

Project Number.....: 20002196
Customer Project ID....: COMED - WAUKEGAN
Project Description....: ComEd - Waukegan

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
223208-1	MW-15-121703	Water	12/17/2003	09:20	12/18/2003	17:30
223208-2	MW-12-121703	Water	12/17/2003	09:55	12/18/2003	17:30
223208-3	MW-10-121703	Water	12/17/2003	10:25	12/18/2003	17:30
223208-4	MW-14-121703	Water	12/17/2003	10:55	12/18/2003	17:30
223208-5	MW-11-121703	Water	12/17/2003	11:30	12/18/2003	17:30
223208-6	MW-13-121703	Water	12/17/2003	13:20	12/18/2003	17:30
223208-7	DUP-01-121703	Water	12/17/2003	00:00	12/18/2003	17:30

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LABORATORY TEST RESULTS

Job Number: 223208

Date:12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meirl

Customer Sample ID: MW-15-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 09:20
Sample Matrix.....: Water

Laboratory Sample ID: 223208-1
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)											
	Solids, Total Dissolved (TDS)	740			4.8	10	1	mg/L	105612		12/22/03 1509	jmk
7060A	Arsenic (GFAA)											
	Arsenic	0.0022			0.00073	0.0020	1	mg/L	106030		12/30/03 1006	daj
6010B	Metals Analysis (ICAP Trace)											
	Iron	1.3			0.040	0.050	1	mg/L	106070		12/31/03 0206	tds
	Manganese	0.64			0.00071	0.010	1	mg/L	106070		12/31/03 0206	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 223208

Date:12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meiri

Customer Sample ID: MW-12-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 09:55
Sample Matrix.....: Water

Laboratory Sample ID: 223208-2
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)											
	Solids, Total Dissolved (TDS)	1900			4.8	10	1	mg/L	105612		12/22/03 1513	jmk
7060A	Arsenic (GFAA)											
	Arsenic	0.0030			0.00073	0.0020	1	mg/L	106030		12/30/03 1017	daj
6010B	Metals Analysis (ICAP Trace)											
	Iron	13			0.040	0.050	1	mg/L	106070		12/31/03 0213	tds
	Manganese	0.54			0.00071	0.010	1	mg/L	106070		12/31/03 0213	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 223208

Date:12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meirl

Customer Sample ID: MW-10-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 10:25
Sample Matrix.....: Water

Laboratory Sample ID: 223208-3
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)											
	Solids, Total Dissolved (TDS)	560			4.8	10	1	mg/L	105612		12/22/03 1516	jmk
7060A	Arsenic (GFAA)											
	Arsenic	0.15			0.0036	0.010	5	mg/L	106030		12/30/03 1313	daj
6010B	Metals Analysis (ICAP Trace)											
	Iron	1.4			0.040	0.050	1	mg/L	106070		12/31/03 0220	tds
	Manganese	0.19			0.00071	0.010	1	mg/L	106070		12/31/03 0220	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 223208

Date: 12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meiri

Customer Sample ID: MW-14-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 10:55
Sample Matrix.....: Water

Laboratory Sample ID: 223208-4
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)											
	Solids, Total Dissolved (TDS)	560			4.8	10	1	mg/L	105612		12/22/03 1519	jmk
7060A	Arsenic (GFAA)											
	Arsenic	0.16			0.0036	0.010	5	mg/L	106030		12/30/03 1325	daj
6010B	Metals Analysis (ICAP Trace)											
	Iron	0.83			0.040	0.050	1	mg/L	106070		12/31/03 0251	tds
	Manganese	0.14			0.00071	0.010	1	mg/L	106070		12/31/03 0251	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 223208

Date:12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meiri

Customer Sample ID: MW-11-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 11:30
Sample Matrix.....: Water

Laboratory Sample ID: 223208-5
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)											
	Solids, Total Dissolved (TDS)	600			4.8	10	1	mg/L	105614		12/24/03 1358	jmk
7060A	Arsenic (GFAA)											
	Arsenic	0.86			0.015	0.040	20	mg/L	106030		12/30/03 1337	daj
60108	Metals Analysis (ICAP Trace)											
	Iron	2.9			0.040	0.050	1	mg/L	106070		12/31/03 0258	tds
	Manganese	0.35			0.00071	0.010	1	mg/L	106070		12/31/03 0258	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 223208

Date:12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meiri

Customer Sample ID: MW-13-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 13:20
Sample Matrix.....: Water

Laboratory Sample ID: 223208-6
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)											
	Solids, Total Dissolved (TDS)	1500			4.8	10	1	mg/L	105614		12/24/03 1404	jmk
7060A	Arsenic (GFAA)											
	Arsenic	0.0020	U		0.00073	0.0020	1	mg/L	106030		12/30/03 1349	daj
6010B	Metals Analysis (ICAP Trace)											
	Iron	0.18			0.040	0.050	1	mg/L	106070		12/31/03 0305	tds
	Manganese	0.031			0.00071	0.010	1	mg/L	106070		12/31/03 0305	tds

* In Description = Dry Wgt.

MWG13-15_11945

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LABORATORY TEST RESULTS

Job Number: 223208

Date:12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meiri

Customer Sample ID: DUP-01-121703
Date Sampled.....: 12/17/2003
Time Sampled.....: 00:00
Sample Matrix.....: Water

Laboratory Sample ID: 223208-7
Date Received.....: 12/18/2003
Time Received.....: 17:30

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
160.1	Solids, Total Dissolved (TDS)	360			4.8	10	1	mg/L	105614		12/24/03 1411	jmk
	Solids, Total Dissolved (TDS)											
7060A	Arsenic (GFAA)	0.18			0.0036	0.010	5	mg/L	106030		12/30/03 1419	daj
	Arsenic											
6010B	Metals Analysis (ICAP Trace)											
	Iron	0.95			0.040	0.050	1	mg/L	106070		12/31/03 0312	tds
	Manganese	0.15			0.00071	0.010	1	mg/L	106070		12/31/03 0312	tds

* In Description = Dry Wgt.

LABORATORY CHRONICLE

Job Number: 223208 Date: 12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meirl

Lab ID: 223208-1 Client ID: MW-15-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1006	
EDD	Electronic Data Deliverable	1					
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0206	
160.1	Solids, Total Dissolved (TDS)	1	105612	105612	12/22/2003	1509	

Lab ID: 223208-2 Client ID: MW-12-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1017	
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0213	
160.1	Solids, Total Dissolved (TDS)	1	105612	105612	12/22/2003	1513	

Lab ID: 223208-3 Client ID: MW-10-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1313	5
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0220	
160.1	Solids, Total Dissolved (TDS)	1	105612	105612	12/22/2003	1516	

Lab ID: 223208-4 Client ID: MW-14-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1325	5
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0251	
160.1	Solids, Total Dissolved (TDS)	1	105612	105612	12/22/2003	1519	

Lab ID: 223208-5 Client ID: MW-11-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1337	20
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0258	
160.1	Solids, Total Dissolved (TDS)	1	105614	105614	12/24/2003	1358	

Lab ID: 223208-6 Client ID: MW-13-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1349	
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0305	
160.1	Solids, Total Dissolved (TDS)	1	105614	105614	12/24/2003	1404	

Lab ID: 223208-7 Client ID: DUP-01-121703 Date Recvd: 12/18/2003 Sample Date: 12/17/2003

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Digestion (ICAP)	1	105579		12/26/2003	0840	
3020A(M)	Acid Digestion with H202 (GFAA)	1	105595		12/26/2003	0925	
7060A	Arsenic (GFAA)	1	106030	105595	12/30/2003	1419	5
6010B	Metals Analysis (ICAP Trace)	1	106070	105579	12/31/2003	0312	
160.1	Solids, Total Dissolved (TDS)	1	105614	105614	12/24/2003	1411	

QUALITY CONTROL RESULTS

Job Number.: 223208 — Report Date.: 12/31/2003

CUSTOMER: The RETEC Group Inc. — PROJECT: COMED - WAUKEGAN — ATTN: David Heirl

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B — Equipment Code....: ICP3 — Analyst...: tds
Method Description.: Metals Analysis (ICAP Trace) — Batch.....: 106070

LCS	Laboratory Control Sample	M03LSPK002	105579-002		12/31/2003	0133

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Iron	mg/L	0.91067		1.00000	0.03960 U	91	%	80-120	
Manganese	mg/L	0.47535		0.50000	0.00071 U	95	%	80-120	

LCS	Laboratory Control Sample	M03LSPK002	105710-002		12/31/2003	0556

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Iron	mg/L	0.92694		1.00000	0.03960 U	93	%	80-120	
Manganese	mg/L	0.49587		0.50000	0.00071 U	99	%	80-120	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 223208 Report Date.: 12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meirl

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Metals Analysis (ICAP Trace) Batch.....: 106070

MB	Method Blank	105579	105579-001		12/31/2003	0126

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Iron	mg/L	0.03960 U							
Manganese	mg/L	0.00071 U							

MB	Method Blank	105710	105710-001		12/31/2003	0549

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Iron	mg/L	0.03960 U							
Manganese	mg/L	0.00071 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 223208 Report Date.: 12/31/2003

CUSTOMER: The RETEC Group Inc. PROJECT: COMED - WAUKEGAN ATTN: David Meiri

Test Method.....: 160.1 Batch.....: 105612 Analyst...: jmk
Method Description.: Solids, Total Dissolved (TDS) Equipment Code....: Test Code.: TDS
Parameter.....: Solids, Total Dissolved (TDS)

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	105612-001		mg/L	4.80000 U								12/22/2003	1500
LCS	105612-002	I03LSTTS1C	mg/L	250.00000		250.00000	4.80000 U	100		%	80-120	12/22/2003	1503

Test Method.....: 160.1 Batch.....: 105614 Analyst...: jmk
Method Description.: Solids, Total Dissolved (TDS) Equipment Code....: Test Code.: TDS
Parameter.....: Solids, Total Dissolved (TDS)

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	105614-001		mg/L	4.80000 U								12/24/2003	1300
LCS	105614-002	I03LSTTS1C	mg/L	246.00000		250.00000	4.80000 U	98		%	80-120	12/24/2003	1306

Test Method.....: 7060A Batch.....: 106030 Analyst...: daj
Method Description.: Arsenic (GFAA) Equipment Code....: AA3 Test Code.: AS
Parameter.....: Arsenic

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	105595-001	105595	mg/L	0.00073 U								12/30/2003	0942
LCS	105595-002	M03LSPK001	mg/L	0.04227		0.04000	0.00073 U	106		%	80-120	12/30/2003	0954

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

U	Analyte was not detected at or above the stated limit.
<	Not detected at or above the reporting limit.
J	Result is less than the RL, but greater than or equal to the method detection limit.
B	Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S	Result was determined by the Method of Standard Additions.
F	AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

'	ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
*	LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+	MSA correlation coefficient is less than 0.995.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E	SD: Serial dilution exceeds the control limits.
H	MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N	MS, MSD: Spike recovery exceeds the upper or lower control limits.
W	AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U	Analyte was not detected at or above the stated limit.
ND	Compound not detected.
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q	Result was qualitatively confirmed, but not quantified.
C	Pesticide identification was confirmed by GC/MS.
Y	The chromatographic response resembles a typical fuel pattern.
Z	The chromatographic response does not resemble a typical fuel pattern.
E	Result exceeded calibration range, secondary dilution required.
F	AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

B	MB: Batch QC is greater than reporting limit.
*	LCS, LCD, ELC, ELD, CV, MS, MSD, Surrogate: Batch QC exceeds the upper or lower control limits.
'	EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
A	Concentration exceeds the instrument calibration range
a	Concentration is below the method Reporting Limit (RL)
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H	Alternate peak selection upon analytical review
I	Indicates the presence of an interfence, recovery is not calculated.
M	Manually integrated compound.
P	The lower of the two values is reported when the % difference between the results of two GC columns is

greater than 25%.

Abbreviations

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calilbration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	DI Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
ICAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PDS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

RTW	Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution (Calculated when sample concentration exceeds 50 times the MDL)
UCB	Unseeded Control Blank
SSV	Second Source Verification Standard
SLCS	Solid Laboratory Control Standard(LCS)
PHC	pH Calibration Check LCSP pH Laboratory Control Sample
LCDP	pH Laboratory Control Sample Duplicate
MDPH	pH Sample Duplicate
MDFP	Flashpoint Sample Duplicate
LCFP	Flashpoint LCS
G1	Gelex Check Standard Range 0-1
G2	Gelex Check Standard Range 1-10
G3	Gelex Check Standard Range 10-100
G4	Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX. LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)
Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.

[redacted] Report To: [redacted] Bill To: [redacted] Shaded Areas For Internal Use Only [redacted]

SEVERN TRENT **STL**

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Contact: DAVID MEIRI
Company: RETEC
Address: 8605 W. BRYN MAWR AVE. 9-30
CHICAGO, IL 60631
Phone: (773) 714 9900
Fax: (773) 714 9805
E-Mail: dmeiri@retec.com

Contact: Pete McCauley
Company: ComEd
Address:
Phone: (312) 394 4470
Fax:
PO#: Quote:

Lab Lot# 223208

Package Sealed	Samples Sealed
Yes / No	Yes / No
Received on Ice	**Samples Intact**
Yes / No	Yes / No

Temperature °C of Cooler 4.5

Within Hold Time	Preserv. Indicated
Yes / No	Yes / No / NA
pH Check OK	**Res Cl_2 Check OK**
Yes / No / NA	Yes / No / NA

Sample Labels and COC Agree
Yes / No — COC not present

Sampler Name: GLENN B. KAYS
Signature: Glenn B. Kays
Project Name: Tannery-ELOC
Project Number: CED14-15159-720
Project Location: WAUKEGAN, IL
Date Required STANDARD TAT
Hard Copy: ___/___/___
Lab PM: Eric Lang
Fax: ___/___/___

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	TDS - EPA 160.1	ARSENIC EPA-7060A	MANGANESE + IRON EPA 6010B	Bottle #	# Cont.	Volume	Preserv.	Additional Analyses / Remarks
1		MW-15-121703	121703	0920	GW	G	X	X	X					
2		MW-12-121703	121703	0955	GW	G	X	X	X					
3		MW-10-121703	121703	1025	GW	G	X	X	X					
4		MW-14-121703	121703	1055	GW	G	X	X	X					
5		MW-11-121703	121703	1130	GW	G	X	X	X					
6		MW-13-121703	121703	1320	GW	G	X	X	X					
7		DUP-01-121703	121703	—	GW	G	X	X	X					

RELINQUISHED BY: Glenn B. Kays	COMPANY: RETEC	DATE: 12/18/03	TIME: 1620	
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	
RECEIVED BY:	COMPANY: STL	DATE: 12/15/03	TIME: 1420	
RECEIVED BY:	COMPANY: STL	DATE: 12-18-03	TIME: 1730	

Matrix Key
WW = Wastewater; W = Water; S = Soil; SL = Sludge; MS = Miscellaneous; OL = Oil; A = Air; SE = Sediment; SO = Solid; DS = Drum Solid; DL = Drum Liquid; L = Leachate; WI = Wipe; O = _____

Container Key.
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 12/15/03
Courier: STL **Hand Delivered** ☑
Bill of Lading