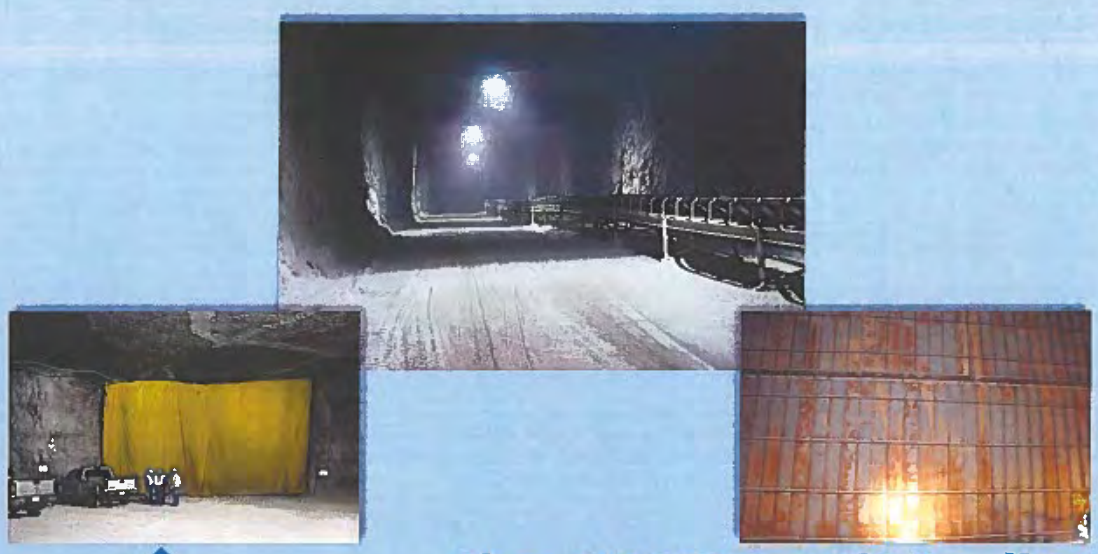


Class V UIC Permit Application

Submitted to:
Illinois Environmental Protection Agency
Illinois ID# ID#0894075971
Submitted by:
City of Aurora
Volume 2 of 2

February 19, 2013

Deuchler Environmental, Inc.
CONSULTING ENGINEERS

AURORA
City of Lights
1837 175 2012

APPENDIX D:

Memorandum of Design

UIC Program: Memorandum of Design

Submitted to:
The City of Aurora

Submitted by:
Deuchler Environmental, Inc.

December 17, 2012

Deuchler Environmental, Inc.
CONSULTING ENGINEERS

TABLE OF CONTENTS

1. INTRODUCTION AND PROJECT DESCRIPTION

The purpose of this Memorandum of Design (MOD) is to establish a "roadmap" for the completion of the final design of the improvements associated with the Underground Injection Control (UIC) program. The MOD will be a tool for coordinating between the various engineering disciplines and the City of Aurora (COA). The MOD is also a convenient milestone for the COA to review the project to ensure that all requirements are incorporated and that the concept is satisfactory.

LIST OF ABBREVIATIONS

AWTP	Aurora Water Treatment Plant
cf	Cubic-feet
cfs	Cubic-feet per Second
COA	City of Aurora
CWS	Community Water Supply
DEI	Deuchler Environmental, Inc.
ft	Feet
GPD	Gallons Per Day
GPM	Gallons Per Minute
HMI	Human Machine Interface

HRT	Hydraulic Retention Time
IEPA	Illinois Environmental Protection Agency
in	Inch
IW	Injection Well
LVSG	Low Voltage Switch Gear
MCC	Motor Control Center
MG	Million Gallons
MGD	Millions of Gallons Per Day
mg/l	Milligrams per liter
NAVD	North American Vertical Datum
NPT	National Pipe Thread
PLC	Programmable Logic Controller
RTU	Remote Terminal Unit
SCADA	Supervisory Control and Data Acquisition
TDH	Total Dynamic Head
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
UIC	Underground Injection Control

USEPA	Unites States Environmental Protection Agency
USGS	United States Geological Survey
VDT	Valve Delay Timer
VFD	Variable Frequency Drive
VIT	Valve Initiate Timer
WEDA	Walter E. Deuchler Associates, Inc.
WTP	Water Treatment Plant

According to the 2010 census, the City of Aurora ("COA") had a population of approximately 198,000 residents. Drinking water is supplied by the Aurora Community Water Supply ("CWS") system (Facility No. 0894070). The Aurora CWS has approximately 48,500 service connections and approximately 750 miles of water mains.

Source water from the ground water wells and the Fox River (collectively called raw source water) is blended and then treated at the AWTP, located at 1111 Aurora Avenue, Aurora, Illinois.

Source water for the CWS is from one surface water intake in the Fox River and a network of 18 active ground water wells. The Aurora CWS blends the raw source water at an average percentage of 60% surface water and 40% ground water. This blending percentage varies depending upon water needs and the quality of the water drawn from the Fox River. During peak demand occurring in the mid-to-late summer, the percentage of ground water typically increases to approximately 50 to 60% when the water quality of the Fox River is at its lowest.

Water production rates currently range from approximately 15.4 million gallons per day ("MGD") October through April to 19.2 MGD from May through September. The maximum production rate for the Aurora Water Treatment Plant (AWTP) is approximately 27 MGD.

Dissolved solids are removed as part of the lime softening process. In this treatment process, lime slurry is mixed with dissolved solids in raw source water and forms a floc. The floc that is formed is settled within the claricones at the WTP. The plant has a total of five claricones. Three to five are operational at any one time depending upon the production needs and maintenance schedules.

The lime sludge that is generated during the treatment process is removed from the cones at regular intervals during plant operation. Lime sludge is also removed when the cones are taken off-line for maintenance. There are two types of blowdowns that are

conducted at the WTP; blanket blowdowns and grit blowdowns. Blanket blowdowns are conducted in order to remove the precipitates and solids that collect in the sludge blanket to allow continuous flow-through operations of the claricone vessels. The discharge rate from either type of blowdown from the claricones is approximately 800 gallons per minute ("GPM").

Blanket blowdowns are controlled by valve actuators operated with timers. Each cone has a timer that controls when the blanket blowdowns occur. The timers count down from a setpoint established by WTP personnel. Once the timers have counted to zero, an automatic valve opens and the sludge is released from the bottom of the claricones. The sequencing (the order in which the cones blowdown), duration and frequency of the blowdowns can be modified by WTP personnel but typically occur every 3 hours for a duration of 3 minutes under normal operating conditions. Blanket blowdowns may be conducted as frequently as every hour for a duration of up to 6 minutes during periods of peak summer water production.

Grit blowdowns are manually controlled by opening a valve at the bottom of the claricones. Grit blowdowns are done to prevent heavy solids from plugging the discharge lines to the sludge beds. Grit blowdowns last for a duration of 5 minutes and occur once per 8 hour shift.

Flow meters record the blowdown volume and flow rate. When a claricone is taken out of service for maintenance, they are completely drained.

The amount of lime sludge that is produced at the WTP is proportional to the total water production. As water production increases, there is a proportional increase in the amount of lime sludge that is produced. Currently, the Aurora CWS generates an average of 45 million gallons of lime sludge annually.

The lime sludge that is generated by blowdowns is conveyed by gravity to one of five sludge beds on the WTP property. Typically, only one bed is used at a time and lime

sludge is diverted to the same sludge bed until it has reached its capacity. In the sludge bed, the lime sludge dewaters until it passes a standard paint filter test. Once it is determined that the sludge has sufficiently dewatered, it is excavated from the bed, loaded into trucks and transported to a licensed municipal waste landfill for disposal. The lime sludge is also permitted to be used as an agricultural soil amendment.

The lime sludge arrives at the sludge beds as a slurry that averages 6% solids and 94% water. The sludge is delivered into the lagoons via an 8-inch diameter pipe that is located at one end of the bed. The sludge quickly covers the bottom of the sludge bed and the solids settle out of suspension. Some of the liquid in the lime sludge decants into a 10-inch underdrain located at the bottom of each bed.

The solids deposit in a beach extending away from the discharge pipe at an approximate angle of 1%. As the solids settle out of suspension, water is forced to the top of the settled solids (called decant water or supernatant) to a depth of approximately 5-feet. The supernatant then overflows into a manually controlled telescopic valve and is discharged by gravity to the local sanitary sewer. The COA currently expends an approximate average of $1.5 million annually to manage and dispose of the lime sludge generated by the WTP.

A. Proposed Method of Lime Sludge Disposal in the LaFarge Conco Mine

In order to reduce the cost of handling and disposal of the lime sludge, the COA will be seeking a Class V Permit from the Illinois Environmental Protection Agency ("IEPA") under its UIC program for the disposal of its lime sludge into the Lafarge Conco South Mine, located approximately 1 mile north of the WTP at the southeast corner of Mettel Road and Illinois Route 25 ("site").

The COA purchased the site from Conco Western Stone Company, Inc. in 1986 and leased the mineral rights back to Conco for the development of an underground limestone and dolomite mine. Conco operated the underground mine (henceforth called the South Mine) beneath the surface of the property. Conco also operated an underground limestone and dolomite mine north of the site (henceforth called the North Mine) in the Village of North Aurora, Illinois, north of the Interstate 88 Tollway ("I-88"). Both the North and South Mines were created to extract limestone and dolomite from the Ordovician Galena and Platteville Groups of geologic formations for use as construction aggregate. Lafarge North America, Inc. purchased Conco and currently operates both of the mines. The North Mine is connected to the South Mine via three tunnels under I-88 on Level 1 and through a ramp connecting Level 1 of the North Mine to Level 2 of the South Mine. The South Mine is accessible only through the North Mine via a decline constructed from the ground surface to Level 1 of the North Mine.

The South Mine consists of two mining levels and a proposed third level. The limestone and dolomite of the Galena and Platteville Groups were mined in a standard room and pillar fashion. The pillars are approximately 50-feet square with approximately 47-foot square rooms between them. The breasted areas of the mine created rooms that are 23-feet high ceiling to floor and the benched areas of the mine created rooms that are approximately 50-feet high ceiling to floor. The two levels of the mine are configured on top of one another such that the pillars of both levels are vertically aligned, with an approximate 25-foot sill between levels.

At the north end of the mine, the four openings connecting the Conco North Mine to the Conco South Mine will be sealed using Kennedy Stoppings so that the South Mine will be completely sealed off from the Lafarge mining operations in the North Mine. These stoppings will be constructed such that they will be keyed into the rock and the openings (measuring 50-feet by 47-feet) will be sealed. Lafarge will be designing and constructing the Kennedy Stoppings and they will also seal any fractures in the rock surrounding the stoppings so as to create a leak-proof seal.

As the lime sludge is deposited in the mine via the injection wells, the water in the sludge will decant and the solids will settle. The level of the decant water, or supernatant, will be maintained at a maximum head of 5-feet. This maximum head level will be maintained by creating supernatant inlets constructed through the Kennedy Stoppings. Each of the flanged inlets on the end of the pipe into the lime sludge storage area will be spaced 5-feet apart, starting with the first inlet approximately 5-feet from the floor of the mine. As the solids level rises, the lower inlet pipe will be closed and the next inlet pipe will be opened. This will progress until the storage area is completely filled with solids. Refer to Appendix C.

On the "dry" side of the Kennedy Stoppings, the supernatant will be pumped through inlet pipes, in progression from the bottom to the top, to a single discharge pipe that will be connected to an extraction well that will extend from Level 2 of the mine to the ground surface. The extraction well will be connected to a forcemain approximately 5-feet below ground surface that will discharge the supernatant to a nearby sanitary sewer.

Once the Kennedy Stoppings are constructed and the system is operational, the disposal area will be sealed and no access will be possible for the duration of system operation. It is anticipated that the effective life of the system will be 30 to 40 years.

2. WATER TREATMENT PLANT

A. Architectural Design Criteria

The architectural facade of the pump station will be similar to the main treatment building at the AWTP. The wall construction will consist of 8-inch concrete masonry units with a 2-inch insulated wall panel, Formawall Dimension Series-Centria. The building roof will consist of 12-inch hollow-core, precast concrete beams with a minimum of 3-inch rigid insulation and roofing membrane.

The bridge crane will be under-hung and supported from beams supported by the precast. The doors will be aluminum with 24-inch by 8-inch vision lites. Aluminum handrail will be provided around the wet well and the screen chamber.

FIGURE 2-1

NORTH ELEVATION

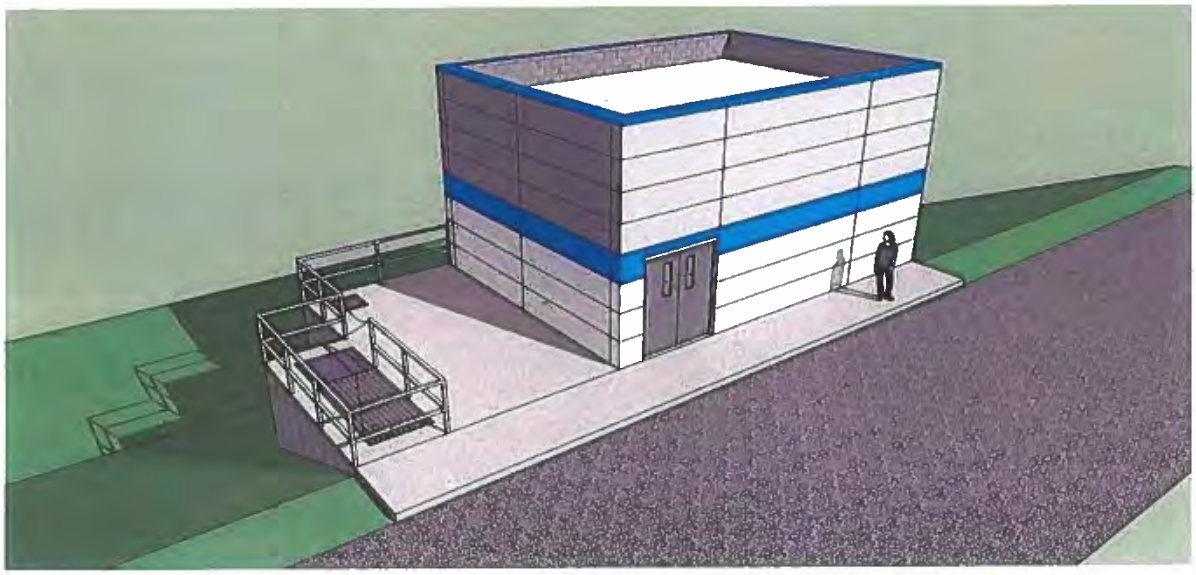


FIGURE 2-2

WEST ELEVATION

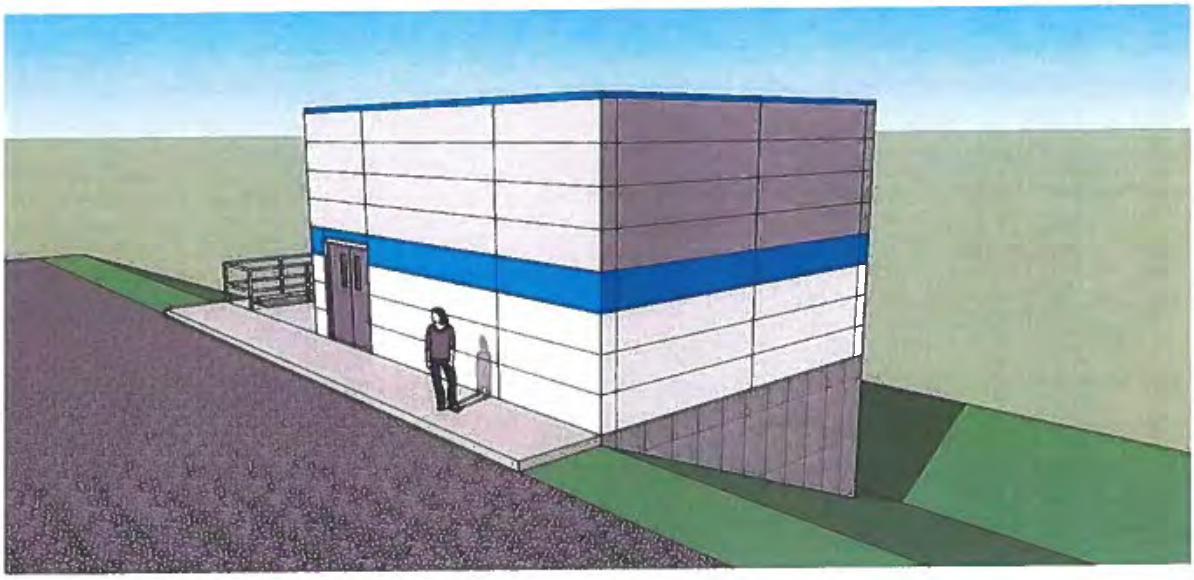


FIGURE 2-3

SOUTH ELEVATION

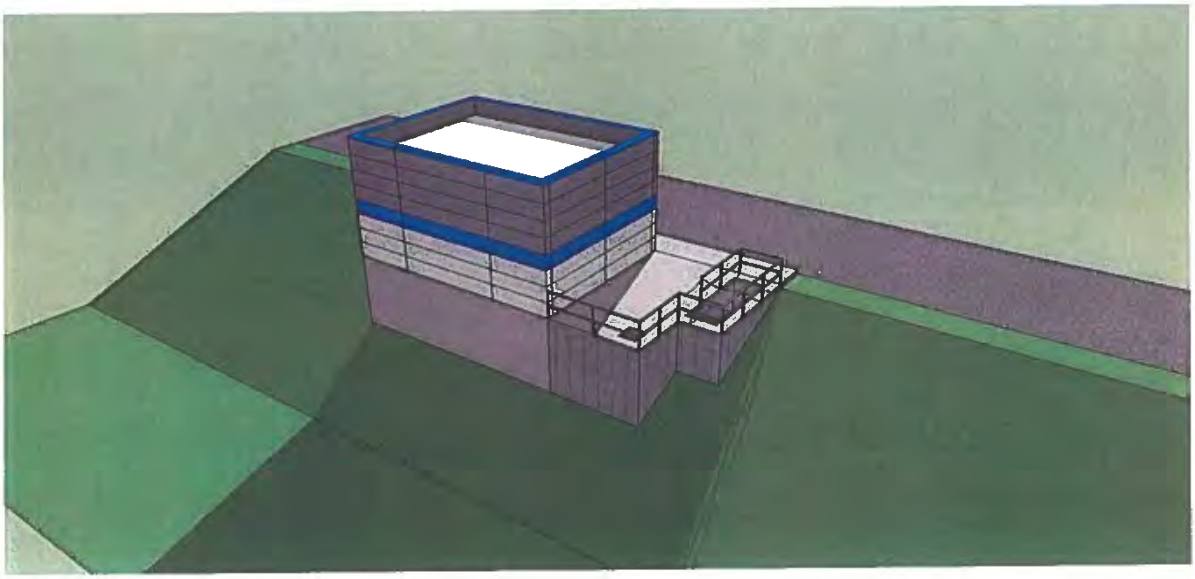


FIGURE 2-4

CUT-A-WAY LOOKING NORTH

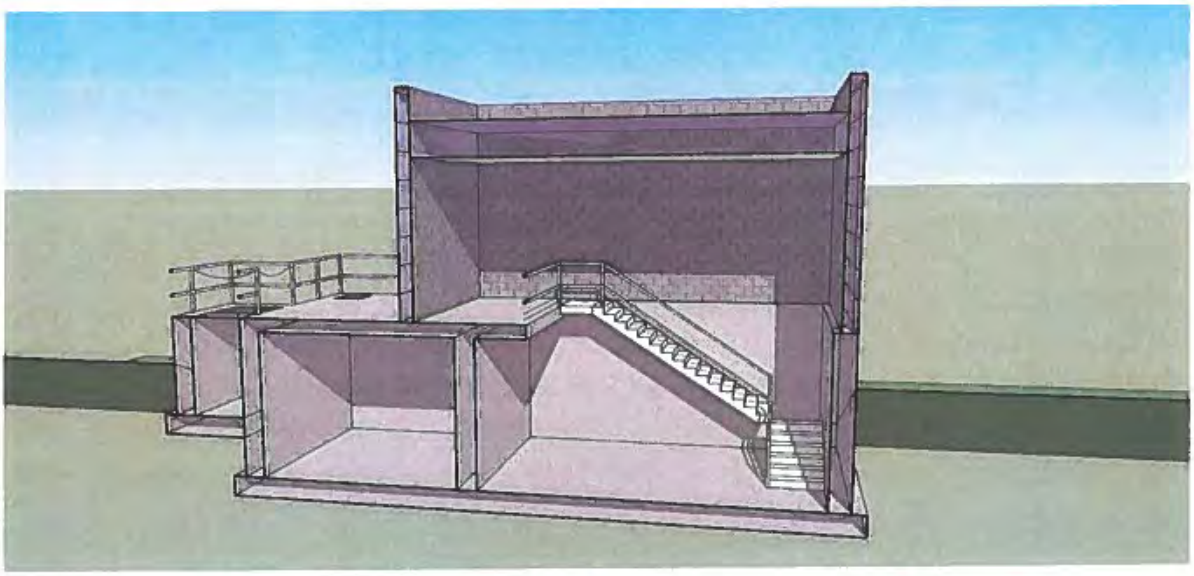
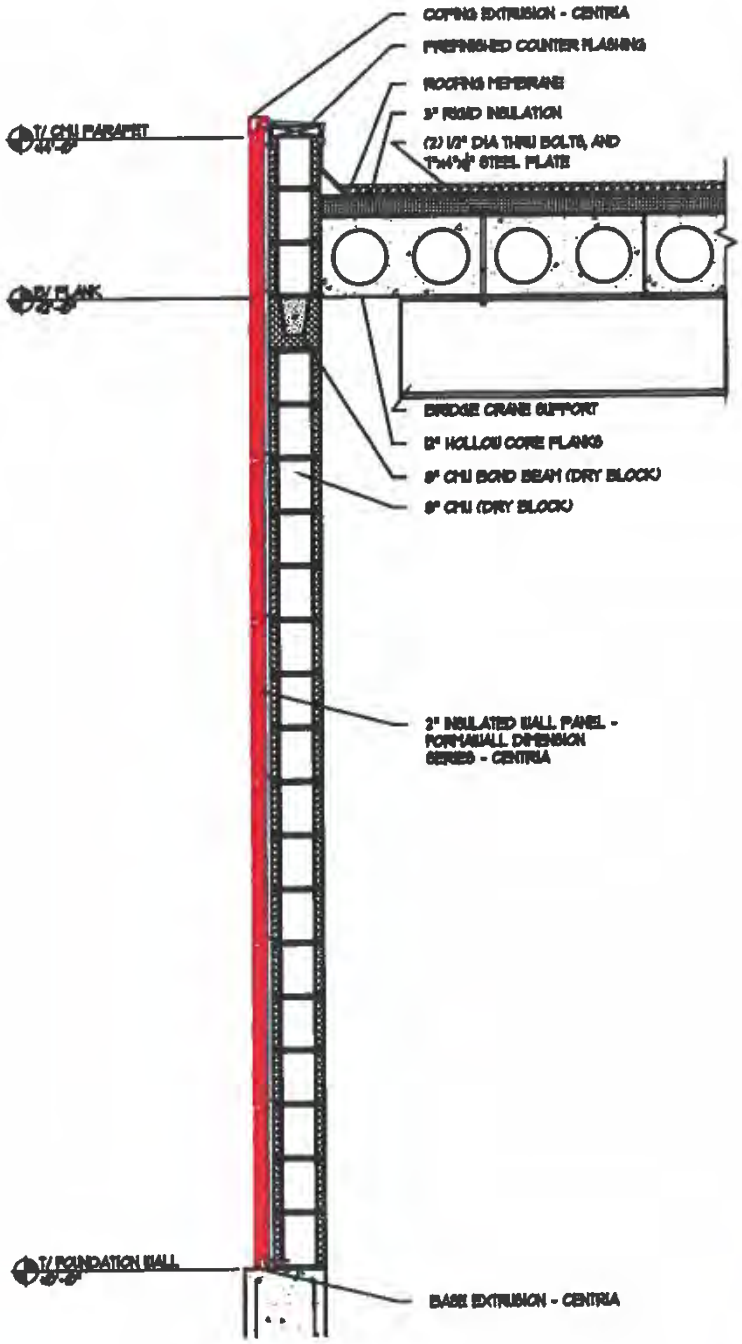


FIGURE 2-5

TYPICAL WALL SECTION



B. Structural Design Criteria

1. General

The structures have been classified into two groups as follows:

Group I: Hydraulic Structures

- Wet Well

Group II: Support Facilities

- Pump and Control Structure

2. Codes

The following codes, specifications, recommendations, allowable stresses, and loading will be used in designing the new project structures:

- Building Code Requirements for Structural Concrete (ACI-318-08) and Commentary (ACI-318R-08).
- International Building Code 2010, or latest adopted by the COA.
- Environmental Engineering Concrete Structures, Report ACI 350R-89.
- AISC Specification for Structural Steel Building, Allowable Stress Design, 13th Edition, 2010.
- OSHA, Current Addition.
- NFPA, 101, Current Addition.

3. Loads

Group I: Hydraulic Structures

- Hydrostatic liquid pressure-operating water level/flood water level: 62.4 lbs/ft^3

- Lateral earth pressure for active, at rest and passive conditions will be established in a future Geotechnical Investigation Report. Lateral load due to surcharge loading of construction crane and H-20 truck will be added.
- The precast roof will be designed to account for the bridge crane loading
- Design ground water table elevations. All new structures will be checked for buoyancy for the case of design high ground water (or flood water level) and dead load of the structure only e.g. water retaining structures empty.
- Roof slab at or below grade

  ✓ Dead Load: weight of concrete slabs
  ✓ Superimposed Dead Load: backfill or other superimposed loads.
  ✓ Live Load: 300 psf or HS-20 truck loading.

Group II: Miscellaneous Structures

Loadings for the design of buildings will be obtained from appropriate codes. However, certain minimum loads will be used for the following items.

- Grating: 200 psf
- Stairs and Catwalks: 200 psf
- Electrical Control Rooms: 250 psf
- Heavy Equipment rooms: 300 psf
- Storage Areas: 150 psf
- Shop Floors: 150 psf
- Garage Floors: 150 psf
- All other: 150 psf
- Basic Wind Speed: 80 mph
- Snow: 40 psf
- Equipment live load 50 psf on adjacent areas, or minimum uniform live load, whichever is greater.

4. Design Stresses

Concrete and Reinforcing Steel

Appendix A – Alternate Design Method of ACI 318-95, Building Code Requirements for Structural Concrete and ACI 350R-89, Environmental Engineering Concrete Structures.

Concrete compressive strength at 28 days: $f_c' = 4{,}500$ psi

Reinforcing steel (A 615, Grade 60) flexural stress: $f_s = 20{,}000$ psi

Hoop or direct tension: $f_s = 16{,}000$ psi

Structural Steel

Conforming to AISC Specification for Structural Steel Buildings, Allowable Stress Design, Ninth Edition, 1989, utilizing the following materials:

- ASTM A36, unless otherwise specified
- ASTM A325, HS Bolts
- ASTM A307 or A36 bar stock for anchor bolts

5. Foundation Design

The foundation design will be established based on recommendations in the Geotechnical Investigation Report.

C. Mechanical Systems

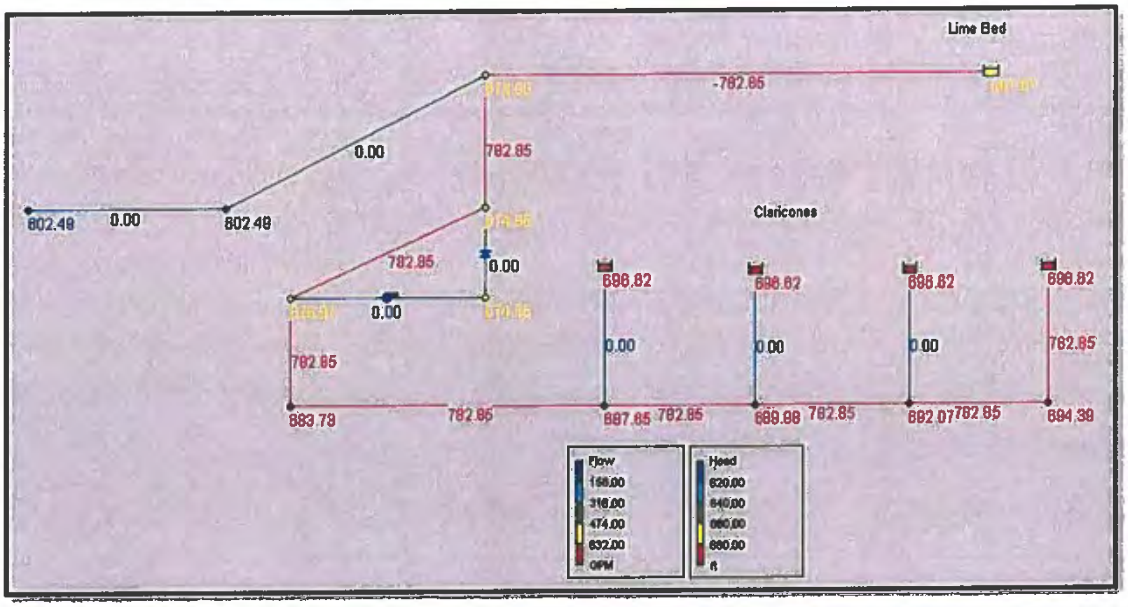
1. Blowdown Quantity and Quality

As described in Section 1, blowdowns from the claricones are controlled by manually set timers. The blowdowns are staggered such that under normal conditions two or more claricones do not blowdown at the same time. A USEPA EPANET 2.0 model was created using as built drawings of the WTP. The blowdown flow rate from the claricones was modeled. Figure 2-6 is screen shot from the model that shows the blowdown flow rate from claricone 4 which is

furthest from the existing sludge beds.

FIGURE 2-6

EPANET 2.0 SKETONIZED MODEL OF BLOWDOWN PIPING

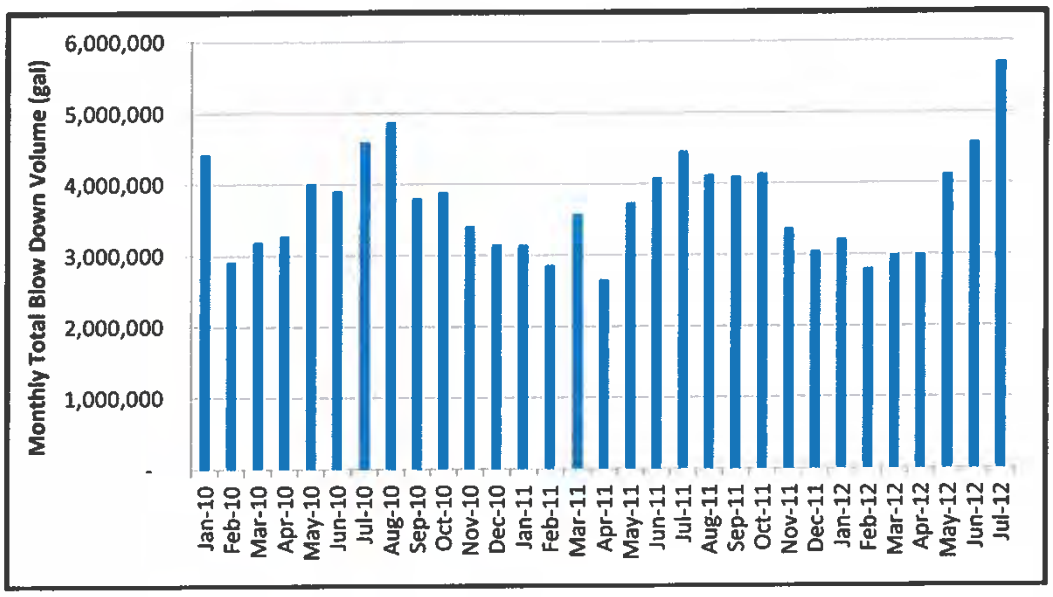


The modeled flow rate from claricone 4 to the existing sludge bed is approximately 783 gpm. The modeled flow rate from claricone 1 to the sludge beds is approximately 898 gpm.

The COA provided to WEDA monthly blowdown data for January 2010 through July 2012. The monthly blowdown volumes are shown in Figure 2-7. The volume of blowdown is related to water quality and water production. In the summer of 2012, there was a significant drought, resulting in unprecedented water demand. The blowdown volume in July 2012 was approximately 5.7 million gallons.

FIGURE 2-7

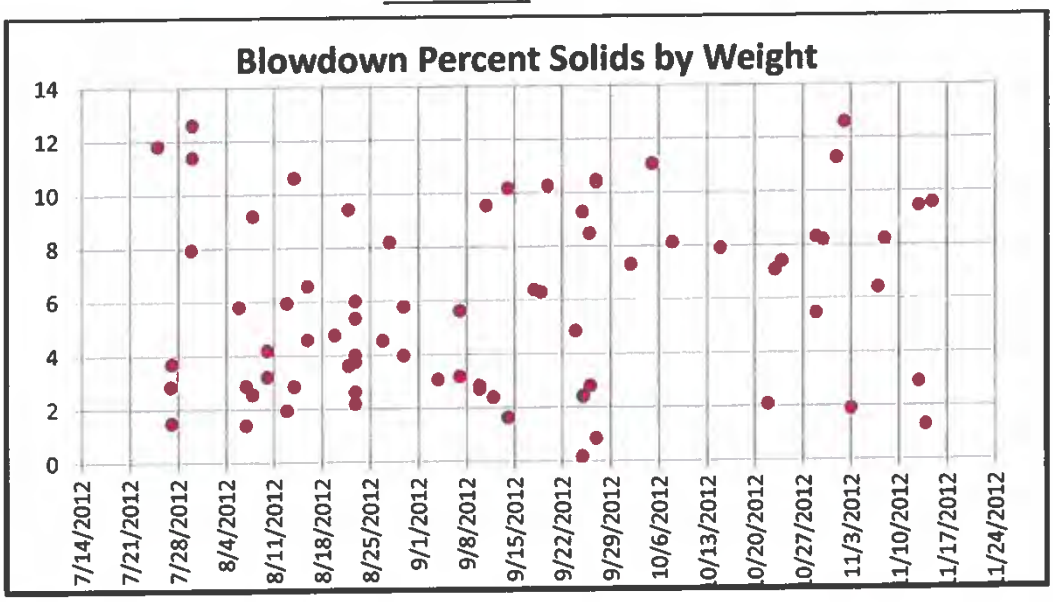
MONTHLY BLOWDOWN DATA



As can be seen in Figure 2-7, the monthly volumes of blowdown in August 2010, June 2012 and July 2012 were significant. Therefore, additional data was provided to WEDA by the COA in 30 second increments for these three months to be used in determining wet well size and pumping frequency.

In July 2012, the WTP staff modified the sampling technique used to collect samples of blowdown solids. Figure 2-8 shows the blowdown percent solids by weight. The average percent solids over the period of time depicted in the graph was approximately 6 percent. The City of Elgin also uses a lime softening process and pumps the blowdown to remote lagoons. The City of Elgin stated that the blowdown solids concentration from their clarifiers is generally 7 percent.

FIGURE 2-8

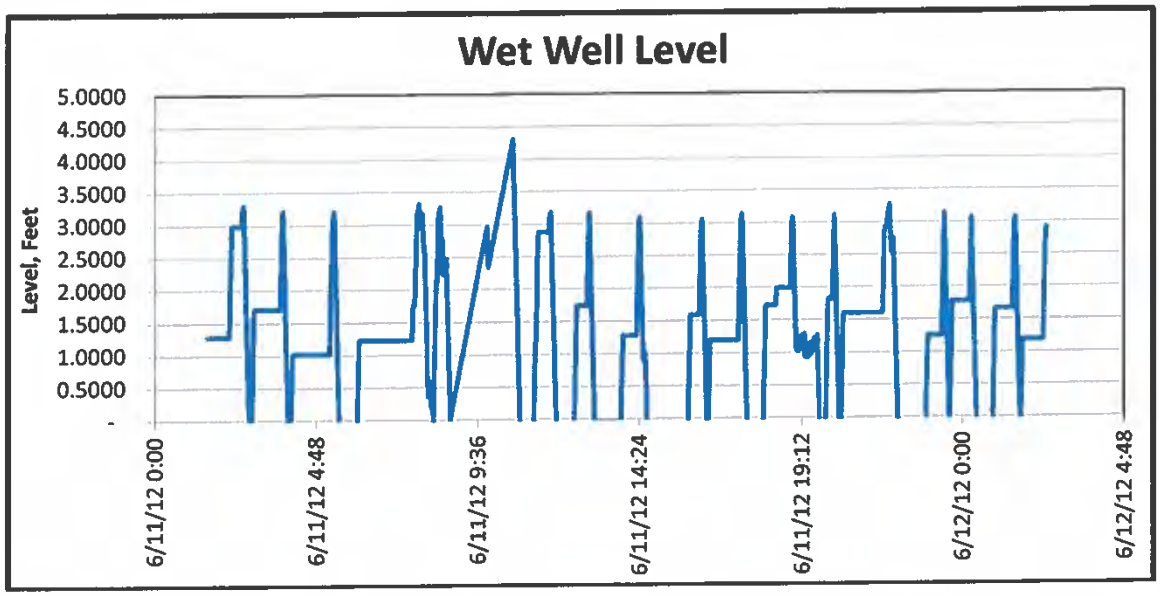


2. Wet Well Sizing and Configuration

The blowdown enters the coarse screen chamber by gravity prior to entering the wet well. The inclined coarse screen with 1-inch spacing will block any large deposits of lime scale from entering the wet well and damaging the pumps. An overflow has been provided upstream of the bar screen so that, in the rare event the bar screen would become completely blocked, the flow would enter the wet well prior to screening.

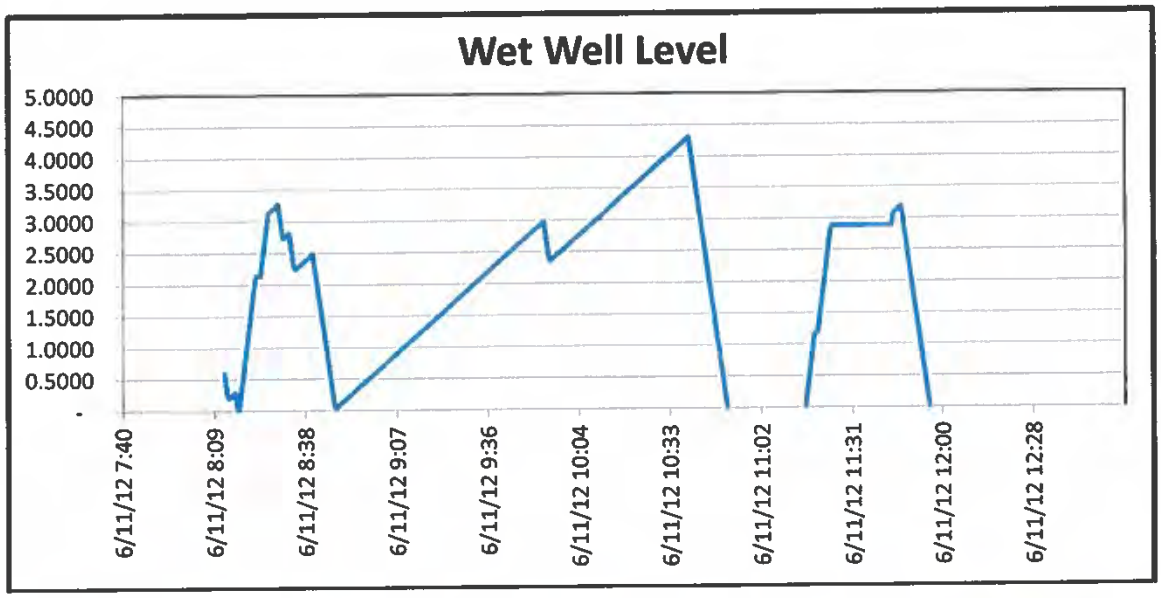
The wet well has a hopper design with the suction to each pump being an inverted flared elbow (Refer to Exhibits in Appendix A). An overflow has also been provided from the wet well to the adjacent sludge bed number 3. Data from June 2012 was used to size the wet well. The wet well is 20-feet by 15-feet in plan, and provides an active volume of 2,240 gallons/ft. With the pump off at 0'-0" and pump on elevation at 3'-0", the maximum WSE in the wet well will reach approximately 4'-3". Figure 2-9 shows the fill and draw of the wet well considering a pumping rate of 800 gpm.

FIGURE 2-9



The peak level of 4'-3" is shown more closely in Figure 2-10. The pump on and off elevations are clearly discernible.

FIGURE 2-10



3. Pumping System

The pumping system has been designed to pump 800 gpm. The forcemain size is 8-inch.

Forcemain Pumps

The pump basis of design will be the Wilfley Model K solids-handling centrifugal pump, which is designed specifically for abrasive applications.

Below are listed key pump operating data:

- Flow: 800 gpm
- TDH: 162-feet
- Speed: 1,440 rpm (variable speed drive)
- Motor: 125 HP

Slurry correction factors were evaluated for determining the TDH. From grain size distributions analysis, the d_{50}, or median particle size, of the slurry was determined to be between 0.015mm and 0.01mm. The fine grain size and low solids content of the slurry does not necessitate the use of a correction factor. For flexibility, the variable frequency drive may be used to achieve desired heads and associated flow rates.

The unique features of this pump include:

- The five key wear parts – case, impeller, follower plate, frame protecting ring and die ring – can be changed within a few minutes without disturbing the suction or discharge piping. This quick change is made possible by the case crane, discharge keeper, the use of only four casebolts, and the manner in which the impeller is attached to the shaft. This exclusive feature saves valuable time and manpower over other solids handling pumps that may require hours to accomplish such required maintenance.

- The integrated bell-shaped expeller provides a positive hydraulic leakage sealing arrangement eliminating maintenance associated with packing, water glands, or mechanical seals.
- The discharge keeper assembly supports the discharge piping during maintenance so that the case can be opened or removed without disconnecting piping.

Pinch Valves

Six-inch manually operated pinch valves will be provided on the suction line of each pump. The Red Valve Series 75 valve will be the basis of design. The Series 75 is a reliable, maintenance-free, cost-effective valve that is regularly used in tough slurries, abrasives, and corrosive-chemical applications. The Series 75 is full port. Two mechanical pinch bars open and close the elastomer sleeve. The elastomeric sleeve is the only part of the valve exposed to the line process. Series 75 Pinch Valves have the same face-to-face as gate, plug, or ball valves, ANSI 16.10 up to 6-inch sizes.

The valve body will be cast iron. The sleeve will be reinforced BUNA-N. A stainless steel position indicator will be provided.

Plug Valves

An 8-inch manually operated plug valve will be provided on each pump discharge. DeZurik eccentric plug valves will be the basis of design. The design features include eccentric action and resilient plug facings for dead-tight shutoff. Clean interior design and straight-through flow allow high maximum flow capacity with minimum pressure drop. Heavy-duty stainless steel bearings and resilient plug facings will be specified. Eccentric plug valves are capable of handling clean and dirty liquids, gases, sludges and slurries.

Check Valves

The APCO 250 and Golden Anderson 250 swing check valves with air cushioning will be the basis of design. To minimize slamming, the APCO 250 swing check valves are designed with an outside lever and weight and air cushion cylinder. Under normal conditions the lever and weight causes the disc to close upon pump shutdown before reverse flow takes place, utilizing an external air cushion cylinder.

Controls

Radar level sensors will be located directly above the suction inlet flare. The pumps will be controlled based on level. A PLC will be provided in a RTU with a touch screen on the grade level of the pump station. The operator will be able to manually select the VFD ramp up through the VFD HMI. Raw water can be used to flush the forcemain by opening a motorized plug valve. The raw water flush duration and time of day will be able to be selected by the operator via a touch screen timer.

The controls will be integrated into the remainder of the WTP SCADA system. The basis of all the RTU components will be Rockwell Automation, Allen-Bradley.

Suction and Discharge Pressure Gages

Reliable, accurate instrument readings are often difficult or even impossible to obtain in pipelines carrying slurries, and solids. Standard diaphragm seals are vulnerable to plugging by debris or deposits and only give a pressure reading from one small area. Red Valve's Series 48 Pressure Sensor eliminates these problems. Red Valve's Series 48 Pressure Sensor will be the basis of design. The Series 48 eliminates plugging and fouling that can occur in slurry. The series 48 is designed to fit inside the bolt pattern of the pipe flanges, allowing for ease of installation and reducing the size of the unit. Series 48 sensors are designed to fit Class 150 flange drilling.

The principle of operation is that line pressure is sensed through a flexible rubber sleeve which is a full 360° circumference of the pipe ID. The captive fluid is displaced through the Series 48 Pressure Sensor body to the instrument's Bourdon tube. All instrumentation is protected from the process, which assures accurate, repeatable pressure readings.

D. Electrical Systems

480 volt, three phase power for the new Pump Station will be obtained from the existing motor control center MCC 1C, located in the electrical equipment room on the third floor, Southeast corner of the WTP. There is space available for the addition of a new breaker of the appropriate frame size in the far right vertical section, near the bottom (see Figure 2-11). We envision a 400 amp breaker with 500 MCM (90 deg. C) cables as shown in the Single Line Diagram and MCC Front Elevation sketch included in Exhibit A-4.

Power cabling can be routed in one of two ways. Walkdowns performed in the Fall of 2012 revealed that there are spare conduits in the underground duct run that parallels the East wall of the building. A spare also exists that could be used for controls/SCADA cabling. This duct bank continues all the way to the far side of the East-West roadway along the North edge of the building and then turns to the West.

Alternatively, we could make use of the cable trays that are routed most of the way to the North wall of the building. These trays (power and control) are routed in a North-South orientation, not far below the plant ceiling. From the North end of these trays, new conduit could be installed to extend the raceway to the North wall of the building, then down and through the wall and underground, along with piping to be similarly routed.

The new structure housing the new Pump Station will also house a new motor control center (MCC) that will serve the new loads to be installed. A Single Line Diagram and Front Elevation of this MCC are shown on Exhibit A-4. Refer to Section 4.D. for information on the MCC specifications that will be used at both the

Extraction Pump Station and Forcemain Pumping Station at the WTP.

FIGURE 2-11

EXISTING MOTOR CONTROL CENTER 1C

3. FORCEMAIN

Sludge will be transmitted to the site via an 8-inch diameter force main. The force main will lead to 4 different injection wells. Refer to Appendix D.

Design Criteria of sludge force main:

- 8-inch diameter class 52 ductile iron pipe.
- Velocity at 800 gpm is 4.64 ft/sec
- 7,600 lin. Ft. from WTP to 4 injection wells.
- Depth of bury at 4.5-feet minimum.
- Cement mortar interior lining.
- Asphaltic exterior coating, with polyethylene encasement.
- Pipe joints to be push-on style.
- Fittings to have restrained mechanical Mega-Lug joints.
- Pipe gaskets to be SBR material.
- Combination air/vacuum release valves will be located at each injection well and one at force main high point.

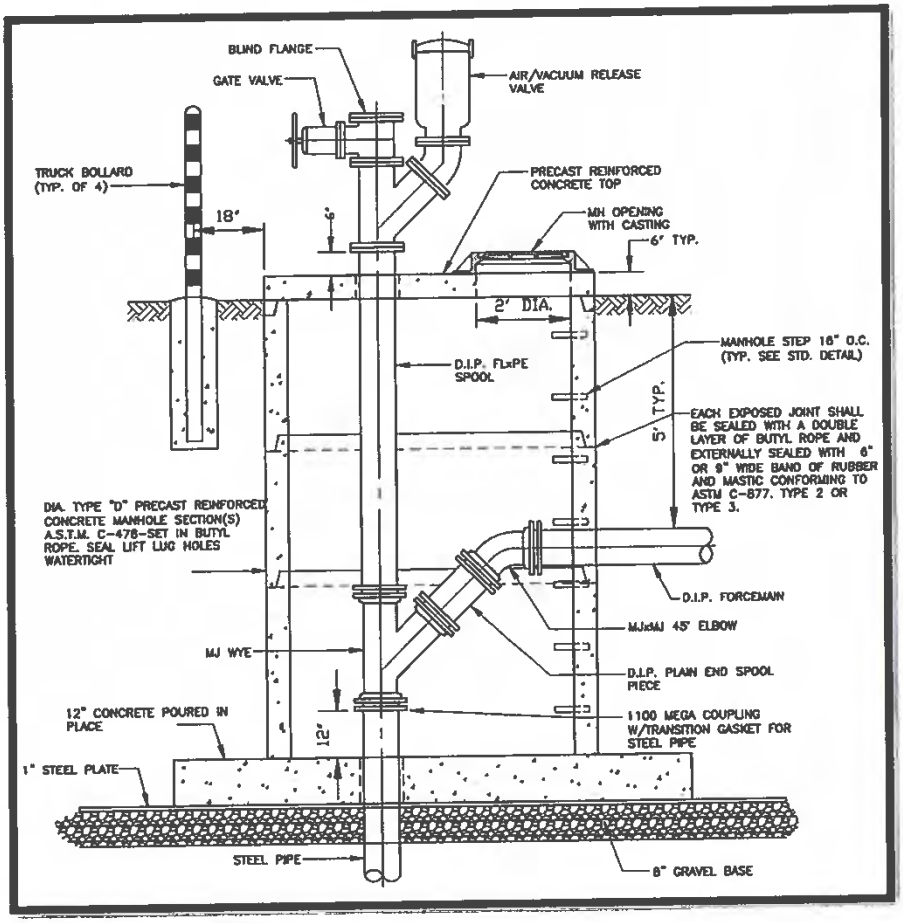
Once the concrete in the bottom of the excavation to construct the well head has cured, the manhole sections will be lowered and secured to the concrete pad. The 8-inch diameter forcemain from the AWTP with a restrained mechanical fitting will be connected to the top section of the Injection Wellhead (IW) pipe, and will exit the manhole assembly, above ground surface, with a gate valve and air-vacuum relief valve. The gate valve will allow the COA to connect a fire hydrant hose for the purpose of flushing the IW pipe and distribution pipes, if needed. Each of the four injection wells will have a precast concrete manhole with internal piping and fittings to transition the horizontal force main piping to the vertical injection well piping.

A combination air/vacuum release valve will be located at each of these manholes. The purpose of the air/vacuum release valve is to release air from inside the force main while the lime sludge is pumping, but also to let the air back into the vertical well piping

after the pumping has stopped so that the momentum of the falling sludge does not create a vacuum to collapse the vertical piping, refer to Figure 3-1.

FIGURE 3-1

FORCEMAIN TERMINATION AT IW WELL HEAD



4. LAFARGE CONCO MINE

A. Injection Wells

1. Drilling Method and Borehole Diameter

The wellhead for each IW will be contained within a reinforced concrete manhole. The IW's will be constructed after the manhole excavation and prior to placement of the concrete slab. Each manhole will be 6-feet in diameter. The excavation will be conducted such that IW location is in its approximate center. At the bottom of the excavation, an 8-inch layer of crushed rock (CA-7) will be laid and leveled and a 1-inch steel plate will be placed on top. The steel plate will have a hole in the center through which the borehole will be constructed. The hole in the steel plate will have notches at opposite ends, as depicted on Figure 4-1. The purpose of the notches is to allow for the IW pipe to be suspended during construction.

The elevation of the steel plate, directly adjacent to the hole will be surveyed using NAVD 88 to establish the surface elevation for the construction of the IW's. All depths recorded while drilling will be based upon this elevation.

Each IW will be constructed inside of a drilled borehole to an approximate depth of 250-feet below ground surface, drilling through the ceiling of Level 1 of the mine. The borehole will be 10-inches in diameter to a depth of approximately 240-feet below ground surface, or approximately 10-feet above the ceiling elevation of Level 1. Each IW location will be surveyed in the state plane coordinate system and using NAVD 88. This information will be used, along with the surveyed ceiling elevations obtained from the mine survey, to insure that the 10-inch diameter borehole extends to the proper depth. Starting at an approximate depth of 240-feet below ground surface, the borehole will continue at a diameter of 8-inches until it breaks through the ceiling of Level 1. The 8-inch diameter borehole will be drilled at the center of the 10-inch diameter borehole.

Both the 10-inch diameter and 8-inch diameter boreholes will be drilled using an air rotary drill rig. Drill cuttings will accumulate within the manhole excavation and will be removed as needed during the drilling process. Drill cuttings will be stored on-site for later disposal or reuse.

Design Criteria of sludge injection well (vertically drilled) piping:

- 8-inch diameter schedule 40 carbon steel pipe.
- Drilled depth from ground surface into Level 1 varies between 240-feet to 290-feet for each of the 4 injection wells.
- Drilled depth from Level 1 into Level 2 varies between 20-feet to 50-feet for each of the 18 injection holes.
- Interior lining – none.
- Exterior coating – coal tar epoxy.
- Pipe joints to be fully welded.

The system will be constructed so that each of the 4 injection wells will have dedicated distribution piping and injection holes connected to it. IW-1 will be connected to 6 injection holes at the south end of the mine, IW-2 will also be connected to 6 injection holes, IW-3 and IW-4 will both be connected to 3 injection holes each. By constructing berms between certain pillars on Level 2 of the mine, 3 siltation basins will be created, such that each injection well will deposit sludge into these siltation basins. The purpose of the basins is to insure that the solids deposit from the south end of the mine, progressing to the north end, while allowing the decant water to travel to the north end of the mine for extraction to the surface. IW-1 will deposit into siltation basin 1, IW-2 into siltation basin 2 and IW-3 and IW-4 into siltation basin 3.

The injection wells are anticipated to be 8-inch diameter and constructed of schedule 40 steel. The injection wells will be constructed into Level 1 of the mine and connected at the ceiling to a vertical pipe in the mine. This pipe will have a 10-foot radius curve and will be connected to 8-inch (or less) diameter steel

distribution piping along the floor of Level 1 of the mine.

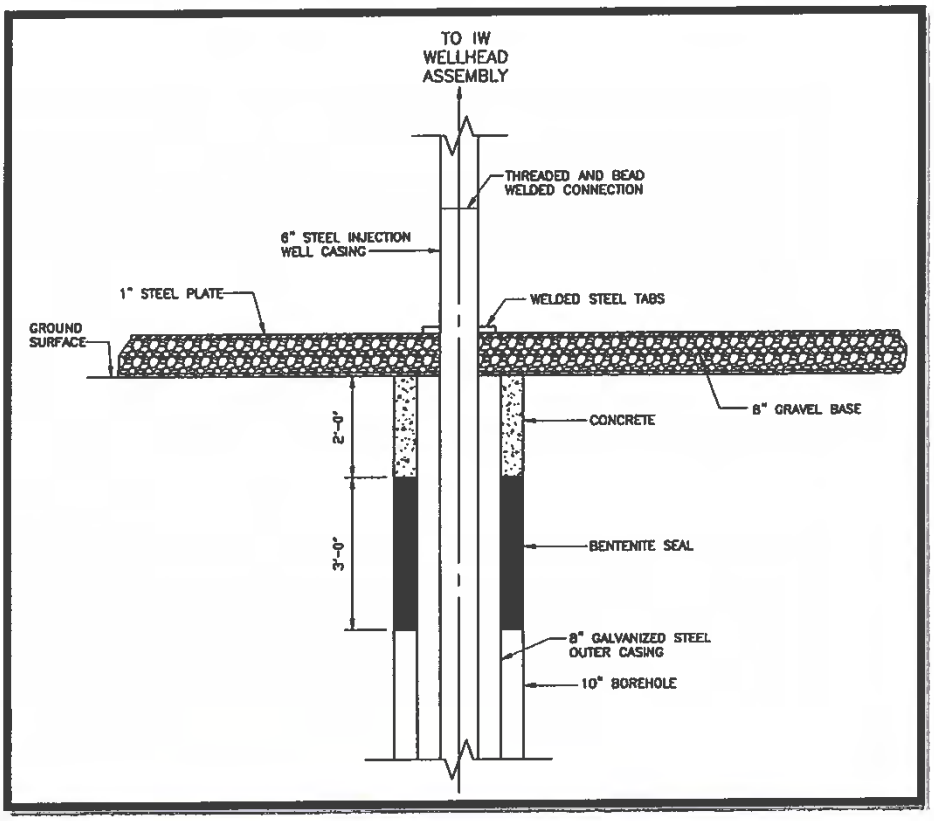
Each IW will be doubled-cased and will be connected at the bottom to the distribution piping system within Level 1 of the mine. The outer casing will be 8-inch diameter galvanized steel pipe. The sections of pipe will be threaded and placed within the 10-inch diameter borehole at its center. The annulus between the borehole and the 8-inch galvanized steel pipe will be grouted (using bentonite or neat cement grout) from the bottom of the borehole to a depth that is 5-feet below the elevation of the bottom of the manhole excavation. A 3-foot thick bentonite seal will be placed above the grout and the remaining 2-feet will be backfilled with concrete (as depicted on Figure 4-1).

After the 8-inch diameter pipe has been installed, grouted and sealed, the drilling assembly will be lowered into the pipe to drill the remaining 10-feet of rock between the bottom of the borehole and the ceiling of Level 1 of the mine at a diameter of 8-inches. The timing of the breakthrough into the mine will be communicated in advance with Lafarge to insure that personnel are kept out of the area.

Once the drilling has been completed, construction of the 6-inch diameter IW pipe will begin. The sections of pipe will be threaded together and O-rings will be placed between the pipe sections to provide a seal. Once threaded together, the pipe sections will be bead welded to provide an additional seal and to enhance the integrity of the pipe during construction and the operational life of the IW's.

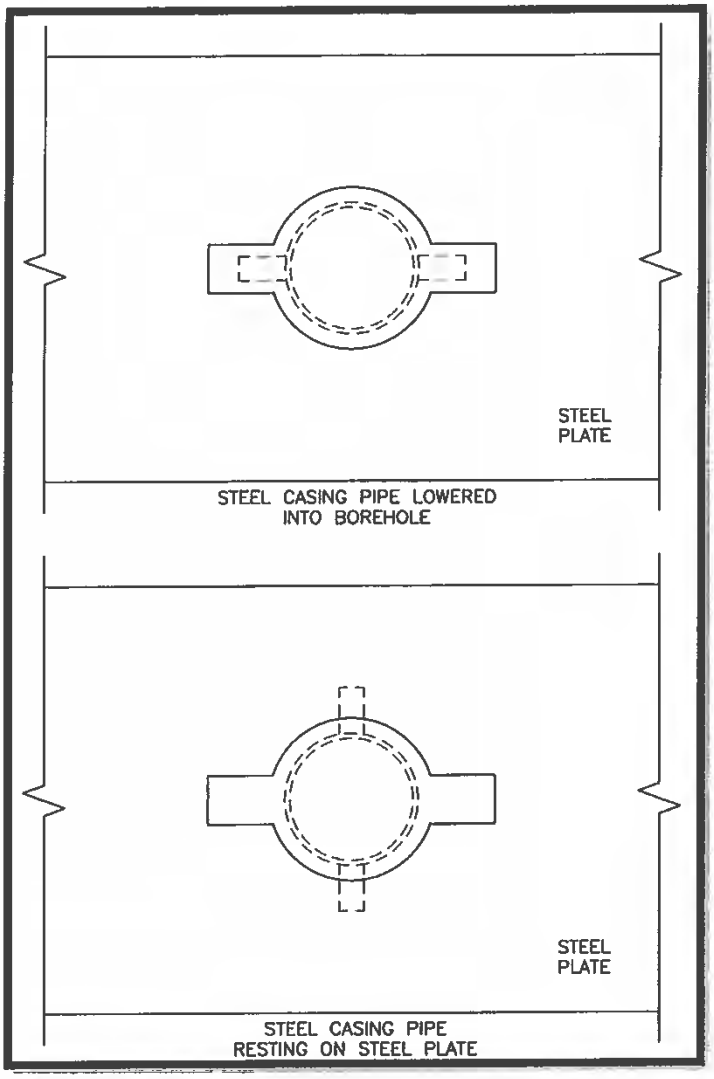
Each section of IW pipe will have welded steel tabs toward the top of the flight. The section of pipe will be rotated such that the steel tabs will rest on the steel plate to hold the IW pipe in place during construction.

FIGURE 4-1
CONCEPTUAL DIAGRAM OF IW CONSTRUCTION



Once the new section of pipe is threaded and welded to the preceding pipe section, the entire pipe length will be rotated so that the tabs can move through the grooves on opposite sides of the hole through the steel plate (see Figure 4-2 below). This allows for the new section of pipe to be lowered into the hole. The entire pipe length will be rotated again, so that the steel tabs on the newly attached section of the pipe is rotated 90° from the grooves on the steel plate so that the tabs rest on the steel plate, holding the pipe length in place to attach a new section of pipe. This process will be repeated until the 6-inch pipe protrudes at least 24-inches below the ceiling of Level 1 of the mine.

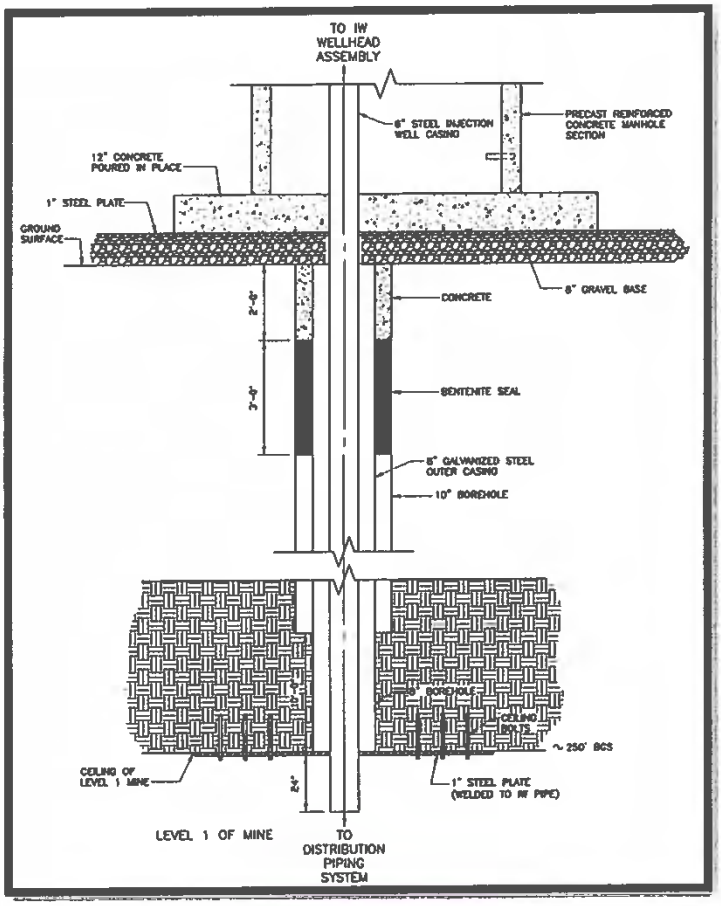
FIGURE 4-2
PLAN VIEW OF STEEL DRILLING PLATE



Then an additional steel plate will be placed around the section of IW pipe protruding above the bottom of the manhole excavation, on top of the steel drilling plate (see Figure 4-3 below). The pipe will be welded to the steel plate.

FIGURE 4-3

FINISHED IW DETAIL



Concrete will then be poured across the entire bottom of the manhole excavation to form a 12 in thick pad. Another steel plate will be welded to the bottom of the 6-inch IW pipe that is protruding into Level 1 of the mine. This steel plate will be bolted to the ceiling for the purpose of securing the bottom of the injection well to the ceiling of Level 1. The bottom of the IW pipes will later be connected to the distribution piping system.

B. Disposal Distribution Piping

These four injection wells will lead to distribution piping in level 1 of the mine (refer to Appendix C). The distribution piping will convey the lime sludge to 18 uncased, drilled holes (injection holes) through the sill between Levels 1 and 2 of the mine of sufficient diameter to accommodate the 8-inch diameter distribution pipes. There will be a 90-degree connection from the pipe along the floor of Level 1 of the mine into the injection holes. There will be steel piping from the bottom of the 90-degree connection into the holes, slightly protruding through the ceiling and into Level 2 of the mine. At the end of the pipe at the ceiling of Level 2 of the mine, there will be a fitting with 4, 90-degree openings. The openings of the fitting will be parallel to the floor of Level 2, suspended approximately 2-feet from the ceiling. From this fitting, the lime sludge will deposit into the second level of the mine.

Design Criteria of sludge distribution piping:

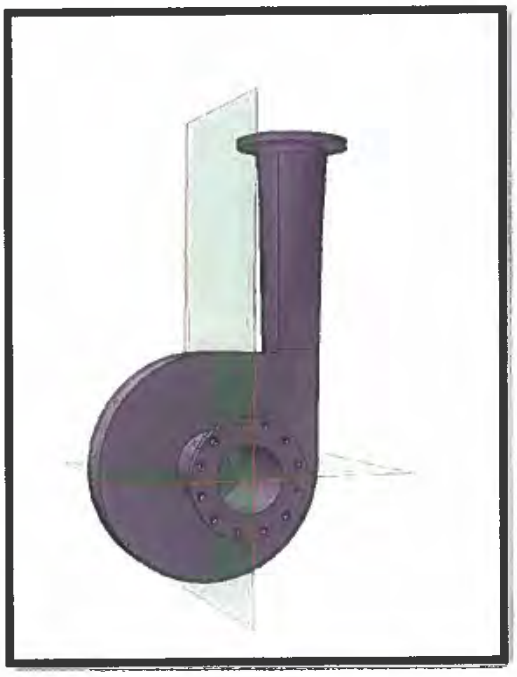
- 10-foot radius curve piping to be 8-inch diameter schedule 80 carbon steel pipe. Approximately 50-feet of 8-inch diameter piping following the radius curve will also be schedule 80 carbon steel piping.
- All other distribution piping will be schedule 40 carbon steel.
- Distribution pipe sizes will vary from 8-inch to 4-inch diameter to equally distribute the flow of lime sludge to the various injection holes.
- Pipe and fitting joints to be fully welded
- All fittings will be either wyes or 45-degree elbows.
- All piping will be sloped at 0.5% to drain towards injection holes.
- Interior lining - none
- exterior coating – coal tar epoxy

Each injection well will be initially operated one at a time, in sequence, starting with IW-1 at the south end of the mine, progressing in order to IW-4 at the north end of the mine. During this initial period, each well will be operated for a limited period of time (currently anticipated to be 3 to 6 months per well) to create a "blanket" of lime sludge on the floor of the mine. The purpose of this initial operational stage is

to create a blanket of lime sludge on the floor of the mine so that the sludge has an opportunity to seal any unfilled joints that may exist on the floor of Level 2 of the mine. After this initial operation period, each injection well will be operated in sequence for approximately one year or more each for the purpose of exercising valves and filling the mine in approximate equal volume until that area of the mine on Level 2 has reached its maximum sludge storage capacity.

There is a significant amount of potential energy from the IW drop into level one of the mine. A vortex energy dissipater (see Figure 4-4 below) will be used to reduce the energy and the velocity to 5-6-feet/sec.

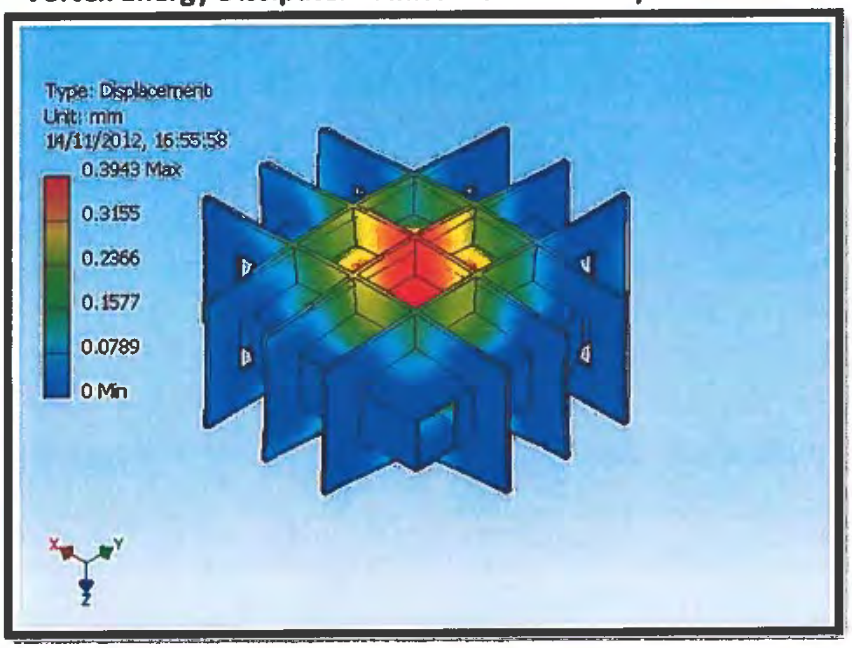
FIGURE 4-4
Vortex Energy Dissipater Rendering



Due to the large dynamic forces that develop in the drop, the energy dissipater must be stiffened using plate steel ribs. Finite element analysis was utilized to check the

deflection of the steel under loading. The maximum deflection depicted in red was 0.3934 mm (refer to Figure 4-5). Note the final location of the energy dissipaters will be determined during the final design phase of the project. The energy dissipater may be located at the end of the 10 foot radius bend or the bend may be eliminated and the IW may terminate vertically into the energy dissipater as depicted in Figure 4-4. Refer to Appendix C for the distribution piping drawings.

FIGURE 4-5
Vortex Energy Dissipater - Finite Element Analysis - Deflection



C. Extraction Mechanical Systems

Pump and Controls Enclosure

The extraction pumping and electrical and control systems are housed within a prefabricated building constructed from structural grade steel plates that meet or exceed the standards of ASTM-A36. The vertical and top walls are a minimum of 1/4" plate, and the bottom is 3/8" plate. The door to the building is a steel commercial insulated hollow-core type measuring 36" x 78". The door will be equipped with a cylindrical lockset and shall have tamper proof pinned butt hinges.

The interior and exterior surfaces of the building and piping will receive a minimum of two coats of hi-build epoxy.

Extraction Pumps

The extraction pumps will be end-suction, horizontal, close-coupled cast iron construction. Below are listed key pump operating data:

- Flow: 250 gpm
- TDH: 380-feet
- Speed: 3,550 rpm
- Motor: 50 HP

The pump casing shall be provided with Class 125 standard suction and discharge flanges. The pump shall be of the back pull out design which will allow the rotating assembly to be removed without disturbing the volute or piping assembly.

The pump volute casing of cast iron construction will be fitted with bronze replaceable wear rings. The impeller will be a one-piece, single suction, enclosed type, statically and dynamically balanced, positively locked to the one piece motor shaft.

The pump shaft, an extension of the motor shaft, will be constructed of high grade carbon steel of sufficient size to carry maximum loads imposed and will have renewable shaft sleeves in the seal area. The pump shaft will be sealed against leakage by a mechanical seal installed in a one-piece cast iron housing. The mechanical seal will be of a Carbon/Ni-Resist construction held in a mating position by a stainless steel spring. All internal transmission piping and fittings will be of schedule 40 black, seamless steel pipe and will be manufactured in accordance with the dimensional tolerances and material specifications of the AWWA C-200-75 for steel pipe and steel butt-welded fittings.

Gate Valves

Gate valves, sized as shown on the plans, will be of the resilient wedge type, non-rising stem design. The valve body will be of high quality cast iron construction, bronze stems with O-ring seals located above the thrust collar. Gates for all valve sizes will be encapsulated in rubber where exposed to line velocity, be field replaceable and provide a dual seat on the mating body seat. The valve will meet or exceed AWWA specifications.

Control Check Valves

Pump control check valves will consist of a main valve assembly with electric motor operator. The valve body will be of the long radius elbow body style and be of cast iron conforming to ASTM A126 Class B with integral flanges faced and drilled to ANSI B16.1 Class 125. The valve will be inherently self-cleaning and have a net flow area through it no less than the area of its nominal pipe size. The body will have a replaceable 316 stainless steel seat. There will be a clean out/inspection port near the valve seat.

The valve disc will be cast iron or steel with a renewable, resilient seat of rubber or other suitable material. The valve stem will be stainless steel and guided in a long bronze bushing retained in the valve cover. A pressure-actuated seal will seal the valve stem where it passes through the body. The valve disc will be designed to close upon pressure reversal, independent of the electric motor actuator, to prevent backflow through the pump.

The valve will be operated by a 460VAC/3Phase/60Hertz electric motor actuator sized to close the valve against full pump shut off pressure. The motor actuator will have integral limit and torque switches, visual position indicator, manual handwheel and housed in a NEMA 4 Watertight enclosure. Controls will include reversing starter, control transformer, local-remote selector, push buttons and indicating lights. The electric motor actuator will provide an independently adjustable valve

opening and closing stroke time to suit field conditions, plus be capable of providing two-speed operation with an adjustable transition point from slow to fast speed.

Pump Director Pre-Wired Control Panel

Control panel will be the regularly produced product of the valve manufacturer and will utilize solid state, electro-mechanical relay based logic with plug-in components and printed circuits housed in a NEMA 4 enameled steel enclosure with push-to-test oil-tight lights and a gasketed door.

An amber light will indicate presence of 120VAC power and blue and green lights will indicate valve status. A bank of four red lights will indicate discreet valve or pump malfunction while a yellow neon light will illuminate during a time delay subsequent to the restoration of power. Local or remote operation will be by positioning a Hand-Off-Automatic (HOA) manual selector switch in the enclosure door.

Solid state analog timers will be provided for manual adjustment of valve delay and valve initiation timing sequences, with an adjustable range of no less than 100 seconds. A power failure timer will be pre-set for a five minute pump restart delay after restoration of power, with the capability of changing the delay from 6 seconds to infinity.

Terminal blocks will be provided for 120VAC power and all field connections to the valve's controls, pump motor starter and remote pump start signal. Six individual fault indications will be provided with 1.5 amp, continuous contact dry contacts for remote indication. Anti-plugging contacts will be provided to prevent pump restart during pump reversal.

The pump control valve will function to control the surges associated with the normal starting and stopping of pumps. Valve will open and close at independently adjustable stroking times by means of an electric motor actuator and will not require

solenoid pilots, needle valves or hydraulic pressure. The Pump Director control panel will sequence the valve and pump operation.

Pump Start-up:

A command to start the pump, by either closing the circuit across the "external control" contacts when the H-O-A is in "Auto" or by manually by turning the H-O-A to "Hand", will simultaneously close the pump motor start circuit, illuminate a flashing blue light and initiate the Valve Delay Timer (VDT) sequence.

The flashing blue light will be displayed until the pump discharge pressure satisfies the setting of the pressure switch or the VDT expires.

a. When the pump pressure satisfies the pressure switch prior to the expiration of the VDT, the light will change to steady blue for the duration of the VDT setting. Failure of the pump to produce sufficient pressure within the VDT setting will open the pump motor starter circuit and illuminate the flashing red alarm light indicating "insufficient pressure on start-up."

b. Upon expiration of the VDT, the blue light will extinguish, the electric motor actuator will start opening the valve at a controlled rate of speed and the Valve Initiate Timer (VIT) sequence is initiated. A flashing green light will be displayed until the valve trips the limit switch or the VIT expires.

When the Electric Check opens and trips the limit switch prior to the expiration of the VIT, a steady green light will be displayed for the duration of the pumping operation. Failure of the valve to open prior to the setting of the VIT will open the pump motor starter circuit, de-energize the electric motor actuator and illuminate the flashing red alarm light indicating "valve did not open on start-up".

Normal Pump Shutdown:

A normal pump shutdown is initiated by either turning the H-O-A switch to "Off" or by opening the circuit across the "external control" contacts with the H-O-A switch in

"Auto." The electric motor actuator begins to close at a controlled rate of speed. At an adjustable point near the seated position, the retracting indicator rod will actuate the limit switch, which will turn off the pump motor. The electric motor actuator will continue to close the valve to the fully seated position and then de-energize.

Emergency Conditions:

Should any inadvertent event cause the valve to close without a normal pump shutdown command, the motor starter contacts will open and de-energize the pump. A flashing red light will indicate "valve closed without command."

If during the pumping operation, the pump discharge pressure was not able to satisfy the pressure switch, the electric motor actuator will close the valve and turn off the pump motor. A flashing red light will indicate "loss of pressure while pumping."

Upon power restoration subsequent to any loss of power to the pump motor, even momentary, a five-minute delay timer will be initiated, a "close" command is sent to the electric motor actuator and a yellow neon light will illuminate for the duration of the delay.

Turning the H-O-A to "Off" for six seconds will "reset" any fault lights or override the power failure delay.

If a "run" command still exists after the delay has expired, a normal pump start sequence will automatically commence after the electric motor actuator has stroked fully closed.

The valve will close to prevent backflow immediately upon power outage, pump failure or pressure reversal, independent of the electric motor actuator or electrical signals.

The valve will be GA Industries, Inc., Series 1600M "Checktronic" Pump Control Valve with Model 7600 Pump Director Control Panel.

Sewage Surge Relief Valve

The Sewage Surge Relief Valve will be of a 90-degree elbow body configuration, with cast iron body containing a securely fastened bronze or stainless steel ring.

The valve disc will have a resilient replaceable seat firmly held in place by a bronze or stainless steel ring fastened to the disc with screws. In the closed position with line pressures below the spring setting, the valve will provide droptight closure. The disc movement will be guided for proper alignment throughout its stroke and provide for full opening of the pipe line area when required.

The valve – normally closed – will open when the system pressure exceeds the spring adjustment setting. Its opening stroke will be limited to that which is necessary to provide protection against surge exceeding the spring setting. The valve will close at a slow speed consistent with adjustment of a self-contained oil cushion chamber that is provided with the valve. The cushioning device will permit a range of adjustment for closing speed to prevent hammer or bang.

External springs will be enclosed in protective casings and will be in compression. The disc stem bushing will be bronze capped with a lantern-type gland vented to atmosphere for revealing seal leakage.

The valve will be GA Industries, Inc., Figure Number 625-D.

Pressure Gauges

Pressure gauges will be provided to indicate suction and discharge pressure and will be wall mounted on a steel plate as near to the pressure source as possible. The gauges will have 4 1/2-inch minimum diameter faces with molded black phenolic case, turret type with snap ring face mounting. The gauge internal construction will include

phosphor bronze bourdon tube with bronze movement. The gauges will have 1/4" NPT bottom connections, flexible sensing lines, bronze snubbers and needle valves.

Pressure gauge ranges will be as follows:

- Suction Pressure: 0 to 30 PSI.
- Discharge Pressure: 0 to 300 PSI.

D. Extraction Electrical

New Electrical Service

A new electrical service is proposed. ComEd has indicated this would most likely be tapped off the same line that serves the existing LaFarge/Conco blowers at grade. Unlike the existing mine feeder which has an intermediate step-down voltage (5 kV) to enter the mine, a new ComEd 15 kV line will feed down to a point near the Extraction Pumping Station. (Refer to the conceptual design sketch on Exhibit B-2 for an installation detail of this cable). A fusible primary switch and 480 volt transformer would be installed and a motor control center housed in the pumping system walk-in style enclosure (refer to Appendix B).

The motor control center provides electrical power to the pumps, control valves and air compressor that comprise the Extraction Pumping System installation. This is depicted by the Single Line Diagram and Front Elevation as shown on Exhibit B-2.

The Motor Control Center (MCC) will be 600-volt class suitable for operation on a three-phase, 60 Hz system. The system operating voltage and number of wires will be as indicated on the drawings.

The MCC will be totally enclosed, dead-front, free-standing assemblies. They will be 90-inches high and 21-inches deep for front-mounted units and 21-inches deep for back-to-back mounted units. MCC structures will contain a horizontal wireway at

the top 15-inches tall, isolated from the horizontal bus via metal barriers and will be readily accessible through a hinged cover. The MCC will also contain a horizontal wireway at the bottom 3-inches tall that is open to the full rear of the structure. Adequate space for conduit and wiring to enter the top or bottom will be provided without structural interference.

Compartments for mounting control units will be incrementally arranged such that not more than twelve (12) Size 1 or Size 2 starters can be mounted within each vertical structure. Guide rails will be provided.

A vertical wireway with minimum of 35 square-inches of cross-sectional area will be adjacent to each vertical unit and will be covered by a hinged door. Wireways will contain steel rod cable supports.

All full voltage starter units through NEMA Size 5 and all feeder breakers through 400 Amp will be of the draw-out type. Draw-out provisions will include a positive guide rail system and stab shrouds to absolutely ensure alignment of stabs with the vertical bus. Draw-out units will have a tin-plated stab assembly for connection to the vertical bus. No wiring to these stabs will extend outside of the draw-out unit. Interior of all units will be painted white for increased visibility. Units will be equipped with side-mounted, positive latch pull-apart type control terminal blocks rated 600 volts. Knockouts will be provided for the addition of future terminal blocks. In addition, a master terminal block, when Type C wiring is specified, will be draw-out and will be located in the top wireway, readily accessible through a hinged cover. All control wire to be 14 gauge minimum.

All draw-out units will be secured by a spring-loaded, quarter turn, indicating type fastening device located at the top front of the unit. With the exception of the dual-mounted units, each unit compartment will be provided with an individual front door.

An operating mechanism will be mounted on the primary disconnect of each starter unit. It will be mechanically interlocked with the unit door to prevent access, unless the disconnect is in the "OFF" position. A defeater will be provided to bypass this interlock. With the door open, an interlock will be provided to prevent inadvertent closing of the disconnect. A second interlock will be provided to prevent removal or reinsertion of the unit while in the "ON" position. Padlocking facilities will be provided to positively lock the disconnect in the "OFF" position with up to three padlocks with the door open or closed. In addition, means will be provided to padlock the unit in a partially withdrawn position with the stabs free of the vertical bus.

Bus

Each structure will contain a main horizontal tin-plated copper bus, with minimum ampacity of 600 amperes. The horizontal bus will be rated at 65 degrees C temperature rise over a 40 degrees C ambient in compliance with UL standards. Vertical bus feeding unit compartments will be tin-plated copper and will be securely bolted to the horizontal main bus. All joints will be front-accessible for ease of maintenance. The vertical bus will have a minimum rating of 600 amperes. Both vertical and horizontal bus will be fully rated; but will not be tapered. Vertical bus will not be reduced rated via center feeding, and will be fully rated, top and bottom, from centerline bus.

The vertical bus will be completely isolated and insulated by means of a labyrinth design barrier. It will effectively isolate the vertical buses to prevent any fault-generated gases to pass from one phase to another. The vertical bus will include a shutter mechanism that will allow the unit stabs to engage the vertical bus every 6-inches and provide complete isolation of the vertical bus when a unit is removed.

Wiring/Terminations

Wiring will be NEMA Class I, Type A.

Motor Controllers

Solid-state reduced-voltage starters will be provided for each extraction pump. The solid-state reduced-voltage starter will be UL and CSA listed in the motor control center, and consist of an SCR-based power section, logic board and paralleling bypass contactor. The paralleling bypass contactor will be energized when the motor reaches full speed.

Each solid-state reduced voltage starter will have an addressable communication card capable of transmitting control and diagnostic data over an open network to either a personal computer or Logic Controller via network translator to DeviceNet, MODBUS 485, MODBUS/TCP / ETHERNET/IP, or PROFIBUS DP.

Overcurrent Devices

Circuit Breakers

Individual feeder breakers will have a minimum interrupting capacity of 65 kAIC at rated voltage or as scheduled on the drawings

Automatic Insulation Tester

Automatic insulation testers will be provided for individual MCC motor starter units where indicated on contract documents. The insulation tester will be rated for 600 VAC, 60 Hz, motor circuits. When the equipment motor is de-energized, the automatic insulation tester will automatically apply a 500VDC potential at a current-limited, operator-safe, maximum amperage of 200 micro-amperes to "megger" the insulation of the motor windings and the insulation of the circuit between the automatic insulation tester and the motor. The automatic insulation tester will have a 10-second time delay before alarm circuit will activate. The insulation tester will have an input of 120 VAC, 60 Hz and be interlocked with the starter such that the insulation tester will continuously monitor the integrity of the insulation during the period that the equipment motor is de-energized, and upon detection of a leakage current to ground the insulation tester will provide a visual alarm indication. When the equipment motor is energized, the insulation tester will be interlocked with the

starter to automatically stop testing and be automatically disconnected from the circuit. Insulation tester will be equipped with 1 (one) Form C latching alarm contact for remote alarm status. Insulation tester will be provided with a manual reset button and a "test-on" and "alarm" LED display. A 2% analog door-mount meter with a color coded dial and a 0 – 200 meg-ohm scale will be provided for insulation test indication.

Voltage Presence Indicator

Voltage Presence Indicators will be provided on the unit door of MCC starter and feeder units as per contract documents. The voltage presence indicator will be a hardwired voltmeter or voltage detector connected to the load side of the main incoming disconnect, and will provide a "through-door" visual indication at the MCC unit door of any voltage presence in any individual phase to enable operators to "pre-verify" voltage presence while the MCC unit door is safely closed. The voltage presence indicator will be equipped with an adapter to enable installation in a 30mm device-panel on the MCC unit or any other standard 30mm pilot device knockout. The voltage presence indicator will be of potted construction with 6-foot leads and equipped with dual redundant circuitry to ensure reliability. The voltage presence indicator will also be phase insensitive, UL type 4X listed and have immunity to high surges.

Motor Control Center Mounted Load Center

As part of the motor control center, an electrical distribution center consisting of thermal magnetic circuit breakers with a capacity of 15 amps, will be provided for each branch circuit including the following:

-Control
-Sump Pump
-Dehumidifier
-Blower
-Heater
-Convenience Receptacle

-Lighting

The circuit breakers will indicate when the circuit is open and will have means provided for manual switching. All breakers will be labeled as to function with permanently attached phenolic nameplates.

Lighting Panel Transformer

A properly sized transformer will be provided to supply 240/120 volt, single phase power for the lighting panel. The transformer will be a 5 KVA, dry type, wall-mounted transformer UL listed for indoor use.

APPENDICES

NOTES

APPENDIX A
WTP Pump Station

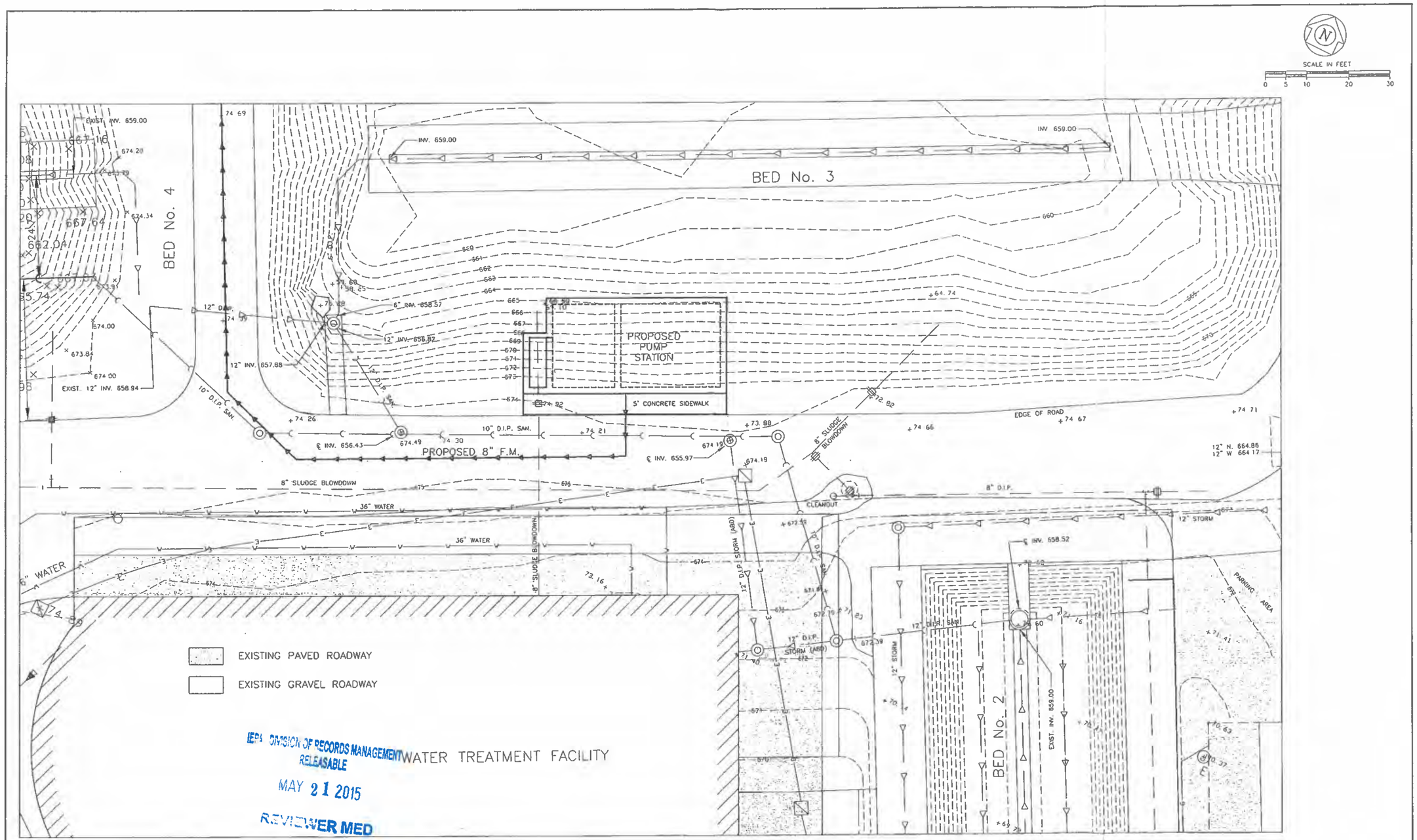


EXHIBIT A-1

DRAFT

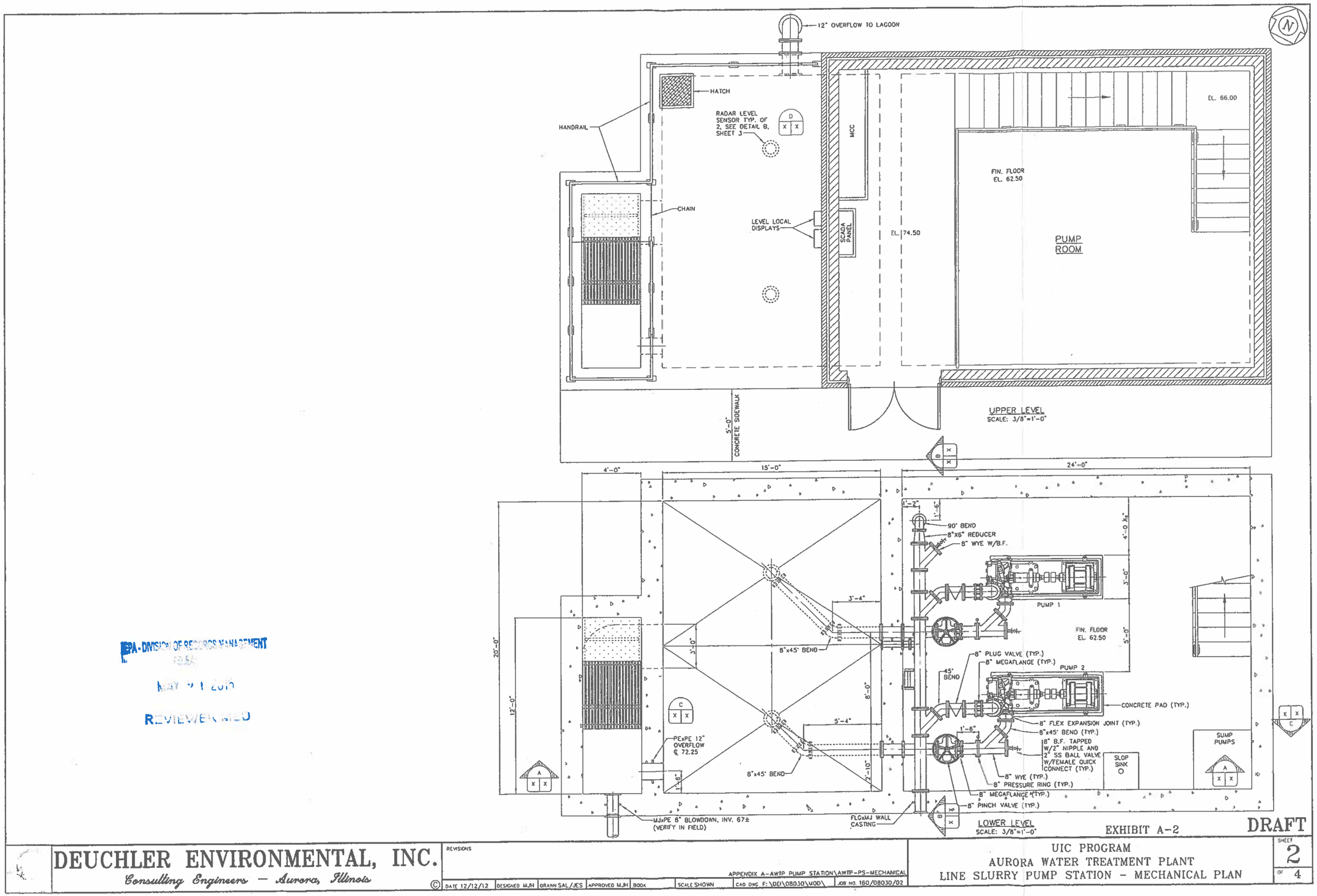
DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

© DATE 12/12/12 | DESIGNED X | DRAWN JES | APPROVED X | BOOK X | SCALE 1"=10' | CAD DWG. F:\DEI\08030-03\400\APPENDIX-AWTP PUMP STATION\AWTP-PS-CIVIL | JOB NO. 160/08030-03

REVISIONS

UIC PROGRAM
AURORA WATER TREATMENT PLANT
LINE SLURRY PUMP STATION – PLAN

SHEET 1 OF 4



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Consulting Engineers – Aurora, Illinois

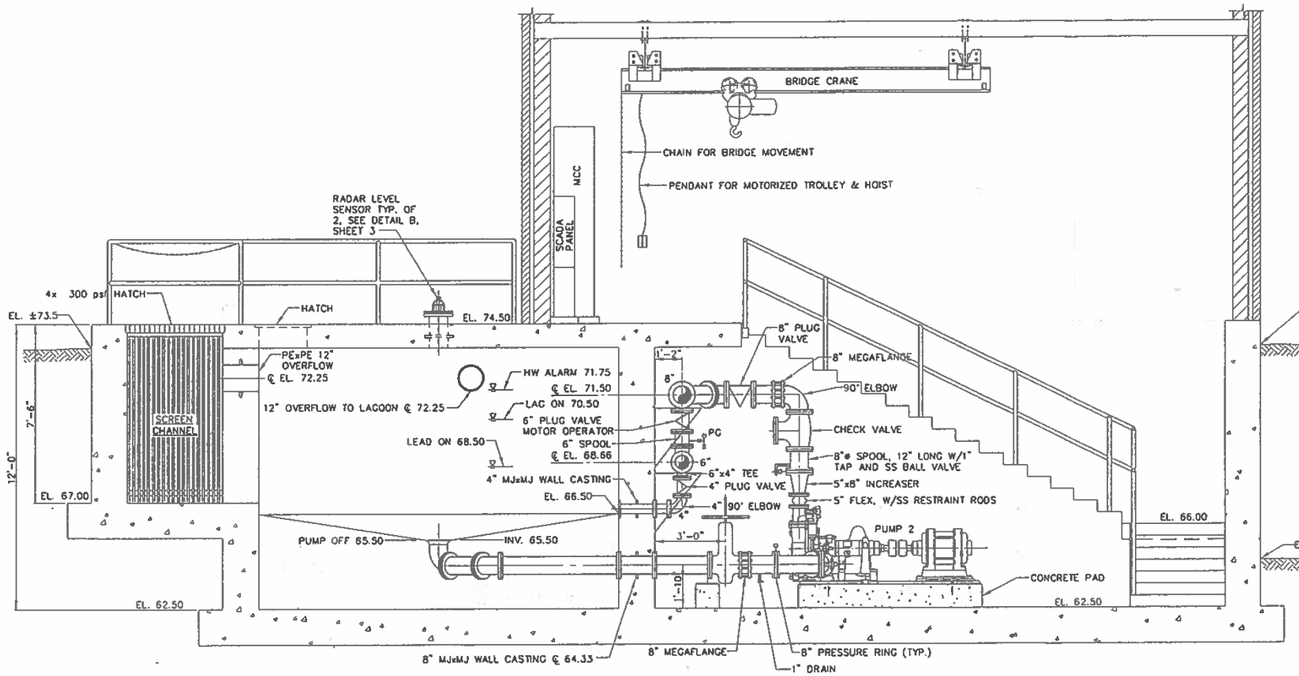
REVISIONS

APPENDIX A-AWTP PUMP STATION\AWTP-PS-MECHANICAL

© DATE 12/12/12 | DESIGNED MJH | DRAWN SAL/JES | APPROVED MJH | BOOK | SCALE SHOWN | CAD DWG F:\DEI\08030\W00\ | JOB NO. 160/08030/02

UIC PROGRAM
AURORA WATER TREATMENT PLANT
LINE SLURRY PUMP STATION – MECHANICAL PLAN

SHEET 2 OF 4



SECTION A–A
SCALE: 3/8"=1'-0"

SECTION B–B
SCALE: 3/8"=1'-0"

EXHIBIT A–3

DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

© DATE 12/12/12 | DESIGNED MJH | DRAWN SAL/JES | APPROVED MJH | BOOK | SCALE SHOWN | CAD DWG. F:\DEI\08030\M00 | JOB NO. 160/08030/02

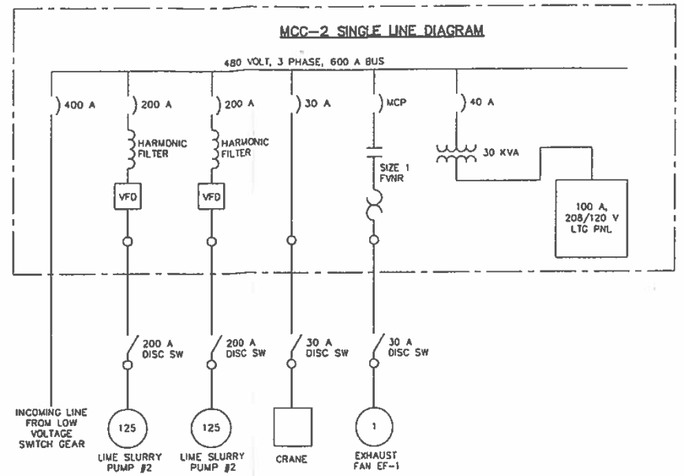
REVISIONS

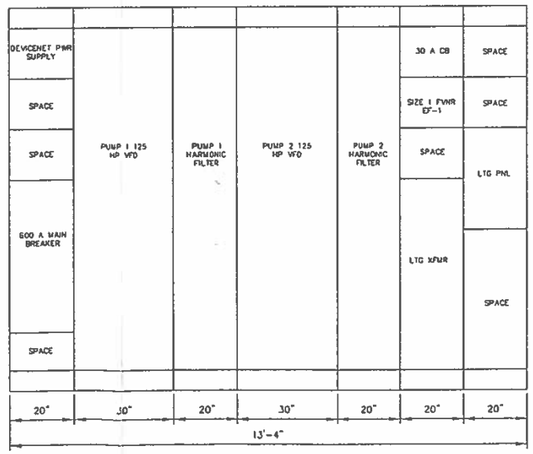
APPENDIX A–AWTP PUMP STATION\AWTP–PS–MECHANICAL

UIC PROGRAM
AURORA WATER TREATMENT PLANT
LINE SLURRY PUMP STATION – MECHANICAL SECTION

SHEET 3 OF 4

MCC–2 SINGLE LINE DIAGRAM





MCC–2 FRONT ELEVATION

EXHIBIT A–4 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

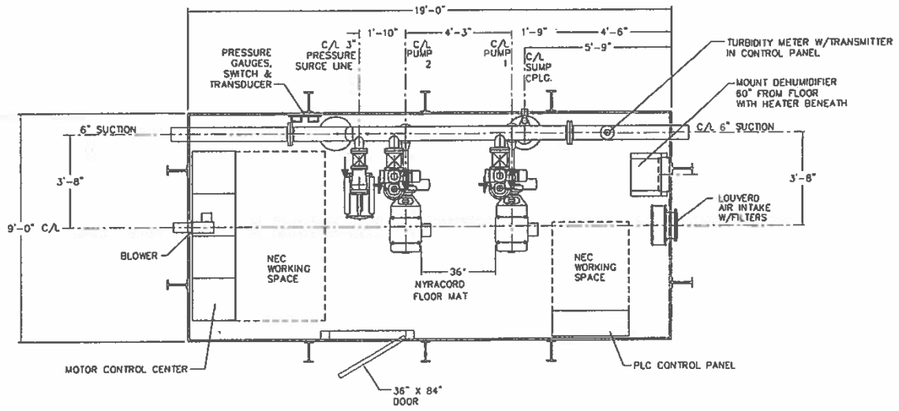
© DATE 12/12/12 | DESIGNED GAP | DRAWN JES/000 | APPROVED GAP | BOOK 000 000 | SCALE 00=00 | CAD DWG. F:\DEI\08030-02\W00\APPENDIX A-AWTP PUMP STATION\AWTP-PS-ELECTRICAL | JOB NO. 160/08030-02

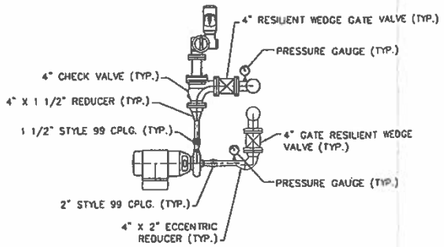
REVISIONS

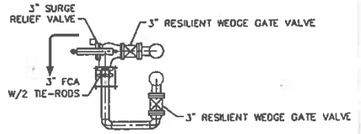
UIC PROGRAM
AURORA WATER TREATMENT PLANT
LINE SLURRY PUMP STATION – ELECTRICAL

SHEET 4 OF 4

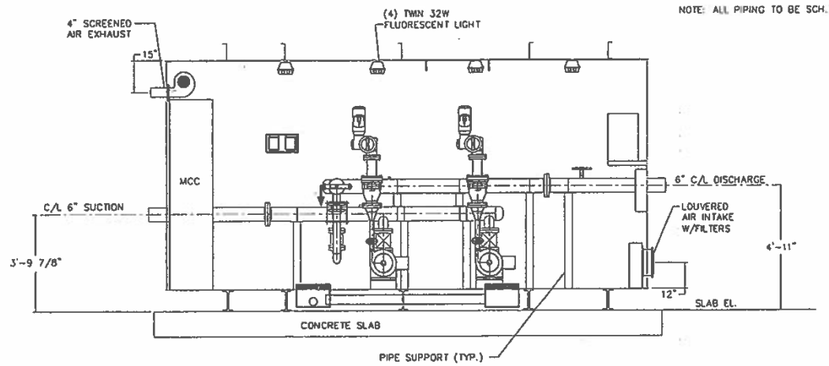
APPENDIX B
Extraction Pump Station







3" PRESSURE RELIEF LINE



NOTE: ALL PIPING TO BE SCH. 80 STEEL.

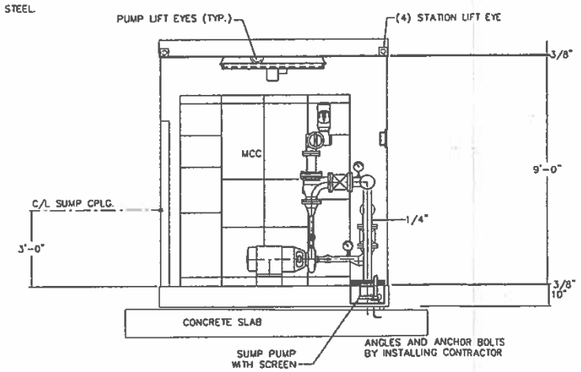


EXHIBIT B-1

DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

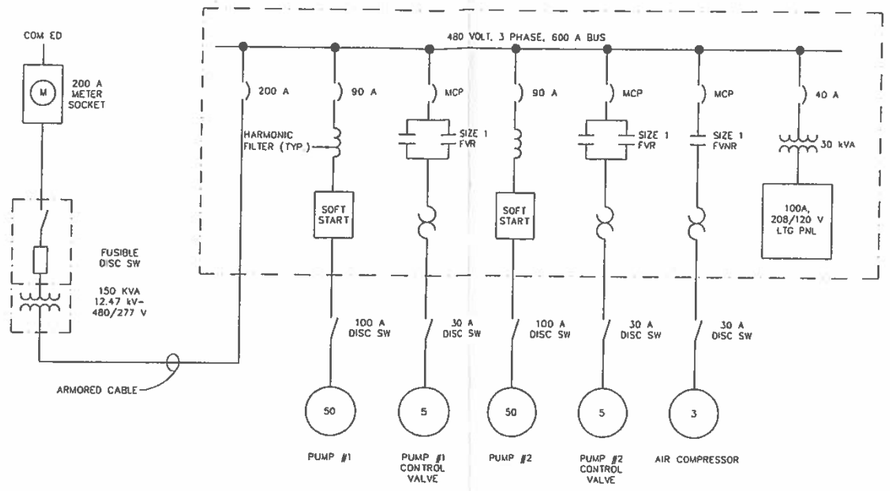
© DATE 12/12/12 | DESIGNED MJH | DRAWN SAL/JES | APPROVED MJH | BOOK | SCALE 1"=30" | CAD DWG. F:\DEI\08030\MD01\ | JOB NO. 150/08030/02

REVISIONS

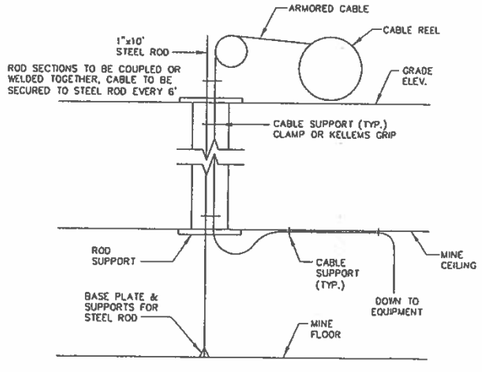
APPENDIX B-EXTRACTION PUMP STATION\EXTRACTION PS-MECHANICAL

UIC PROGRAM
PUMP STATION
EXTRACTION SYSTEM – MECHANICAL

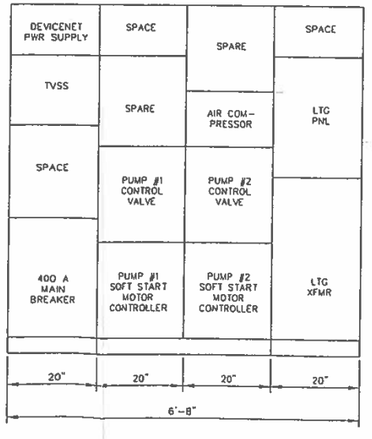
SHEET 1 OF 4



SINGLE LINE DIAGRAM



CONCEPTUAL LAYOUT FOR CABLING DOWN TO EXTRACTION PUMPING SYSTEM



MCC FRONT ELEVATION

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

© DATE 12/12/12 | DESIGNED GSP | DRAWN SAL/JES | APPROVED CSP | BOOK | SCALE NTS | CAD DWG. F:\DEI\08030\MOD\APPENDIX B-EXTRACTION PUMP STATION\EXTRACTION PS-ELECTRICAL | JOB NO. 160/08030/02

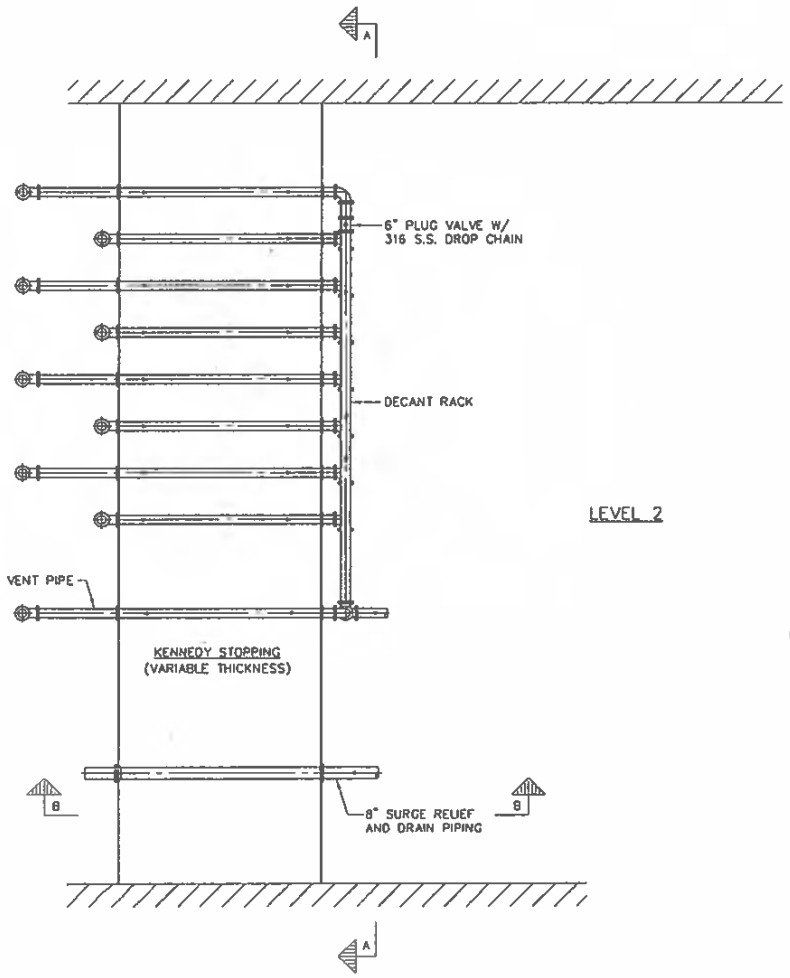
EXHIBIT B-2

DRAFT

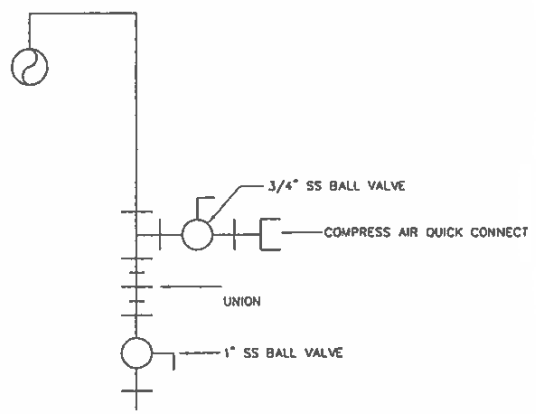
UIC PROGRAM

EXTRACTION SYSTEM PUMP STATION – ELECTRICAL

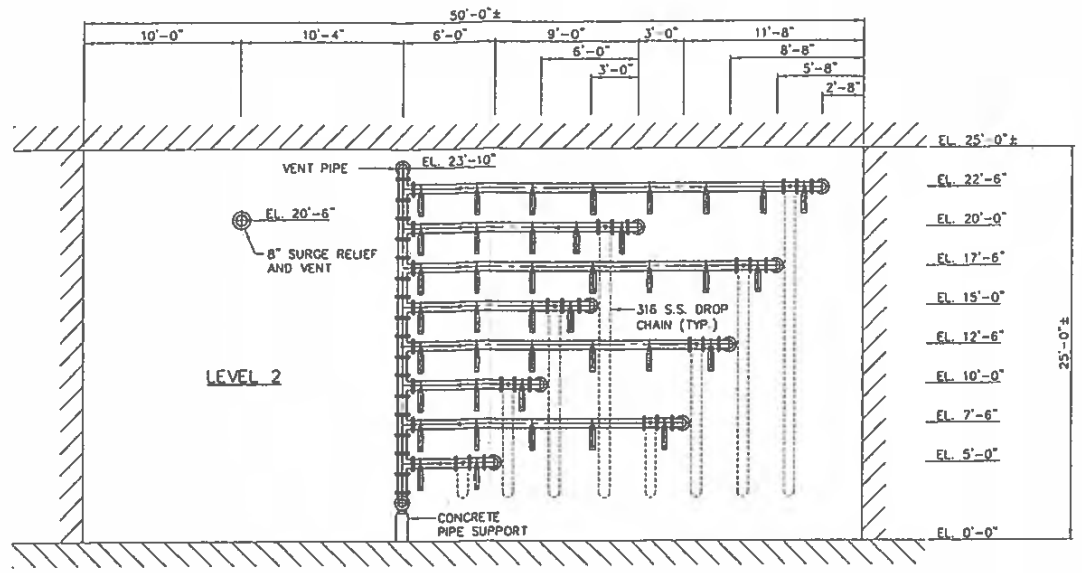
SHEET 2 OF 4



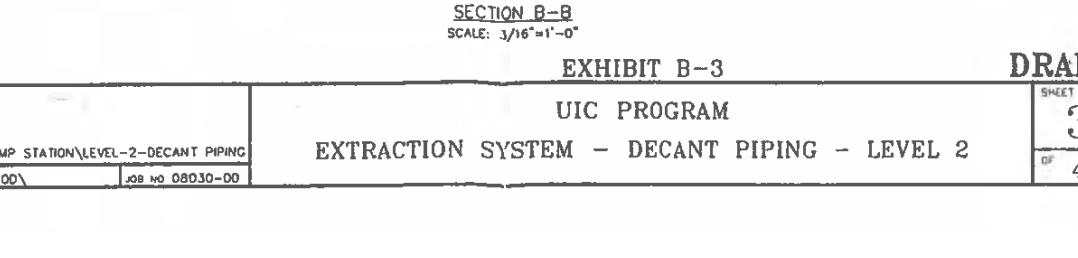
PARTIAL PLAN VIEW
SCALE: 3/16"=1'-0"



DETAIL SAMPLE LINE
(TYP. ALL DECANT LINES)



SECTION A-A
SCALE: 3/16"=1'-0"



SECTION B-B
SCALE: 3/16"=1'-0"

EXHIBIT B-3

DRAFT

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Consulting Engineers – Aurora, Illinois

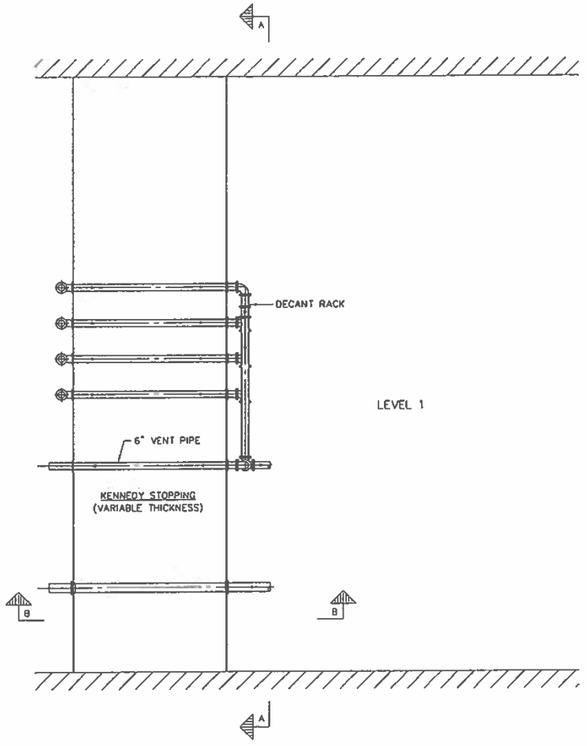
REVISIONS

APPENDIX B-EXTRACTION PUMP STATION\LEVEL-2-DECANT PIPING

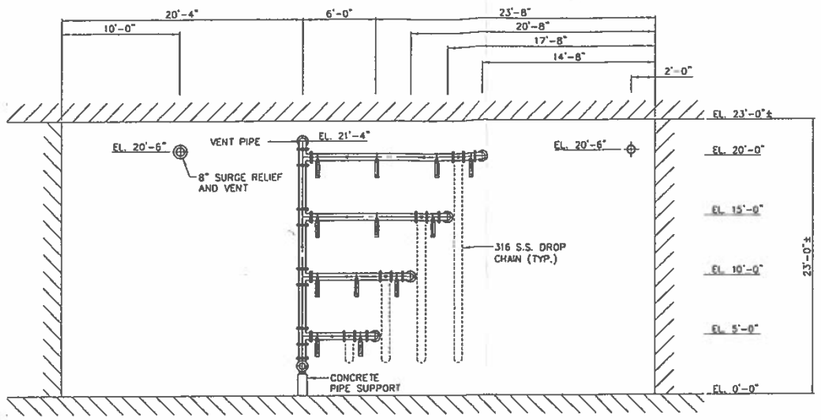
© DATE 12/12/12 | DESIGNED MJH | DRAWN SAL | APPROVED MJH | BOOK | SCALE SHOWN | CAD DWG. F:\DEI\08030\MOD\ | JOB NO 08030-00

UIC PROGRAM
EXTRACTION SYSTEM – DECANT PIPING – LEVEL 2

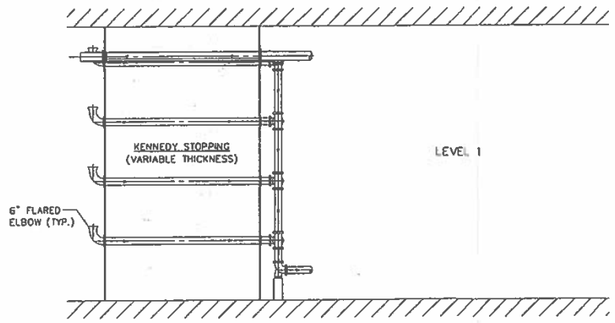
SHEET 3 OF 4



PARTIAL PLAN VIEW
SCALE: 3/16"=1'-0"



SECTION A-A
SCALE: 3/16"=1'-0"



SECTION B-B
SCALE: 3/16"=1'-0"

EXHIBIT B-4

DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

APPENDIX B-EXTRACTION PUMP STATION\LEVEL-1-DECANT PIPING

DATE 12/12/12 | DESIGNED MJH | DRAWN SAL | APPROVED MJH | BOOK | SCALE SHOWN | CAD DWG F:\DEI\08030\M00 | JOB NO 08030-00

UIC PROGRAM
EXTRACTION SYSTEM – DECANT PIPING – LEVEL 1

SHEET 4 OF 4

APPENDIX C
Injection Piping System

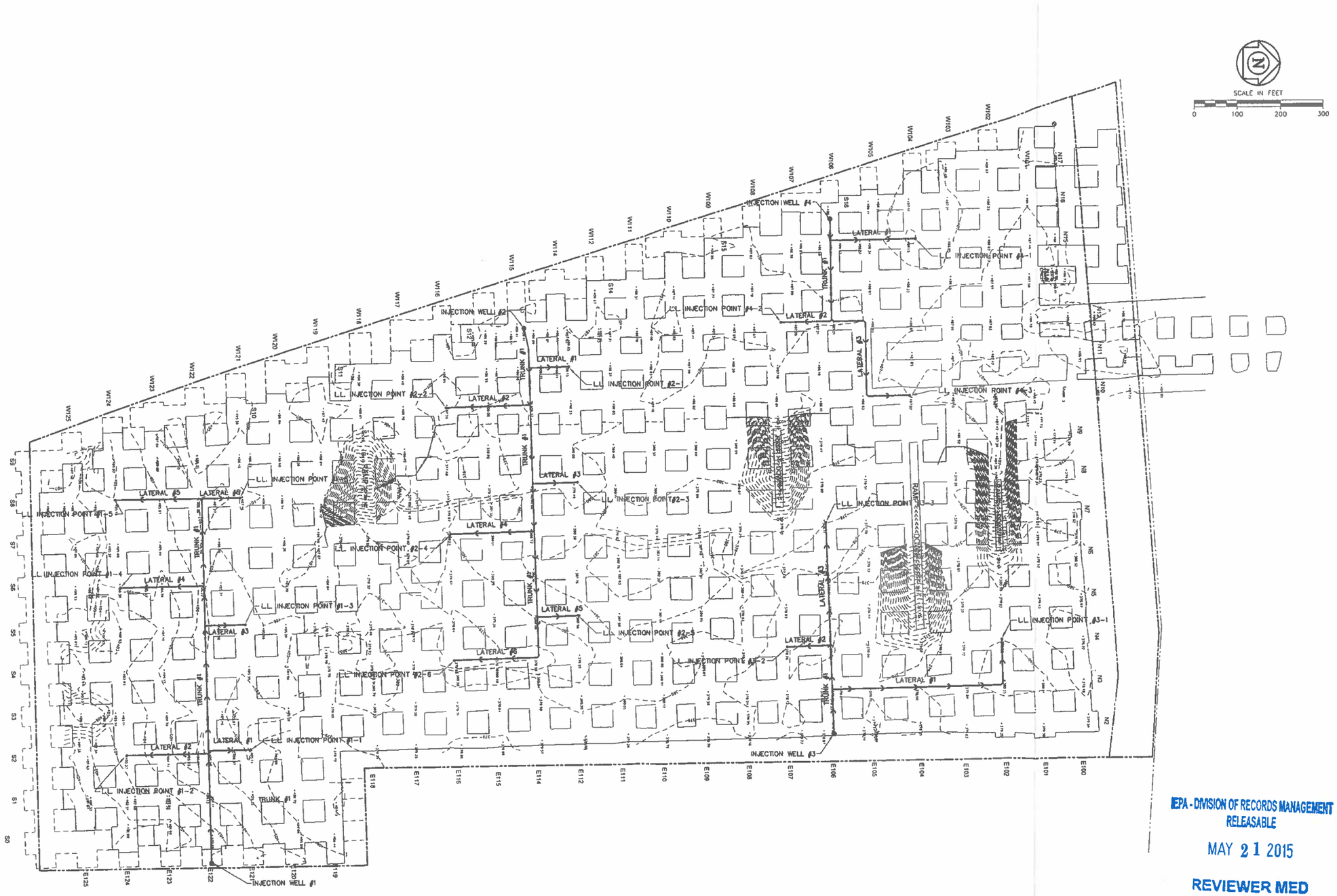


EXHIBIT C-1

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

APPENDIX C-INJECTION PIPING SYSTEM\GEN PLAN

DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE SHOWN | CAD DWG. F:\DEI\08030\W00 | JOB NO. 160/08030/03

GENERAL PLAN DRAFT
INJECTION WELL AND DISTRIBUTION PIPING

SHEET 1 OF 11

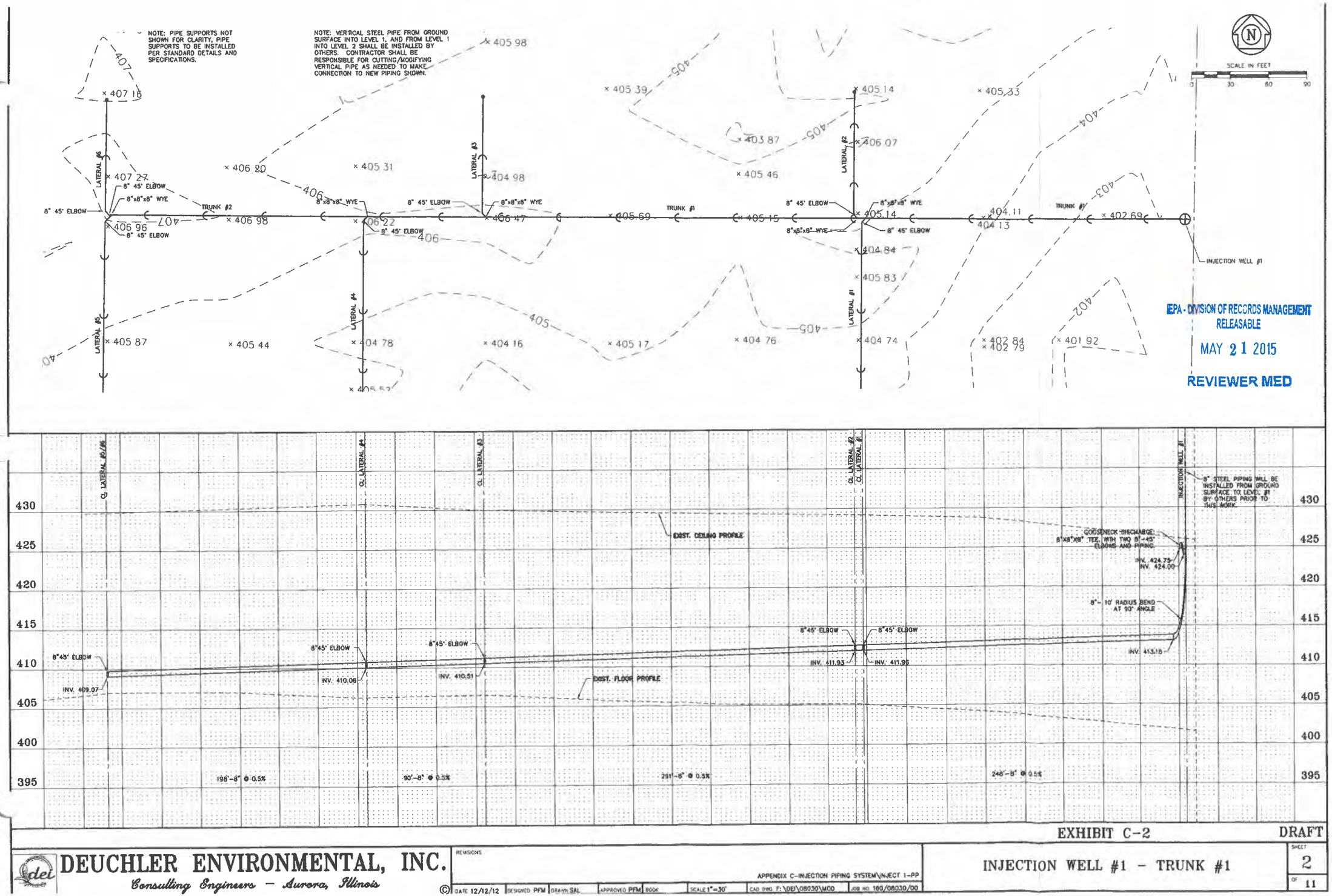


EXHIBIT C-2 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

APPENDIX C-INJECTION PIPING SYSTEM\INJECT 1-PP

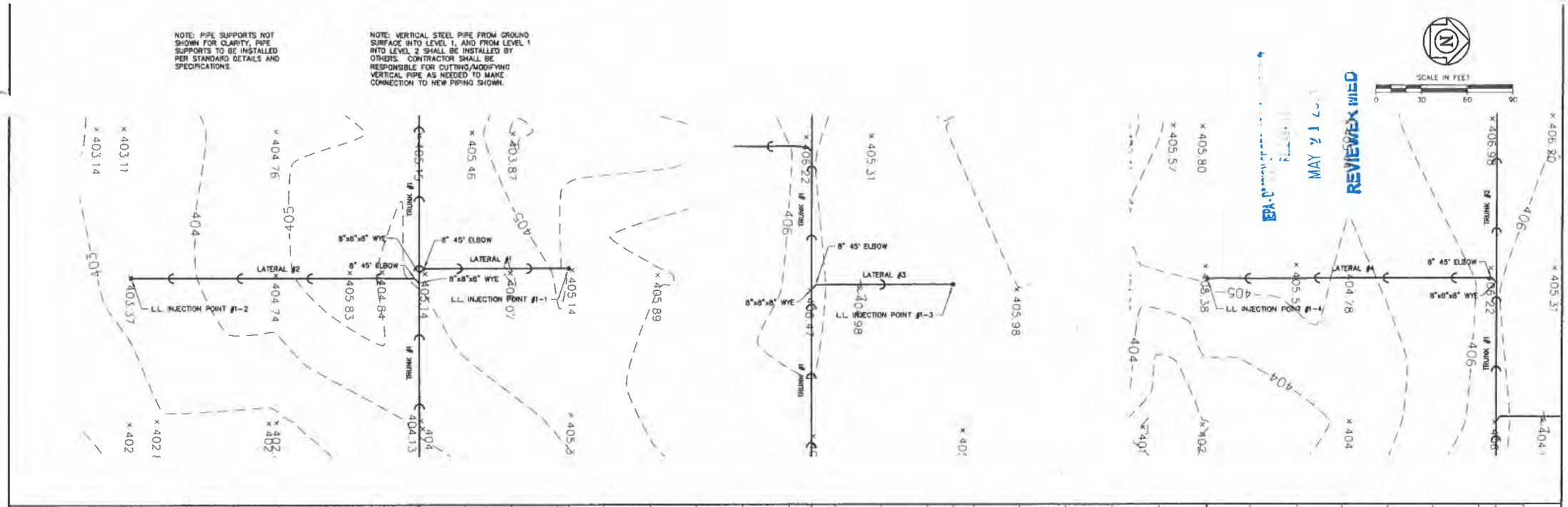
© DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\M00 | JOB NO. 160/08030/00

INJECTION WELL #1 – TRUNK #1

SHEET 2 OF 11

NOTE: PIPE SUPPORTS NOT SHOWN FOR CLARITY, PIPE SUPPORTS TO BE INSTALLED PER STANDARD DETAILS AND SPECIFICATIONS.

NOTE: VERTICAL STEEL PIPE FROM GROUND SURFACE INTO LEVEL 1, AND FROM LEVEL 1 INTO LEVEL 2 SHALL BE INSTALLED BY OTHERS. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING/MODIFYING VERTICAL PIPE AS NEEDED TO MAKE CONNECTION TO NEW PIPING SHOWN.



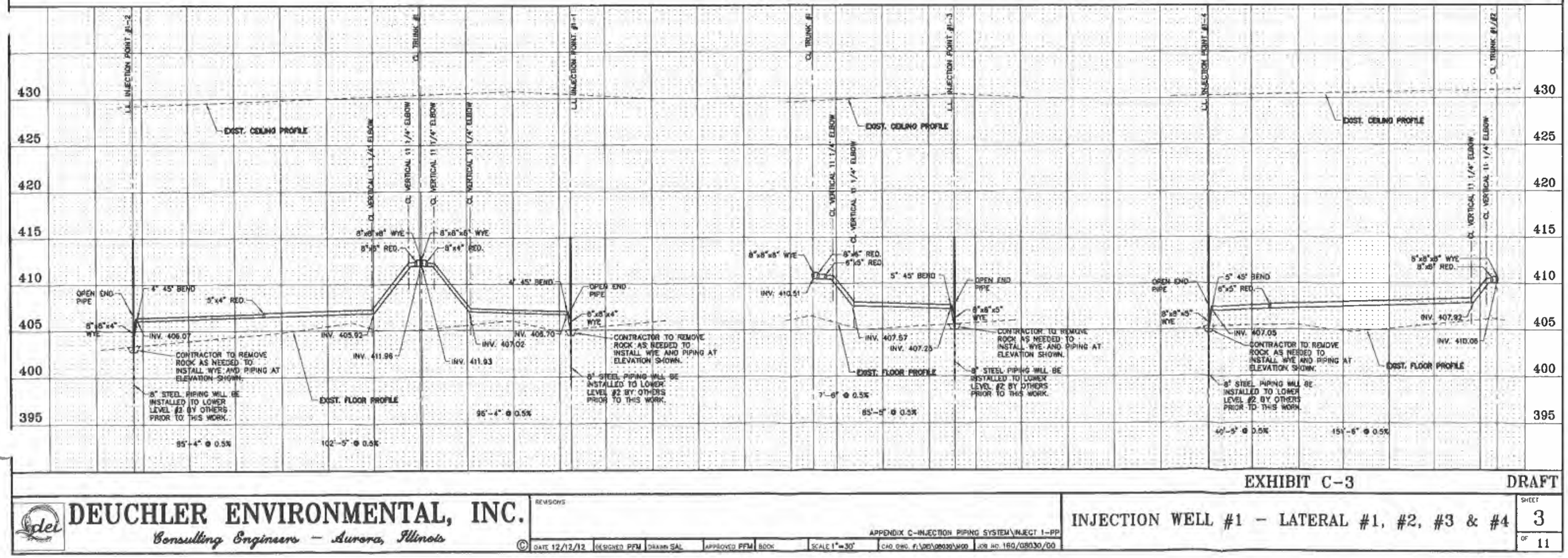


EXHIBIT C-3

DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

APPENDIX C-INJECTION PIPING SYSTEM\INJECT 1-PP

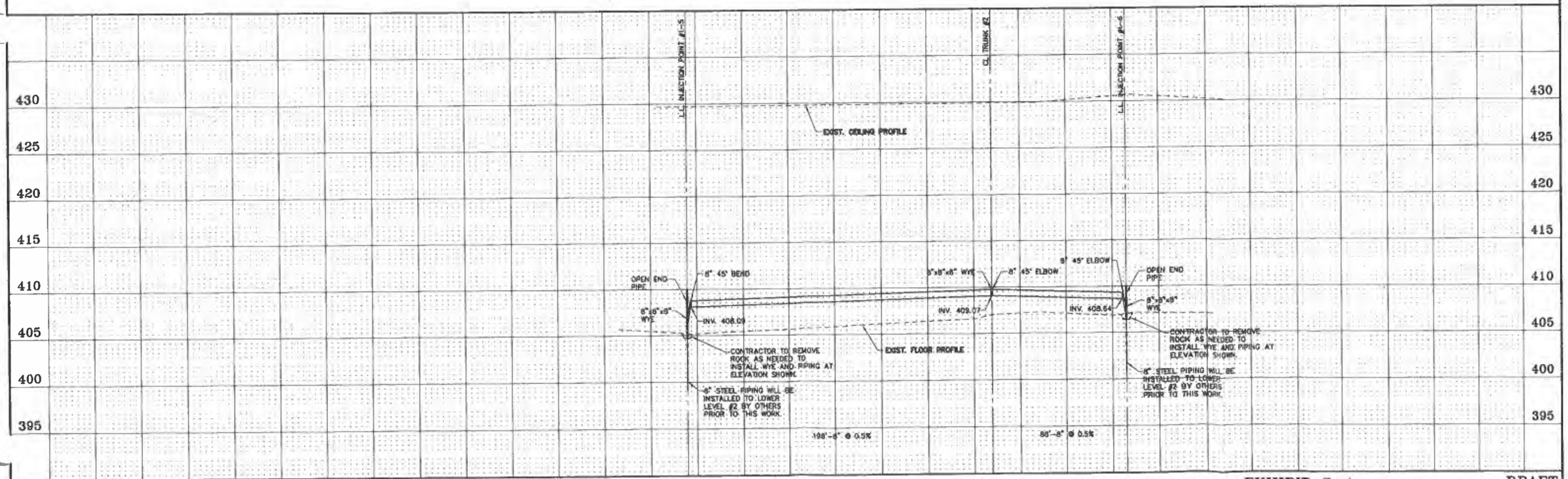
DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\265\08030\M00 | JOB NO. 160/08030/00

INJECTION WELL #1 – LATERAL #1, #2, #3 & #4

SHEET 3 OF 11

NOTE: PIPE SUPPORTS NOT SHOWN FOR CLARITY. PIPE SUPPORTS TO BE INSTALLED PER STANDARD DETAILS AND SPECIFICATIONS.

NOTE: VERTICAL STEEL PIPE FROM GROUND SURFACE INTO LEVEL 1, AND FROM LEVEL 1 INTO LEVEL 2 SHALL BE INSTALLED BY OTHERS. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING/MODIFYING VERTICAL PIPE AS NEEDED TO MAKE CONNECTION TO NEW PIPING SHOWN.



SCALE IN FEET
0 30 60 90

EXHIBIT C-4 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

APPENDIX C-INJECTION PIPING\INJECT 1-PP

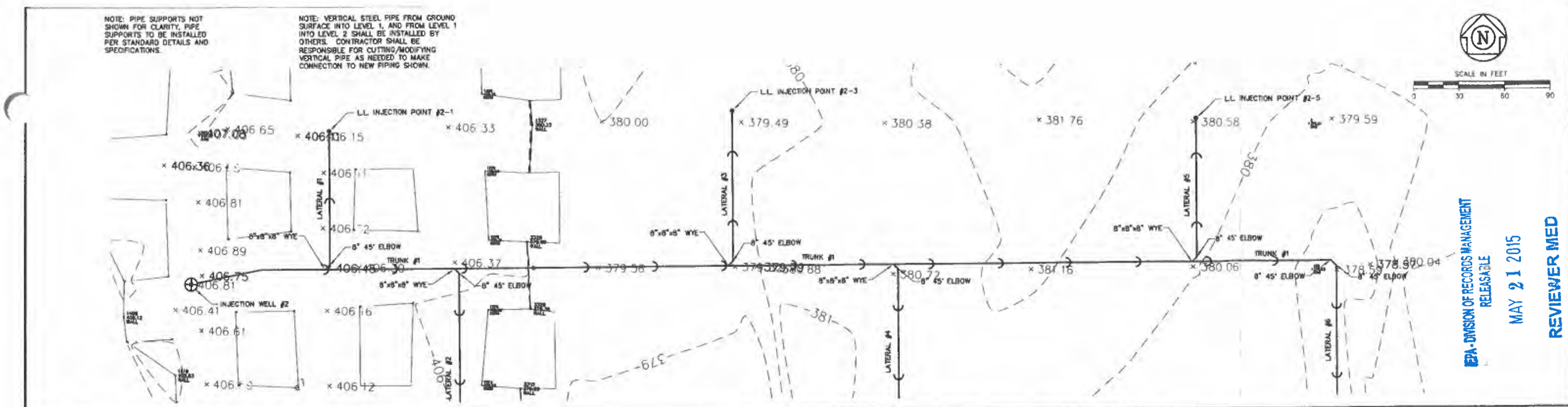
DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\MOD | JOB NO. 160/08030/00

INJECTION WELL #1 – LATERAL #5

SHEET 4 OF 11

NOTE: PIPE SUPPORTS NOT SHOWN FOR CLARITY, PIPE SUPPORTS TO BE INSTALLED PER STANDARD DETAILS AND SPECIFICATIONS.

NOTE: VERTICAL STEEL PIPE FROM GROUND SURFACE INTO LEVEL 1, AND FROM LEVEL 1 INTO LEVEL 2 SHALL BE INSTALLED BY OTHERS. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING/MODIFYING VERTICAL PIPE AS NEEDED TO MAKE CONNECTION TO NEW PIPING SHOWN.



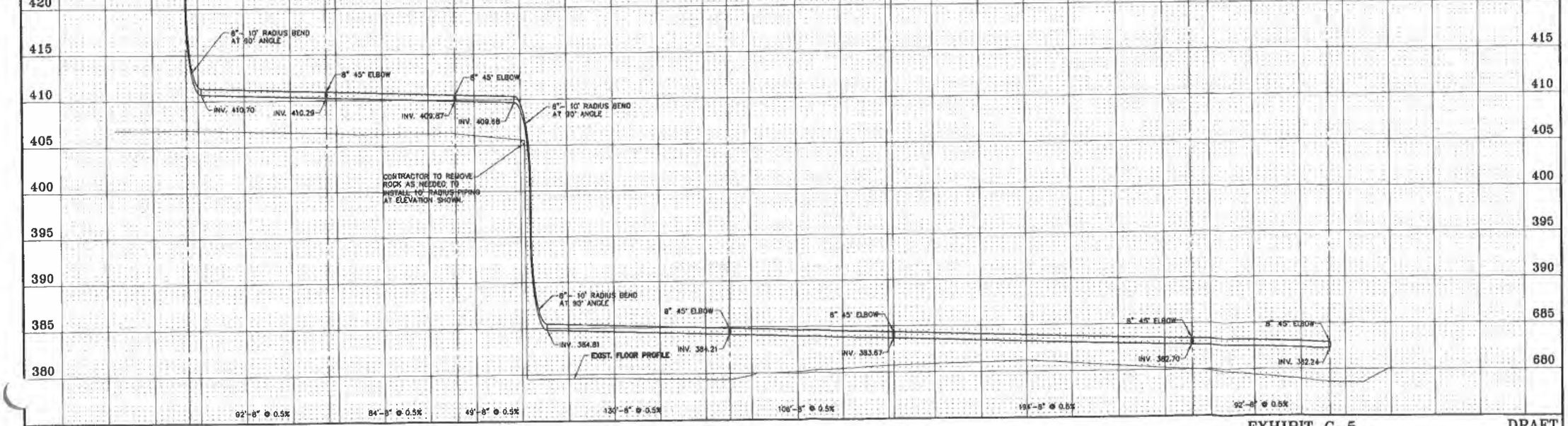


EXHIBIT C-5 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

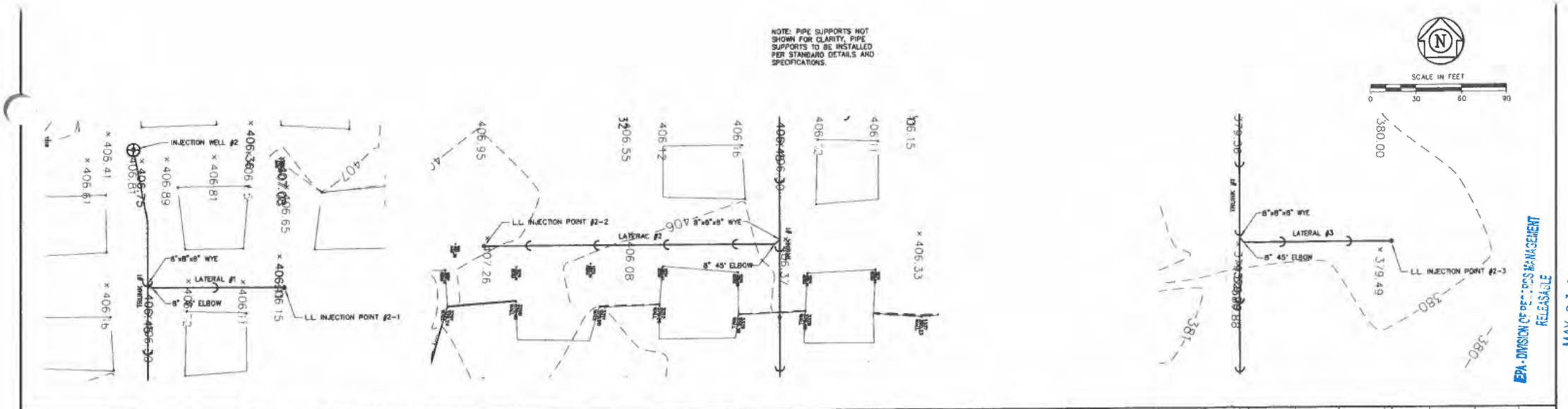
REVISIONS

APPENDIX C-INJECTION SYSTEM\INJECT 2-PP

DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\M00 | JOB NO. 160/08030/00

INJECTION WELL #2 – TRUNK #1

SHEET 5 OF 11



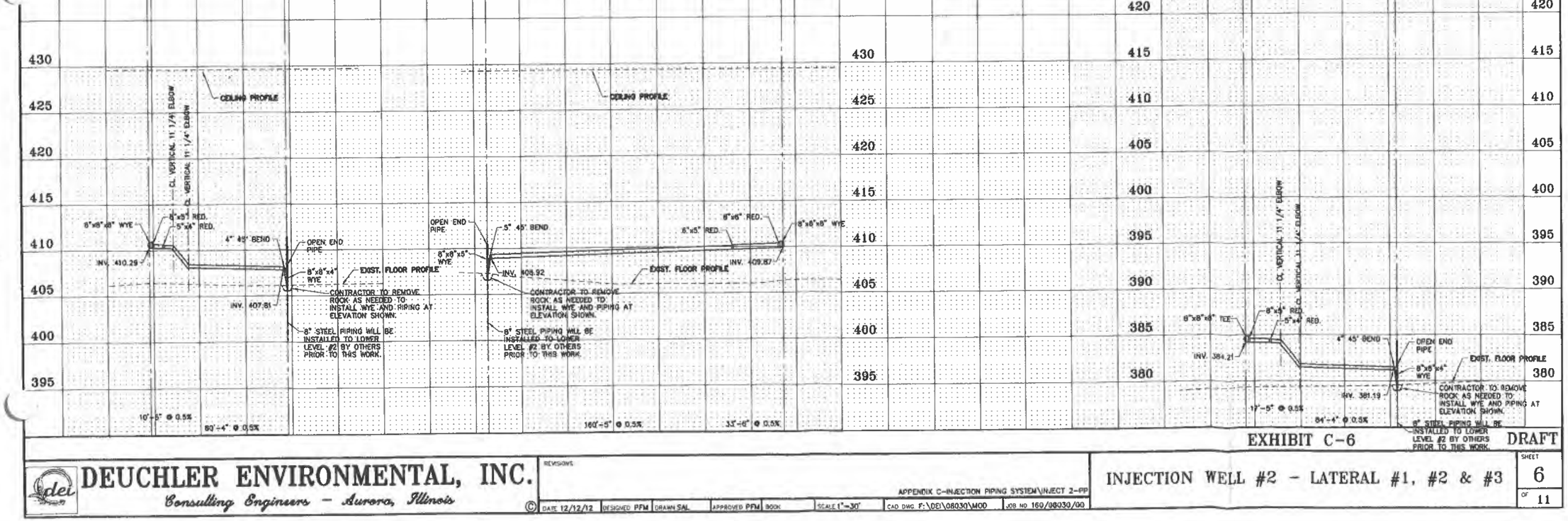


EXHIBIT C-6 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

REVISIONS

APPENDIX C-INJECTION PIPING SYSTEM\INJECT 2-PP

DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\MOD | JOB NO. 160/08030/00

INJECTION WELL #2 – LATERAL #1, #2 & #3

SHEET 6 OF 11

NOTE: PIPE SUPPORTS NOT SHOWN FOR CLARITY. PIPE SUPPORTS TO BE INSTALLED PER STANDARD DETAILS AND SPECIFICATIONS.

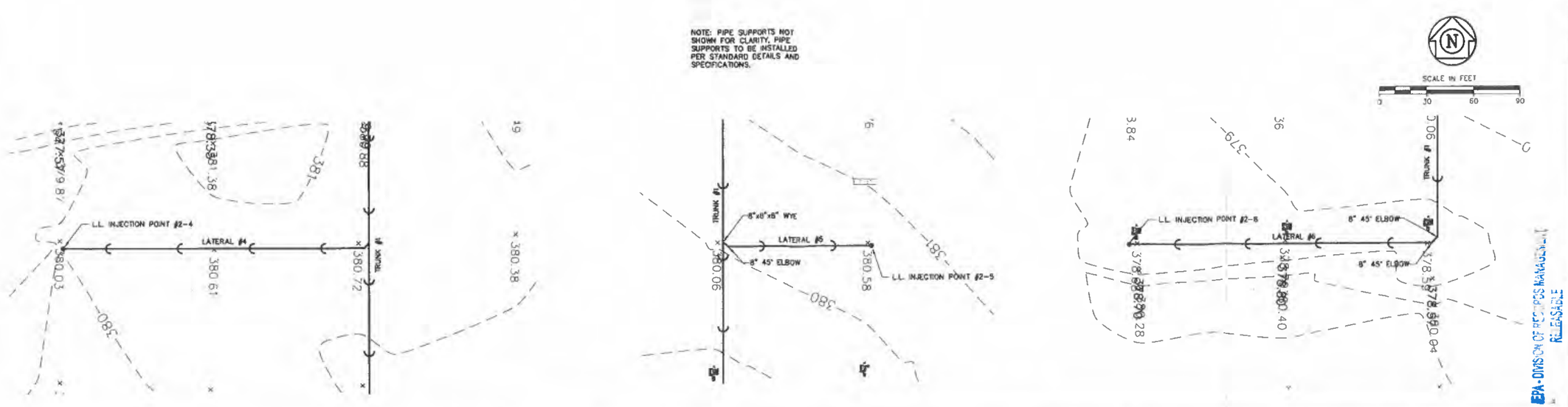


EXHIBIT C-7 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

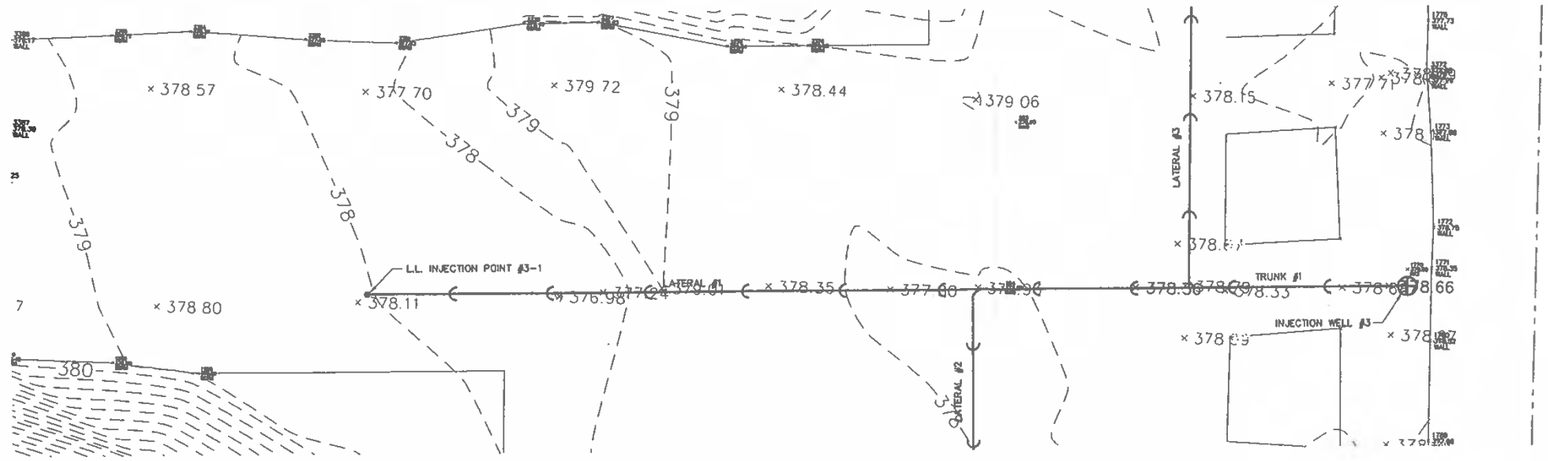
REVISIONS

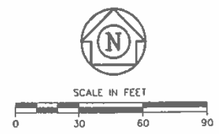
APPENDIX C-INJECTION PIPING SYSTEM\INJECT 2-PP

DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\MOD | JOB NO. 160/08030/00

INJECTION WELL #2 – LATERAL #4, #5 & #6

SHEET 7 OF 11





EPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
MAY 21 2015
REVIEWER MED

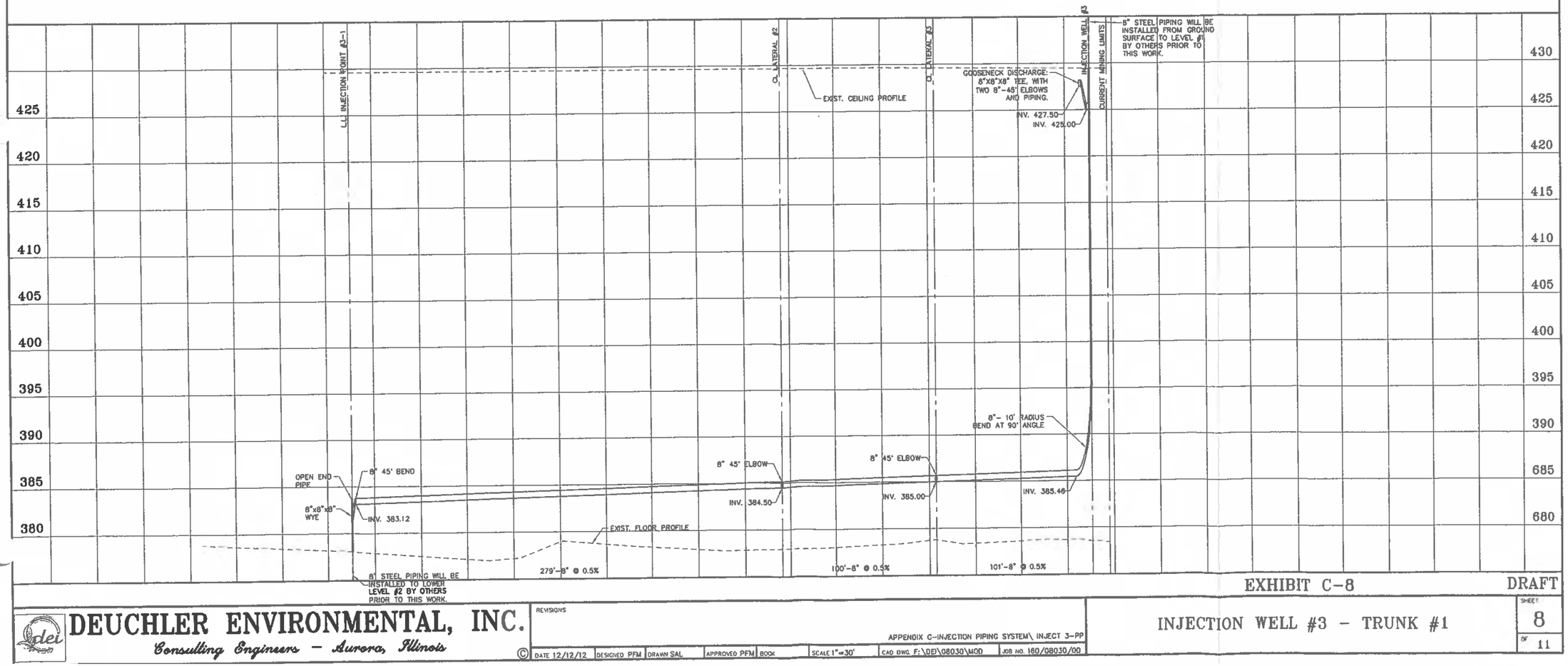


EXHIBIT C-8 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers - Aurora, Illinois

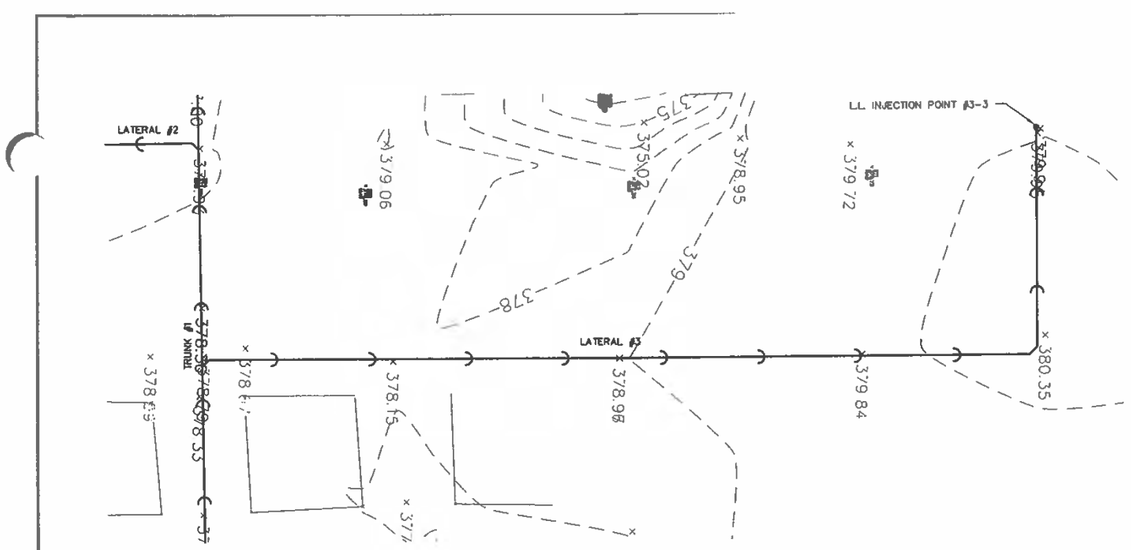
REVISIONS

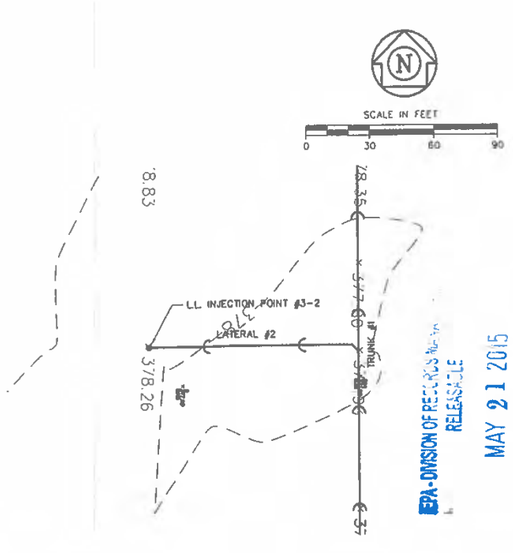
APPENDIX C-INJECTION PIPING SYSTEM\ INJECT 3-PP

DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DE\08030\MOD | JOB NO. 160/08030/00

INJECTION WELL #3 - TRUNK #1

SHEET 8 OF 11





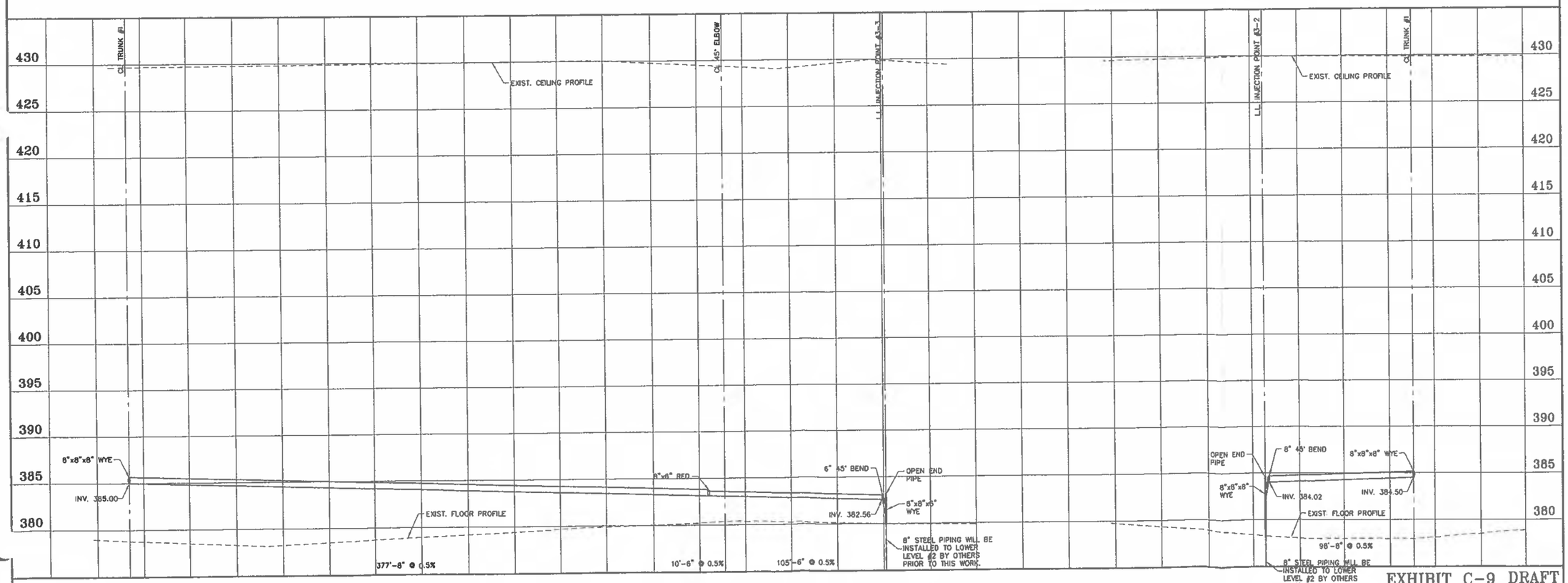


EXHIBIT C-9 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

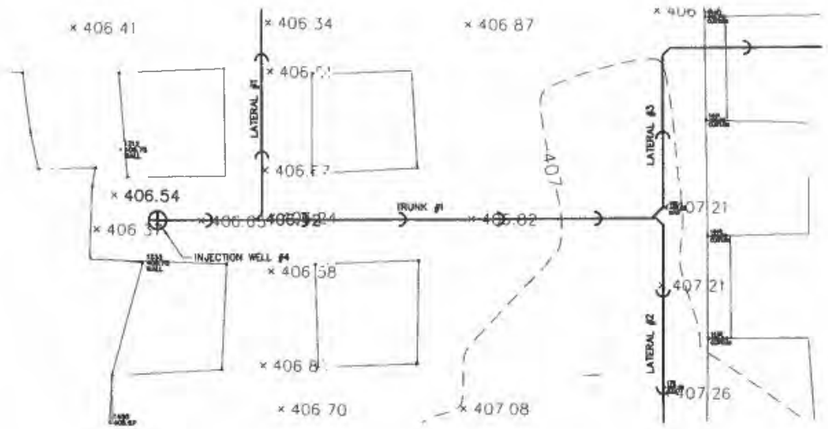
REVISIONS

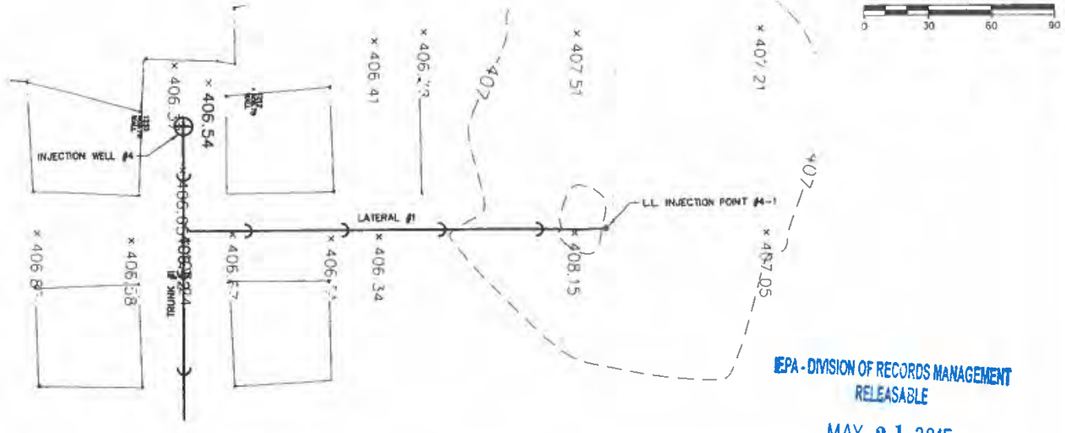
APPENDIX C-INJECTION PIPING SYSTEM\INJECT 3-PP

© DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\WOD | JOB NO. 160/08030/00

INJECTION WELL #3 – LATERAL #1 & #2

SHEET 9 OF 11





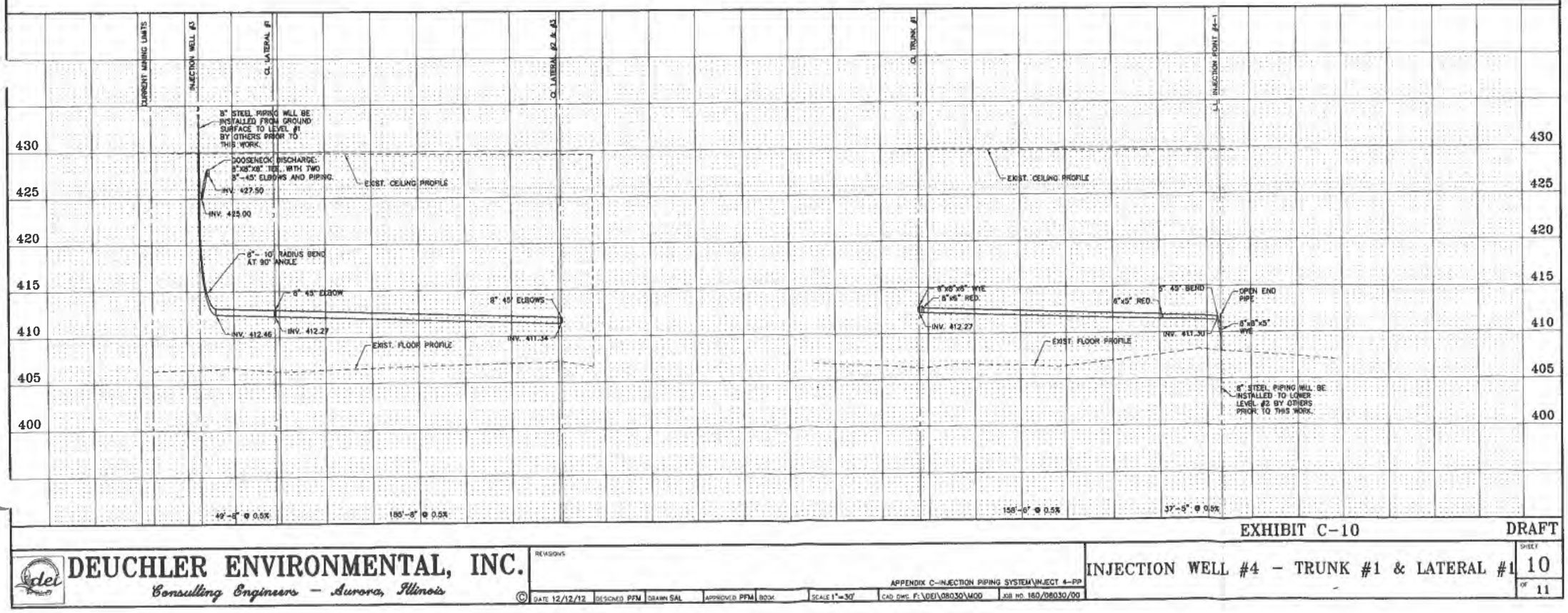


EXHIBIT C-10 DRAFT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers — Aurora, Illinois

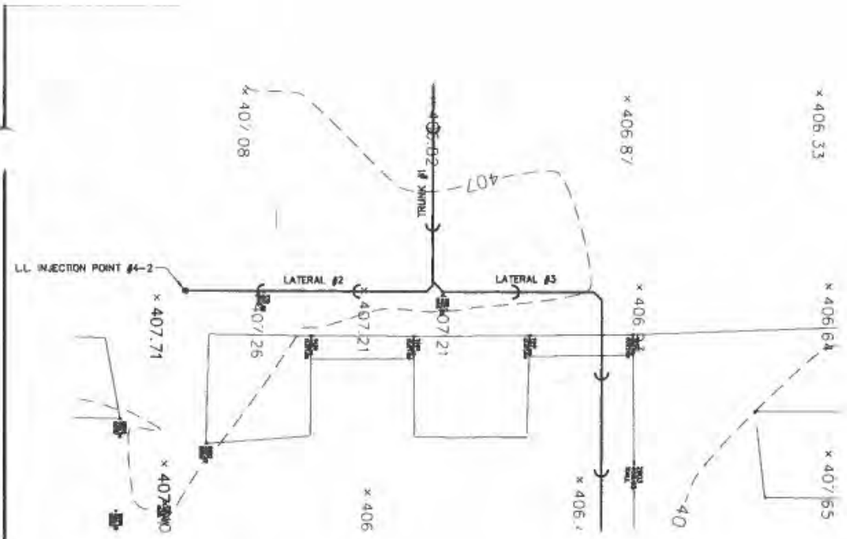
REVISIONS

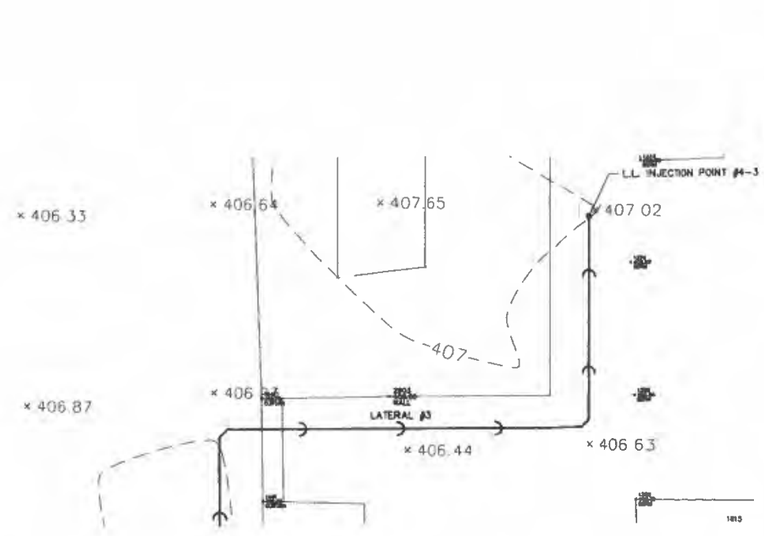
APPENDIX C—INJECTION PIPING SYSTEM\INJECT 4—PIP

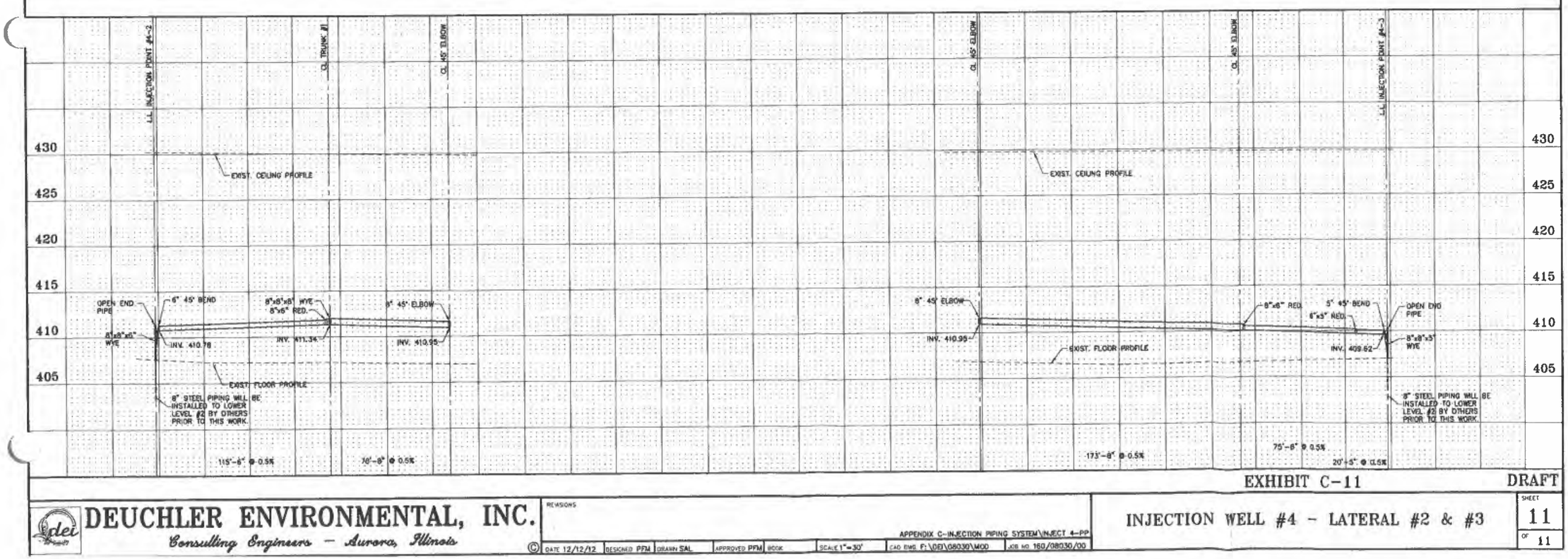
DATE 12/12/12 | DESIGNED PFM | DRAWN SAL | APPROVED PFM | BOOK | SCALE 1"=30' | CAD DWG. F:\DEI\08030\MOD | JOB NO. 180/08030/00

INJECTION WELL #4 — TRUNK #1 & LATERAL #1

SHEET 10 OF 11







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APPENDIX C-INJECTION PIPING SYSTEM\INJECT 4-PP

INJECTION WELL #4 - LATERAL #2 & #3

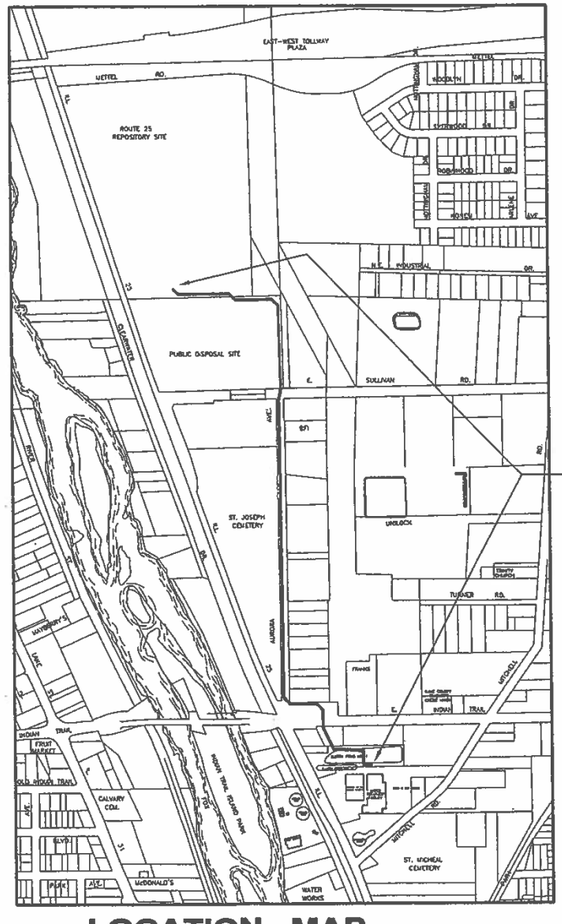
SHEET 11 OF 11

APPENDIX D
Forcemain

CONSTRUCTION PLANS FOR
8" SLUDGE BLOWDOWN FORCEMAIN
THE CITY OF AURORA, ILLINOIS
2013

AURORA CITY COUNCIL

THOMAS J. WEISNER, MAYOR
ROBERT J. O'CONNOR, ALDERMAN-AT-LARGE
RICHARD C. IRVIN, ALDERMAN-AT-LARGE
ABBY SCHULER, ALDERMAN-FIRST WARD
JUANY GARZA, ALDERMAN-SECOND WARD
STEPHANIE A. KIFOWIT, ALDERMAN-THIRD WARD
RICHARD "RICK" LAWRENCE, ALDERMAN-FOURTH WARD
JOHN S. "WHITEY" PETERS, ALDERMAN-FIFTH WARD
MICHAEL B. SAVILLE, ALDERMAN-SIXTH WARD
SCHEKETA HART-BURNS, ALDERMAN-SEVENTH WARD
RICHARD B. (RICK) MERVINE, ALDERMAN-EIGHTH WARD
ALLAN LEWANDOWSKI, ALDERMAN NINTH WARD
LYNDA D. ELMORE, ALDERMAN TENTH WARD



LOCATION MAP SCALE: 1" = 300'

INDEX OF SHEETS

Call Before You Dig JULIE 811 ILLINOIS ONE-CALL SYSTEM 1-800-892-0123

PHILIPPE F. MOREAU, P.E.
PROFESSIONAL ENGINEER 062-048508
DATE: EXP: 11/30/13

DEUCHLER ENVIRONMENTAL, INC.
PROFESSIONAL DESIGN FIRM CORPORATION
No. 184-003045
DATE: EXP: 04/30/13

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers - Aurora, Illinois

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160/08030/01

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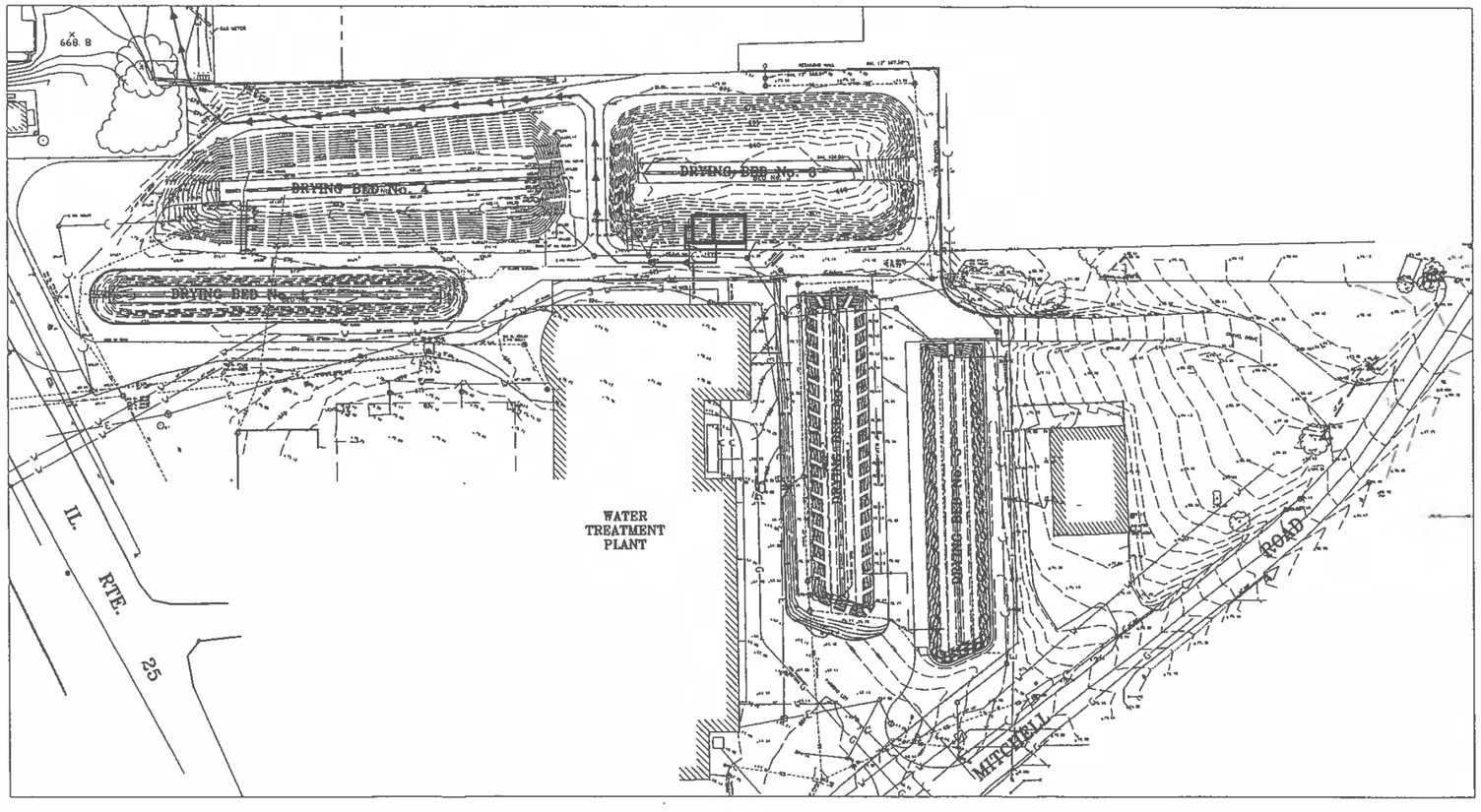

GENERAL NOTES:

INSTRUCTIONS IN THE "INSTRUCTIONS TO BIDDERS" AND SPECIAL PROVISIONS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.

1) PROPERTY AND SURFACE STRUCTURES SHALL BE PROTECTED DURING CONSTRUCTION OPERATIONS. ANY FENCES, POLES, LANDSCAPING, EXISTING BITUMINOUS PAVED AREAS OR OTHER MANMADE SURFACE IMPROVEMENTS WHICH ARE MOVED, DAMAGED OR DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS, AFTER CONSTRUCTION IS COMPLETE, AT THE CONTRACTOR'S EXPENSE, UNLESS OTHERWISE STATED IN THESE CONTRACT DOCUMENTS.

2) ACCESS BITUMINOUS ROADWAYS SHALL BE KEPT FREE OF DIRT, MUD AND FOREIGN MATERIAL DURING THE DURATION OF THE WORK.

CONTRACTOR SHALL BE REQUIRED TO SWEEP ALL PAVED AREAS AFFECTED BY THE WORK AT ALL TIMES DURING THE EXCAVATION WORK.

IF THE CONTRACTOR DOES NOT CLEAN THE PAVED AREAS WITHIN 3 HOURS OF NOTIFICATION BY THE OWNER, THE OWNER SHALL MAKE THE NECESSARY ARRANGEMENTS TO CONTROL DUST AND CLEAN PAVEMENT. THE COST OF SUCH DUST CONTROL AND PAVEMENT CLEANING WILL BE DEDUCTED FROM ANY MONEYS DUE OR TO BECOME DUE TO THE CONTRACTOR.

3) THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES (J.U.L.I.E.), INCLUDING THE CITY'S ELECTRICAL AND SEWER DEPARTMENTS, A MINIMUM OF 72 HOURS PRIOR TO BEGINNING THE WORK.

4) THE LOCATION OF EXISTING SEWERS AND SLUDGE BEDS IS FROM RECORD INFORMATION AND IS NOT GUARANTEED FOR ACCURACY.

5) WHERE PROPERTY MARKERS, SECTION CORNERS, SURVEY MARKERS, CITY BENCHMARKS, ETC. ARE ENCOUNTERED, THE OWNER SHALL BE NOTIFIED BEFORE THEY ARE DISTURBED THE MARKERS SHALL BE PROTECTED AND PRESERVED UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR REFERENCED THEIR LOCATION.

THE OWNER RESERVES THE RIGHT TO DELETE WORK ITEMS IN THIS PROJECT AT NO COMPENSATION TO THE CONTRACTOR.

6) ALL PIPES LABELED TO BE PLUGGED OR HAVE PLUGS TO BE REMOVED ON THE PLANS SHALL BE DONE INCIDENTAL TO THE CONTRACT.

DRAWINGS LEGEND

- UTILITY POLE
- UTILITY POLE WITH GUIDE WIRE
- STREET LIGHT
- G — GAS MAIN (SIZE IN INCHES)
- U/T — UNDERGROUND TELEPHONE CABLE
- E — UNDERGROUND ELECTRICAL CABLE
- W — WATER MAIN (SIZE IN INCHES)
- FIRE HYDRANT ASSEMBLY
- WATER VALVE
- WATER VALVE MANHOLE
- WATER SERVICE WITH BUFFALO BOX
- LIME SLUDGE VALVE
- EXISTING STORM SEWER AND MANHOLE
- EXISTING BURIED MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED SANITARY SEWER AND MANHOLE
- PROPOSED STORM CATCH BASIN
- EXISTING INLET
- EXISTING BURIED INLET
- EXISTING CATCH BASIN
- T — EXISTING TELEPHONE VAULT
- T-x-T — EXISTING TELEPHONE BOX
- EXISTING GRAVEL PARKWAY
- DRAINAGE DITCH
- GUARD RAIL
- CORRUGATED METAL PIPE (SIZE IN INCHES)
- BORING LOCATION
- FOUND PROPERTY IRON (F.I.P.) / FOUND R.O.W. MONUMENT
- STREET SIGNAL
- SIGNAL VAULT
- TREE (SIZE IN INCHES)
- EVERGREEN (SIZE IN INCHES)
- BUSH
- HEDGE
- OHE / OHT — OVERHEAD ELECTRIC / TELEPHONE CABLE
- PLUG WATERTIGHT EXISTING PIPE
- EXPLORATION TRENCH

BENCHMARKS

BM #1 – 642.14 – TAG BOLT OF FIRE HYDRANT IN FRONT OF AURORA WATER BUILDING MAIN PUMP STATION BUILDING.

BM #2 – 678.12 – CHISELED "□" ON TOP OF CONCRETE WALL AT EAST END OF DRYING BED No. 1.

BM #3 – 672.29 – CHISELED "□" ON TOP OF CONCRETE @ N.W. CORNER OF PARKING LOT @ WATER TREATMENT PLANT.

BM #4 – 677.15 – CHISELED "□" ON TOP NORTH SIDE OF OVERFLOW STRUCTURE; DRYING BED No. 4.

BM #5 – 669.68 – CHISELED "□" ON NORTHWEST CORNER OF CONCRETE BASE OF TRANSFORMERS BY SOUTHWEST BUILDING CORNER.

BM #6 – 670.55 – TAG BOLT ON FIRE HYDRANT @ NORTHEAST CORNER OF RT. 25 & INDIAN TRAIL.

BM #7 – 672.63 – TAG BOLT ON FIRE HYDRANT ACROSS FROM 1285 AURORA AVE.

BM #8 – 672.86 – NORTH TAG BOLT OF FIRE HYDRANT ACROSS FROM 1289 & 1291 AURORA AVE.

BM # 9 – 673.60 – TAG BOLT OF FIRE HYDRANT ACROSS FROM 1307 AURORA AVE.

BM #10 – 675.38 – TAG BOLT OF FIRE HYDRANT ACROSS FROM SOUTH ENTRANCE TO BFI.

BM #11 – 678.73 – TAG BOLT ON FIRE HYDRANT JUST SOUTH OF 1560 AURORA AVE.

BM #12 – 688.65 – TAG BOLT OF FIRE HYDRANT @ SOUTHWEST CORNER OF SULLIVAN RD. & AURORA AVE.

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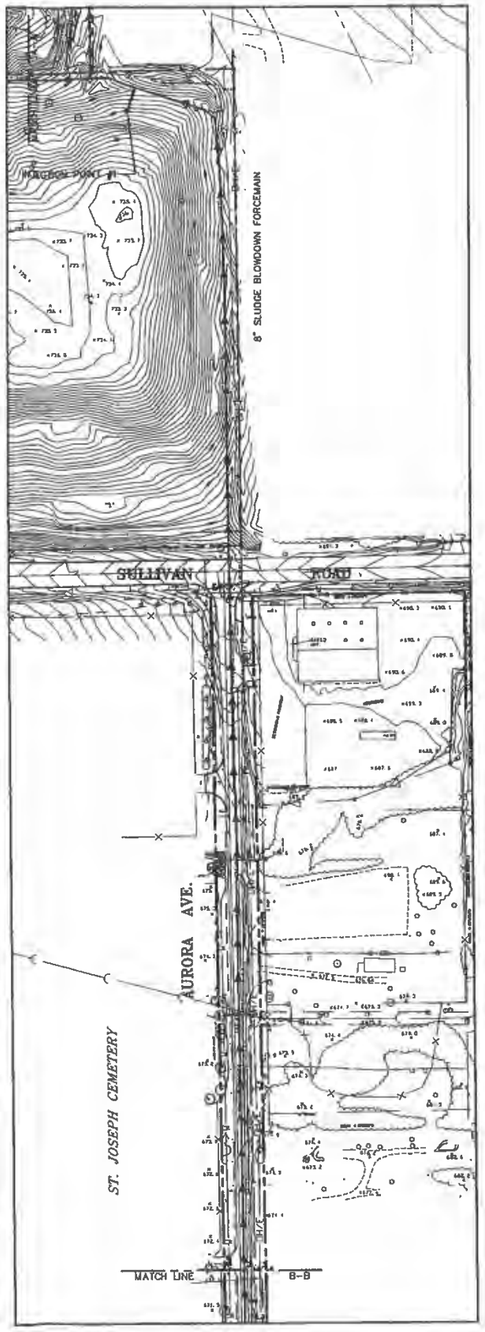
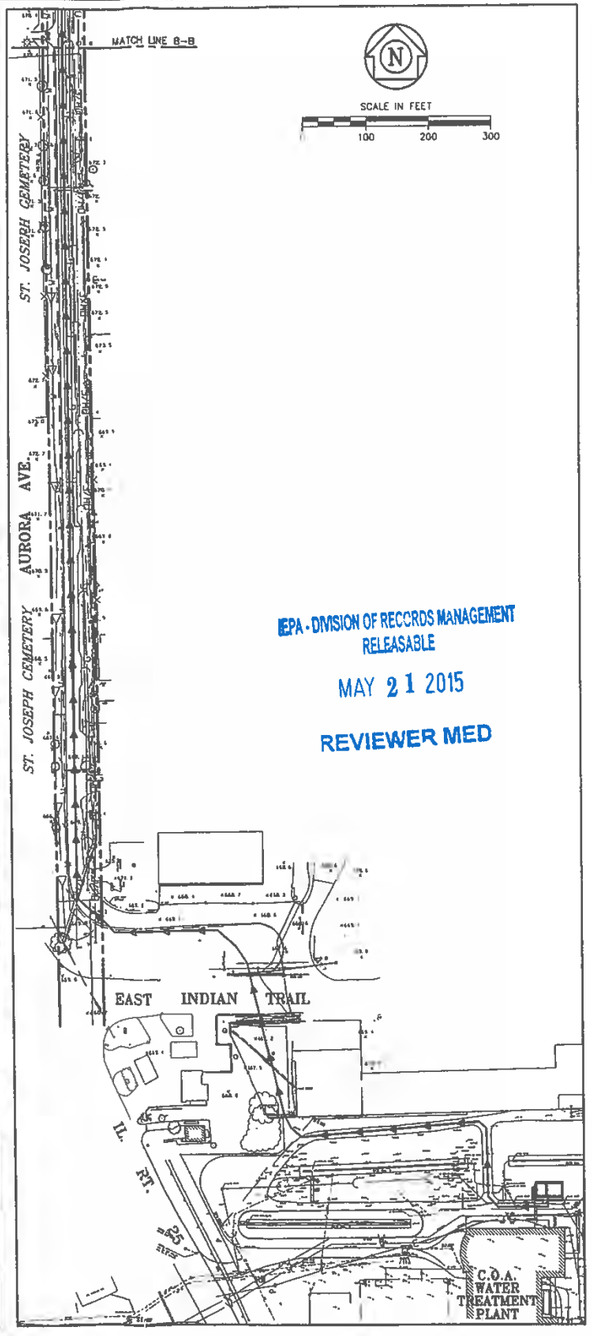
8" SLUDGE BLOWDOWN FORCEMAIN DRAFT
WATER TREATMENT PLANT
THE CITY OF AURORA, ILLINOIS

SHEET 2 OF XX





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8" SLUDGE BLOWDOWN FORCEMAIN
GENERAL PLAN
THE CITY OF AURORA, ILLINOIS

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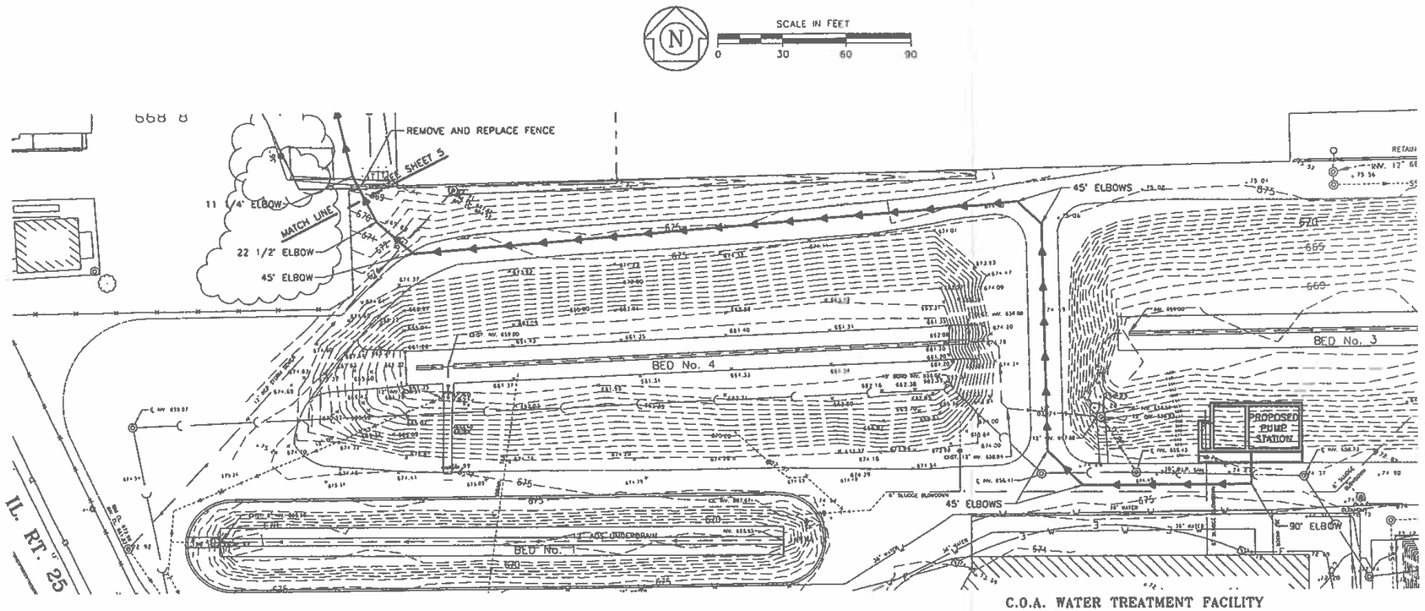
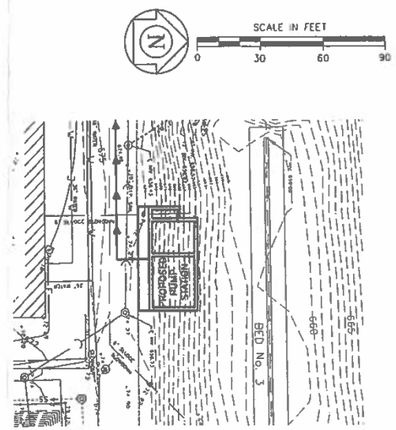
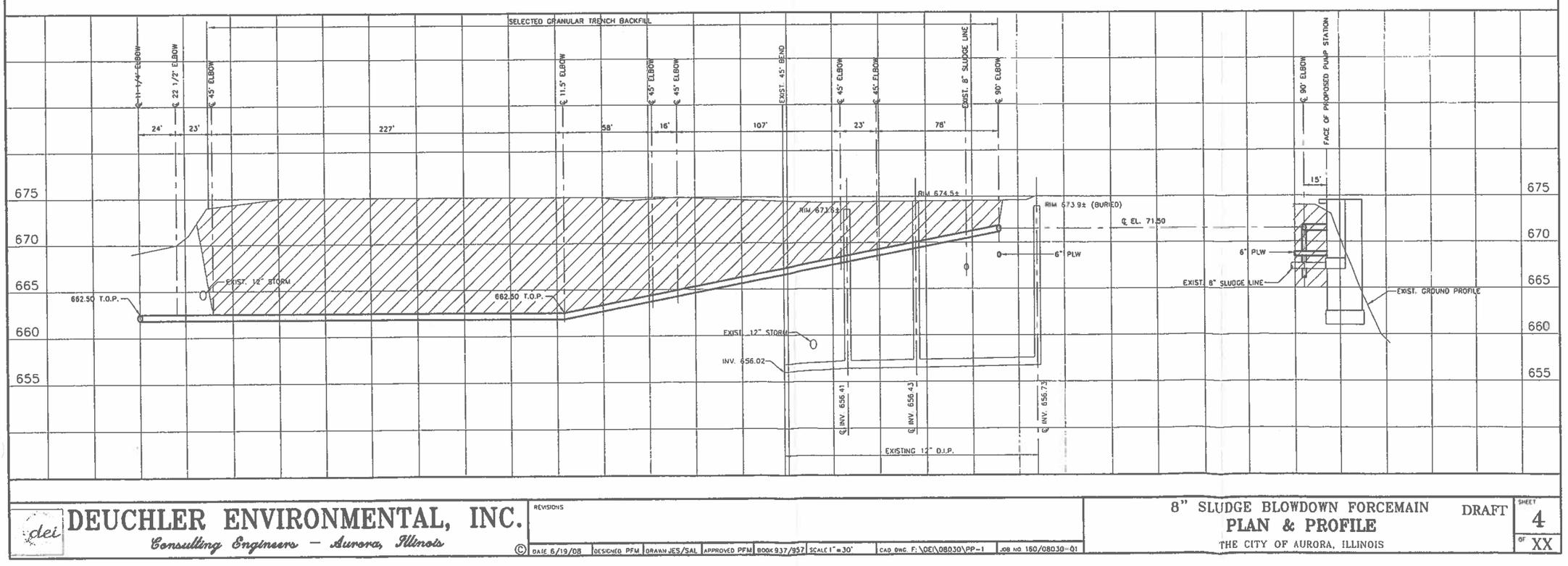
SHEET 3 OF XX







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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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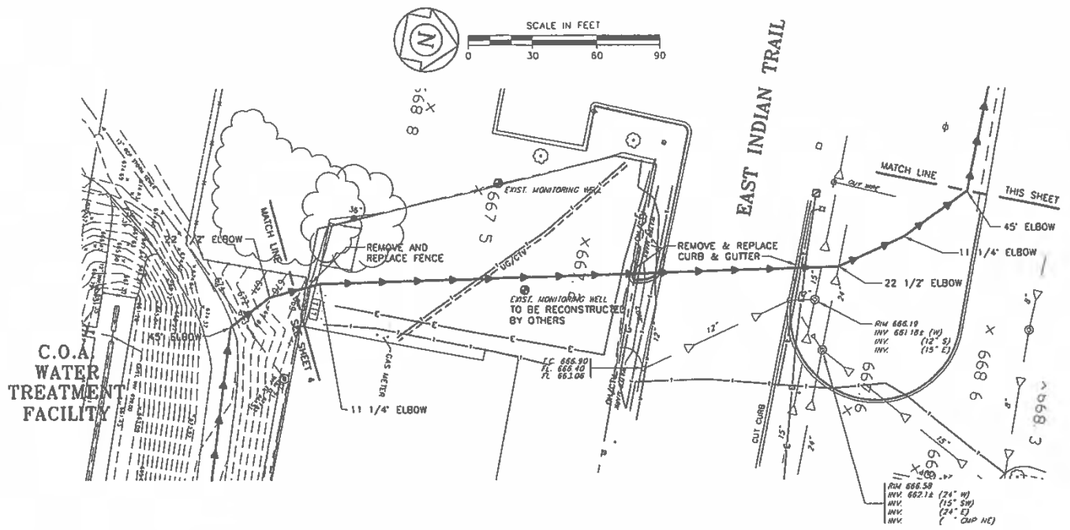
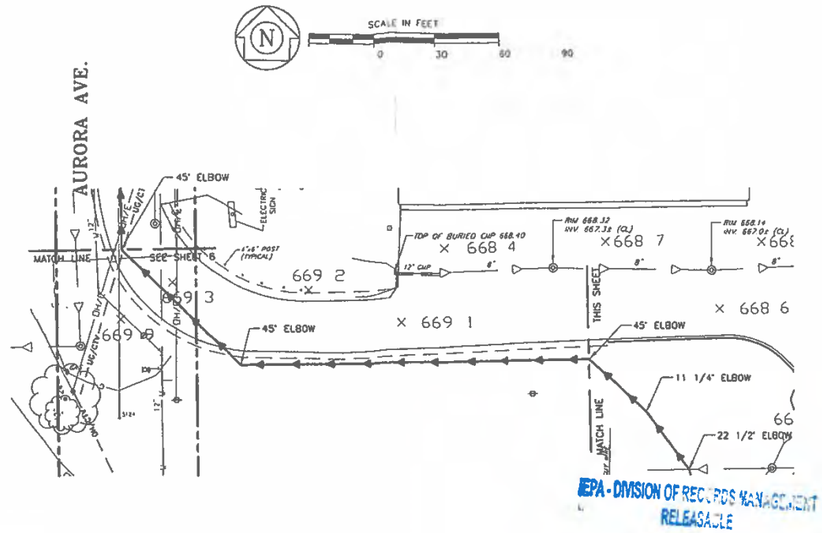
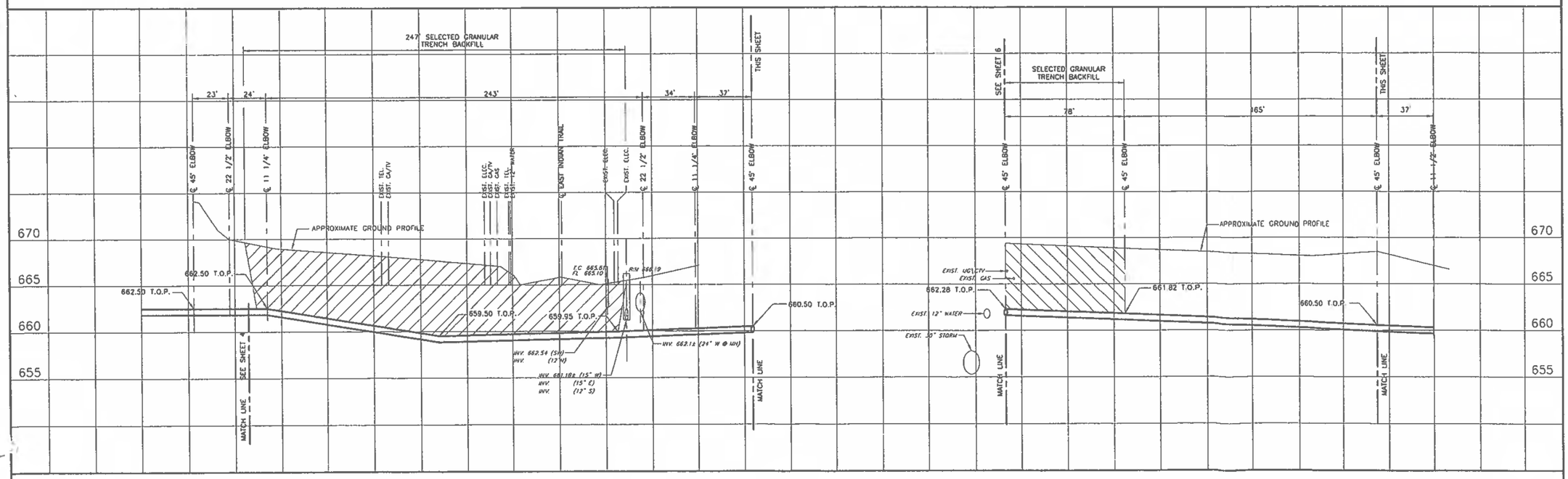
SHEET 4 OF XX







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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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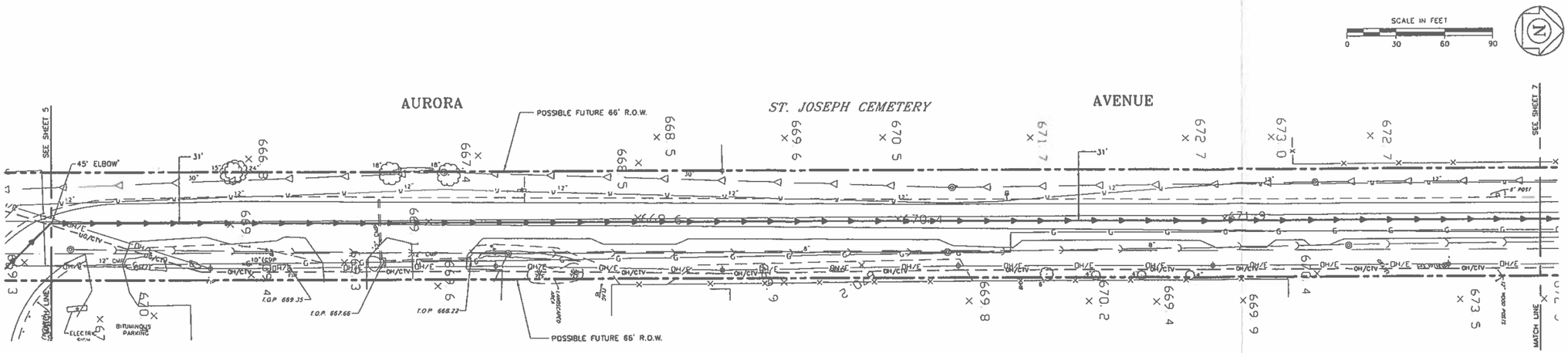
SHEET 5 OF XX



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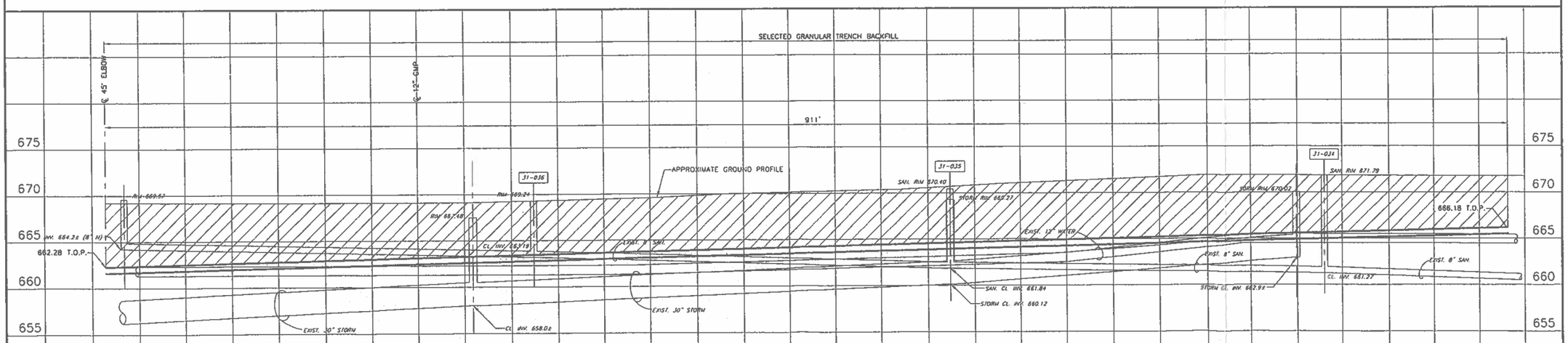

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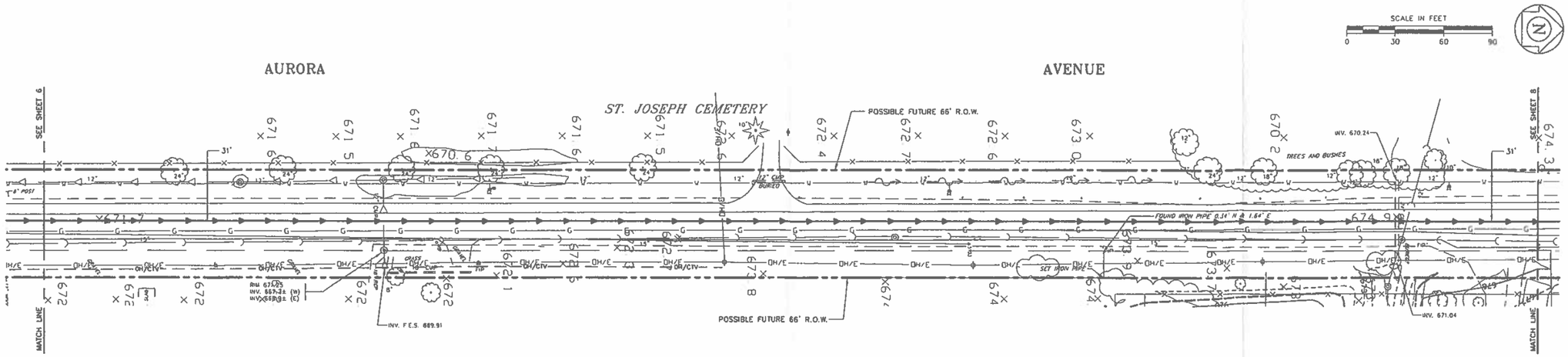
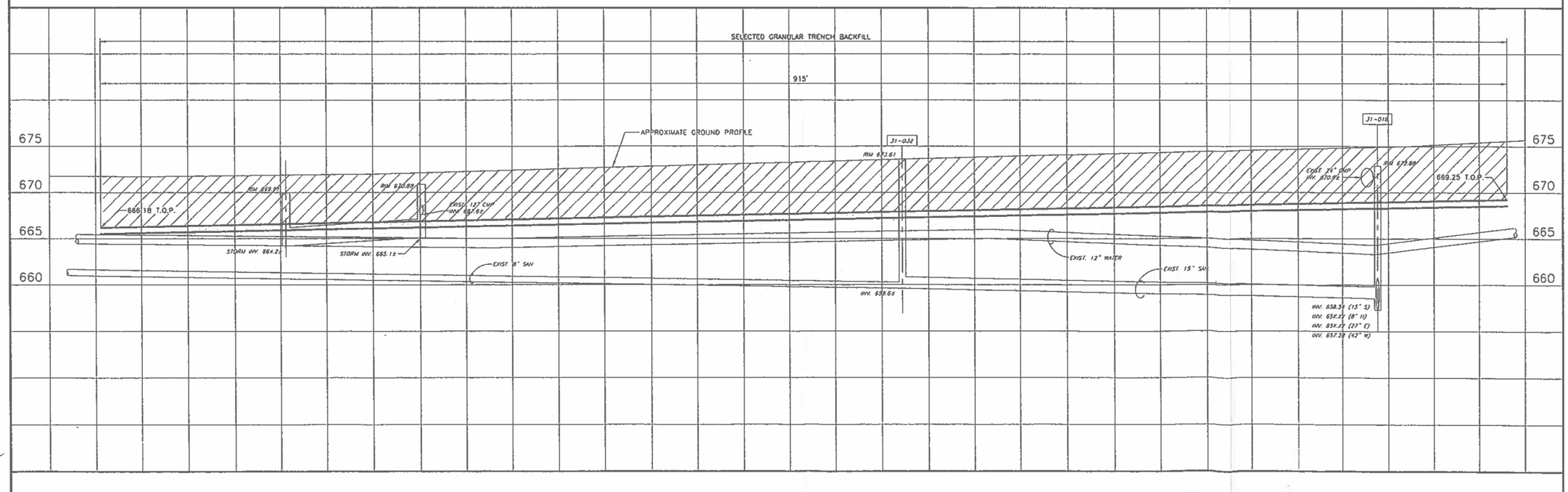
8" SLUDGE BLOWDOWN FORCEMAIN — DRAFT
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

SHEET 6 OF XX





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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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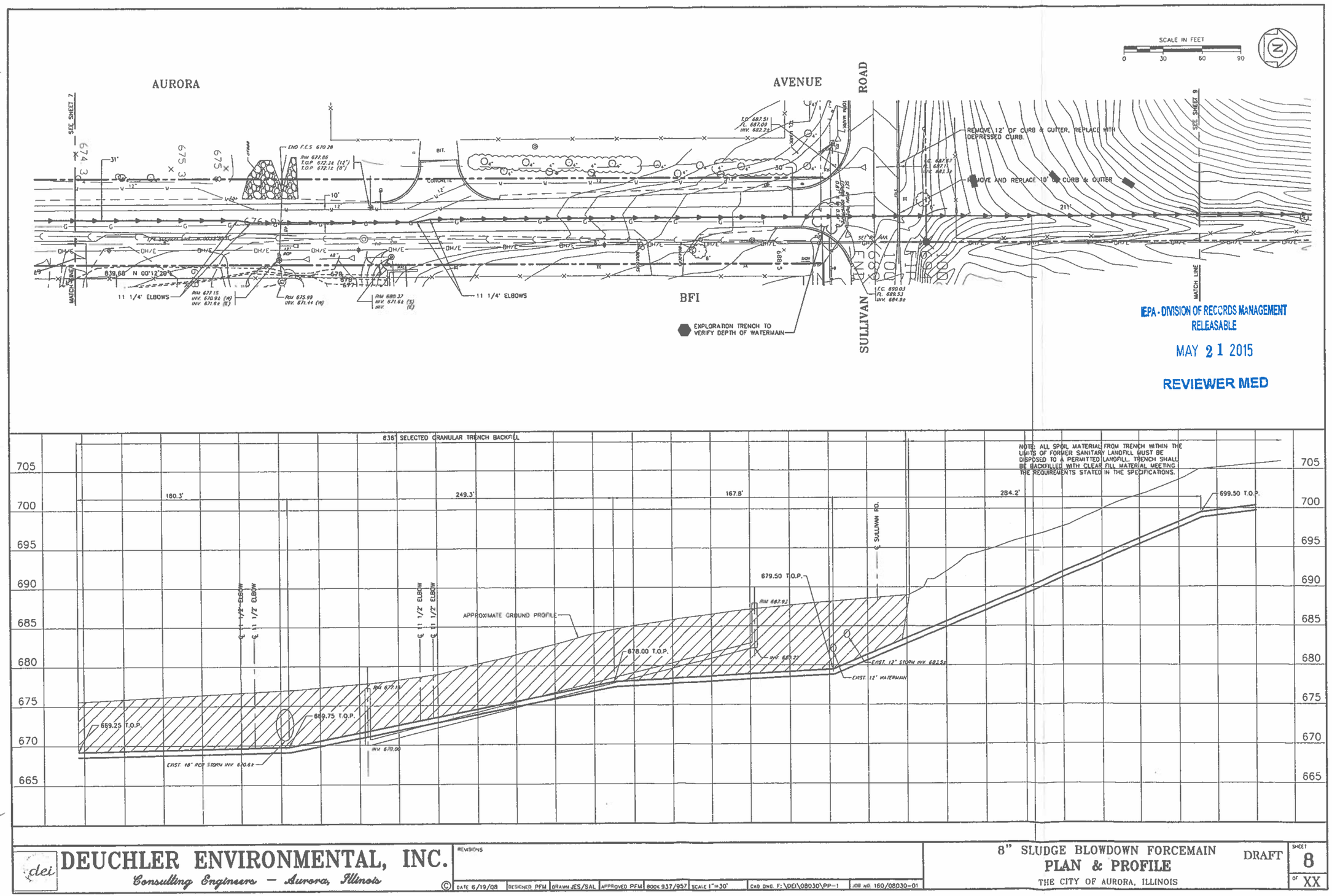

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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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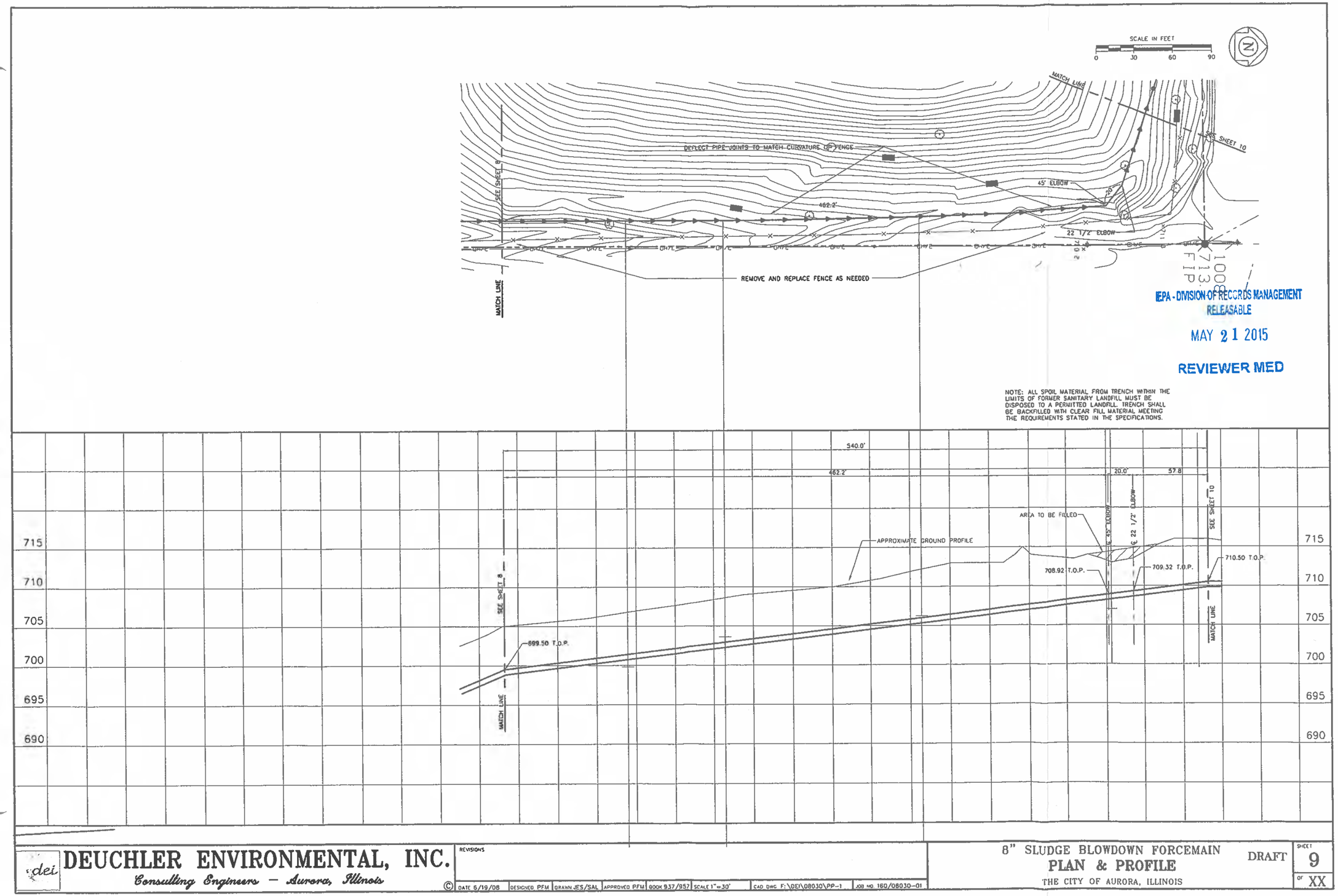
SHEET 8 OF XX



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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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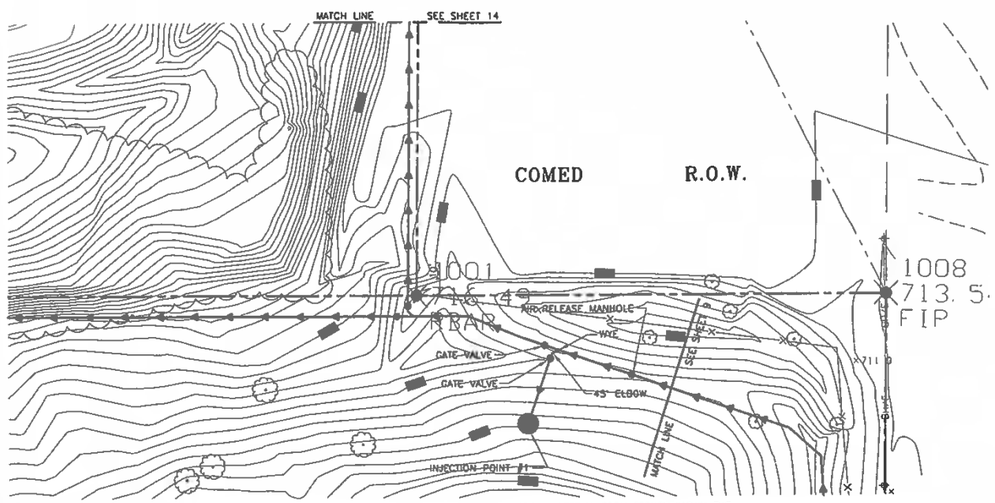
SHEET 9 OF XX



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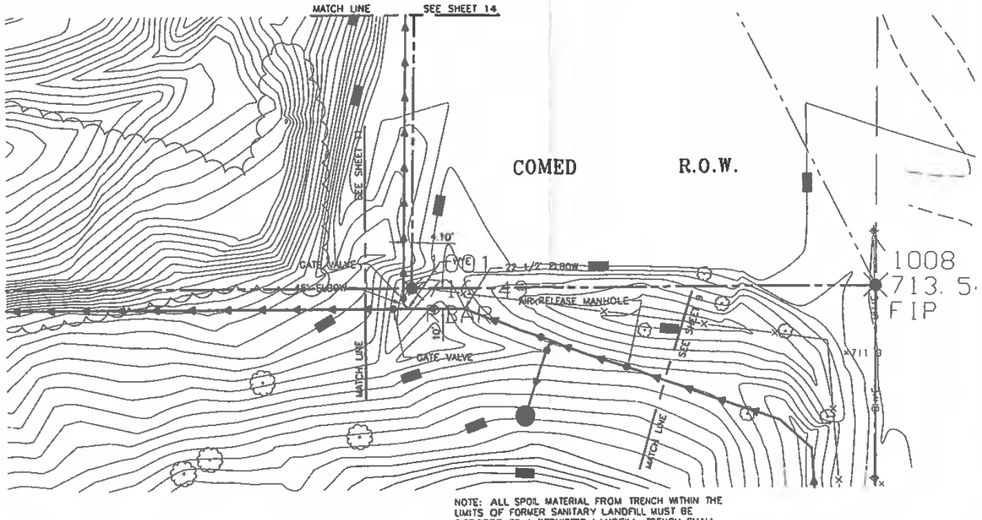

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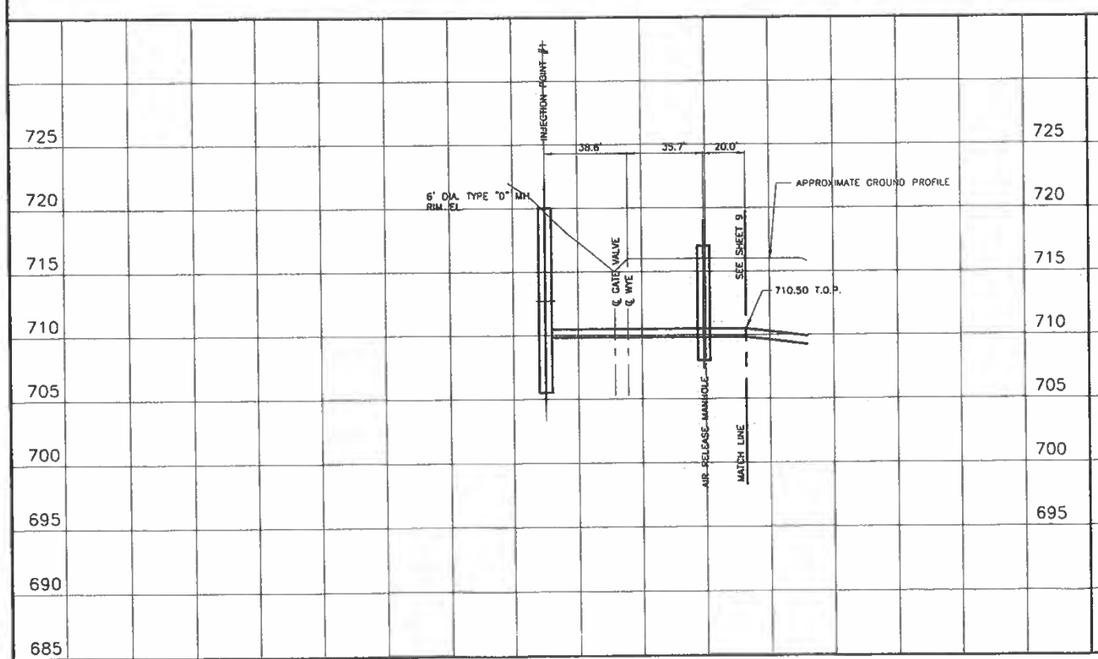

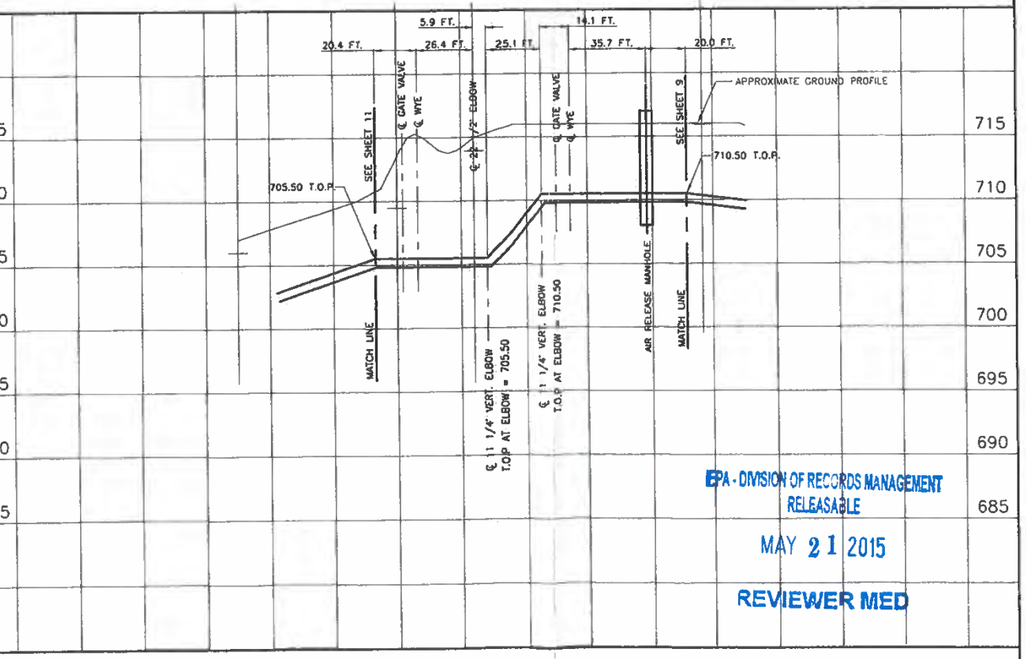

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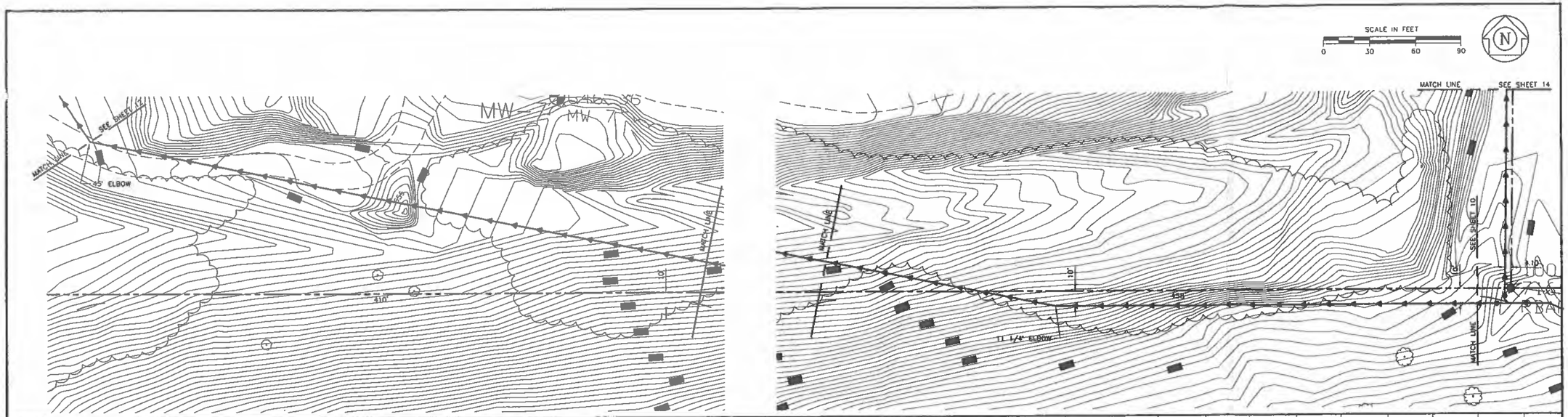
8" SLUDGE BLOWDOWN FORCEMAIN — DRAFT
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

SHEET 10 OF XX



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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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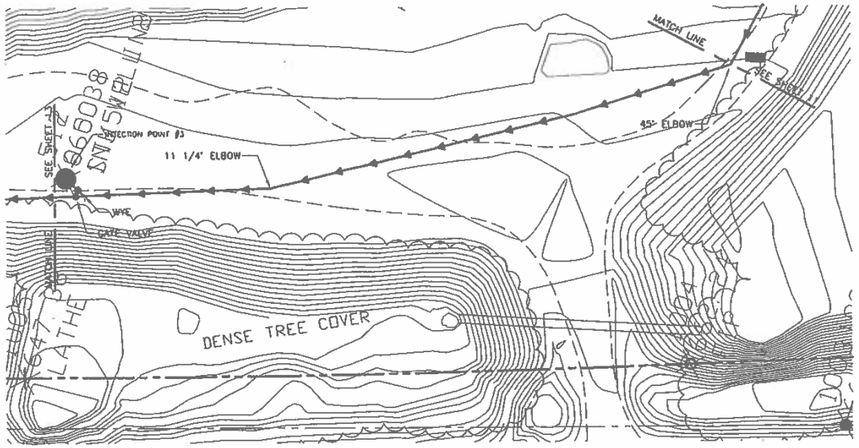
SHEET 11 OF XX



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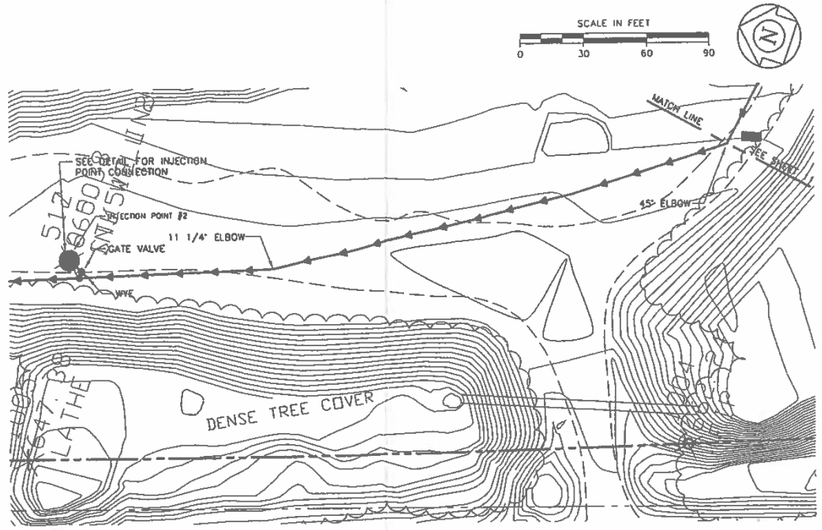

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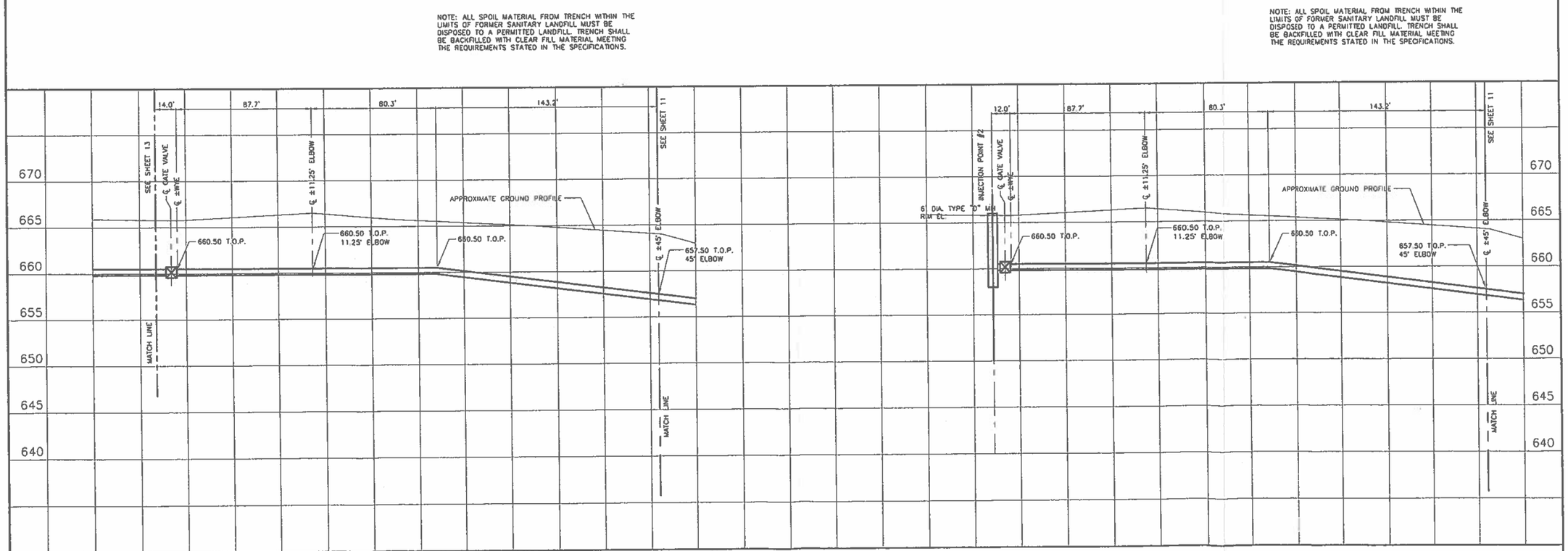

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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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SHEET 12 OF XX

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8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

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SHEET 13 OF XX

SCALE IN FEET
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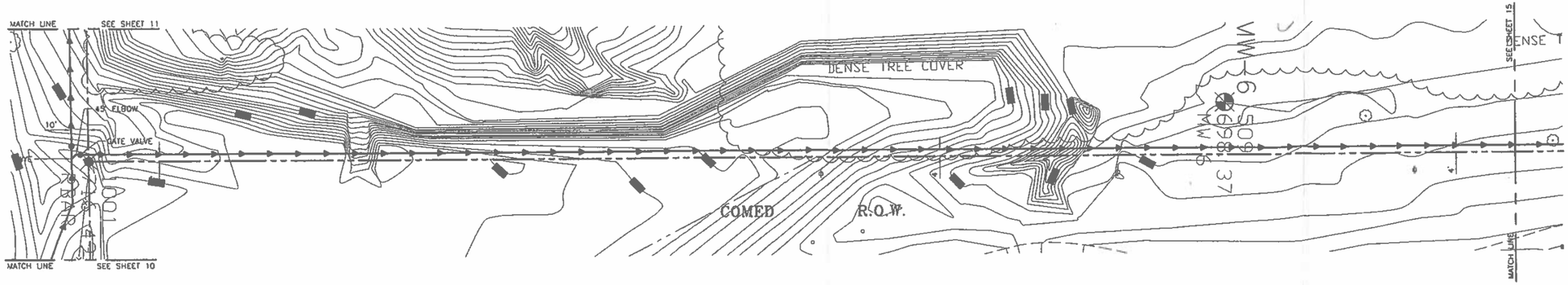
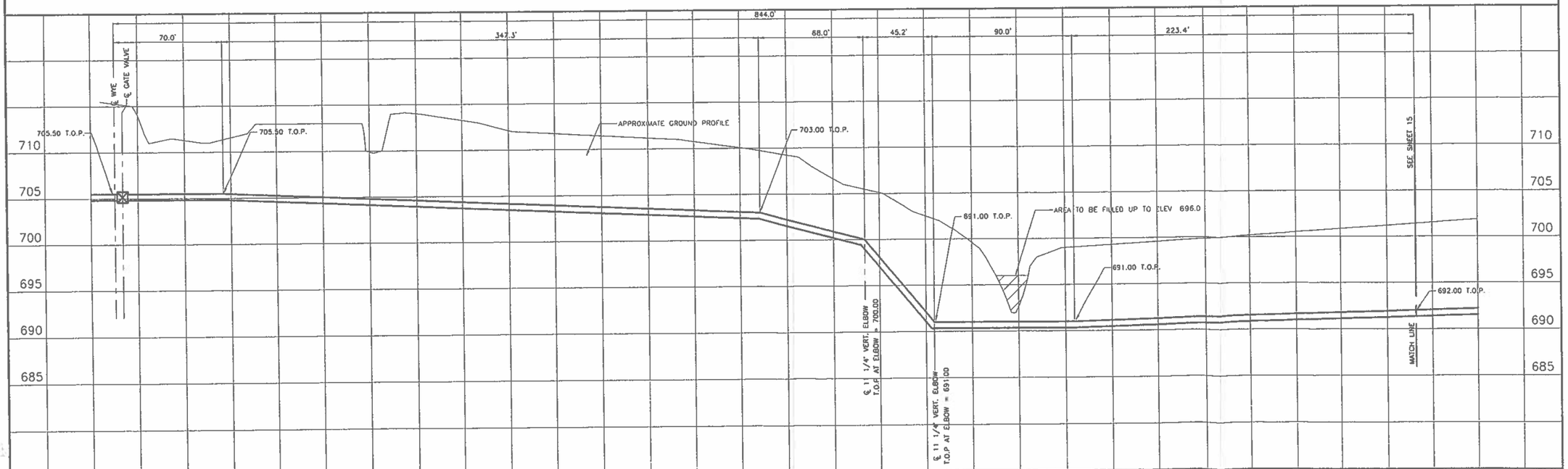


IEPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
MAY 21 2015
REVIEWER MED

NOTE: ALL SPOIL MATERIAL FROM TRENCH WITHIN THE LIMITS OF FORMER SANITARY LANDFILL MUST BE DISPOSED TO A PERMITTED LANDFILL. TRENCH SHALL BE BACKFILLED WITH CLEAR FILL MATERIAL MEETING THE REQUIREMENTS STATED IN THE SPECIFICATIONS.



DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers — Aurora, Illinois

REVISIONS

© DATE 6/19/08 | DESIGNED PFM | DRAWN JES/SAL | APPROVED PFM | BOOK 937/957 | SCALE 1"=30' | CAD DWG F:\DEI\08030\PP-1 | JOB NO 160/08030-01

8" SLUDGE BLOWDOWN FORCEMAIN PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

DRAFT

SHEET 14 OF XX

SCALE IN FEET
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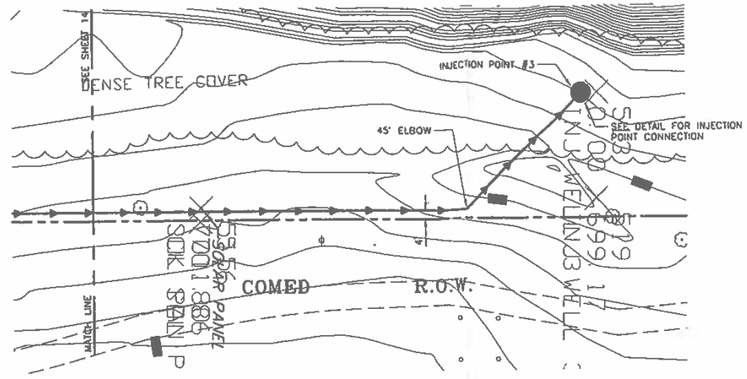
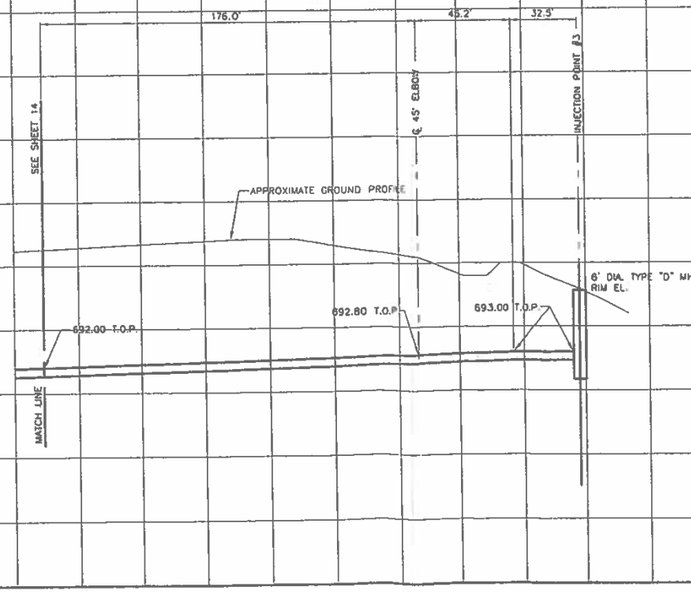


NOTE: ALL SPOIL MATERIAL FROM TRENCH WITHIN THE LIMITS OF FORMER SANITARY LANDFILL MUST BE DISPOSED TO A PERMITTED LANDFILL. TRENCH SHALL BE BACKFILLED WITH CLEAR FILL MATERIAL MEETING THE REQUIREMENTS STATED IN THE SPECIFICATIONS.



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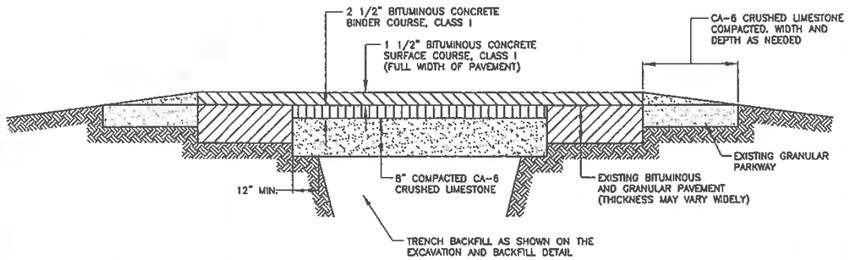
8" SLUDGE BLOWDOWN FORCEMAIN
PLAN & PROFILE
THE CITY OF AURORA, ILLINOIS

DRAFT

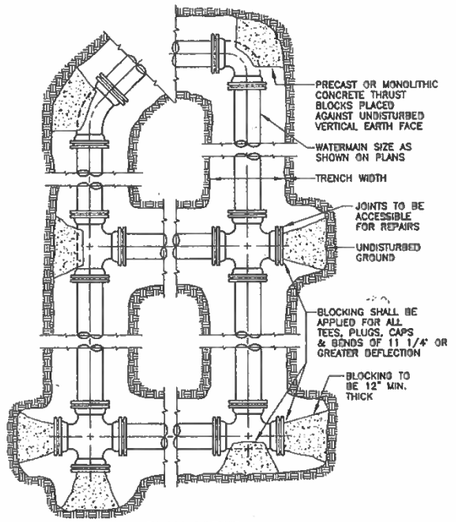
SHEET 15 OF XX



BITUMINOUS PAVEMENT REPLACEMENT
(4 1/2" THICK)

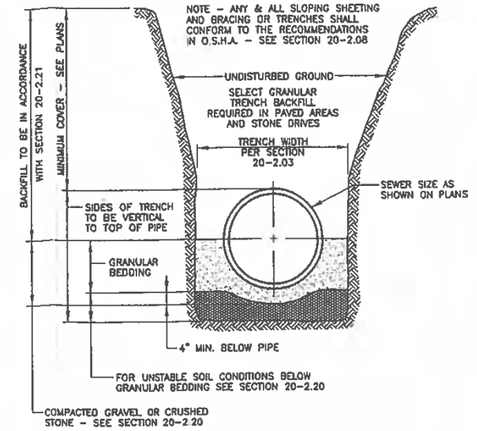
NOTES:

1. ALL MANHOLES AND VALVES IN EXISTING PAVEMENT SHALL BE ADJUSTED TO THE FINISHED GRADE OF THE PAVEMENT.
2. CONTRACTOR SHALL PROVIDE BUTT JOINTS AT ENDS OF EXISTING PAVEMENT & AT EACH DRIVEWAY.
3. ALL ABOVE WORK TO BE INCIDENTAL TO THE "BITUMINOUS PAVEMENT RESURFACING BID ITEM."



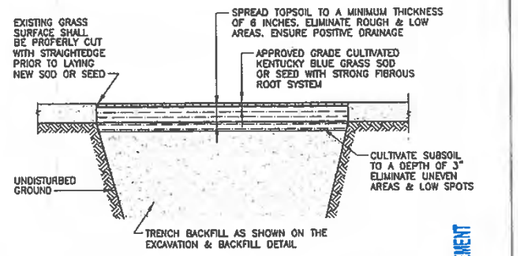
PLAN VIEWS

TYPICAL WATERMAIN THRUST BLOCK INSTALLATION

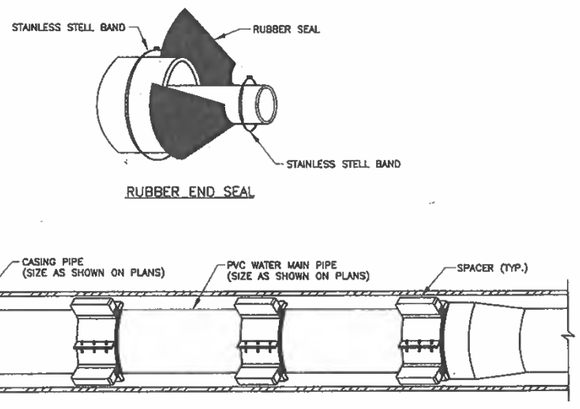


CROSS SECTION

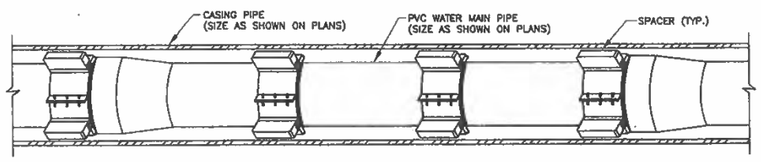
EXCAVATION AND BACKFILL FOR UNDERGROUND CONDUIT



RESTORATION OF GRASSED SURFACES OVER BACKFILL MATERIALS

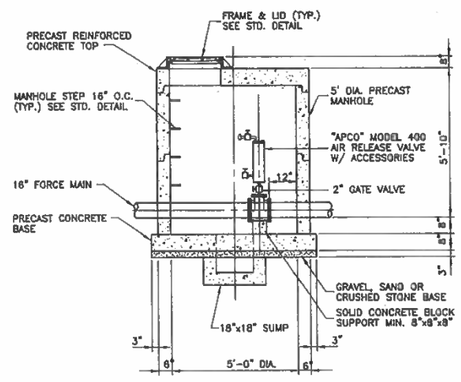


RUBBER END SEAL

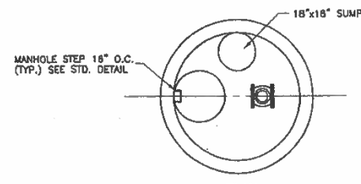


PLACEMENT OF SPACERS ON CARRIER PIPE

1. GENERAL - ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF THE CASING. SUBSEQUENT SPACERS SHALL BE PLACED AT 6' INTERVALS WITHIN THE CASING.
2. PVC CARRIER - ONE SPACER SHALL BE PLACED ON THE SPIGOT END OF EACH SEGMENT AT THE LINE MARKING THE LIMIT OF INSERTION INTO THE BELL. WHEN THE JOINT IS COMPLETE, THE SPACER SHALL BE IN CONTACT WITH THE BELL OF THE JOINT SO THAT THE SPACER PUSHES THE JOINT AND RELIEVES COMPRESSION WITHIN THE JOINT. SUBSEQUENT SPACERS SHALL BE PLACED AT 6' INTERVALS.

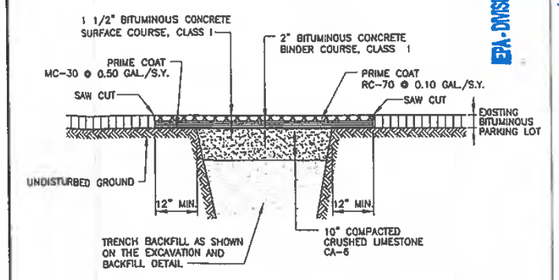


SECTIONAL ELEVATION



PLAN

AIR RELIEF VALVE MANHOLE



BITUMINOUS PARKING LOT REPLACEMENT

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers - Aurora, Illinois

REVISIONS

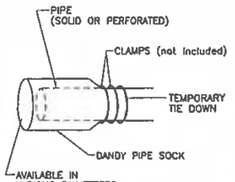
© DATE 6/19/08 | DESIGNED X | DRAWN JES | APPROVED PFM | BOOK X | SCALE X | CAD DWG. F:\DEI\08030\DETAILS | JOB NO. 160/08030-01

8" SLUDGE BLOWDOWN FORCEMAIN
DETAILS
THE CITY OF AURORA, ILLINOIS

DRAFT

SHEET 16 OF XX

The Dandy Pipe Sock™ is designed to control sediment flow from entering or exiting pipes in headwalls, ponds, or other bodies of water.



The Dandy Pipe Sock™ is not intended for any other use and should not be used for any other purpose.

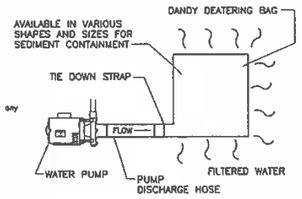
Pond or Pipe Installation

1. Place the Dandy Pipe Sock™ over the pipe covering a minimum of 6" of pipe and double clamp. If necessary, use the temporary tie down to hold the unit while clamping.

Maintenance

Remove sediment, silt, and debris as necessary or as directed by the project engineer/inspector. Dispose of the sediment, silt and debris collected in the unit and in the vicinity of the unit away from environmentally sensitive areas or waterways at a location satisfactory to the engineer/inspector. Dispose of the Dandy Pipe Sock™ no longer in use at an appropriate recycling or solid waste facility.

DANDY PIPE SOCK™ PLAN INSERT



The Dandy Dewatering Bag™ is not intended for any other use and should not be used for any other purposes.

The Dandy Dewatering Bag™ is designed to control sediment discharge in dewatering applications where water is being pumped.

Installation

1. Lifting straps, not included, should be placed under the Dandy Dewatering Bag™ to facilitate removal after use.
2. Place the Dandy Dewatering Bag™ on a level stabilized area over dense vegetation/straw, or Gravel (if increased drainage surface area is needed) or as detailed in plans.
3. Insert discharge hose from pump into the Dandy Dewatering Bag™ a minimum of six inches (6") and lightly secure with attached strap to prevent water from flowing out of the unit without being filtered.
4. Replace the unit when one half (1/2) full of sediment or when sediment has reduced the flow rate of the pump discharge to an impractical rate.

Maintenance

Remove and dispose of the sediment in a manner satisfactory to the engineer/inspector or in one of the following ways:

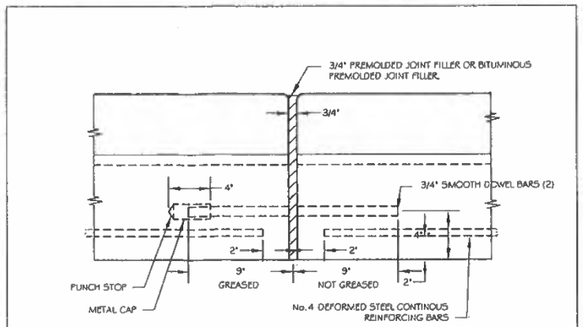
1. Remove the unit and sediment from environmentally sensitive area and waterways. At the approved disposal site open or slit unit, remove sediment and grade smoothly into existing topography. Dispose of the Dandy Dewatering Bag™ no longer in use, at an appropriate recycling or solid waste facility.
2. Bury unit on site; remove visible fabric and seed.

DANDY DEWATERING BAG™ PLAN INSERT

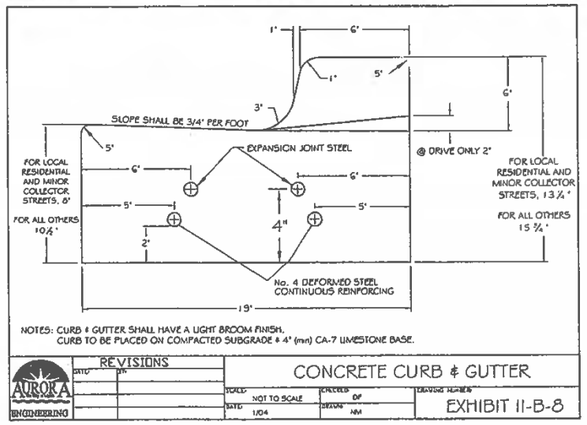
DANDY PRODUCTS, INC.
2011 HARRISBURG PIKE, SUITE R
GROVE CITY, OHIO 43123

1-800-591-2284
(local) 614-875-2284
FAX: 614-875-6305
E-MAIL: dandy@dandyproducts.com
www.dandyproducts.com

F:\WED\STDS\ER-SILT-BAG

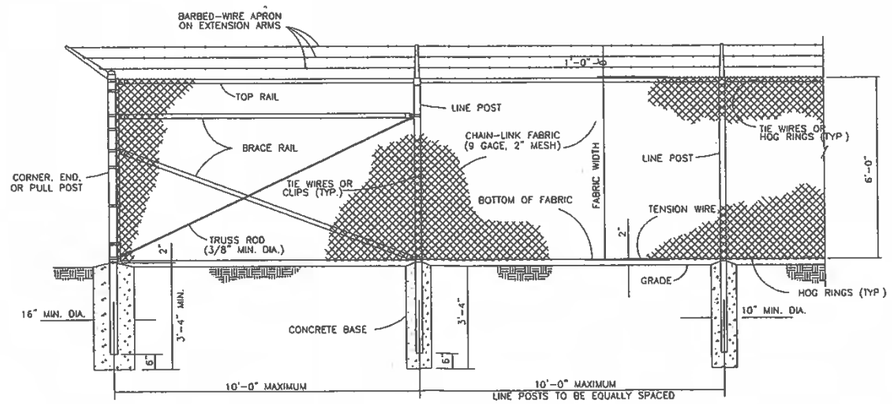


REVISIONS | EXPANSION JOINT DETAIL | AURORA ENGINEERING | SCALE: NOT TO SCALE | DATE: 1/04 | CHECKED | DRAWN NM | DRAWING NUMBER: EXHIBIT II-B-10



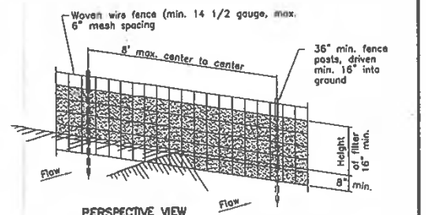
NOTES: CURB & GUTTER SHALL HAVE A LIGHT BROOM FINISH.
CURB TO BE PLACED ON COMPACTED SUBGRADE & 4" (min) CA-7 LIMESTONE BASE.

REVISIONS | CONCRETE CURB & GUTTER | AURORA ENGINEERING | SCALE: NOT TO SCALE | DATE: 1/04 | CHECKED | DRAWN NM | DRAWING NUMBER: EXHIBIT II-B-8

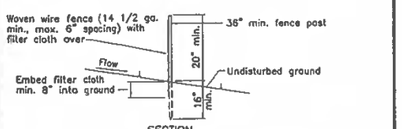


CHAIN-LINK SECURITY FENCE DETAIL

SILT FENCE



PERSPECTIVE VIEW



SECTION

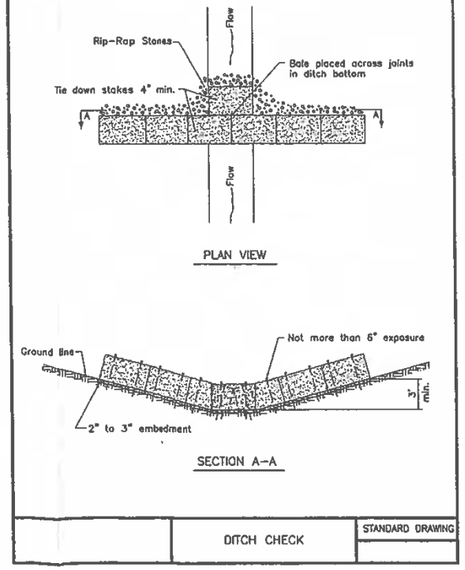
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. Woven wire fence to be fastened securely to fence post with wire ties or staples.
2. Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
3. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
4. Maintenance shall be performed as needed and material removed when bulges develop in the silt fence.

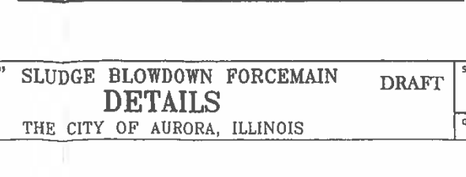
POST: Steel either T or U type or 2" hardwood
FENCE: Woven wire, 14 1/2 ga. 6" max. mesh opening
FILTER CLOTH: Filter X, Mirafi 100X, Stabilinka T140N
PREFABRICATED UNIT: Geofab, Enviofence

STANDARD SYMBOL

SILT FENCE | STANDARD DRAWING SF-1



PLAN VIEW



SECTION A-A

DITCH CHECK | STANDARD DRAWING

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers - Aurora, Illinois

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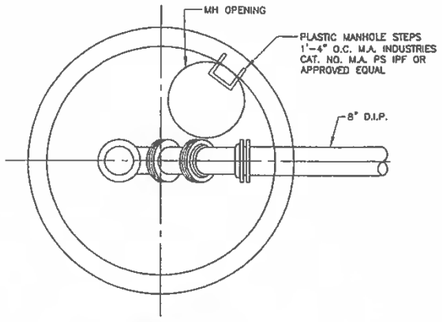
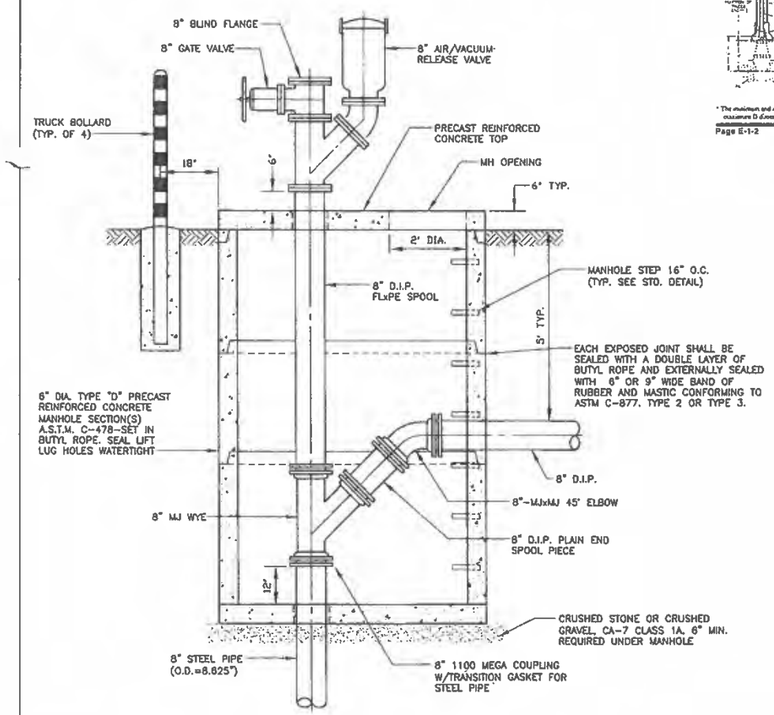
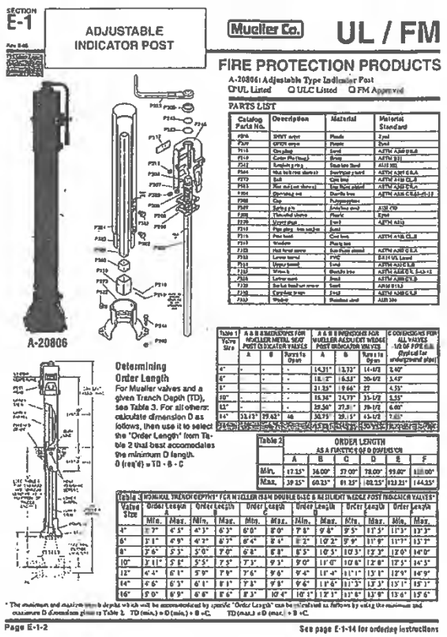
8" SLUDGE BLOWDOWN FORCEMAIN
DETAILS
THE CITY OF AURORA, ILLINOIS

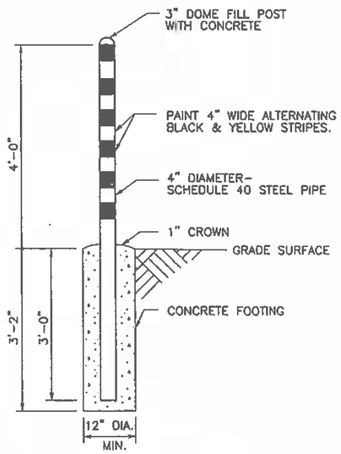
DRAFT | SHEET 17 OF XX





INJECTION MANHOLE DETAIL
NOT TO SCALE





TRUCK BOLLARD DETAIL
FOR INJECTION MANHOLE
N.T.S.

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers – Aurora, Illinois

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8" SLUDGE BLOWDOWN FORCEMAIN
DETAILS
THE CITY OF AURORA, ILLINOIS

DRAFT

SHEET 18 OF XX

APPENDIX E:

IEPA Letter Dated 10/10/2001

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

9511 WEST HARRISON STREET, DES PLAINES, ILLINOIS 60016

THOMAS V. SKINNER, DIRECTOR

847/294-4075
847/294-4083 (Fax)

October 10, 2001

Mr. Dennis G. Walsh
Klein, Thorpe and Jenkins, Ltd.
20 North Wacker Drive, Suite 1660
Chicago, IL 60606-2903

Re: LPC# 0894075963 -- Kane County
Aurora/City of Aurora Open Dump
Regulatory Clarification
General Correspondence File

Dear Mr. Walsh:

This letter will respond to your correspondence of September 28, 2001. Based on the description of activities described in your September 28, 2001 letter (i.e., injecting slurried lime sludge underground via an injection well) and the information provided to us in our meeting of September 21, 2001, the Illinois EPA believes the Underground Injection Control regulations found in 35 Ill. Adm. Code Part 703 and 730 would be the appropriate regulations governing the activities you proposed. If the City of Aurora were to chose to dispose of the lime sludge by solidifying it and placing it in the mine, then, the City would have to meet the requirements for landfills in 35 Ill. Adm. Code Part 811.

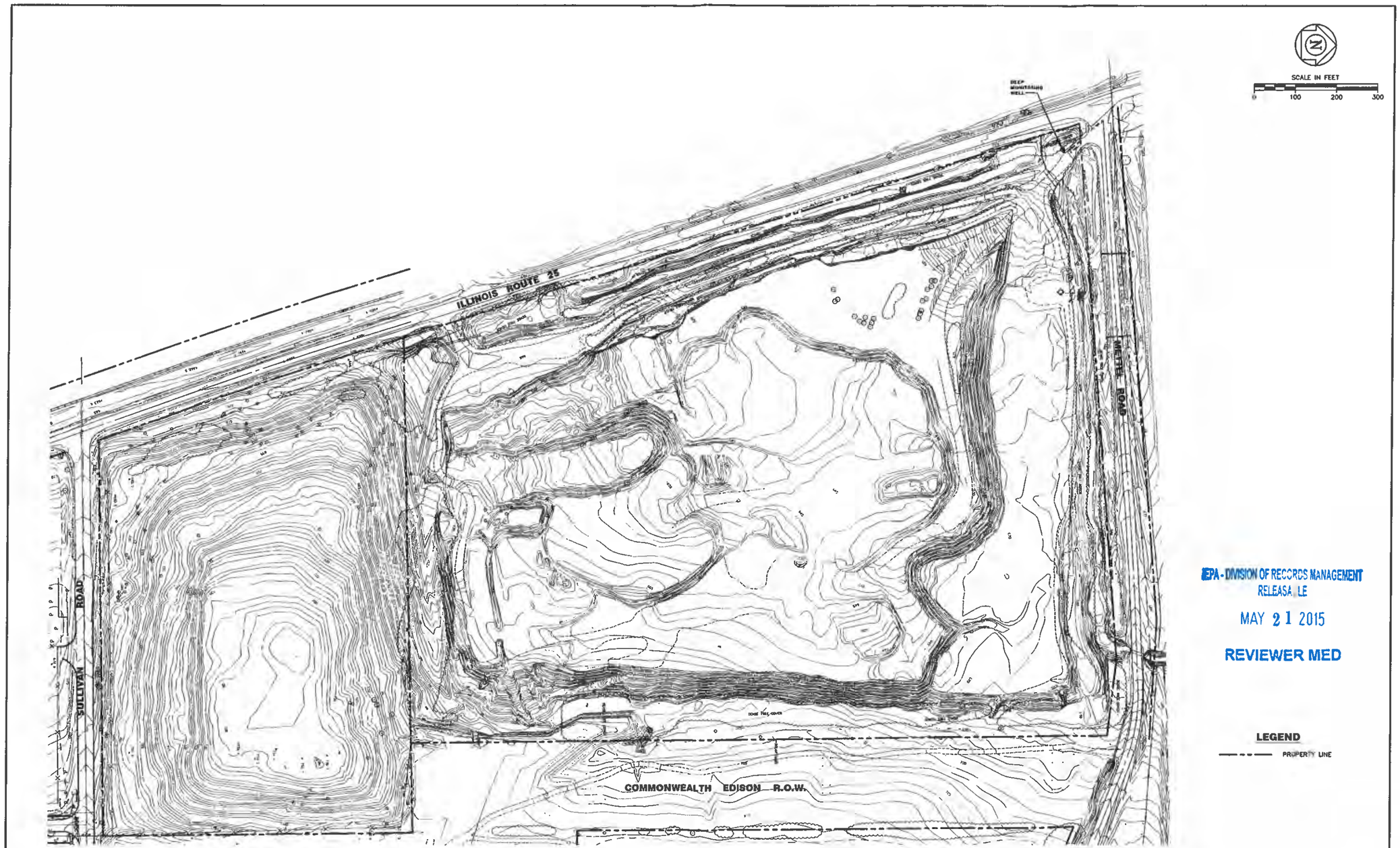
Sincerely,

Donald L. Gimbel
Assistant Counsel
Division of Legal Counsel

DLG:dlg

APPENDIX F:

Site Plat of Survey and Topographic Map



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REVISIONS

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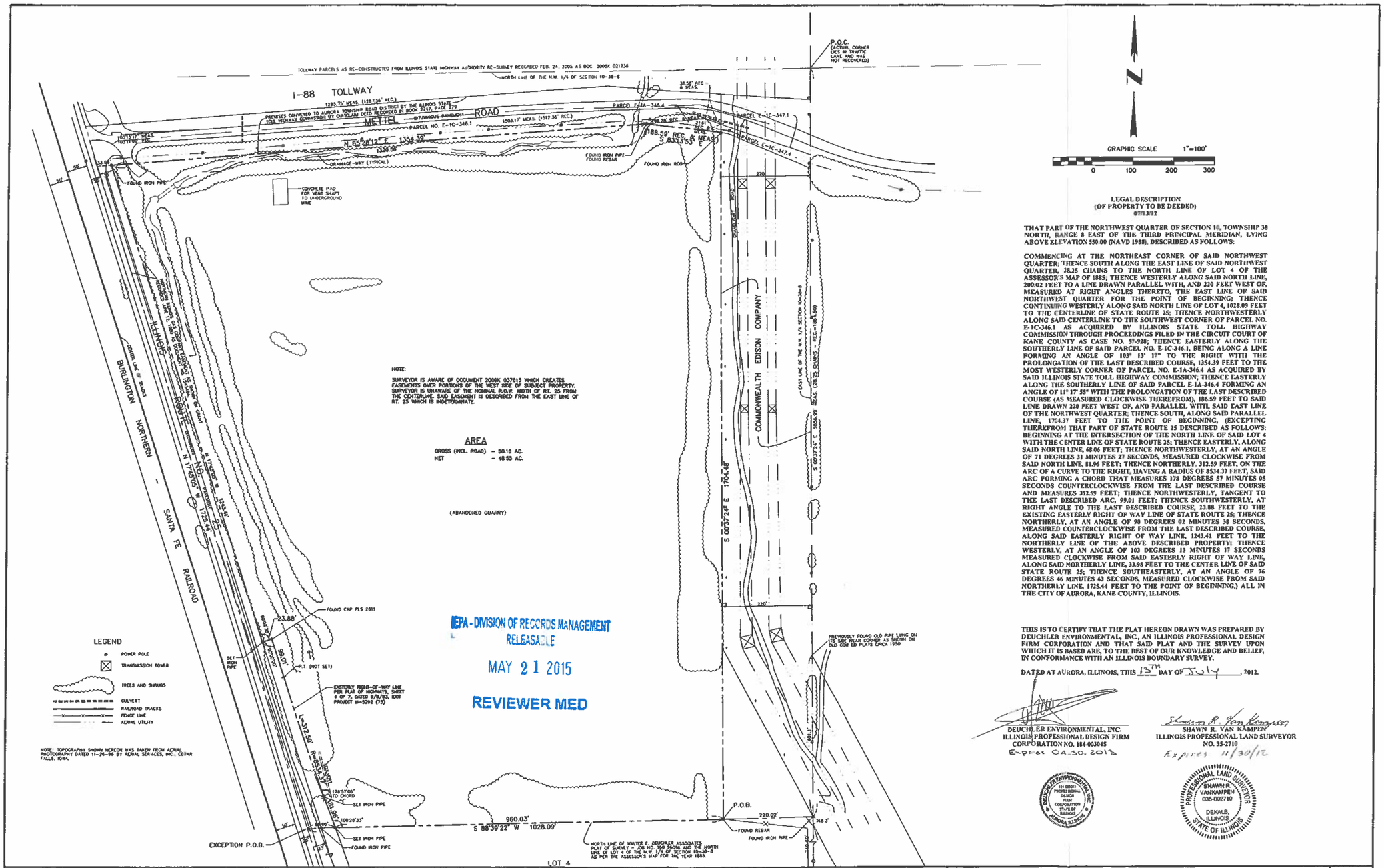
CITY OF AURORA CLASS V UIC PERMIT APPLICATION

SITE TOPOGRAPHIC MAP

SHEET 1 OF 1



EPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
MAY 21 2015
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LEGAL DESCRIPTION
(OF PROPERTY TO BE DEEDED)
07/13/12

THAT PART OF THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 38 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, LYING ABOVE ELEVATION 550.00 (NAVD 1988), DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER; THENCE SOUTH ALONG THE EAST LINE OF SAID NORTHWEST QUARTER, 28.25 CHAINS TO THE NORTH LINE OF LOT 4 OF THE ASSESSOR'S MAP OF 1885; THENCE WESTERLY ALONG SAID NORTH LINE, 200.02 FEET TO A LINE DRAWN PARALLEL WITH, AND 220 FEET WEST OF, MEASURED AT RIGHT ANGLES THERETO, THE EAST LINE OF SAID NORTHWEST QUARTER FOR THE POINT OF BEGINNING; THENCE CONTINUING WESTERLY ALONG SAID NORTH LINE OF LOT 4, 1028.09 FEET TO THE CENTERLINE OF STATE ROUTE 25; THENCE NORTHWESTERLY ALONG SAID CENTERLINE TO THE SOUTHWEST CORNER OF PARCEL NO. E-1C-346.1 AS ACQUIRED BY ILLINOIS STATE TOLL HIGHWAY COMMISSION THROUGH PROCEEDINGS FILED IN THE CIRCUIT COURT OF KANE COUNTY AS CASE NO. 57-928; THENCE EASTERLY ALONG THE SOUTHERLY LINE OF SAID PARCEL NO. E-1C-346.1, BEING ALONG A LINE FORMING AN ANGLE OF 103° 13' 17" TO THE RIGHT WITH THE PROLONGATION OF THE LAST DESCRIBED COURSE, 1354.39 FEET TO THE MOST WESTERLY CORNER OF PARCEL NO. E-1A-346.4 AS ACQUIRED BY SAID ILLINOIS STATE TOLL HIGHWAY COMMISSION; THENCE EASTERLY ALONG THE SOUTHERLY LINE OF SAID PARCEL E-1A-346.4 FORMING AN ANGLE OF 11° 17' 55" WITH THE PROLONGATION OF THE LAST DESCRIBED COURSE (AS MEASURED CLOCKWISE THEREFROM), 186.59 FEET TO SAID LINE DRAWN 220 FEET WEST OF, AND PARALLEL WITH, SAID EAST LINE OF THE NORTHWEST QUARTER; THENCE SOUTH, ALONG SAID PARALLEL LINE, 1704.37 FEET TO THE POINT OF BEGINNING, (EXCEPTING THEREFROM THAT PART OF STATE ROUTE 25 DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF SAID LOT 4 WITH THE CENTER LINE OF STATE ROUTE 25; THENCE EASTERLY, ALONG SAID NORTH LINE, 68.06 FEET; THENCE NORTHWESTERLY, AT AN ANGLE OF 71 DEGREES 31 MINUTES 27 SECONDS, MEASURED CLOCKWISE FROM SAID NORTH LINE, 81.96 FEET; THENCE NORTHERLY, 312.59 FEET, ON THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 8534.37 FEET, SAID ARC FORMING A CHORD THAT MEASURES 178 DEGREES 57 MINUTES 05 SECONDS COUNTERCLOCKWISE FROM THE LAST DESCRIBED COURSE AND MEASURES 312.59 FEET; THENCE NORTHWESTERLY, TANGENT TO THE LAST DESCRIBED ARC, 99.01 FEET; THENCE SOUTHWESTERLY, AT RIGHT ANGLE TO THE LAST DESCRIBED COURSE, 23.88 FEET TO THE EXISTING EASTERLY RIGHT OF WAY LINE OF STATE ROUTE 25; THENCE NORTHERLY, AT AN ANGLE OF 90 DEGREES 02 MINUTES 38 SECONDS, MEASURED COUNTERCLOCKWISE FROM THE LAST DESCRIBED COURSE, ALONG SAID EASTERLY RIGHT OF WAY LINE, 1243.41 FEET TO THE NORTHERLY LINE OF THE ABOVE DESCRIBED PROPERTY; THENCE WESTERLY, AT AN ANGLE OF 103 DEGREES 13 MINUTES 17 SECONDS MEASURED CLOCKWISE FROM SAID EASTERLY RIGHT OF WAY LINE, ALONG SAID NORTHERLY LINE, 33.98 FEET TO THE CENTER LINE OF SAID STATE ROUTE 25; THENCE SOUTHEASTERLY, AT AN ANGLE OF 76 DEGREES 46 MINUTES 43 SECONDS, MEASURED CLOCKWISE FROM SAID NORTHERLY LINE, 1725.44 FEET TO THE POINT OF BEGINNING,) ALL IN THE CITY OF AURORA, KANE COUNTY, ILLINOIS.

THIS IS TO CERTIFY THAT THE PLAT HEREON DRAWN WAS PREPARED BY DEUCHLER ENVIRONMENTAL, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM CORPORATION AND THAT SAID PLAT AND THE SURVEY UPON WHICH IT IS BASED ARE, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH AN ILLINOIS BOUNDARY SURVEY.

DATED AT AURORA, ILLINOIS, THIS 13TH DAY OF July, 2012.

DEUCHLER ENVIRONMENTAL, INC.
ILLINOIS PROFESSIONAL DESIGN FIRM
CORPORATION NO. 184-003045
Expires 04.30.2013

SHAWN R. VAN KAMPEN
ILLINOIS PROFESSIONAL LAND SURVEYOR
NO. 35-2719
Expires 11/30/12

DEUCHLER ENVIRONMENTAL, INC. PROFESSIONAL DESIGN FIRM CORPORATION STATE OF ILLINOIS AURORA, ILLINOIS 184-003045

PROFESSIONAL LAND SURVEYOR SHAWN R. VANKAMPEN 035-002719 DEKALB, ILLINOIS STATE OF ILLINOIS

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers — Aurora, Illinois

REVISIONS

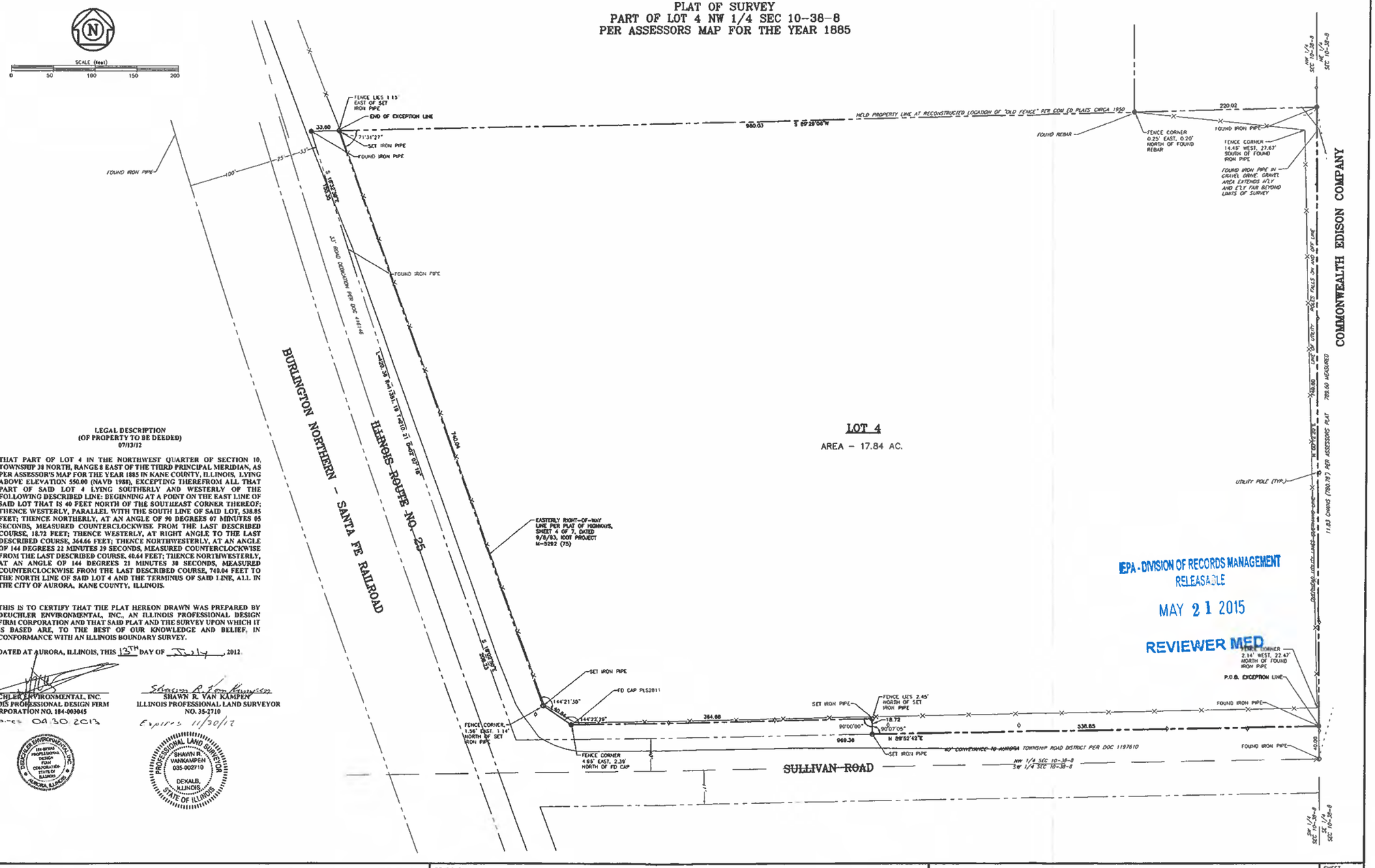
CLM FILES: F:\DEI\96096\CLM

DATE 7/13/12	DESIGNED SRV	DRAWN SAL	APPROVED SRV	BOOK 970	SCALE SHOWN	CAD DWG. F:\AU\11056\SURVEY-REV	JOB NO. 155/11056/00

PLAT OF SURVEY
PART OF THE N.W. 1/4 OF SECTION 10,
T. 38N., R. 8E. OF THE 3RD. P.M.

SHEET 1 OF 1

PLAT OF SURVEY
PART OF LOT 4 NW 1/4 SEC 10-38-8
PER ASSESSORS MAP FOR THE YEAR 1885



LEGAL DESCRIPTION
(OF PROPERTY TO BE DEEDED)
07/13/12

THAT PART OF LOT 4 IN THE NORTHWEST QUARTER OF SECTION 10, TOWNSHIP 38 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, AS PER ASSESSOR'S MAP FOR THE YEAR 1885 IN KANE COUNTY, ILLINOIS, LYING ABOVE ELEVATION 550.00 (NAVD 1988), EXCEPTING THEREFROM ALL THAT PART OF SAID LOT 4 LYING SOUTHERLY AND WESTERLY OF THE FOLLOWING DESCRIBED LINE: BEGINNING AT A POINT ON THE EAST LINE OF SAID LOT THAT IS 40 FEET NORTH OF THE SOUTHEAST CORNER THEREOF; THENCE WESTERLY, PARALLEL WITH THE SOUTH LINE OF SAID LOT, 538.85 FEET; THENCE NORTHERLY, AT AN ANGLE OF 90 DEGREES 07 MINUTES 05 SECONDS, MEASURED COUNTERCLOCKWISE FROM THE LAST DESCRIBED COURSE, 18.72 FEET; THENCE WESTERLY, AT RIGHT ANGLE TO THE LAST DESCRIBED COURSE, 364.66 FEET; THENCE NORTHWESTERLY, AT AN ANGLE OF 144 DEGREES 22 MINUTES 29 SECONDS, MEASURED COUNTERCLOCKWISE FROM THE LAST DESCRIBED COURSE, 48.64 FEET; THENCE NORTHWESTERLY, AT AN ANGLE OF 144 DEGREES 21 MINUTES 30 SECONDS, MEASURED COUNTERCLOCKWISE FROM THE LAST DESCRIBED COURSE, 740.04 FEET TO THE NORTH LINE OF SAID LOT 4 AND THE TERMINUS OF SAID LINE, ALL IN THE CITY OF AURORA, KANE COUNTY, ILLINOIS.

THIS IS TO CERTIFY THAT THE PLAT HEREON DRAWN WAS PREPARED BY DEUCHLER ENVIRONMENTAL, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM CORPORATION AND THAT SAID PLAT AND THE SURVEY UPON WHICH IT IS BASED ARE, TO THE BEST OF OUR KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH AN ILLINOIS BOUNDARY SURVEY.

DATED AT AURORA, ILLINOIS, THIS 13TH DAY OF July, 2012.

DEUCHLER ENVIRONMENTAL, INC.
ILLINOIS PROFESSIONAL DESIGN FIRM
CORPORATION NO. 184-003045
Expires 04 30 2013

SHAWN R. VAN KAMPEN
ILLINOIS PROFESSIONAL LAND SURVEYOR
NO. 35-2710
Expires 11/30/13

DEUCHLER ENVIRONMENTAL, INC. ILLINOIS PROFESSIONAL DESIGN FIRM CORPORATION STATE OF ILLINOIS AURORA, ILLINOIS

PROFESSIONAL LAND SURVEYOR SHAWN R. VANKAMPEN 035-002710 DEKALB, ILLINOIS STATE OF ILLINOIS

IEPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
MAY 21 2015
REVIEWER MED

DEUCHLER ENVIRONMENTAL, INC.
Consulting Engineers — Aurora, Illinois

REVISIONS

PLAT OF SURVEY
PART OF LOT 4 NW 1/4 SEC 10-38-8
PER ASSESSORS MAP FOR THE YEAR 1885

SHEET 1 OF 1

APPENDIX G:

AOR Well Logs

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ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Commercial Operation	Top	Bottom
yellow clay	0	16
blue clay	16	70
hardpan	70	81
broken limestone	81	82
Niagara limestone	82	120
Total Depth		120

Casing: 5" BLACK SEAMLESS from 0' to 82'

Size hole below casing: 5"

Water from limestone at 82' to 120'.
Static level 66' below casing top which is 1' above GL
Pumping level 70' when pumping at 10 gpm for 2 hours

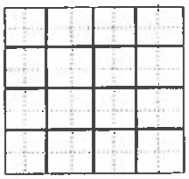
Driller's Log filed
Sample set # 57012 (0' - 120') Received: June 24, 1970

Address of well: 1750 Mitchel Rd.
Aurora, IL

Location source: Location from permit

Permit Date: February 26, 1970 Permit #: 9105

COMPANY Palmer & Sons
FARM The Chapple Co.
DATE DRILLED March 16, 1970 NO.
ELEVATION 0 COUNTY NO. 00970
LOCATION 1850'N line, 200'E line of NE
LATITUDE 41.791441 LONGITUDE -88.301967
COUNTY Kane API 120890097000 10 - 38N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

Industrial Water Well	Top	Bottom
yellow clay	0	16
clay sand & gravel	16	31
brown limestone hard	31	76
white limestone hard to medium	76	109
lime med streaks of blue shale	109	111
Total Depth		111

Casing: 6" BLACK STEEL from 0' to 32'

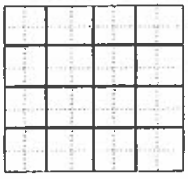
Size hole below casing: 6"

Water from limestone at 109' to 111'.
Static level 58' below casing top which is ' above GL
Pumping level 60' when pumping at 12 gpm for 4 hours

Driller's Log filed
Location source: Platbook verified

Permit Date: December 7, 1966 **Permit #:** 1951

COMPANY Geltz, N. H.
FARM Chicago Title & Trust
DATE DRILLED January 1, 1967 **NO.** 1
ELEVATION 0 **COUNTY NO.** 00649
LOCATION 139'N line, 72'W line of SE
LATITUDE 41.788671 **LONGITUDE** -88.310638
COUNTY Kane **API** 120890064900



10 - 38N - 8E

Page 1

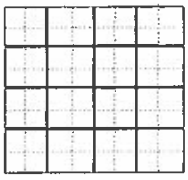
ILLINOIS STATE GEOLOGICAL SURVEY

Stratigraphic Test	Top	Bottom
Galena	211	
Total Depth		239

Core #C 15272 (16' - 239') Received: May 1, 2001

Permit Date: Permit #:

COMPANY Raimonde Drilling Corp.
FARM Conco Western Stone Co.
DATE DRILLED NO.
ELEVATION 620GL COUNTY NO. 35419
LOCATION NW NE NW
LATITUDE 41.795403 LONGITUDE -88.314425
COUNTY Kane API 120893541900 10 - 38N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

	Top	Bottom
no record	0	92
Total Depth		92

Additional location info: Lot: Subdivision: gamma: Conco

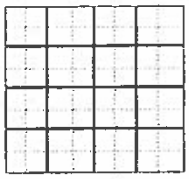
Location source: Global Positioning System verified Verified by: CJS on October 3, 2000.

Image viewing help: New users please read this.
GET IMAGE Unknown log type

Permit Date: Permit #:

COMPANY Raimonde & Sons
FARM Conco-Western
DATE DRILLED
ELEVATION 563
LOCATION NE NW NW
LATITUDE 41.796067
COUNTY Kane

NO.
COUNTY NO. 34144
LONGITUDE -88.315198
API 120893414400



10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Outcrop	Top	Bottom
Interpretation by: Curry, Ben Brandon on 13-JUN-05 Copied from hwybridge_log		
light brown silt loam (Peoria silt disturbed)	0	2
similar material to outcrop A, silty clay diamicton with modern soil, not sampled but well exposed in several ravines (Yorkville member, Lemont formation)	2	13
gray (5Y 5/1) silty clay to clay diamicton (Yorkville member Lemont formation cont.)	13	18
fine sand with cross ripple drift	18	18.1
stratified sandy cobbly gravel largest clast about 4" across a hint of imbrication nearly clast supported	18.1	25.6
cobbly zone, largest cobble 12" X 10" X 8" both dolostone and crystalline types	25.6	26.5
covered	26.5	30
dolostone (unnamed Silurian unit)	30	50
Total Depth		50

Permit Date: Permit #:

COMPANY IL Dept. of Transportation

FARM Aurora (for dumping yard waste)

DATE DRILLED NO.

ELEVATION 700GL COUNTY NO. 33154

LOCATION 1600'S 2900'W NE/c

LATITUDE 41.791955 LONGITUDE -88.311906

COUNTY Kane API 120893315400 10 - 38N - 8E

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ILLINOIS STATE GEOLOGICAL SURVEY

Outcrop	Top	Bottom
Interpretation by: Curry, Ben Brandon on 13-JUN-05 Copied from hwybridge_log		
light brown silt loam (Peoria silt, disturbed)	0	2
brn silty clay diamicton dry strong f-med sub-angular blocky structure B horizon of modern soil leached of carbonates thin discontinuous argillans weathered Yorkville member, Lemont formation	2	4
olive brn (2.5Y 6/4) silty clay diamicton uniform except for a zone with wisps of silt at 10'-10.5' calcareous (oxidized Yorkville member cont.)	4	12
gray (5Y 4/1) silty clay diamicton, zone with wisps of silt from 14'-14.5' (unweathered Yorkville member cont.)	12	16
covered	16	30
dolostone (unnamed Silurian unit)	30	50
Total Depth		50

Permit Date: Permit #:

COMPANY IL Dept. of Transportation

FARM Aurora (for dumping yard waste)

DATE DRILLED NO.

ELEVATION 700GL COUNTY NO. 33153

LOCATION 250'S 2960'W NE/c

LATITUDE 41.795673 LONGITUDE -88.312099

COUNTY Kane API 120893315300 10 - 38N - 8E

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ILLINOIS STATE GEOLOGICAL SURVEY

Outcrop	Top	Bottom
Interpretation by: Curry, Ben Brandon on 13-JUN-05 Copied from hwybridge_log		
brown flaggy dolostone - thin alluvium covers the dolostone in the ravine. The dolostone is probably a Silurian formation	0	5
Total Depth		5

Permit Date: Permit #:

COMPANY IL Dept. of Transportation

FARM Outcrop

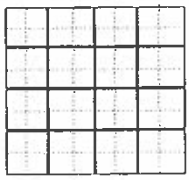
DATE DRILLED NO.

ELEVATION 665GL COUNTY NO. 33155

LOCATION 2100'N 1920'E SW/c

LATITUDE 41.787442 LONGITUDE -88.313495

COUNTY Kane API 120893315500 10 - 38N - 8E



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ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
drift	0	46
limestone	46	215
Total Depth		215

Static level 55' below casing top which is ' above GL
Pumping level 82' when pumping at 60 gpm for 1 hour

Driller's Log filed
Location source: Location from the driller

Permit Date: Permit #:

COMPANY Ground Water Engineering Co.
FARM Ill Toll Highway Comm.
DATE DRILLED January 1, 1958 NO. 1
ELEVATION 710GL COUNTY NO. 00169
LOCATION 300'N line, 2350'E line of section
LATITUDE 41.795574 LONGITUDE -88.309854
COUNTY Kane API 120890016900

10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Commercial Operation	Top	Bottom
yellow clay	0	13
blue clay	13	50
blue clay sandy	50	64
sand & gravel	64	74
sandy - lime	74	80
lime gray hard to medium	80	115
Total Depth		115

Casing: 5" 15# BLACK STEEL from 0' to 77'

Size hole below casing: 5"

Water from limestone at 80' to 115'.
Static level 64' below casing top which is 1' above GL
Pumping level 67' when pumping at 12 gpm for 4 hours

Driller's Log filed
Sample set # 57189 (0' - 115') Received: September 22, 1970

Location source: Location from permit

Permit Date: May 27, 1970 Permit #: 9750

COMPANY Geltz, N. H.
FARM Popp, Jim Builders
DATE DRILLED July 1, 1970 NO. 1
ELEVATION COUNTY NO. 01017
LOCATION NW SE NE
LATITUDE 41.791913 LONGITUDE -88.304839
COUNTY Kane API 120890101700 10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Monitoring	Top	Bottom
clay (CL) silty, black	0	3
sand (SP) gravelly, tan	3	21
clay (CL) silty, organe brown	21	22
silt (ML) sandy, brown	22	28
Total Depth		28

Casing: 2" SCH 40 PVC from 1' to 19'

Screen: 10' of 2" diameter .01 slot

Grout: BENTONITE from 1 to 17.

Size hole below casing: 8"

Water from sand at 3' to 21'.
Static level 21' below casing top which is 0' above GL

Location source: Location from the driller

Permit Date: Permit #: none

COMPANY Rock & Soil Drilling Corp.

FARM Thornton Oil Co.

DATE DRILLED October 28, 1993 NO. MW-1

ELEVATION 0 COUNTY NO. 31229

LOCATION NW SE NE

LATITUDE 41.791559 LONGITUDE -88.32416

COUNTY Kane API 120893122900 9 - 38N - 8E

SID 33134

Illinois EPA FOIA Exemption Reference Sheet

Agency ID: 170000614271 Media File Type: LAND
Bureau ID: 0894075971
Site Name: Aurora, City Of
Site Address1: Rte 25
Site Address2:
Site City: Aurora State: IL Zip: 60507-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Redaction

Exempt Doc #: 5 **Document Date:** 2 /28/2013 **Staff:** MED

Document Description: APPENDIX G

Category ID: 23A **Category Description:** UIC/ADMIN REC - UNDERGROUND INJECTION CONTROL **Exempt Type:** Redaction

Permit ID: UIC-147 **Date of Determination:** 5 /21/2015

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ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
glacial drift	0	138
rock formation	138	145
Total Depth		145

Casing: 5" 15# BLACK from 0' to 138'

Size hole below casing: 5"

Water from rock at ' to 145'.
Static level 10' below casing top which is 2' above GL

Driller's Log filed
Location source: Location from permit

Permit Date: February 27, 1973 Permit #: 22032

COMPANY Knierim, Max
FARM [redacted]
DATE DRILLED March 1, 1973 NO.
ELEVATION COUNTY NO. 01725
LOCATION NE NE NE
LATITUDE 41.795616 LONGITUDE -88.302398
COUNTY Kane API 120890172500 10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	5
clay	5	80
sand gravel	80	95
rock	95	140
Total Depth		140

Casing: 5" PLASTIC from 0' to 95'

Size hole below casing: 5"

Water from limestone at 75' to 140'.
Static level 75' below casing top which is 1' above GL
Pumping level 126' when pumping at 7 gpm for 4 hours

Permanent pump installed at 126' on , with a capacity of gpm

Driller's Log filed
Location source: Field verified

Permit Date: October 6, 1975 Permit #: 41823

COMPANY Knierim, James
FARM [redacted]
DATE DRILLED October 13, 1975 NO.
ELEVATION COUNTY NO. 22840
LOCATION 450'N line, 250'E line of section
LATITUDE 41.795296 LONGITUDE -88.30212
COUNTY Kane API 120892284000 10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
sand & gravel	0	25
limestone	25	80
Interpretation by: T.C. Buschbach on 01-MAR-49 Summary Sample Study		
Pleistonocene system - sand & gravel	0	25
Silurian system - Kankakee formation, dolomite, light buff to white, very fine to fine, slightly oxidized at 25'. Dolomite, white, fine, slightly pyritic	25	30
dolomite, slightly glauconitic, white to light gray, fine	30	40
dolomite, cherty, white to light buff, very fine to fine	40	60
dolomite, as above, except slightly cherty	60	75
Ordovician system, Maquoketa formation, dolomite, very cherty, argillaeous, light green, fine to medium, Bryozoa	75	80
Total Depth		80

Casing: 4.5" CASED from ' to '

Static level 40' below casing top which is ' above GL
Pumping level ' when pumping at 5 gpm for 5 hours

Driller's Log filed
Survey Sample Study filed
Sample set # 6727 (25' - 80') Received: October 15, 1941

Permit Date: Permit #:

COMPANY Palmer B L & Son
FARM [redacted]
DATE DRILLED January 1, 1941 NO.
ELEVATION 690TM COUNTY NO. 00646
LOCATION NE
LATITUDE 41.792458 LONGITUDE -88.325364
COUNTY Kane API 120890064600 9 - 38N - 8E

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ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
well drilled deeper from 46'	0	46
lime, light gray, hard	46	60
lime gray to white medium	60	85
lime blueish to wh med w/bl shale seams	85	133
Total Depth		133

Casing: 5" 15# BLACK STEEL from 0' to 30'

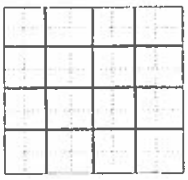
Size hole below casing: 5"

Water from limestone at 85' to 133'.
Static level 35' below casing top which is 1' above GL
Pumping level 47' when pumping at 15 gpm for 4 hours

Driller's Log filed
Location source: Location from permit

Permit Date: September 20, 1973 Permit #: 25978

COMPANY Geltz, N. H.
FARM [redacted]
DATE DRILLED October 1, 1973 NO. 1
ELEVATION 0 COUNTY NO. 22015
LOCATION NW SW SE
LATITUDE 41.799142 LONGITUDE -88.309703
COUNTY Kane API 120892201500 3 - 38N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
sand	2	8
gravel & clay	8	20
sand & gravel	20	23
broken rock	23	35
yellow to brown lime hard	35	55
white to buff color lime hard	55	87
lime light gray - medium to hard	87	92
Total Depth		92

Casing: 5" 15# BLACK STEEL from 0' to 35'

Size hole below casing: 5"

Water from limestone at 87' to 92'.
Static level 32' below casing top which is 1' above GL
Pumping level 38' when pumping at 15 gpm for 4 hours

Driller's Log filed
Location source: Platbook verified

Permit Date: July 29, 1971 Permit #: 13757

COMPANY Geltz, N. H.
FARM [redacted]
DATE DRILLED September 1, 1971 NO. 1
ELEVATION 0 COUNTY NO. 01228
LOCATION NW SW SE
LATITUDE 41.799142 LONGITUDE -88.309703
COUNTY Kane API 120890122800 3 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
Galena	190	
St Peter	525	
Total Depth		610
Survey Sample Study filed		
Sample set # 1213 (155' - 610') Received: December 1, 1931		

Permit Date: Permit #:

COMPANY Morey A W Co

FARM [redacted]

DATE DRILLED January 1, 1931 NO.

ELEVATION 690TM COUNTY NO. 00643

LOCATION NW SE SE

LATITUDE 41.798897 LONGITUDE -88.32417

COUNTY Kane API 120890064300 4 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	1
yellow clay	1	14
blue clay	14	74
blue clay - sandy	74	82
limestone reddish to gray	82	92
limestone reddish to gray hard	92	115
reddish to brown medium to hard	115	145
gray lime medium to hard crevice	145	152
Total Depth		152

Casing: 5" 15# BLACK STEEL from 0' to 83'

Size hole below casing: 5"

Water from limestone at 145' to 152'.
Static level 110' below casing top which is 1' above GL
Pumping level 110' when pumping at 15 gpm for 4 hours

Driller's Log filed
Location source: Location from permit

Permit Date: June 8, 1973 Permit #: 23943

COMPANY Geltz, N. H.
FARM [redacted]
DATE DRILLED June 1, 1973 NO. 1
ELEVATION 0 COUNTY NO. 01703
LOCATION NE SE NE
LATITUDE 41.791958 LONGITUDE -88.302429
COUNTY Kane API 120890170300 10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	3
clay	3	20
sand gravel	20	43
rock	43	100
Total Depth		100

Casing: 5" BLACK 15# from 0' to 43'

Size hole below casing: 5"

Water from rock at 8' to 100'.
Static level 8' below casing top which is 1' above GL
Pumping level 84' when pumping at 15 gpm for 4 hours

Permanent pump installed at 84' on , with a capacity of gpm

Additional location info: Lot: [redacted] Subdivision: [redacted]

Location source: Location from permit

Permit Date: September 14, 1979 Permit #: 89661

COMPANY Knierim, Phil
FARM [redacted]
DATE DRILLED NO.
ELEVATION COUNTY NO. 24823
LOCATION 700'N line, 1100'E line of NE
LATITUDE 41.794229 LONGITUDE -88.324488
COUNTY Kane API 120892482300 9 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

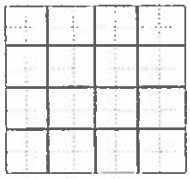
Water Well	Top	Bottom
clay	0	12
gravel	12	20
clay, gray	20	24
Niagaran limestone	24	83
Total Depth		83

Driller's Log filed
Sample set # 653 (30' - 175') Received: January 9, 1927

Additional location info: Lot: Subdivision: location per ISWS

Permit Date: Permit #:

COMPANY Neely & Schimmelpfennig
FARM [redacted]
DATE DRILLED January 1, 1939 NO.
ELEVATION 0 COUNTY NO. 00653
LOCATION NE NE NE
LATITUDE 41.795277 LONGITUDE -88.321658
COUNTY Kane API 120890065300



9 - 38N - 8E

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ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
black dirt & clay	0	19
brown lime	19	68
white lime	68	106
gray lime	106	279
white lime	279	341
Total Depth		341

Casing: 5" GALV. from 0' to 19'

Size hole below casing: 5"

Water from white lime at 285' to 347'.
Static level 17' below casing top which is ' above GL
Pumping level 115' when pumping at 10 gpm for hours

Driller's Log filed

Permit Date: Permit #:

COMPANY Pitz, N. L.
FARM [redacted]
DATE DRILLED January 1, 1949 NO. 1
ELEVATION 0 COUNTY NO. 00050
LOCATION
LATITUDE 41.789048 LONGITUDE -88.3109
COUNTY Kane API 120890005000 10 - 38N - 8E

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ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
yellow clay	0	12
gray clay	12	65
gravel	65	88
limestone	88	135
Total Depth		135

Casing: 5" 15# PER FOOT BLACK from 1' to 88'

Size hole below casing: 1"

Water from limestone at 88' to 135'.

Driller's Log filed

Additional location info: Lot: [redacted] block [redacted]

Location source: Platbook verified

Permit Date: December 21, 1971 Permit #: 16012

COMPANY Sisson, Edward

FARM [redacted]

DATE DRILLED January 12, 1972 NO.

ELEVATION COUNTY NO. 01297

LOCATION 230'S line, 160'E line of NW NE NE

LATITUDE 41.795303 LONGITUDE -88.304194

COUNTY Kane API 120890129700 10 - 38N - 8E

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ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
yellow clay	0	20
sand & gravel	20	30
gray clay	30	80
sand & gravel	80	90
limestone	90	135
Total Depth		135

Casing: 5" BLACK from 0' to 45'

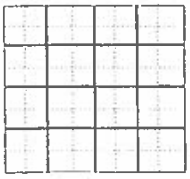
Size hole below casing: 5"

Water from limestone at 45' to 135'.
Static level 75' below casing top which is 1' above GL
Pumping level 76' when pumping at 10 gpm for 4 hours

Driller's Log filed
Location source: Location from topographic map

Permit Date: May 11, 1971 Permit #: 12585

COMPANY Liberg, Patrick A.
FARM [redacted]
DATE DRILLED June 16, 1971 NO.
ELEVATION COUNTY NO. 01186
LOCATION 200'S line, 235'E line of NE NE NE
LATITUDE 41.795257 LONGITUDE -88.302065
COUNTY Kane API 120890118600 10 - 38N - 8E



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
yellow clay	0	10
blue cly	10	65
sand & gravel	65	75
coarse gravel	75	90
shale - hard and soft	90	125
white limestone	125	145
Total Depth		145

Casing: 5" BLACK 15# PER FOOT from 1' to 90'

Size hole below casing: 5"

Water from limestone & shale at 125' to 145'.
Static level 66' below casing top which is 1' above GL
Pumping level 70' when pumping at 10 gpm for 2 hours

Driller's Log filed
Location source: Location from permit

Permit Date: May 11, 1971 Permit #: 12983

COMPANY Liberg, Patrick A.
FARM [redacted]
DATE DRILLED June 14, 1971 NO.
ELEVATION 0 COUNTY NO. 01224
LOCATION 260'S line, 85'E line of NE NE NE
LATITUDE 41.795434 LONGITUDE -88.301514
COUNTY Kane API 120890122400 10 - 38N - 8E

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
yellow clay	0	3
clayey sand	3	15
sandy clay & gravel	15	50
blue clay	50	70
gravel	70	83
limestone	83	135
Total Depth		135

Casing: 5" BLACK 15# PER FOOT from 1' to 84'

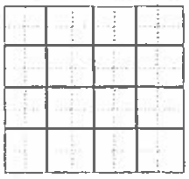
Size hole below casing: 5"

Water from limestone at 83' to 135'.
Static level 66' below casing top which is 1' above GL
Pumping level 70' when pumping at 10 gpm for 2 hours

Driller's Log filed
Location source: Location from permit

Permit Date: May 11, 1971 Permit #: 12584

COMPANY Liberg, Patrick A.
FARM [redacted]
DATE DRILLED June 14, 1971 NO.
ELEVATION COUNTY NO. 01217
LOCATION 260'S line, 160'E line of NE NE NE
LATITUDE 41.795428 LONGITUDE -88.301786
COUNTY Kane API 120890121700 10 - 38N - 8E



Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	5
clay	5	75
sand gravel	75	90
rock	90	100
shale	100	110
rock	110	160
Total Depth		160

Casing: 5" #15 BLACK from 0' to 90'

Grout: CUTTINGS from 0 to 0.

Size hole below casing: 0"

Water from rock at 0' to 160'.

Additional location info: Lot: [redacted]

Location source: Field verified

Permit Date: October 21, 1980 Permit #: 96741

COMPANY Knierim, Phil

FARM [redacted]

DATE DRILLED November 26, 1980 NO.

ELEVATION 700GL COUNTY NO. 28945

LOCATION 1150'S line, 1200'E line of section

LATITUDE 41.784998 LONGITUDE -88.3057

COUNTY Kane API 120892894500 10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
overburden	0	57
rock formation	57	190
Total Depth		190

Casing: 5" BLACK 15# from 0' to 57'

Size hole below casing: 5"

Water from limestone at 85' to 190'.
Static level 85' below casing top which is 1' above GL
Pumping level 126' when pumping at 15 gpm for 4 hours

Permanent pump installed at 126' on , with a capacity of gpm

Driller's Log filed

Location source: Location from permit

Permit Date: April 5, 1974 Permit #: 28709

COMPANY Knierim, James
FARM
DATE DRILLED April 24, 1974 NO.
ELEVATION COUNTY NO. 22223
LOCATION SE NW NE
LATITUDE 41.7937 LONGITUDE -88.307228
COUNTY Kane API 120892222300 10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
overburden	0	65
rock formation	65	190
Total Depth		190

Casing: 5" BLACK 15% from 0' to 65'

Size hole below casing: 5"

Water from limestone at 87' to 190'.
Static level 87' below casing top which is 1' above GL
Pumping level 147' when pumping at 12 gpm for 4 hours

Permanent pump installed at 147' on , with a capacity of gpm

Driller's Log filed
Location source: Location from permit

Permit Date: September 13, 1973 Permit #: 25410

COMPANY Knierim, James
FARM [redacted]
DATE DRILLED September 28, 1973 NO.
ELEVATION 0 COUNTY NO. 22222
LOCATION SW NE NE
LATITUDE 41.793743 LONGITUDE -88.304821
COUNTY Kane API 120892222200 10 - 38N - 8E

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
drift	0	14
limestone	14	90
shale	90	219
limestone	219	550
sandstone	550	772
Maquoketa	90	
Galena	220	
St Peter	555	
Knox	760	
Total Depth		772

Casing: 16" from 0' to 18'
12" from 0' to 231'

Driller's Log filed
Survey Sample Study filed
Sample set # 1197 (25' - 760') Received: November 1, 1931

Location source: Location from the driller

Permit Date: Permit #:

COMPANY Thorne, W. L. Co.
FARM [redacted]
DATE DRILLED January 1, 1932 NO. 2
ELEVATION 670GL COUNTY NO. 00213
LOCATION 2200'S line, 350'W line of section
LATITUDE 41.787592 LONGITUDE -88.319275
COUNTY Kane API 120890021300

10 - 38N - 8E

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Subdivision Water Supply	Top	Bottom
black dirt	0	2
brown clay	2	14
blue clay	14	30
till	30	50
gravel	50	52
limestone	52	200
Total Depth		200

Casing: 6" BLACK 19# PER FOOT from 1' to 52'

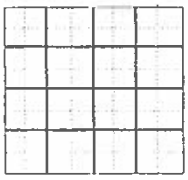
Size hole below casing: 5"

Water from limestone at 52' to 200'.
Static level 70' below casing top which is 1' above GL
Pumping level 73' when pumping at 23 gpm for 2 hours

Driller's Log filed
Location source: Platbook verified

Permit Date: April 2, 1971 Permit #: 12044

COMPANY Liberg, John E.
FARM [redacted]
DATE DRILLED April 1, 1971 NO.
ELEVATION COUNTY NO. 01192
LOCATION 444'N line, 1190'W line of NE
LATITUDE 41.795237 LONGITUDE -88.306438
COUNTY Kane API 120890119200



10 - 38N - 8E

Page 1 **ILLINOIS STATE GEOLOGICAL SURVEY**

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	72
clay w/gravel	72	95
rock	95	170
rock w/shale	170	240
shale	240	300
Total Depth		300

Casing: 5" PLASTIC SDR 21 from 0' to 98'

Grout: BENTONITE from 0 to 98.

Water from shale at 140' to 220'.
Static level 100' below casing top which is 1' above GL
Pumping level 220' when pumping at 0 gpm for 0 hours

Address of well: [redacted]

Location source: Location from permit

Permit Date: April 7, 2001 Permit #:

COMPANY Ken Knierim/K & K Well Drlg.
FARM [redacted]
DATE DRILLED July 19, 2001 NO.
ELEVATION 0 COUNTY NO. 34313
LOCATION NW NE NE
LATITUDE 41.795574 LONGITUDE -88.304804
COUNTY Kane API 120893431300 10 - 38N - 8E

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	1
sand & gravel	1	51
hardpan	51	98
Niagaran lime	98	165
Total Depth		165

Casing: 5" 15# T & C from -1' to 98'

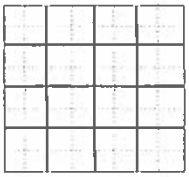
Size hole below casing: 5"

Water from Niagaran lime at 98' to 165'.
Static level 70' below casing top which is 1' above GL
Pumping level 75' when pumping at 10 gpm for 3 hours

Driller's Log filed
Location source: Platbook verified

Permit Date: July 10, 1969 Permit #: 7844

COMPANY Neely, P. C.
FARM [redacted]
DATE DRILLED July 17, 1969 NO.
ELEVATION 675GL COUNTY NO. 00556
LOCATION 0'S 0'E NW/c SE NE NE
LATITUDE 41.79468 LONGITUDE -88.303612
COUNTY Kane API 120890055600



10 - 38N - 8E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gray clay	2	74
clay w/sand gravel	74	96
gray lime	96	140
Total Depth		140

Casing: 5" PLASTIC from 0' to 97'

Grout: BENTONITE from 0 to 97.

Water from gray lime at 99' to '.
Static level 70' below casing top which is 1' above GL
Pumping level 100' when pumping at 0 gpm for 0 hours

Additional location info: Lot: [redacted]

Address of well: same as above

Location source: Location from permit

Permit Date: April 10, 2000 Permit #:

COMPANY Brown, Darwin
FARM
DATE DRILLED August 30, 2000 NO.
ELEVATION 0 COUNTY NO. 33557
LOCATION NW NE NE
LATITUDE 41.795574 LONGITUDE -88.304804
COUNTY Kane API 120893355700 10 - 38N - 8E

Illinois EPA FOIA Exemption Reference Sheet

SID: 33134

Agency ID: 170000614271 Media File Type: LAND
Bureau ID: 0894075971
Site Name: Aurora, City Of
Site Address1: Rte 25
Site Address2:
Site City: Aurora State: IL Zip: 60507-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Portion Removed

Exempt Doc #: 6 **Document Date:** 2 /28/2013 **Staff:** MED

Document Description: APPENDIX G

Category ID: 23A **Category Description:** UIC/ADMIN REC - UNDERGROUND INJECTION CONTROL **Exempt Type:** Portion Removed

Permit ID: UIC-147 **Date of Determination:** 3 /21/2015

APPENDIX H:

Well Logs Used for COA Cross Sections

ILLINOIS STATE GEOLOGICAL SURVEY

	Top	Bottom
Galena	200	
St Peter	590	
Knox	717	
Franconia	1120	
Ironton	1204	
Total Depth		**1380**

Survey Sample Study filed
Sample set # 27627 (0' - 1380') Received: March 1, 1957

Permit Date: **Permit #:**

COMPANY Layne Western Co., Inc.
FARM Caterpillar Tractor
DATE DRILLED **NO.** 1
ELEVATION 665GL **COUNTY NO.** 00012
LOCATION 3290'S line, 3600'W line of section
LATITUDE 41.716895 **LONGITUDE** -88.345378
COUNTY Kendall **API** 120930001200 5 - 37N - 8E

Page 1

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Business	Top	Bottom
SS #58158 (0-1370')	0	0
crushed rock	0	1
fill tin cans & etc.	1	5
brown clay	5	16
brown lime	16	20
very hard gray lime	20	110
lime few shale streaks	110	200
shale	200	241
lime	241	588
white sandstone	588	920
lime	920	1100
gray sandstone	1100	1180
lime	1180	1204
white sandstone	1204	1245
lime	1245	1252
white sandstone	1252	1327
lime	1327	1331
white sandstone	1331	1348
lime	1348	1368
Galena	241	
St Peter	588	
Knox	920	
Ironton	1204	
Total Depth		1368

Casing: 20" STD STEEL from 0' to 40'
16" STD STEEL from 0' to 260'

Permit Date: **Permit #:** 18388

COMPANY Layne-Western Co.
FARM Aurora Bleachery Co
DATE DRILLED August 14, 1972 **NO.** C-405E
ELEVATION 635 **COUNTY NO.** 01395
LOCATION 1750'S 2250'E NW/c NW
LATITUDE 41.776862 **LONGITUDE** -88.312339
COUNTY Kane **API** 120890139500 **15 - 38N - 8E**

 ILLINOIS STATE GEOLOGICAL SURVEY

12" STD STEEL from 686' to 915'

Grout: CEMENT 250 BAGS from 0 to 260.

Static level 462' below casing top which is 0' above GL
Pumping level 534' when pumping at 503 gpm for 11 hours

Sample set # 58158 (0' - 1370') Received: September 22 1972

Location source: Location from the driller

Layne-Western Co. Aurora Bleachery Co C-405E

COUNTY Kane **API 120890139500** **15 - 38N - 8E**

Page 1

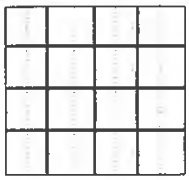
ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
Maquoketa	90	
Galena	220	
St Peter	555	
Knox	760	
Total Depth		772

Driller's Log filed
Survey Sample Study filed
Sample set # 1197 (25' - 760') Received: November 1, 1931

Permit Date: **Permit #:**

COMPANY Thorne W L
FARM Springbrook Sanitari
DATE DRILLED January 1, 1932 **NO.** 2
ELEVATION 670GL **COUNTY NO.** 00213
LOCATION 2200'S line, 350'W line of section
LATITUDE 41.787592 **LONGITUDE** -88.319275
COUNTY Kane **API** 120890021300 **10 - 38N - 8E**

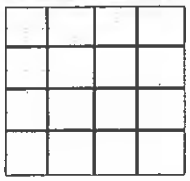


Page 1 **ILLINOIS STATE GEOLOGICAL SURVEY**

Water Well	Top	Bottom
Maquoketa	100	
Galena	239	
St Peter	600	
Knox	820	
Ironton	1200	
Total Depth		1380

Permit Date: **Permit #:**

COMPANY Neely&Schimelpfening
FARM Alba Manufacturingco
DATE DRILLED August 1, 1949 **NO.**
ELEVATION 660 **COUNTY NO.** 00249
LOCATION 250'N line, 1500'W line of section
LATITUDE 41.780933 **LONGITUDE** -88.315148
COUNTY Kane **API** 120890024900 **15 - 38N - 8E**



Illinois EPA FOIA Exemption Reference Sheet

SID: 33134

Agency ID: 170000614271
Bureau ID: 0894075971
Site Name: Aurora, City Of
Site Address1: Rte 25
Site Address2:
Site City: Aurora

Media File Type: LAND

State: IL Zip: 60507-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Portion Removed

Exempt Doc #: 7 **Document Date:** 2 /28/2013 **Staff:** MED

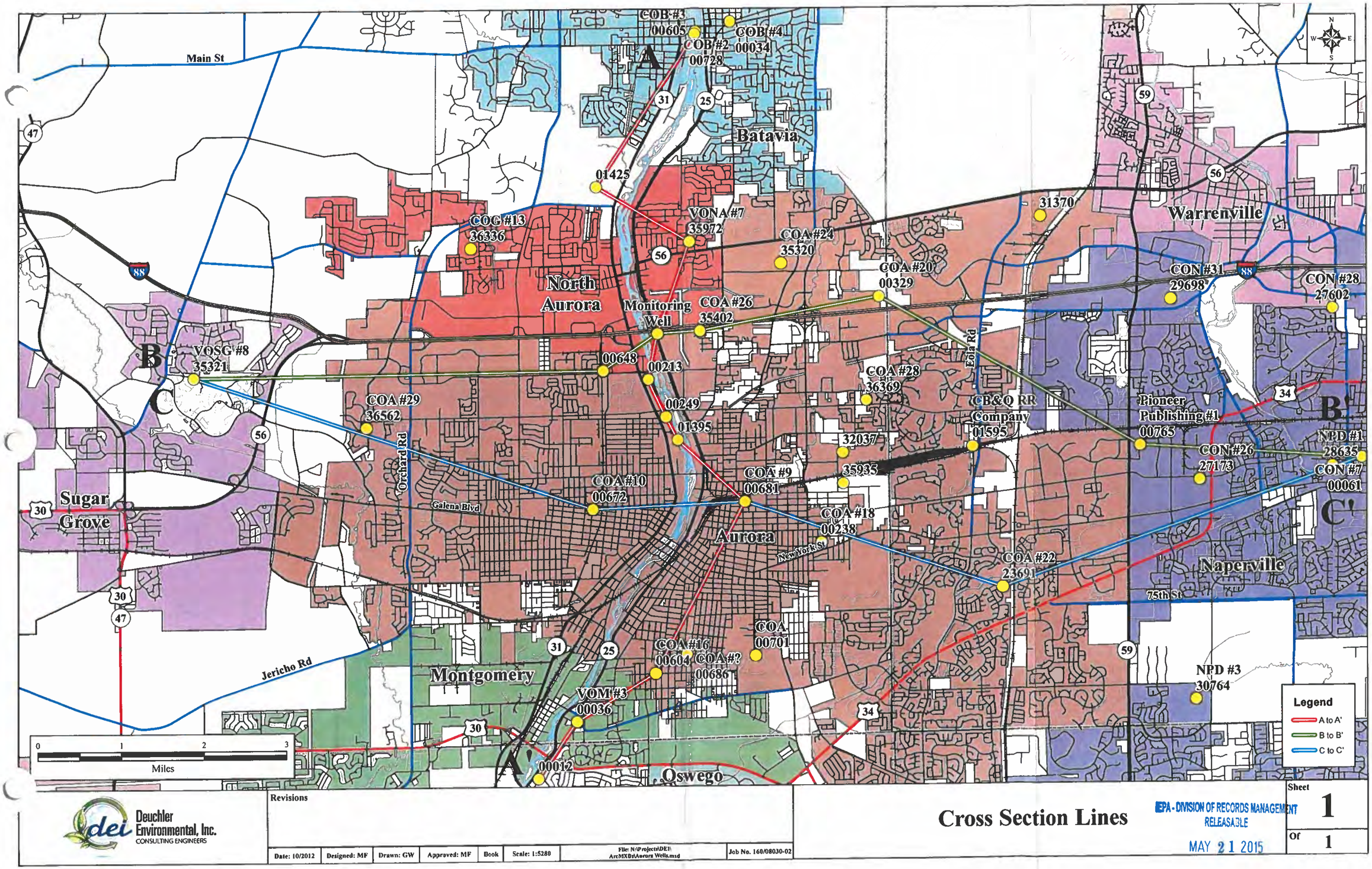
Document Description: APPENDIX G

Category ID: 23A **Category Description:** UIC/ADMIN REC - UNDERGROUND INJECTION CONTROL **Exempt Type:** Portion Removed

Permit ID: UIC-147 **Date of Determination:** 3 /21/2015

APPENDIX I:

COA Cross Section Map and Cross Sections A-A′, B-B′ and C-C′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Warrenville
COA #20
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CON #31
29698
CON #28
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North
Aurora
Monitoring
Well
COA #26
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VOSG #8
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00648
00213
COA #28
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Eola Rd
Pioneer
Publishing #1
00765
COA #29
36562
00249
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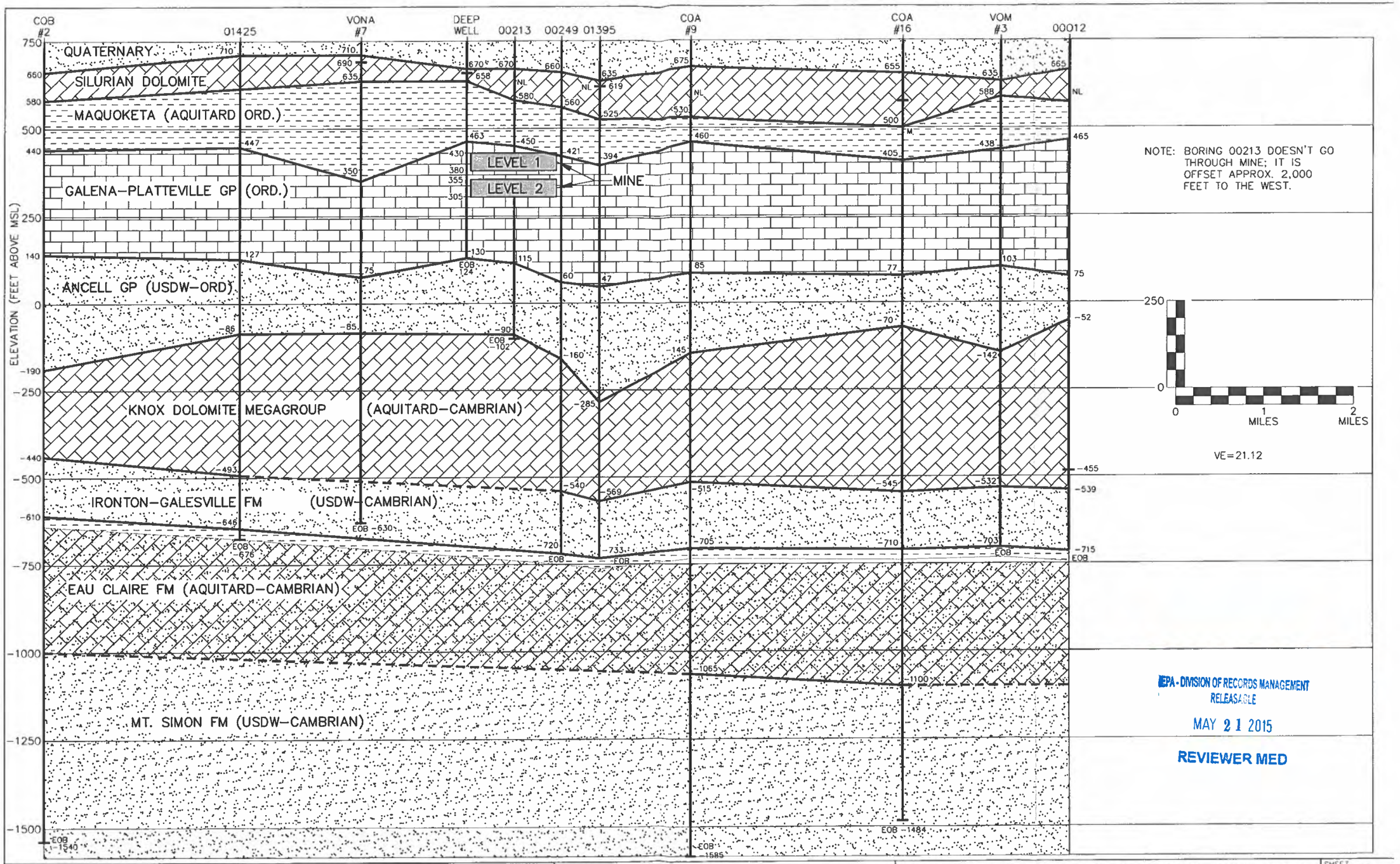
CB&Q RR
Company
01595
32037
CON #26
27173
NPD #1
28635
COA #10
00672
COA #9
00681
35935
CON #7
00061
Sugar
Grove
Galena Blvd
Aurora
COA #18
00238
New York St
COA #22
23691
Naperville
75th St
COA
00701
COA #16
00604
COA #?
00686
Montgomery
VOM #3
00036
NPD #3
30764
Jericho Rd
00012
Oswego
Orchard Rd
Main St
A
A'
B
B'
C
C'
Legend
A to A'
B to B'
C to C'
0
1
2
3
Miles
Deuchler Environmental, Inc.
CONSULTING ENGINEERS
Revisions
Date: 10/2012
Designed: MF
Drawn: GW
Approved: MF
Book
Scale: 1:5280
File: N:\Projects\DEI\ArcMXDs\Aurora Wells.mxd
Job No. 160/08030-02
Cross Section Lines
Sheet 1
Of 1
EPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE
MAY 21 2015
REVIEWER MED



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Consulting Engineers — Aurora, Illinois

REVISIONS
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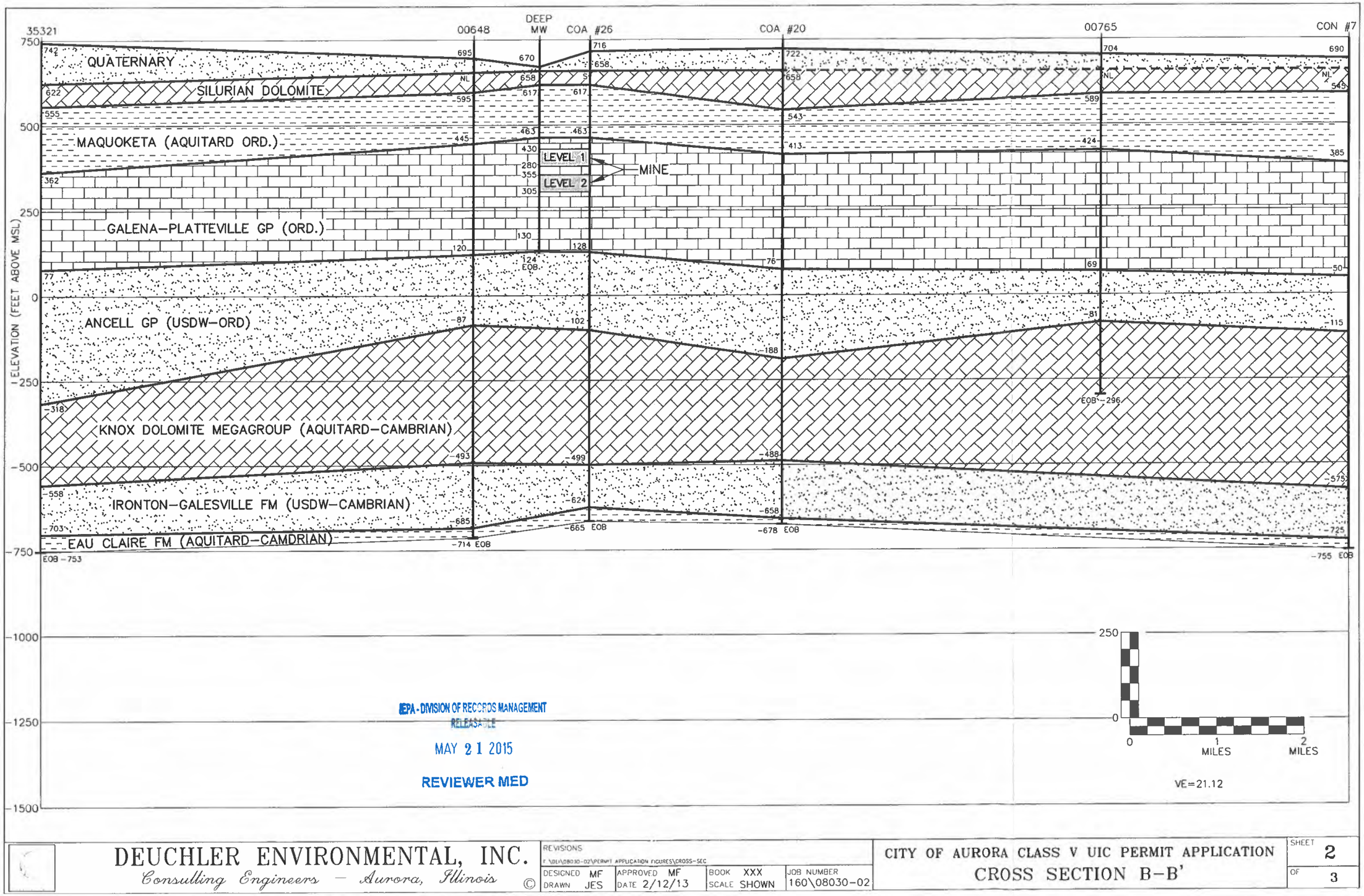
DESIGNED	MF	APPROVED	MF	BOOK	XXX	JOB NUMBER	160\08030-02
DRAWN	JES	DATE	2/12/13	SCALE	SHOWN		

CITY OF AURORA CLASS V UIC PERMIT APPLICATION
CROSS SECTION A-A'

SHEET 1 OF 3



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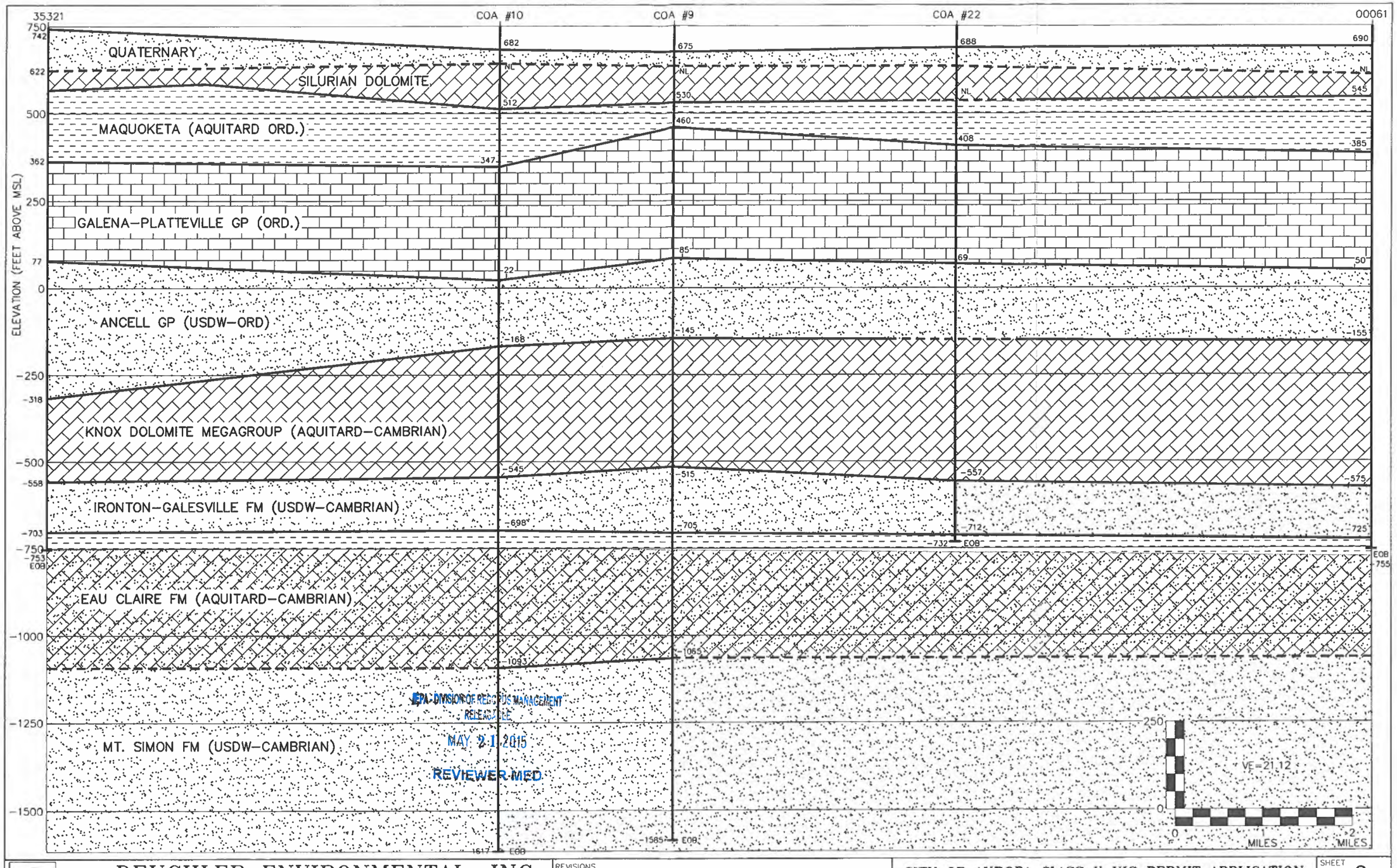
REVISIONS				
F:\DEU\08030-02\PERMIT APPLICATION FIGURES\CROSS-SEC				
DESIGNED MF	APPROVED MF	BOOK XXX	JOB NUMBER 160\08030-02	
DRAWN JES	DATE 2/12/13	SCALE SHOWN		

CITY OF AURORA CLASS V UIC PERMIT APPLICATION
CROSS SECTION B–B'

SHEET 2 OF 3



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DESIGNED MF	APPROVED MF	BOOK XXX	JOB NUMBER 160\08030-02	
DRAWN JES	DATE 2/12/13	SCALE SHOWN		

CITY OF AURORA CLASS V UIC PERMIT APPLICATION
CROSS SECTION C-C'

SHEET 3 OF 3

APPENDIX J:

ASTM Standard D4630-96

Designation: D 4630 – 96 (Reapproved 2002)

Standard Test Method for Determining Transmissivity and Storage Coefficient of Low-Permeability Rocks by In Situ Measurements Using the Constant Head Injection Test[1]

This standard is issued under the fixed designation D 4630; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers a field procedure for determining the transmissivity and storativity of geological formations having permeabilities lower than $10^{-3}\mu m^2$ (1 millidarcy) using constant head injection.

1.2 The transmissivity and storativity values determined by this test method provide a good approximation of the capacity of the zone of interest to transmit water, if the test intervals are representative of the entire zone and the surrounding rock is fully water-saturated.

1.3 The values stated in SI units are to be regarded as the standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Terminology

2.1 *Definitions of Terms Specific to This Standard:*

2.1.1 *transmissivity, T*—the transmissivity of a formation of thickness, b, is defined as follows:

$$T = K \cdot b \quad (1)$$

where:
K = hydraulic conductivity.

The hydraulic conductivity, K, is related to the permeability, k, as follows:

$$K = kpg/\mu \quad (2)$$

where:
ρ = fluid density,
μ = fluid viscosity, and
g = acceleration due to gravity.

2.1.2 *storage coefficient, S*—the storage coefficient of a formation of thickness, b, is defined as follows:

$$S = S_s \cdot b \quad (3)$$

where:
S_s = specific storage.

The ebrss is the specific storage of a material if it were homogeneous and porous over the entire interval. The specific storage is given as follows:

$$S_s = \rho g\,(C_b + nC_w) \quad (4)$$

where:
C_b = bulk rock compressibility,
C_w = fluid compressibility, and
n = formation porosity.

2.2 *Symbols:*

2.2.1 C_b—bulk rock compressibility ($M^{-1}LT^2$).
2.2.2 C_w—compressibility of water ($M^{-1}LT^2$).
2.2.3 G—dimensionless function.
2.2.4 K—hydraulic conductivity (LT^{-1}).
2.2.4.1 *Discussion*—The use of symbol K for the term hydraulic conductivity is the predominant usage in ground water literature by hydrogeologists, whereas the symbol k is commonly used for this term in the rock and soil mechanics and soil science literature.
2.2.5 P—excess test hole pressure ($ML^{-1}T^{-2}$).
2.2.6 Q—excess water flow rate (L^3T^{-1}).
2.2.7 Q_o—maximum excess water flow rate (L^3T^{-1}).
2.2.8 S—storativity (or storage coefficient) (dimensionless).
2.2.9 S_s—specific storage (L^{-1}).
2.2.10 T—transmissivity (L^2T^{-1}).
2.2.11 b—formation thickness (L).
2.2.12 e—fracture aperture (L).
2.2.13 g—acceleration due to gravity (LT^{-2}).
2.2.14 k—permeability (L^2).
2.2.15 n—porosity (dimensionless).
2.2.16 r_w—radius of test hole (L).
2.2.17 t—time elapsed from start of test (T).

[1] This test method is under the jurisdiction of ASTM Committee D18 on Soil and Rock and is the direct responsibility of Subcommittee D18.21 on Ground Water and Vadose Zone Investigations.

Current edition approved Oct. 10, 1996. Published June 1997. Originally published as D 4630 – 86. Last previous edition D 4630 – 86 (1991)$^{\varepsilon 1}$.

2.2.18 α—dimensionless parameter.
2.2.19 μ—viscosity of water ($ML^{-1}T^{-1}$).
2.2.20 ρ—density of water (ML^{-3}).

3. Summary of Test Method

3.1 A borehole is first drilled into the rock mass, intersecting the geological formations for which the transmissivity and storativity are desired. The borehole is cored through potential zones of interest, and is later subjected to geophysical borehole logging over these intervals. During the test, each interval of interest is packed off at top and bottom with inflatable rubber packers attached to high-pressure steel tubing.

3.2 The test itself involves rapidly applying a constant pressure to the water in the packed-off interval and tubing string, and recording the resulting changes in water flow rate. The water flow rate is measured by one of a series of flow meters of different sensitivities located at the surface. The initial transient water flow rate is dependent on the transmissivity and storativity of the rock surrounding the test interval and on the volume of water contained in the packed-off interval and tubing string.

4. Significance and Use

4.1 *Test Method*—The constant pressure injection test method is used to determine the transmissivity and storativity of low-permeability formations surrounding packed-off intervals. Advantages of the method are: (*a*) it avoids the effect of well-bore storage, (*b*) it may be employed over a wide range of rock mass permeabilities, and (*c*) it is considerably shorter in duration than the conventional pump and slug tests used in more permeable rocks.

4.2 *Analysis*—The transient water flow rate data obtained using the suggested test method are evaluated by the curve-matching technique described by Jacob and Lohman (1)[2] and extended to analysis of single fractures by Doe *et al.* (2). If the water flow rate attains steady state, it may be used to calculate the transmissivity of the test interval (3).

4.3 *Units*:

4.3.1 *Conversions*—The permeability of a formation is often expressed in terms of the unit darcy. A porous medium has a permeability of 1 darcy when a fluid of viscosity 1 cp (1 mPa·s) flows through it at a rate of 1 cm^3/s (10^{-6} m^3/s)/1 cm^2 (10^{-4} m^2) cross-sectional area at a pressure differential of 1 atm (101.4 kPa)/1 cm (10 mm) of length. One darcy corresponds to 0.987 μm^2. For water as the flowing fluid at 20°C, a hydraulic conductivity of 9.66 μm/s corresponds to a permeability of 1 darcy.

5. Apparatus

NOTE 1—A schematic of the test equipment is shown in Fig. 1.

5.1 *Source of Constant Pressure*—A pump or pressure intensifier shall be capable of providing an additional amount of water to the water-filled tubing string and packed-off test interval to produce a constant pressure of up to 1 MPA (145 psi) in magnitude, preferably with a rise time of less than 1 % of one half of the flow rate decay ($Q/Q_o = 0.5$).

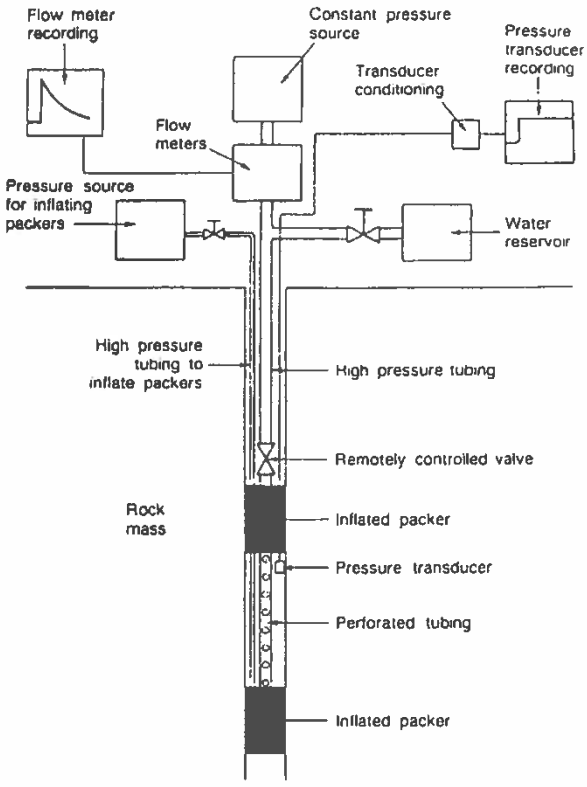


FIG. 1 Equipment Schematic

5.2 *Packers*—Hydraulically actuated packers are recommended because they produce a positive seal on the borehole wall and because of the low compressibility of water they are also comparatively rigid. Each packer shall seal a portion of the borehole wall at least 0.5 m in length, with an applied pressure at least equal to the excess constant pressure to be applied to the packed-off interval and less than the formation fracture pressure at that depth.

5.3 *Pressure Transducers*—The pressure shall be measured as a function of time, with the transducer located in the packed-off test interval. The pressure transducer shall have an accuracy of at least ±3 kPa (±0.4 psi), including errors introduced by the recording system, and a resolution of at least 1 kPa (0.15 psi).

5.4 *Flow Meters*—Suitable flow meters shall be provided for measuring water flow rates in the range from 10^3 cm^3/s to 10^{-3} cm^3/s. Commercially available flow meters are capable of measuring flow rates as low as 10^2 cm^3/s with an accuracy of ±1 % and with a resolution of 10^{-5} cm^3/s; these can test permeabilities to 10^{-3} md based on a 10-m packer spacing. Positive displacement flow meters of either the tank type (Haimson and Doe (4) or bubble-type (Wilson *et al.* (3) are capable of measuring flow rates as low as 10^{-3} cm^3/s; these can test permeabilities to 10^{-4} md based on a 10-m packer spacing.

5.5 *Hydraulic Systems*—The inflatable rubber packers shall be attached to high-pressure steel tubing reaching to the

[2] The boldface numbers in parentheses refer to the list of references at the end of this standard.

surface. The packers themselves shall be inflated with water using a separate hydraulic system. The pump or pressure intensifier providing the constant pressure shall be attached to the steel tubing at the surface. A remotely controlled down-hole valve, located in the steel tubing immediately above the upper packer, shall be used for shutting in the test interval and for instantaneous starting of tests.

6. Procedure

6.1 *Drilling Test Holes*:

6.1.1 *Number and Orientation*—The number of test holes shall be sufficient to supply the detail required by the scope of the project. The test holes shall be directed to intersect major fracture sets, preferably at right angles.

6.1.2 *Test Hole Quality*—The drilling procedure shall provide a borehole sufficiently smooth for packer seating, shall contain no rapid changes in direction, and shall minimize formation damage.

6.1.3 *Test Holes Cored*—Core the test holes through zones of potential interest to provide information for locating test intervals.

6.1.4 *Core Description*—Describe the rock core from the test holes with particular emphasis on the lithology and natural discontinuities.

6.1.5 *Geophysical Borehole Logging*—Log geophysically the zones of potential interest. In particular, run electrical-induction and gamma-gamma density logs. Whenever possible, also use sonic logs and the acoustic televiewer. Run other logs as required.

6.1.6 *Washing Test Holes*—The test holes must not contain any material that could be washed into the permeable zones during testing, thereby changing the transmissivity and storativity. Flush the test holes with clean water until the return is free from cuttings and other dispersed solids.

6.2 *Test Intervals*:

6.2.1 *Selection of Test Intervals*—Determine test intervals from the core descriptions, geophysical borehole logs, and, if necessary, from visual inspection of the borehole with a borescope or TV camera.

6.2.2 *Changes in Lithology*—Test each major change in lithology that can be isolated between packers.

6.2.3 *Sampling Discontinuities*—Discontinuities are often the major permeable features in hard rock. Test jointed zones, fault zones, bedding planes, and the like, both by isolating individual features and by evaluating the combined effects of several features.

6.2.4 *Redundancy of Tests*—To evaluate variability in transmissivity and storativity, conduct three or more tests in each rock type, if homogeneous. If the rock is not homogeneous, the sets of tests should encompass similar types of discontinuities.

6.3 *Test Water*:

6.3.1 *Quality*—Water used for pressure pulse tests shall be clean, and compatible with the formation. Even small amounts of dispersed solids in the injection water could plug the rock face of the test interval and result in a measured transmissivity value that is erroneously low.

6.3.2 *Temperature*—The lower limit of the test water temperature shall be 5°C below that of the rock mass to be tested. Cold water injected into a warm rock mass causes air to come out of solution, and the resulting bubbles will radically modify the pressure transient characteristics.

6.4 *Testing*:

6.4.1 *Filling and Purging System*—Once the packers have been set, slowly fill the tubing string and packed-off interval with water to ensure that no air bubbles will be trapped in the test interval and tubing. Close the downhole valve to shut in the test interval, and allow the test section pressures (as determined from downhole pressure transducer reading) to dissipate.

6.4.2 *Constant Pressure Test*—Pressurize the tubing, typically to between 300 and 600 kPa (50 to 100 psi) above the shut-in pressure. This range of pressures is in most cases sufficiently low to minimize distortion of fractures adjacent at the test hole, but in no case should the pressure exceed the minimum principal ground stress. It is necessary to provide sufficient volume of pressurized water to maintain constant pressure during testing. Open the down-hole valve, maintain the constant pressure, and record the water flow rate as a function of time. Then close the down-hole valve and repeat the test for a higher value of constant test pressure. A typical record is shown in Fig. 2.

7. Calculation and Interpretation of Test Data

7.1 The solution of the differential equation for unsteady state flow from a borehole under constant pressure located in an extensive aquifer is given by Jacob and Lohman **(1)** as:[3]

$$Q = 2\pi TP\,G(\alpha)/\rho g, \tag{5}$$

where:

Q = water flow rate,
T = transmissivity of the test interval,
P = excess test hole pressure,
ρ = water density,
g = acceleration due to gravity, and
$G(\alpha)$ = function of the dimensionless parameter α:

$$\alpha = Tt/Sr_w^2 \tag{6}$$

where:

t = time elapsed from start of test,
S = storativity, and
r_w = radius of the borehole over the test interval.

7.1.1 In Fig. 2, the flow rate in the shut-in, packed-off interval is considered constant. In those cases where the response of the shut-in interval is time dependent, interpretation of the constant pressure test is unaffected, provided the time dependency is linear.

7.2 To determine the transmissivity, T, and storativity, S, data on the water flow rate at constant pressure as a function of time are plotted in the following manner **(1)**.

7.2.1 First, plot a type curve log of of the function $G(\alpha)$ versus α where values of $G(\alpha)$ are given in Table 1.

7.2.2 Second, on transparent logarithmic paper to the same scale, plot values of the log of flow rate, Q, versus values of the log of time, t at the same scale as the type curve.

7.2.3 Then, by placing the experimental data over the theoretical curve, the best fit of the data to the curve can be made.

[3] For bounded aquifers the reader is referred to Hantush **(5)**.

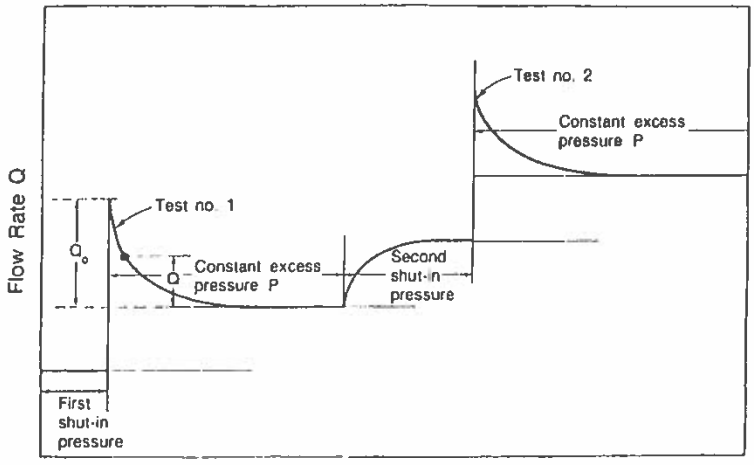


FIG. 2 Typical Flow Rate Record

TABLE 1 Values of $G(\alpha)$ for Values of α Between 10^{-4} and 10^{12} [A]

	10^{-4}	10^{-3}	10^{-2}	10^{-1}	1	10	10^{2}	10^{3}
1	56.9	18.34	6.13	2.249	0.985	0.534	0.346	0.251
2	40.4	13.11	4.47	1.716	0.803	0.461	0.311	0.232
3	33.1	10.79	3.74	1.477	0.719	0.427	0.294	0.222
4	28.7	9.41	3.30	1.333	0.667	0.405	0.283	0.215
5	25.7	8.47	3.00	1.234	0.630	0.389	0.274	0.210
6	23.5	7.77	2.78	1.160	0.602	0.377	0.268	0.206
7	21.8	7.23	2.60	1.103	0.580	0.367	0.263	0.203
8	20.4	6.79	2.46	1.057	0.562	0.359	0.258	0.200
9	19.3	6.43	2.35	1.018	0.547	0.352	0.254	0.198
10	18.3	6.13	2.25	0.985	0.534	0.346	0.251	0.196
	10^{4}	10^{5}	10^{6}	10^{7}	10^{8}	10^{9}	10^{10}	10^{11}
1	0.1964	0.1608	0.1360	0.1177	0.1037	0.0927	0.0838	0.0764
2	0.1841	0.1524	0.1299	0.1131	0.1002	0.0899	0.0814	0.0744
3	0.1777	0.1479	0.1266	0.1106	0.0982	0.0883	0.0801	0.0733
4	0.1733	0.1449	0.1244	0.1089	0.0968	0.0872	0.0792	0.0726
5	0.1701	0.1426	0.1227	0.1076	0.0958	0.0864	0.0785	0.0720
6	0.1675	0.1408	0.1213	0.1066	0.0950	0.0857	0.0779	0.0716
7	0.1654	0.1393	0.1202	0.1057	0.0943	0.0851	0.0774	0.0712
8	0.1636	0.1380	0.1192	0.1049	0.0937	0.0846	0.0770	0.0709
9	0.1621	0.1369	0.1184	0.1043	0.0932	0.0842	0.0767	0.0706
10	0.1608	0.1360	0.1177	0.1037	0.0927	0.0838	0.0764	0.0704

[A] From Jacob and Lohman (1).

7.2.4 Determine the values of transmissivity, *T*, and storativity, *S*, using Eq 5 and Eq 6 from the coordinates of any point in both coordinate systems.

8. Report

8.1 The report shall include the following:

8.1.1 *Introduction*—The introductory section is intended to present the scope and purpose of the constant pressure test program, and the characteristics of rock mass tested.

8.1.1.1 *Scope of Testing Program*:

8.1.1.1.1 Report the location and orientation of the boreholes and test intervals. For tests in many boreholes or in a variety of rock types, present the matrix in tabular form.

8.1.1.1.2 Rationale for test location selection, including the reasons for the number, location, and size of test intervals.

8.1.1.1.3 Discuss in general terms limitations of the testing program, stating the areas of interest which are not covered by the testing program and the limitations of the data within the areas of application.

8.1.1.2 *Brief Description of the Test Intervals*—Describe rock type, structure, fabric, grain or crystal size, discontinuities, voids, and weathering of the rock mass in the test intervals. A more detailed description may be needed for certain applications. In a heterogeneous rock mass or for several rock types, many intervals may be described; a tabular presentation is then recommended for clarity.

8.1.2 *Test Method*:

8.1.2.1 *Equipment and Apparatus*—Include a list of the equipment used for the test, the manufacturer's name, model number, and basic specifications for each major item, and the date of last calibration, if applicable.

8.1.2.2 *Procedure*—State the steps actually followed in the procedure for the test.

8.1.2.3 *Variations*—If the actual equipment or procedure

deviates from this test method, note each variation and the reasons. Discuss the effects of any deviations upon the test results.

8.1.3 *Theoretical Background*:

8.1.3.1 *Data Reduction Equations*—Clearly present and fully define all equations and type curves used to reduce the data. Note any assumptions inherent in the equations and type curves and any limitations in their applications and discuss their effects on the results.

8.1.3.2 *Site Specific Influences*—Discuss the degree to which the assumptions contained in the data reduction equations pertain to the actual test location and fully explain any factors or methods applied to the data to correct for departures from the assumptions of the data reduction equations.

8.1.4 *Results*:

8.1.4.1 *Summary Table*—Present a table of results, including the types of rock and discontinuities, the average values of the transmissivity and storativity, and their ranges and uncertainties.

8.1.4.2 *Individual Results*—Present a table of results for individual tests, including test number, interval length, rock types, value of constant pressure transmissivity and storativity, and flow rate as a function of time.

8.1.4.3 *Graphic Data*—Present water flow rate versus time curves for each test, together with the appropriate type curves used for their interpretation.

8.1.4.4 *Other*—Other analyses or presentations may be included as appropriate, for example: (*a*) discussion of the characteristic of the permeable zones, (*b*) histograms of results, and (*c*) comparison of results to other studies or previous work.

8.1.5 *Appended Data*—Include in an appendix a completed data form (Fig. 3) for each test.

9. Precision and Bias

9.1 *Error Estimate*:

9.1.1 Analyze the results using standard statistical methods. Calculate all uncertainties using a 95 % confidence interval.

9.1.2 *Measurement Error*—Evaluate the errors in transmissivity and storativity associated with a single test. This includes the combined effects of flow rate determination, measurement of time, and type curve matching.

9.1.3 *Sample Variability*—For each rock or discontinuity type, calculate, as a minimum, the mean transmissivity and storativity and their ranges, standard deviations, and 95 % confidence limits for the means. Compare the uncertainty associated with the transmissivity and storativity for each rock type with the measurement uncertainty to determine whether measurement error or sample variability is the dominant factor in the results.

10. Keywords

10.1 borehole; constant head testing; flow; in situ; fault-zones; field testing; flow and flow rate; permeability; pressure testing; rock; saturation; storativity; transmissivity; viscosity; water; water saturation

Data Sheet

Project _____ Test No. _____
Test Location _____ Borehole No. _____
Rock Type _____ Borehole Dip and Dip Direction _____
Date _____ Measured Depth of Test to Top Packer, m _____
Testing by _____ Borehole Diameter, mm _____
Rock Temperature, °C _____

Equipment Description	Serial No.	Date of last Calibration

Length of Packed-off Interval, m _____ Packer Pressure, kPa _____
Length of Tubing Above Top Packer, m _____ Tubing ID, mm _____
Water Temperature, °C _____ Shut-in Borehole Pressure, kPa _____
Constant Water Pressure, kPa _____

FIG. 3 Data Sheet for In Situ Measurement of Transmissivity and Storativity Using the Constant Head Injection Test

REFERENCES

(1) Jacob, C. E., and Lohman, S. W., "Non-Steady Flow to a Well of Constant Drawdown in an Extensive Aquifer," Trans. American Geophys. Union, Vol 33, 1952, pp. 559–569.

(2) Doe, T. W., Long, J. C. S., Endo, H. K., and Wilson, C. R., "Approaches to Evaluating the Permeability and Porosity of Fractured Rock Masses," *Proceedings of the 23rd U.S. Symposium on Rock Mechanics*, Berkeley, 1982, pp. 30–38.

(3) Wilson, C. R., Doe, T. W., Long, J. C. S., and Witherspoon, P. A., "Permeability Characterization of Nearly Impermeable Rock Masses for Nuclear Waste Repository Siting," *Proceedings*, Workshop on Low Flow, Low Permeability Measurements in Largely Impermeable Rocks, OECD, Paris, 1979, pp. 13–30.

(4) Haimson, B. C., and Doe, T. W., "State of Stress, Permeability, and Fractures in the Precambrian Granite of Northern Illinois," *Journal of Geophysics Research*, Vol 88, 1983, pp. 7355–7371.

(5) Hantush, M. S., "Non-Steady Flow to Flowing Wells in Leaky Aquifers," *Journal of Geophysics Research*, Vol 64, 1959, pp. 1043–1052.

(6) Zeigler, T.," Determination of Rock Mass Permeability," Tech. Rep. S-76-2, U.S. Army Eng. Waterways Exp. Stn., Vicksburg, MI, 1976, 85 pp.

(7) Earlougher, R. C., "Advances in Well Test Analysis," *Society of Petroleum Engineers of A.I.M.E.*, New York, NY 1977.

(8) Freeze, R. A., and Cherry, J. A., *Groundwater*, Prentice-Hall, Englewood Cliffs, NJ, 1979.

(9) Shuri, F. S., Feves, M. L., Peterson, G. L., Foster, K. M., and Kienle, C. F., Public Draft: "Field and *In Situ* Rock Mechanics Testing Manual," Office of Nuclear Waster Isolation, Document ONWI-310, Section F: "*In Situ* Fluid Properties," GT-F.1 *In Situ* Permeability Measurement of Rock Using Borehole Packers, 1981.

APPENDIX K:

WTP Lime Powder Technical Data Sheet

MISSISSIPPI® LIME

Gran Standard Quicklime
Calcium Oxide

Discovering what's possible with calcium

TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

Gran Standard Quicklime is a high calcium oxide produced and sold in several sizes. Gran Standard Quicklime is used in flue gas desulfurization, water and waste water treatment, steel, paper, chemical, and environmental applications.

TYPICAL CHEMICAL PROPERTIES	
CaO - Total	97.0%
CaO - Available	94.0%
LOI	0.75%
Acid Insoluble Substances	0.6%
MgO	0.75%
Al_2O_3	0.11%
Fe_2O_3	0.11%
SiO_2	0.7%
S	0.05%
P_2O_5	80 ppm
MnO	23 ppm

TYPICAL PHYSICAL PROPERTIES	
Specific Gravity	3.3
pH	12.4
BET Surface Area	2.0 m^2/g
Apparent Dry Bulk Density - Loose	40 $lbs./ft^3$
Apparent Dry Bulk Density - Packed	60 lbs/ft^3
Reactivity 30 sec.	33°C
Reactivity 180 sec.	53°C
Total Temperature Rise	55°C
Total Reactivity Time	240 sec
Reactivity: 30 mesh residue	1.0%

✓Meets the AWWA standard B202-02
✓Certified to NSF standard 60
✓Certified to ASTM standards:
✓C977-03, C911-06, C602-06a,
✓C821-78, C5-03

PRODUCT SIZE GRADATION
Top 3/8" – Bottom 0"

MISSISSIPPI LIME
Telephone: 800.437.5463
Contact: sales@mississippilime.com
Web site: www.mississippilime.com

Ed. 01/2008

APPENDIX L:

Illinois EPA Source Water Assessment Program Reports for the COA CWS

Illinois EPA FOIA Exemption Reference Sheet

SID: 33134

Agency ID: 170000614271
Bureau ID: 0894075971
Site Name: Aurora, City Of
Site Address1: Rte 25
Site Address2:
Site City: Aurora
Media File Type: LAND
State: IL
Zip: 60507-

This record has been determined to be partially or wholly exempt from public disclosure

Exemption Type:

Portion Removed

Exempt Doc #: 8 **Document Date:** 2 /28/2013 **Staff:** MED

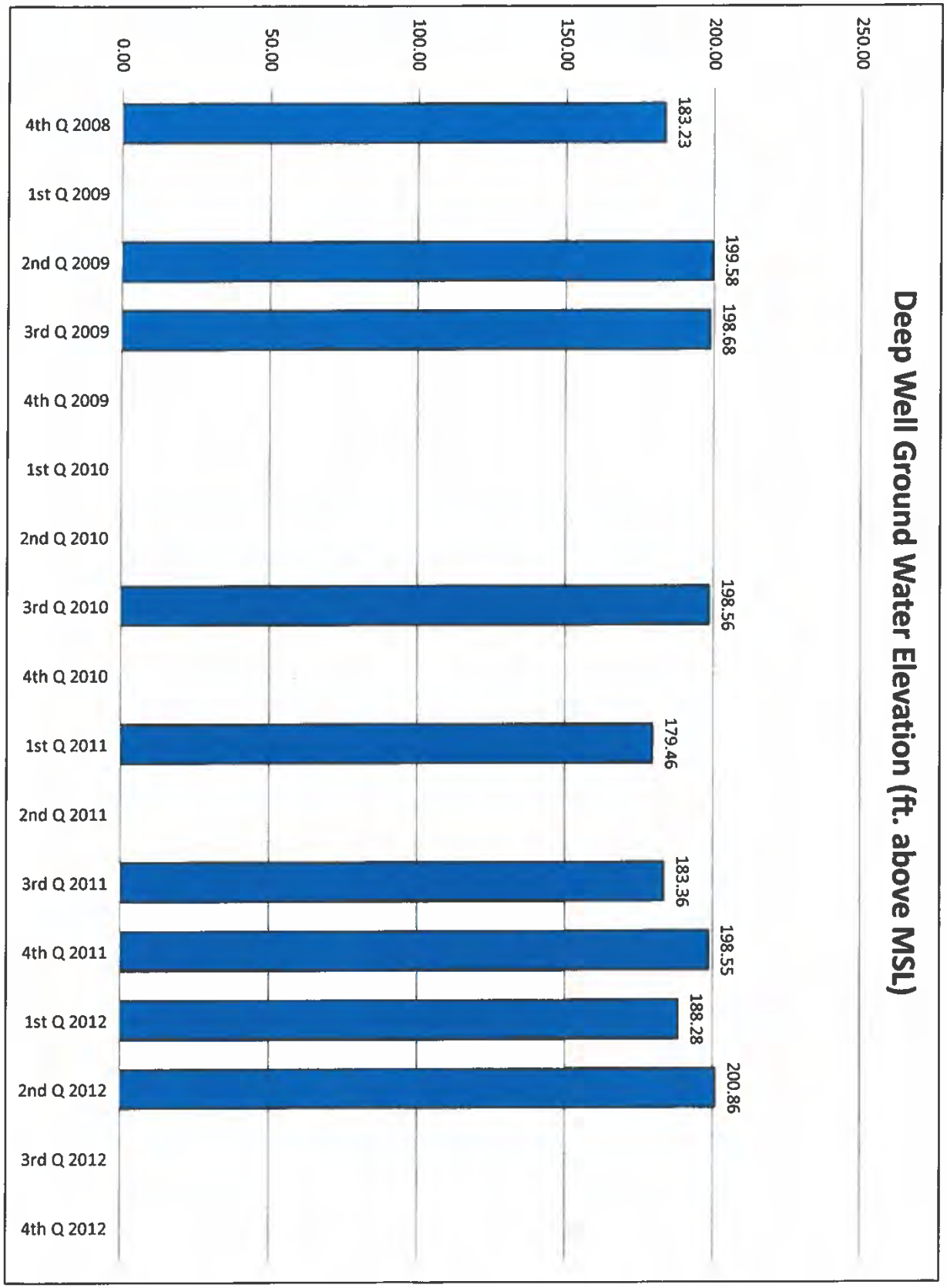
Document Description: APPENDIX L

Category ID: 23A **Category Description:** UIC/ADMIN REC - UNDERGROUND INJECTION CONTROL **Exempt Type:** Portion Removed

Permit ID: UIC-147 **Date of Determination:** 3 /21/2015

Appendix M:

- Ground Water Elevation Tables
- Ground Water Sampling Results Tables
- Ground Water Sampling Laboratory Analysis Reports


Deep Well Ground Water Elevation (ft. above MSL)
0.00
50.00
100.00
150.00
200.00
250.00
4th Q 2008
183.23
1st Q 2009
2nd Q 2009
199.58
3rd Q 2009
198.68
4th Q 2009
1st Q 2010
2nd Q 2010
3rd Q 2010
198.56
4th Q 2010
1st Q 2011
179.46
2nd Q 2011
3rd Q 2011
183.36
4th Q 2011
198.55
1st Q 2012
188.28
2nd Q 2012
200.86
3rd Q 2012
4th Q 2012

CITY OF AURORA
CLASS V UIC PERMIT APPLICATION
DEEP MONITORING WELL ANALYSIS DATA

Ground Surface Elevation (ft. MSL):	670.24
Total Well Depth (ft. below ground):	605.50
Bottom of Well Elevation (ft. MSL):	64.74
Top of Casing Elevation ft. MSL):	673.05
Sampling Port Elevation (ft. MSL):	673.21

	2008	2009				2010				2011				2012				35 IAC 620 Standards	
Ground Water Information	4th Q 2008	1st Q 2009	2nd Q 2009	3rd Q 2009	4th Q 2009	1st Q 2010	2nd Q 2010	3rd Q 2010	4th Q 2010	1st Q 2011	2nd Q 2011	3rd Q 2011	4th Q 2011	1st Q 2012	2nd Q 2012	3rd Q 2012	4th Q 2012	Class I	Class II
Date Sampled	11/5/2008	2/11/2009	4/23/2009	7/29/2009	11/2/2009	1/27/2010	4/16/2010	7/29/2010	10/15/2010	1/27/2011	4/14/2011	7/7/2011	10/24/2011	1/31/2012	4/26/2012	8/8/2012	10/5/2012		
Depth to Water (feet)	492.63	NM	476.28	477.18	NM	NM	NM	477.30	NM	496.40	NM	492.50	477.31	487.58	475.00	NM	NM		
Ground Water Elevation (ft. above MSL)	183.23	NA	199.58	198.68	NA	NA	NA	198.56	NA	179.46	NA	183.36	198.55	188.28	200.86	NA	NA	**192.28**	
Field Measurements																			
pH, std. units	NS	NM	6.80	7.94	6.84	NS	7.30	5.73	7.21	5.88	7.08	7.34	7.12	7.32	7.42	6.63	7.63		
Specific Cond., umhos/cm	NS	NM	1090.00	730.00	960.00	NS	797.00	870.00	730.00	840.00	650.00	680.00	570.00	600.00	655.00	NM	681.00		
Temperature, F	NS	53.40	64.60	59.40	60.80	NS	62.20	60.60	56.10	49.80	58.50	67.60	57.60	55.30	56.08	68.18	56.52		
Dissolved Oxygen, mg/L	NS	2.64	1.90	1.65	0.90	NS	1.00	0.50	4.10	3.27	1.49	2.45	0.61	4.24	2.70	NM	5.02		
VOC (5030B/8260B), mg/L																			
Acetone	NS	<0.100	<0.100	<0.100	<0.100	NS	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	**6.3**	**6.3**
Benzene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.025**
Bromodichloromethane	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Bromoform	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Bromomethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
2-Butanone (MEK)	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	**4.2**	**4.2**
Carbon disulfide	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.7**	**3.5**
Carbon tetrachloride	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.025**
Chlorobenzene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.1**	**0.5**
Chlorodibromomethane	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Chloroethane	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Chloroform	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.07**	**0.35**
Chloromethane	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
1,1-Dichloroethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**1.4**	**7**
1,2-Dichloroethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.025**
1,1-Dichloroethene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.007**	**0.035**
cis-1,2-Dichoroethene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.07**	**0.2**
trans-1,2-Dichoroethene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.1**	**0.5**
1,2-Dichloropropane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.025**
cis-1,3-Dichloropropene	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
trans-1,3-Dichloropropene	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
Ethylbenzene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.7**	**1**
2-Hexanone	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
(MTBE)	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.07**	**0.07**
(MIBK)	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Methylene chloride	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.05**
Styrene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.1**	**0.5**
1,1,2,2-Tetrachloroethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
Tetrachloroethene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.005**	**0.025**
Toluene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**1.0**	**2.5**

CITY OF AURORA
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Ground Surface Elevation (ft. MSL):	670.24
Total Well Depth (ft. below ground):	605.50
Bottom of Well Elevation (ft. MSL):	64.74
Top of Casing Elevation ft. MSL):	673.05
Sampling Port Elevation (ft. MSL):	673.21

	2008	2009				2010				2011				2012				35 IAC 620 Standards	
1,1,1-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.2	1
1,1,2-Trichloroethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.025
Trichloroethene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.005	0.005
Vinyl acetate	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Vinyl chloride	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.002	0.01
Xylene, total	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	10.0	10
VOC (8011), mg/L																			
1,2-Dibromo-3-chloropropane	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.002
1,2-Dibromoethane (EDB)	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005	0.0005
SVOC (3510C/8270C), mg/L																			
Benzidine	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Benzoic acid	NS	<0.050	<0.050	<0.050	<0.050	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	28	28
Benzyl alcohol	NS	<0.020	<0.020	<0.020	<0.020	NS	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
bis-(2-Chloroethoxy)methane	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
bis(2-Cloroethyl)ether	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
bis(2-Chloroisopropyl)ether	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
bis(2-ethylhexyl)phthate	NS	<0.005	<0.005	0.043	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	0.06
4-Bromophenyl phenyl ether	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Butyl benzyl phthalate	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Carbazole	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
4-Chloroaniline	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
4-Chloro-3methylphenol	NS	<0.020	<0.020	<0.020	<0.020	NS	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
2-Chloronapthalene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
2-Chlorophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
4-Chlorophenyl phenyl ether	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Dibenzofuran	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
1,2-Dichlorobenzene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.6	1.5
1,3-Dichlorobenzene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
1,4-Dichlorobenzene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.075	0.375
3,3'-Dichlorobenzidine	NS	<0.020	<0.020	<0.020	<0.020	NS	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
2,4-Dichlorophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Diethyl phthalate	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	5.6	5.6
2,4 Dimethylphenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Dimethyl phthalate	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Di-n-butyl phthalate	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.7	3.5
4,6- Dinitro-2-methylphenol	NS	<0.050	<0.050	<0.050	<0.050	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
2,4-Dinitrophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
2,4-Dinitrotoluene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0001	0.0001
2,6-Dinitrotoluene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00031	0.00031
Di-n-octylphthalate	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		

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	2008	2009				2010				2011				2012				35 IAC 620 Standards	
Hexachlorobenzene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Hexachlorobutadiene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Hexachlorocyclopentadiene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.05	0.5
Hexachloroethane	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
Isophorone	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
2-Methylnaphthalene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.028	0.14
2-Methylphenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.35	0.35
3 & 4-Methylphenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
2-Nitroaniline	NS	<0.050	<0.050	<0.050	<0.050	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
3-Nitroaniline	NS	<0.050	<0.050	<0.050	<0.050	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
4-Nitroaniline	NS	<0.020	<0.020	<0.020	<0.020	NS	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
Nitrobenzene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
2-Nitrophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
4-Nitrophenol	NS	<0.050	<0.050	<0.050	<0.050	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050		
n-Nitrosodimethylamine	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
n-Nitrosodilphenylamine	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
n-Nitrosodi-n-propylamine	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Pentachlorophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.001	0.005
Phenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.1	0.1
1,2,4-Trichlorobenzene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.07	0.7
2,4,5-Trichlorophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
2,4,6-Trichlorophenol	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
PAH (3510C/8270C), mg/l																			
Acenaphthene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.42	2.1
Acenaphthylene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.42	2.1
Anthracene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	2.1	10.5
Benzo(a)anthracene	NS	<0.00013	<0.00013	<0.00013	<0.00013	NS	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	0.00013	0.00065
Benzo(a)pyrene	NS	<0.0002	<0.0002	<0.0002	<0.0002	NS	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.002
Benzo(b)fluoranthene	NS	<0.00018	<0.00018	<0.00018	<0.00018	NS	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	<0.00018	0.00018	0.0009
Benzo(k)fluoranthene	NS	<0.00017	<0.00017	<0.00017	<0.00017	NS	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	<0.00017	0.00017	0.006
Benzo(ghi)perylene	NS	<0.0004	<0.0004	<0.0004	<0.0004	NS	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004		
Chrysene	NS	<0.0015	<0.0015	<0.0015	<0.0015	NS	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	<0.0015	0.012	0.06
Dibenzo(a,h)anthracene	NS	<0.0003	<0.0003	<0.0003	<0.0003	NS	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	0.0015
Fluoranthene	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.28	1.4
Fluorene	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.28	1.4
Indeno(1,2,3-cd)pyrene	NS	<0.0003	<0.0003	<0.0003	<0.0003	NS	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00043	0.0022
Naphthalene	NS	<0.010	<0.010	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.14	0.22
Phenanthrene	NS	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		
Pyrene	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.21	1.05

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Total Well Depth (ft. below ground):	605.50
Bottom of Well Elevation (ft. MSL):	64.74
Top of Casing Elevation ft. MSL):	673.05
Sampling Port Elevation (ft. MSL):	673.21

	2008	2009				2010				2011				2012				35 IAC 620 Standards	
SV Pesticides (3510C/8270C), mg/L																			
Alachlor	NS	NA	NA	NA	NA	NS	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.01
Atrazine	NS	NA	NA	NA	NA	NS	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.003	0.015
Simazine	NS	NA	NA	NA	NA	NS	NA	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.04
Pest/PCB (3510C/8081A/8082), mg/L																			
Aldrin	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		
Aroclor 1016	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
Aroclor 1221	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
Aroclor 1232	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
Aroclor 1242	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
Aroclor 1248	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
Aroclor 1254	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
Aroclor 1260	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0005	0.0025
alpha-BHC	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00011	0.00055
beta-BHC	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		
delta-BHC	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		
gamma-BHC(Lindane)	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0002	0.001
alpha-Chlordane	NS	<0.00050	<0.00050	<0.00050	<0.00050	NS	<0.00050	<0.00050	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.002	0.01
gamma-Chlordane	NS	<0.00050	<0.00050	<0.00050	<0.00050	NS	<0.00050	<0.00050	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.002	0.01
4,4'-DDD	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
4,4'-DDE	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
4,4'-DDT	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Dieldrin	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Endosulfan I	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005		
Endosulfan II	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Endosulfan sulfate	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Endrin	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.002	0.01
Endrin aldehyde	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Endrin ketone	NS	<0.00010	<0.00010	<0.00010	<0.00010	NS	<0.00010	<0.00010	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010		
Heptachlor	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0004	0.002
Heptachlor epoxide	NS	<0.00005	<0.00005	<0.00005	<0.00005	NS	<0.00005	<0.00005	NA	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.0002	0.001
Methoxychlor	NS	<0.00050	<0.00050	<0.00050	<0.00050	NS	<0.00050	<0.00050	NA	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.04	0.2
Toxaphene	NS	<0.0010	<0.0010	<0.0010	<0.0010	NS	<0.0010	<0.0010	NA	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.003	0.015
Endothall (548.1R1.0)	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.1	0.1
Aldicarb (531.1R3.1)	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	0.015
Carbofuran (531.1R3.1)	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.04	0.2
Herbicides (8321A), mg/L																			
2,4-D	NS	<0.0002		<0.0002	<0.0002	NS	<0.0002	<0.0002	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.07	0.35
Silvex (2,4,5-TP)	NS	<0.0001		<0.0001	<0.0001	NS	NA	<0.0001	NA	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001		
Dalapon	NS	NA	NA	NA	NA	NS	<0.01	NA	NA	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.2	2

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	2008	2009				2010				2011				2012				35 IAC 620 Standards	
Dinoseb	NS	NA	NA	NA	NA	NS	<0.0002	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.007	0.07
Pentachlorophenol	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		
Picloram	NS	NA	NA	NA	NA	NS	<0.0002	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.5	5
2,4,5-T	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.05	0.25
Inorganics, mg/L																			
Cyanide, total (335.4R1.0)	NS	<0.005	NA	<0.005	<0.005	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.20	0.6
Phenols (9066)	NS	<0.010	NA	<0.010	<0.010	NS	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Nitrite as N (4500NO2,B)	NS	NA	NA	<0.010	NA	NS	NA	NA	NA	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010		
Nitrate as N (353.2R2.0)	NS	<0.100	<0.100	<0.100	<0.100	NS	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	10.00	100
Sulfate (375.2R2.0)	NS	160	152	186	162	NS	93	89	98	77	94	89	57	85	58	84	80	400	400
Acidity, total (2310B)	NS	28	NA	34	48	NS	30	22	12	16	20	12	10	16	20	16	22		
Alkalinity, total (2320B)	NS	280	NA	270	280	NS	280	270	260	300	300	270	278	290	310	360	290		
BOD, 5 day (5210B)	NS	NA	NA	NA	NA	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6		
COD (5220D)	NS	18	NA	<10	<10	NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		
TOX (9020B)	NS	0.054	NA	0.127	<0.020	NS	0.032	<0.020	<0.020	0.06	0.065	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020		
Total Dissolved Solids, (2540C)	NS	NA	NA	NA	NA	NS	NA	NA	NA	NA	NA	NA	NA	389	360	393	371	1200	1200
Ammonia (350.1R2.0)	NS	0.72	NA	0.64	0.64	NS	0.7	0.81	0.83	0.9	0.79	1.1	0.67	0.80	0.73	0.66	0.70		
Total Kjeldahl Nitrogen (351.2R2.0)	NS	1	NA	1.3	1	NS	<1.0	1	1.1	<1.0	1.1	<1.0	1.1	1	<1.0	1.1	NA		
Phosphorous	NS	0.02	NA	<0.01	0.02	NS	<0.01	<0.01	0.02	NA	NA	NA	NA	NA	NA	NA	<0.01		
TOC (5310C)	NS	2.1	NA	1.5	1.3	NS	1.2	0.8	1.1	1.1	0.8	0.6	0.6	0.9	0.9	0.6	1.2		
Sulfide (4500s2C,D)	NS	<0.050	NA	<0.050	<0.050	NS	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.07	0.05		
Conductivity, in umhos/cm (2510B)	NS	NA	NA	NA	NA	NS	797	735	681	771	664	627	647	644	625	644	5,630		
pH (4500H+,B)	NS	NA	NA	NA	NA	NS	7.3	7.48	7.32	7.45	7.34	7.41	7.58	7.39	7.50	NA	7.49	6.5 to 9.0	6.5 to 9.0
Chloride (4500Cl,E)	NS	NA	NA	NA	NA	NS	NA	NA	NA	25	21	16	13	15	10	9	9	200	200
Fluoride (4500F,C)	NS	NA	NA	NA	NA	NS	NA	NA	NA	0.51	1.15	1.15	1.24	1.16	1.16	1.23	1.01	4.00	4.00
Metals (3010A/6010B), mg/L																			
Aluminum	NS	<0.05	NA	0.08	<0.05	NS	<0.05	<0.05	0.06	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA		
Antimony	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	0.006	0.024
Arsenic	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.01	0.2
Barium	NS	0.062	0.048	0.047	0.044	NS	0.032	0.038	0.036	0.033	0.037	0.031	0.035	0.034	0.039	0.038	0.037	2.00	2.00
Beryllium	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.5
Boron	NS	NA	NA	NA	NA	NS	NA	NA	NA	0.56	0.65	0.49	0.56	0.58	0.64	0.68	0.61	2.00	2.00
Cadmium	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	0.05
Chromium	NS	<0.001	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	0.001	0.001	0.005	<0.001	<0.001	<0.001	0.001	0.100	1.00
Cobalt	NS	0.08	0.045	0.027	0.016	NS	0.01	0.01	0.009	0.007	0.006	0.006	0.007	0.006	0.007	0.006	0.007	1.00	1.00
Copper	NS	0.002	<0.001	<0.001	<0.001	NS	<0.001	<0.001	<0.001	<0.001	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.65	0.65
Iron	NS	1.8	1.82	1.98	2.2	NS	1.78	1.82	1.7	1.5	1.64	1.15	1.35	1.32	1.42	1.37	1.15	5.00	5.00
Lead	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.0075	0.1
Manganese	NS	0.164	0.137	0.117	0.098	NS	0.064	0.066	0.052	0.05	0.051	0.033	0.038	0.034	0.040	0.038	0.037	0.15	10
Mercury (7470A)	NS	<0.0005	<0.0005	<0.0005	<0.0005	NS	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.01

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Sampling Port Elevation (ft. MSL):	673.21

	2008	2009				2010				2011				2012				35 IAC 620 Standards	
Molybdenum	NS	0.02	NA	<0.01	<0.01	NS	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01		
Nickel	NS	**0.174**	**0.111**	0.068	0.037	NS	0.021	0.021	0.015	0.012	0.014	0.01	0.009	0.007	0.008	0.007	0.007	**0.10**	**2**
Potassium	NS	20	NA	20.4	15.1	NS	16.7	15.9	14	NA	NA	NA	NA	NA	NA	NA	NA		
Selenium	NS	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.05**	**0.05**
Silver	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.05**	
Sodium	NS	76.1	NA	78	63.3	NS	44.9	50.4	42.5	NA	NA	NA	NA	NA	NA	NA	NA		
Thallium	NS	NA	NA	NA	NA	NS	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	**0.002**	**0.02**
Vanadium	NS	<0.01	NA	<0.01	<0.01	NS	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**0.049**	**0.1**
Zinc	NS	0.012	0.009	0.012	<0.005	NS	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**5.00**	**10**
Radioactives, pCi/L																			
Gross Alpha (900.0)	NS	32.80	NA	39.20	27.22	NS	30.10	23.80	35.20	47.20	19.00	45.12	39.80	45.50	38.10	42.70	36.80		
Gross Beta (900.0)	NS	10.90	NA	15.20	8.44	NS	16.30	13.90	14.80	14.20	13.50	16.70	18.10	18.10	14.20	15.60	15.10		
Radium 226 (903.1/Ra-05)	NS	2.57	2.45	2.60	0.35	NS	2.20	2.20	1.20	2.60	1.70	2.40	2.40	2.20	3.00	2.30	2.70	**20.00**	
Radium 228 (903.1/Ra-05)	NS	1.47	1.84	1.41	0.82	NS	2.20	2.00	4.00	1.40	2.00	2.70	1.80	3.20	2.50	3.50	4.40	**20.00**	
Total Radium	NS	4.04	4.29	4.01	1.17	NS	4.40	4.20	5.20	4.00	3.70	5.10	4.20	5.40	5.50	5.80	7.10	**20.00**	

First Environmental Laboratories, Inc.
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November 27, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-06
First Environmental File ID: 12-5233
Date Received: October 05, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker

Lorrie Walker
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-06**

First Environmental File ID: **12-5233**

Date Received: **October 05, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-5233-001

Date Collected: 10/05/12
Time Collected: 12:00
Date Received: 10/05/12
Date Reported: 11/27/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 10/09/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-5233-001

Date Collected: 10/05/12
Time Collected: 12:00
Date Received: 10/05/12
Date Reported: 11/27/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 10/09/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011**				
Analysis Date: 10/08/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 10/10/12		Preparation Date: 10/09/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	10/05/12
Project ID:	96044-06	**Time Collected:**	12:00
Sample ID:	Deep Well	**Date Received:**	10/05/12
Sample No:	12-5233-001	**Date Reported:**	11/27/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 10/10/12		Preparation Date: 10/09/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 10/09/12		Preparation Date: 10/09/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-5233-001

Date Collected: 10/05/12
Time Collected: 12:00
Date Received: 10/05/12
Date Reported: 11/27/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 10/09/12 Preparation Date: 10/09/12				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C** Analysis Date: 10/10/12 Preparation Date: 10/09/12				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C** Analysis Date: 10/10/12 Preparation Date: 10/08/12				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-5233-001

Date Collected: 10/05/12
Time Collected: 12:00
Date Received: 10/05/12
Date Reported: 11/27/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C**				
Analysis Date: 10/10/12 Preparation Date: 10/08/12				
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall **Method: 548.1R1.0**				
Analysis Date: 10/12/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides **Method: 531.1R3.1**				
Analysis Date: 10/29/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides **Method: 8321A**				
Analysis Date: 10/11/12				
2,4-D	< 0.3	0.3	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.4	0.4	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury **Method: 7470A**				
Analysis Date: 10/10/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals **Method: 6010B** **Preparation Method 3010A**				
Analysis Date: 10/10/12 Preparation Date: 10/09/12				
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.037	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.61	0.01	mg/L	
Cadmium	< 0.001	0.001	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-5233-001

Date Collected: 10/05/12
Time Collected: 12:00
Date Received: 10/05/12
Date Reported: 11/27/12

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 10/10/12		Preparation Date: 10/09/12		
Chromium	0.001	0.001	mg/L	
Cobalt	0.007	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	1.15	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.037	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	0.007	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Radium 226 & 228 **Method: 903.1/Ra-05**				
Analysis Date: 11/07/12				
Radium 226	2.7+/-0.3		pCi/L	N S
Radium 228	4.4+/-1.1		pCi/L	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 10/18/12				
Gross Alpha	36.8+/-2.2		pCi/L	N S
Gross Beta **Method: 900.0**				
Analysis Date: 10/18/12				
Gross Beta	15.1+/-0.9		pCi/L	N S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-5233-001

Date Collected: 10/05/12
Time Collected: 12:00
Date Received: 10/05/12
Date Reported: 11/27/12

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Acidity, Total	22	5	mg/L	10/11/12	2310B	
Alkalinity, Total (CaCO3)	290	5	mg/L	10/12/12	2320B	
Ammonia (as N)	0.70	0.10	mg/L	10/12/12	350.1R2.0	
BOD, 5 Day	6	1	mg/L	10/11/12 15:00	5210B	
COD	< 10	10	mg/L	10/11/12	5220D	
Conductivity	5,630	5	umhos/cm	10/12/12	2510B	
Cyanide, Total	< 0.005	0.005	mg/L	10/10/12	335.4R1.0	
Chloride	9	5	mg/L	10/10/12	4500Cl, E	
Fluoride	1.04	0.10	mg/L	10/09/12	4500F,C	
Nitrate (as N)	< 0.10	0.10	mg/L	10/08/12	353.2R2.0	
Nitrite (as N)	< 0.01	0.01	mg/L	10/08/12 16:45	4500NO2,B	
pH @ 25°C	7.49		Units	10/08/12 13:35	4500H+,B	
Phenols	< 0.010	0.010	mg/L	10/17/12	9066	
Phosphorus (as P)	< 0.01	0.01	mg/L	10/11/12	4500P,B,E	
Sulfate	80	15	mg/L	10/11/12	375.2R2.0	
Sulfide	0.05	0.05	mg/L	10/09/12	4500S2C,D	
Total Dissolved Solids	371	10	mg/L	10/11/12	2540C	
TOC	1.2	0.1	mg/L	10/11/12	5310C	
TOX	< 0.020	0.020	mg/L	10/11/12	9020B	S

First Environmental Laboratories, Inc.

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IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Wardlaw Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8350 Fax: e-mail:
Send Report To: Connie Carter Via: Fax ☐ e-mail ☐
Sampled By: Leonard Dane / Ted Herrera

Project I.D.: 96044-06
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	See Attached Sheet								Comments	Lab I.D.
10/5/12 12:00	Deep well	W	✓									12-5233-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No ___ ___ °C
Received within 6 hrs of collection: ✓
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ °C
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ °C

Containers Received Preserved: ☒ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: ___

Relinquished By: Leonard Dane Date/Time 10/5/12 12:35 Received By: [signature] Date/Time 10/5/12 1235
Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 9/08

X1259

Route 25 Groundwater Monitoring Parameters for Quarterly Sampling of Deep Well
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List – January 25, 2011 CJC)
(January, April, July and October)
One Monitoring Well

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine
  - Simazine
- PCBs
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Picloram
  - Pentachlorophenol
  - Endothall
  - Aldicarb
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - *Molybdenum*
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- BOD
- *COD*
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- Nitrate and Nitrite as N
- *Phenol*
- *Phosphorus*
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC*
- Gross alpha
- Gross beta
- Radium 226 and 228

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September 26, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-06
First Environmental File ID: 12-3766
Date Received: August 08, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-06**

First Environmental File ID: **12-3766**

Date Received: **August 08, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	08/08/12
Project ID:	96044-06	**Time Collected:**	11:30
Sample ID:	Deep Well	**Date Received:**	08/08/12
Sample No:	12-3766-001	**Date Reported:**	09/26/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 08/09/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 08/09/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011**				
Analysis Date: 08/13/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 08/13/12		Preparation Date: 08/13/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 08/13/12		**Preparation Method 3510C** Preparation Date: 08/13/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 08/13/12		**Preparation Method 3510C** Preparation Date: 08/13/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 08/13/12 Preparation Date: 08/13/12				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C** Analysis Date: 08/13/12 Preparation Date: 08/13/12				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C** Analysis Date: 08/14/12 Preparation Date: 08/13/12				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 08/14/12		Preparation Date: 08/13/12		
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall	**Method: 548.1R1.0**			
Analysis Date: 08/17/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides	**Method: 531.1R3.1**			
Analysis Date: 08/23/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides	**Method: 8321A**			
Analysis Date: 08/15/12				
2,4-D	< 0.3	0.3	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.4	0.4	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	N S
Picloram	< 0.2	0.2	ug/L	N S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury	**Method: 7470A**			
Analysis Date: 08/09/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**	**Preparation Method 3010A**		
Analysis Date: 08/13/12		Preparation Date: 08/10/12		
Aluminum	< 0.05	0.05	mg/L	
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.038	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.68	0.01	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 08/13/12			Preparation Date: 08/10/12		
Cadmium		< 0.001	0.001	mg/L	
Chromium		< 0.001	0.001	mg/L	
Cobalt		0.006	0.001	mg/L	
Copper		< 0.001	0.001	mg/L	
Iron		1.37	0.01	mg/L	
Lead		< 0.002	0.002	mg/L	
Manganese		0.038	0.001	mg/L	
Molybdenum		< 0.01	0.01	mg/L	
Nickel		0.007	0.001	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
Thallium		< 0.002	0.002	mg/L	
Vanadium		< 0.01	0.01	mg/L	
Zinc		< 0.005	0.005	mg/L	
Acidity, Total	**Method: 2310B**				
Analysis Date: 08/09/12					
Acidity, Total		16	5	mg/L	
Alkalinity, Total (CaCO3)	**Method: 2320B**				
Analysis Date: 08/13/12					
Alkalinity, Total (CaCO3)		360	5	mg/L	
Ammonia (as N)	**Method: 350.1R2.0**				
Analysis Date: 08/14/12					
Ammonia (as N)		0.66	0.10	mg/L	
COD	**Method: 5220D**				
Analysis Date: 08/13/12					
COD		< 10	10	mg/L	
Conductivity	**Method: 2510B**				
Analysis Date: 08/14/12					
Conductivity		644	5	umhos/cm	
Cyanide, Total	**Method: 335.4R1.0**				
Analysis Date: 08/10/12					
Cyanide, Total		< 0.005	0.005	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte	Result	R.L.	Units	Flags
Chloride	**Method: 4500Cl, E**			
Analysis Date: 08/13/12				
Chloride	9	5	mg/L	
Fluoride	**Method: 4500F,C**			
Analysis Date: 08/14/12				
Fluoride	1.23	0.10	mg/L	
Nitrate (as N)	**Method: 353.2R2.0**			
Analysis Date: 08/10/12				
Nitrate (as N)	< 0.10	0.10	mg/L	
Nitrite (as N)	**Method: 4500NO2,B**			
Analysis Date: 08/10/12 11:00				
Nitrite (as N)	< 0.01	0.01	mg/L	
Phenols	**Method: 9066**			
Analysis Date: 08/09/12				
Phenols	< 0.010	0.010	mg/L	
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 08/09/12				
Sulfate	84	15	mg/L	
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 08/08/12				
Sulfide	0.07	0.05	mg/L	
Total Kjeldahl Nitrogen (TKN)	**Method: 351.2R2.0**			
Analysis Date: 08/10/12				
Total Kjeldahl Nitrogen (TKN)	1.1	1.0	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 08/09/12				
Total Dissolved Solids	393	10	mg/L	
TOC	**Method: 5310C**			
Analysis Date: 08/14/12				
TOC	0.6	0.1	mg/L	
TOX	**Method: 9020B**			
Analysis Date: 08/15/12				
TOX	< 0.020	0.020	mg/L	S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-3766-001

Date Collected: 08/08/12
Time Collected: 11:30
Date Received: 08/08/12
Date Reported: 09/26/12

Analyte	Result	R.L.	Units	Flags
Radium 226 & 228	**Method: 903.1/Ra-05**			
Analysis Date: 09/19/12				
Radium 226	2.3+/-0.2		pCi/L	N S
Radium 228	3.5+/-0.8		pCi/L	N S
Gross Alpha	**Method: 900.0**			
Analysis Date: 08/17/12				
Gross Alpha	42.7+/2.5		pCi/L	N S
Gross Beta	**Method: 900.0**			
Analysis Date: 08/17/12				
Gross Beta	15.6+/-1.0		pCi/L	N S
BOD, 5 Day	**Method: 5210B**			
Analysis Date: 08/09/12 15:30				
BOD, 5 Day	1	1	mg/L	
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 08/15/12				
Phosphorus (as P)	< 0.01	0.01	mg/L	

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: e-mail:
Send Report To: Anne Carter Via: Fax ☐ e-mail ☐
Sampled By:

Project I.D.: 960944-06
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	See Attached Parameter Sheet								Comments	Lab I.D.
8/8/12 1130 JW	Deep well	W	✓									12-3766-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes__ No.__ _____°C
Received within 6 hrs. of collection:_____
Ice Present: Yes__ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature._____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ☑ Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: _____

Relinquished By: Ted Herrera Date/Time 8/8/12 @ 11:55 Received By: _____ Date/Time 8/9/12 1155
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

Route 25 Groundwater Monitoring Parameters for Quarterly Sampling of Deep Well
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List – January 25, 2011 CJC)
(January, April, July and October)
One Monitoring Well

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine
  - Simazine
- PCBs
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Picloram
  - Pentachlorophenol
  - Endothall
  - Aldicarb
  - Carbofuran
- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - *Molybdenum*
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc
- *acidity*
- *alkalinity*
- Chloride
- BOD
- *COD*
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- Nitrate and Nitrite as N
- *Phenol*
- *Phosphorus*
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC*
- Gross alpha
- Gross beta
- Radium 226 and 228

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June 20, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-06 (T&M)
First Environmental File ID: 12-1883
Date Received: April 26, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker

Lorrie Walker
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-06 (T&M)**

First Environmental File ID: **12-1883**

Date Received: **April 26, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 05/01/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 05/01/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011**				
Analysis Date: 05/09/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 05/02/12		Preparation Date: 05/02/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 05/02/12		**Preparation Method 3510C** Preparation Date: 05/02/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 05/02/12		**Preparation Method 3510C** Preparation Date: 05/02/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 05/02/12 Preparation Date: 05/02/12				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C** Analysis Date: 05/02/12 Preparation Date: 05/02/12				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C** Analysis Date: 05/01/12 Preparation Date: 04/30/12				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 05/01/12		Preparation Date: 04/30/12		
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall	**Method: 548.1R1.0**			
Analysis Date: 05/04/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides	**Method: 531.1R3.1**			
Analysis Date: 05/16/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides	**Method: 8321A**			
Analysis Date: 05/02/12				
2,4-D	< 0.3	0.3	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.4	0.4	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury	**Method: 7470A**			
Analysis Date: 04/27/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**	**Preparation Method 3010A**		
Analysis Date: 05/01/12		Preparation Date: 04/27/12		
Aluminum	< 0.05	0.05	mg/L	
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.039	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.64	0.01	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 05/01/12			Preparation Date: 04/27/12		
Cadmium		< 0.001	0.001	mg/L	
Chromium		< 0.001	0.001	mg/L	
Cobalt		0.007	0.001	mg/L	
Copper		< 0.001	0.001	mg/L	
Iron		1.42	0.01	mg/L	
Lead		< 0.002	0.002	mg/L	
Manganese		0.040	0.001	mg/L	
Molybdenum		< 0.01	0.01	mg/L	
Nickel		0.008	0.001	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
Thallium		< 0.002	0.002	mg/L	
Vanadium		< 0.01	0.01	mg/L	
Zinc		< 0.005	0.005	mg/L	
Acidity, Total	**Method: 2310B**				
Analysis Date: 04/27/12					
Acidity, Total		20	5	mg/L	
Alkalinity, Total (CaCO3)	**Method: 2320B**				
Analysis Date: 05/01/12					
Alkalinity, Total (CaCO3)		310	5	mg/L	
Ammonia (as N)	**Method: 350.1R2.0**				
Analysis Date: 04/30/12					
Ammonia (as N)		0.73	0.10	mg/L	
COD	**Method: 5220D**				
Analysis Date: 05/02/12					
COD		< 10	10	mg/L	
Conductivity	**Method: 2510B**				
Analysis Date: 05/02/12					
Conductivity		625	5	umhos/cm	
Cyanide, Total	**Method: 335.4R1.0**				
Analysis Date: 05/01/12					
Cyanide, Total		< 0.005	0.005	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06 (T&M)
Sample ID: Deep Well
Sample No: 12-1883-001

Date Collected: 04/26/12
Time Collected: 10:50
Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
Chloride	**Method: 4500Cl, E**			
Analysis Date: 05/02/12				
Chloride	10	5	mg/L	
Fluoride	**Method: 4500F,C**			
Analysis Date: 05/02/12				
Fluoride	1.16	0.10	mg/L	
Nitrate (as N)	**Method: 353.2R2.0**			
Analysis Date: 04/29/12				
Nitrate (as N)	< 0.10	0.10	mg/L	
Nitrite (as N)	**Method: 4500NO2,B**			
Analysis Date: 04/27/12 14:00				
Nitrite (as N)	< 0.01	0.01	mg/L	
pH @ 25°C	**Method: 4500H+,B**			
Analysis Date: 04/26/12 15:30				
pH @ 25°C	7.50		Units	
Phenols	**Method: 9066**			
Analysis Date: 05/02/12				
Phenols	< 0.010	0.010	mg/L	
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 05/01/12				
Sulfate	58	15	mg/L	
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 04/27/12				
Sulfide	< 0.05	0.05	mg/L	
Total Kjeldahl Nitrogen (TKN)	**Method: 351.2R2.0**			
Analysis Date: 04/27/12				
Total Kjeldahl Nitrogen (TKN)	< 1.0	1.0	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 05/02/12				
Total Dissolved Solids	360	10	mg/L	
TOC	**Method: 5310C**			
Analysis Date: 05/03/12				
TOC	0.9	0.1	mg/L	

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Date Received: 04/26/12
Date Reported: 06/20/12

Analyte	Result	R.L.	Units	Flags
TOX **Method: 9020B**				
Analysis Date: 05/04/12				
TOX	< 0.020	0.020	mg/L	S
Radium 226 & 228 **Method: 903.1/Ra-05**				
Analysis Date: 06/18/12				
Radium 226	3.0+/-0.4		pCi/L	N S
Radium 228	2.5+/-1.0		pCi/L	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 05/16/12				
Gross Alpha	38.1+/-2.2		pCi/L	N S
Gross Beta **Method: 900.0**				
Analysis Date: 05/16/12				
Gross Beta	14.2+/-0.9		pCi/L	N S

First Environmental Laboratories, Inc.

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E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Page ___ of ___ pgs

Company Name: Dencliff Environmental Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Cater Via: Fax ☐ e-mail ☐
Sampled By: Tim Rutsey & Ted Hewson

Project I.D.: 16044-06 (TSM)
P.O. #.:

Analyses

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	See Attached Parameter Sheet									Comments	Lab I.D.
4/26/12@10:50	Deep Well	W	✓										12-1883-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ 4.6 °C
Received within 6 hrs. of collection: ____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Containers Received Preserved: ☒ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: ____

Relinquished By: T. Rutsey Date/Time 4/26/12 3:00 Received By: MJ Date/Time 4/26/12 1500
Relinquished By: ____ Date/Time ____ Received By: ____ Date/Time ____

Rev. 9/08

Deep Well Sample Paramters
(Quarterly) – 1 monitoring well

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine
  - Simazine
- PCBs
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - Endothall
  - Aldicarb
  - Carbofuran
- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - *Molybdenum*
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- *COD*
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- **Nitrate as N**
- *N-Kjeldahl*
- *Phenol*
- *Phosphorus*
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC*
- Gross alpha
- Gross beta
- Radium 226 and 228

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April 03, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-06
First Environmental File ID: 12-0452
Date Received: January 31, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Franklin

Lorrie Franklin
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-06**

First Environmental File ID: **12-0452**

Date Received: **January 31, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 02/01/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 02/01/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011**				
Analysis Date: 02/15/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 02/02/12		Preparation Date: 02/02/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 02/02/12		**Preparation Method 3510C** Preparation Date: 02/02/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 02/02/12		**Preparation Method 3510C** Preparation Date: 02/02/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C**				
Analysis Date: 02/02/12 Preparation Date: 02/02/12				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C**				
Analysis Date: 02/02/12 Preparation Date: 02/02/12				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C**				
Analysis Date: 02/06/12 Preparation Date: 02/01/12				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 02/06/12		Preparation Date: 02/01/12		
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall	**Method: 548.1R1.0**			
Analysis Date: 02/15/12				
Endothall	< 40.0	40.0	ug/L	S
Carbamate Pesticides	**Method: 531.1R3.1**			
Analysis Date: 02/21/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 4.0	4.0	ug/L	S
Herbicides	**Method: 8321A**			
Analysis Date: 02/02/12				
2,4-D	< 0.2	0.2	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.2	0.2	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury	**Method: 7470A**			
Analysis Date: 02/03/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6020A**	**Preparation Method 3010A**		
Analysis Date: 02/07/12		Preparation Date: 02/01/12		
Aluminum	< 0.05	0.05	mg/L	
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.034	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.58	0.01	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Total Metals Method: 6020A		Preparation Method 3010A		
Analysis Date: 02/07/12		Preparation Date: 02/01/12		
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Cobalt	0.006	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	1.32	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.034	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	0.007	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Acidity, Total Method: 2310B				
Analysis Date: 02/06/12				
Acidity, Total	16	5	mg/L	
Alkalinity, Total (CaCO3) Method: 2320B				
Analysis Date: 02/02/12				
Alkalinity, Total (CaCO3)	290	5	mg/L	
Ammonia (as N) Method: 350.1R2.0				
Analysis Date: 02/03/12				
Ammonia (as N)	0.80	0.10	mg/L	
COD Method: 5220D				
Analysis Date: 02/01/12				
COD	< 10	10	mg/L	
Conductivity Method: 2510B				
Analysis Date: 02/07/12 10:15				
Conductivity	644	5	umhos/cm	
Cyanide, Total Method: 335.4R1.0				
Analysis Date: 02/03/12				
Cyanide, Total	< 0.005	0.005	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
Chloride	**Method: 4500Cl, E**			
Analysis Date: 02/01/12				
Chloride	15	5	mg/L	
Fluoride	**Method: 4500F,C**			
Analysis Date: 02/01/12				
Fluoride	1.16	0.10	mg/L	
Nitrate (as N)	**Method: 353.2R2.0**			
Analysis Date: 02/02/12				
Nitrate (as N)	< 0.10	0.10	mg/L	
Nitrite (as N)	**Method: 4500NO2,B**			
Analysis Date: 02/01/12 11:00				
Nitrite (as N)	< 0.01	0.01	mg/L	
pH @ 25°C	**Method: 4500H+,B**			
Analysis Date: 01/31/12 15:00				
pH @ 25°C	7.39		Units	
Phenols	**Method: 9066**			
Analysis Date: 02/02/12				
Phenols	< 0.010	0.010	mg/L	
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 01/31/12				
Sulfate	85	15	mg/L	
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 02/01/12				
Sulfide	< 0.05	0.05	mg/L	
Total Kjeldahl Nitrogen (TKN)	**Method: 351.2R2.0**			
Analysis Date: 02/02/12				
Total Kjeldahl Nitrogen (TKN)	1.0	1.0	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 02/01/12				
Total Dissolved Solids	389	10	mg/L	
TOC	**Method: 5310C**			
Analysis Date: 02/01/12				
TOC	0.9	0.1	mg/L	

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IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 12-0452-001

Date Collected: 01/31/12
Time Collected: 11:30
Date Received: 01/31/12
Date Reported: 04/03/12

Analyte	Result	R.L.	Units	Flags
TOX **Method: 9020B**				
Analysis Date: 02/06/12				
TOX	< 0.020	0.020	mg/L	S
Radium 226 & 228 **Method: 903.1/Ra-05**				
Analysis Date: 03/27/12				
Radium 226	2.2+/-0.3		pCi/L	N S
Radium 228	3.2+/-1.0		pCi/L	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 02/13/12				
Gross Alpha	45.5+/-2.4		pCi/L	N S
Gross Beta **Method: 900.0**				
Analysis Date: 02/13/12				
Gross Beta	18.1+/-1.0		pCi/L	N S

CHAIN OF CUSTODY RECORD

Page ___ of ___ pgs

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

Company Name: Deuchler Environmental Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By:

Project I.D.: 96044-04
P.O. #.:

Analyses

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	✓	Lab Analyses								Comments	Lab I.D.
1/31/2012 11:30	Deep well	W	✓										12-0452-001

FOR LAB USE ONLY:

Cooler Temperature: 0°-6°C Yes ✓ No. ___ 16 °C
Received within 6 hrs. of collection: ✓
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ °C
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ °C

Containers Received Preserved: ☐ Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: ___

Relinquished By: Carrie J Carter Date/Time 1/31/2012 1245 Received By: M Date/Time 1/31/12 1245
Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 9/08

Route 25 Groundwater Monitoring Parameters for Quarterly Sampling of Deep Well
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List – January 25, 2011 CJC)
(January, April, July and October)
One Monitoring Well

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine
  - Simazine
- PCBs
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - Endothall
  - Aldicarb
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - *Molybdenum*
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- *COD*
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- Nitrate and Nitrite as N
- *N-Kjeldahl*
- *Phenol*
- *Phosphorus*
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC*
- Gross alpha
- Gross beta
- Radium 226 and 228

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June 21, 2010

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-06
First Environmental File ID: 10-1411
Date Received: April 16, 2010

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002468: effective 02/23/10 through 02/28/11.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200 or stan@firstenv.com.

Sincerely,

Stan Zawolski
Project Manager

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-06**

First Environmental File ID: **10-1411**

Date Received: **April 16, 2010**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 10-1411-001

Date Collected: 04/16/10
Time Collected: 12:00
Date Received: 04/16/10
Date Reported: 06/21/10

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 04/19/10				
Benzene	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,2-Dibromo-3-chloropropane	< 10.0	10.0	ug/L	
1,2-Dibromoethane (EDB)	< 10.0	10.0	ug/L	
Semi-Volatile Compounds	**Method: 8270C**	**Preparation Method 3510C**		
Analysis Date: 04/21/10				
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 10-1411-001

Date Collected: 04/16/10
Time Collected: 12:00
Date Received: 04/16/10
Date Reported: 06/21/10

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 04/21/10				
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 04/20/10				
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 10-1411-001

Date Collected: 04/16/10
Time Collected: 12:00
Date Received: 04/16/10
Date Reported: 06/21/10

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 04/20/10				
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Pesticides **Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 04/21/10		Preparation Date: 04/21/10		
Aldrin	< 0.05	0.05	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 10-1411-001

Date Collected: 04/16/10
Time Collected: 12:00
Date Received: 04/16/10
Date Reported: 06/21/10

Analyte	Result	R.L.	Units	Flags
Herbicides Method 8321A	**Method: 8321A**			
Analysis Date: 04/26/10				
2,4-D	< 0.2	0.2	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
Nitrate + Nitrite (as N)	**Method: 353.2R2.0**			
Analysis Date: 04/20/10				
Nitrate + Nitrite (as N)	< 0.10	0.10	mg/L	
pH @ 25°C	**Method: 4500H+,B**			
Analysis Date: 04/16/10 16:20				
pH @ 25°C	7.30		Units	
Total Metals	**Method: 7470A**			
Analysis Date: 04/20/10				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**	**Preparation Method 3010A**		
Analysis Date: 04/21/10		Preparation Date: 04/19/10		
Aluminum	< 0.05	0.05	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.032	0.001	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Cobalt	0.010	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	1.78	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.064	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	0.021	0.001	mg/L	
Potassium	16.7	0.1	mg/L	
Selenium	< 0.002	0.002	mg/L	
Sodium	44.9	0.1	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Acidity, Total	**Method: 2310B**			
Analysis Date: 04/22/10				

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 10-1411-001

Date Collected: 04/16/10
Time Collected: 12:00
Date Received: 04/16/10
Date Reported: 06/21/10

Analyte	Result	R.L.	Units	Flags
Acidity, Total **Method: 2310B**				
Analysis Date: 04/22/10				
Acidity, Total	30	5	mg/L	
Alkalinity, Total (CaCO3) **Method: 2320B**				
Analysis Date: 04/22/10				
Alkalinity, Total (CaCO3)	280	5	mg/L	
COD **Method: 5220D**				
Analysis Date: 04/21/10				
COD	< 10	10	mg/L	
Conductivity **Method: 2510B**				
Analysis Date: 04/20/10				
Conductivity	797	5	umhos/cm	
Cyanide, Total **Method: 335.4R1.0**				
Analysis Date: 04/19/10				
Cyanide, Total	< 0.005	0.005	mg/L	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 04/22/10				
Ammonia (as N)	0.70	0.10	mg/L	
Total Kjeldahl Nitrogen (TKN) **Method: 351.2R2.0**				
Analysis Date: 04/20/10				
Total Kjeldahl Nitrogen (TKN)	< 1.0	1.0	mg/L	
Phenols **Method: 9066**				
Analysis Date: 04/20/10				
Phenols	< 0.010	0.010	mg/L	
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 04/20/10				
Phosphorus (as P)	< 0.01	0.01	mg/L	
Sulfide **Method: 4500S2C,D**				
Analysis Date: 04/19/10				
Sulfide	< 0.05	0.05	mg/L	
Sulfate **Method: 4500S04,E**				
Analysis Date: 04/21/10				
Sulfate	93	15	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-06
Sample ID: Deep Well
Sample No: 10-1411-001

Date Collected: 04/16/10
Time Collected: 12:00
Date Received: 04/16/10
Date Reported: 06/21/10

Analyte	Result	R.L.	Units	Flags
TOC **Method: 5310C**				
Analysis Date: 04/23/10				
TOC	1.2	0.1	mg/L	
Radium 226 & 228 **Method: 903.1/904.0**				
Analysis Date: 06/03/10				
Radium 226	2.2+/-0.2		pCi/L	S
Radium 228	2.2+/-0.6		pCi/L	S
Gross Alpha **Method: 900.0**				
Analysis Date: 06/04/10				
Gross Alpha	30.1+/-2.0		pCi/L	S
Gross Beta **Method: 900.0**				
Analysis Date: 06/04/10				
Gross Beta	16.3+/-1.0		pCi/L	S
TOX **Method: 9020B**				
Analysis Date: 04/30/10				
TOX	0.032	0.020	mg/L	S
Total Solids **Method: 2540B**				
Analysis Date: 06/04/10				
Total Solids	447	10.00	mg/L	

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: T. Rutsay

Project I.D.: 96044-06
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: See attached parameter sheet.	Comments	Lab I.D.
4/16/10 12:00	Deep well	W			10-1411-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No ___ 4.6 °C
Received within 6 hrs. of collection: ___
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ °C
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ °C

Containers Received Preserved: ☐ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: T. Rutsay Date/Time 4/16/10 12:30 Received By: [signature] Date/Time 4/16/10 12:30
Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 9/08

Ground water parameters to sample at Route 25 Deep Well (One Monitoring Well):

- VOC
- SVOCs/PNAs
- PEST/HERB
- Metals (al, ar, ba, cd, ch, co, cu, fe, pb, mn, hg, mo, ni, potassium, selenium, na, vanadium, zn)
- pH
- acidity
- alkalinity
- COD
- Conductivity
- Cyanide
- EOX
- N-Ammonia
- Nitrate
- N-Kjeldahl
- Phenol
- Phosphorus
- Sulfide
- Sulfate
- TOC
- Gross alpha
- Gross beta
- Radium 226 and 228

First Environmental Laboratories, Inc.
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December 01, 2008

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 07002-00
First Environmental File ID: 8-5071
Date Received: November 05, 2008

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002045: effective 05/14/08 through 02/28/09.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

First
Environmental
Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **07002-00**

First Environmental File ID: **8-5071**

Date Received: **November 05, 2008**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Deep Well
Sample No: 8-5071-001

Date Collected: 11/05/08
Time Collected: 13:00
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 11/11/08				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	4.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Deep Well
Sample No: 8-5071-001

Date Collected: 11/05/08
Time Collected: 13:00
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 11/11/08		Preparation Date: 11/10/08		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Deep Well
Sample No: 8-5071-001

Date Collected: 11/05/08
Time Collected: 13:00
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 11/11/08		**Preparation Method 3510C** Preparation Date: 11/10/08		
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 11/11/08		**Preparation Method 3510C** Preparation Date: 11/10/08		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Deep Well
Sample No: 8-5071-001

Date Collected: 11/05/08
Time Collected: 13:00
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Pesticides **Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 11/12/08		Preparation Date: 11/11/08		
Aldrin	< 0.05	0.05	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Herbicides Method 8321A **Method: 8321A**				
Analysis Date: 11/13/08				
2,4-D	< 0.2	0.2	ug/L	S
Silvex (2,4,5-TP)	< 0.10	0.1	ug/L	S
Total Metals **Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 11/13/08		Preparation Date: 11/06/08		
Aluminum	< 0.05	0.05	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.056	0.001	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Cobalt	0.038	0.001	mg/L	
Copper	0.006	0.001	mg/L	
Iron	0.26	0.01	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Deep Well
Sample No: 8-5071-001

Date Collected: 11/05/08
Time Collected: 13:00
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 11/13/08		Preparation Date: 11/06/08		
Lead	< 0.002	0.002	mg/L	
Manganese	0.168	0.001	mg/L	
Molybdenum	0.07	0.01	mg/L	
Nickel	0.063	0.001	mg/L	
Potassium	11.1	0.1	mg/L	
Selenium	< 0.002	0.002	mg/L	
Sodium	165	0.1	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	0.012	0.005	mg/L	
Total Metals **Method: 7470A**				
Analysis Date: 11/10/08				
Mercury	< 0.0005	0.0005	mg/L	
Acidity, Total **Method: 2310B**				
Analysis Date: 11/07/08				
Acidity, Total	22	5	mg/L	
pH @ 25°C **Method: 4500H+,B**				
Analysis Date: 11/05/08 13:15				
pH @ 25°C	7.34		Units	
Alkalinity, Total (CaCO3) **Method: 2320B**				
Analysis Date: 11/07/08				
Alkalinity, Total (CaCO3)	260	5	mg/L	
COD **Method: 5220D**				
Analysis Date: 11/06/08				
COD	28	10	mg/L	P
Conductivity **Method: 2510B**				
Analysis Date: 11/12/08 14:00				
Conductivity	1,500	5	umhos/cm	
Cyanide, Total **Method: 335.4R1.0**				
Analysis Date: 11/10/08				
Cyanide, Total	< 0.005	0.005	mg/L	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 11/09/08				
Ammonia (as N)	0.50	0.10	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Deep Well
Sample No: 8-5071-001

Date Collected: 11/05/08
Time Collected: 13:00
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Nitrate + Nitrite (as N)	**Method: 353.2R2.0**			
Analysis Date: 11/09/08				
Nitrate + Nitrite (as N)	0.48	0.10	mg/L	
Total Kjeldahl Nitrogen (TKN)	**Method: 351.2R2.0**			
Analysis Date: 11/13/08				
Total Kjeldahl Nitrogen (TKN)	1.0	1.0	mg/L	
Phenols	**Method: 9066**			
Analysis Date: 11/10/08				
Phenols	< 0.010	0.010	mg/L	
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 11/13/08 14:30				
Phosphorus (as P)	0.04	0.01	mg/L	
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 11/12/08				
Sulfide	< 0.05	0.05	mg/L	
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 11/12/08				
Sulfate	174	15	mg/L	
TOC	**Method: 5310C**			
Analysis Date: 11/07/08				
TOC	4.4	0.1	mg/L	P
Radium 226 & 228	**Method: SM7500 Ra**			
Analysis Date: 11/19/08				
Radium 226	1.77+/-0.82		pCi/L	S
Radium 228	0.72+/-0.32		pCi/L	S
Gross Alpha	**Method: SM7110**			
Analysis Date: 11/24/08				
Gross Alpha	17.8+/-4.52		pCi/L	S
Gross Beta	**Method: SM7110**			
Analysis Date: 11/24/08				
Gross Beta	7.15+/-2.15		pCi/L	S
TOX	**Method: 9020B**			
Analysis Date: 11/12/08				
TOX	0.087	0.020	mg/L	S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Trip Blank
Sample No: 8-5071-002

Date Collected:
Time Collected:
Date Received: 11/05/08
Date Reported: 11/18/08

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 11/11/08				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

First Environmental Laboratories, Inc.

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CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Chorrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Chorrie Carter / Tim Rutsay

Project I.D.: 07002-00
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	VOC	SVOCs/PNAs	Pest/Herbs	See Attached Parameter Sheet					Comments	Lab I.D.
11/5/08 1:00pm	Deep well	W	✓	✓	✓	✓						8-5071-001
	Trip Blank	W	✓									-002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No__ ____°C
Received within 6 hrs. of collection: ✓
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature: ____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature: ____°C

Containers Received Preserved: ☑ Yes ☐ No

Notes and Special Instructions: ____

Relinquished By: T. Rutsay Date/Time 11/5/08 1:40 Received By: [signature] Date/Time 11/5/08 1340
Relinquished By: ____ Date/Time ____ Received By: ____ Date/Time ____

Rev. 4/06

ccarter

From: Marc R. Fisher [mfisher@deuchler.com]
Sent: Wednesday, October 22, 2008 11:42 AM
To: 'ccarter'
Subject: RE: Deep Well

Ground water parameters to sample at Route 25 Deep Well:

- VOC
- SVOC/PNAs
- PEST/HERB
- Metals (al, ar (arsenic), ba, cd, ch (cr), co, cu, fe, pb, mn, hg, mo, ni, potassium, selenium, na, vanadium, zn)
- pH
- acidity
- alkalinity
- COD
- Conductivity
- Cyanide
- EOX
- N-Ammonia
- Nitrate
- N-Kjeldahl
- Phenol
- Phosphorus
- Sulfide
- Sulfate
- TOC
- Gross alpha
- Gross beta
- Radium 226 and 228

Let me know if you have any questions.

Marc.

From: ccarter [mailto:ccarter@deuchler.com]
Sent: Monday, October 20, 2008 7:14 AM
To: 'Marc R. Fisher'
Subject: Deep Well

Marc,

If all goes well we are sampling that deep well today. Could you please make a copy of the analytical sheet you showed me on Friday? We'll stop back here before we bring the samples over to First. Thank you.

Carrie

Appendix N:

City of Aurora Raw and Finished Water Tables

ANNUAL RIVER 2012

CHEMICAL ANALYSIS 2012

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	FOX RIVER WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L			276			263			263			261		261.00	276	265.75
ALUMINUM, ICP *	mg/L	0.05 - 0.2		<0.05			0.34			0.34			0.06		0.06	0.34	0.247
ANTIMONY ED 1/17/94	mg/L	0.006		<0.006			<0.006			<0.006			<0.006		0.00	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01		<0.002			<0.002			<0.002			<0.002		0.00	0	0
BARIUM, ICP	mg/L	2.0		0.09			0.092			0.092			0.14		0.09	0.14	0.104
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004		<0.001			<0.001			<0.001			<0.001		0.00	0	0
BORON, ICP P	mg/L	0.6/1.0		0.06			0.37			0.37			0.07		0.06	0.37	0.218
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005		<0.001			<0.001			<0.001			<0.001		0.00	0	0
CALCIUM, AA	mg/L			84.5			65.9			65.9			58.7		58.70	84.5	68.75
CHLORIDE	mg/L	250					116			116					116.00	116	116.00
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10		<0.001			<0.001			<0.001			<0.001		0.00	0	0
COBALT, ICP	mg/L			<0.001			<0.001			<0.001			<0.001		0.00	0	0
CONDUCTIVITY	umhos/cm			1,073			966			966			1109		966.00	1109	1028.50
COPPER, ICP SDWA 7/30/92	mg/L	1.3		<0.001			0.003			0.003			<0.001		0.00	0.003	0.003
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2		<0.005			<0.005			<0.005			<0.005		0.00	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2													0.00	0	0
HARDNESS Ca	mg/L			241			170			170			183		170.00	241	191.00
HARDNESS, TOTAL	mg/L			381			324			324			431		324.00	431	365.00
IRON, ICP S	mg/L	0.3		0.17			0.5			0.5			120		0.17	120	30.29
LEAD, GFAA SDWA 7/30/92	mg/L	0.015		<0.002			<0.002			<0.002			<0.002		0.00	0	0
MAGNESIUM, AA	mg/L			42.4			43.2			43.2			37.1		37.10	43.2	41.48
MANGANESE, ICP S	mg/L	0.05		0.023			0.111			0.111			0.037		0.02	0.111	0.071
NICKEL, ICP ED 1/17/94	mg/L	0.10		<0.001			0.002			0.002			<0.001		0.00	0.002	0.002
NITROGEN - AMMONIA	mg/L			0.02			0.02			0.02					0.02	0.02	0.020
NITRATE + NITRITE, AS NITROGEN	mg/L	10		2.75			1.52			1.52			1.52		1.52	2.75	1.83
pH	UNITS			8.46									8.59		8.46	8.59	8.53
POTASSIUM, AA	mg/L			3.4			6.1			6.1			5.4		3.40	6.1	5.25
SELENIUM, AA SDWA 7/30/92	mg/L	0.05		<0.002			<0.002			<0.002			<0.002		0.00	0	0
SILICA	mg/L						3.0			3.0			7		3.00	7	4.33
SILVER, ICP * SDWA 7/30/92	mg/L	0.10		<0.001			<0.001			<0.001			<0.001		0.00	0	0
SODIUM, AA	mg/L			94			65.0			65.0			93		65.00	94	79.25
SOLIDS, TOTAL DISSOLVED	mg/L	500					615			615					615.00	615	615.00
STRONTIUM, ICP	mg/L			0.560			0.510			0.510			0.610		0.51	0.61	0.548
SULFATE	mg/L	250					50			50			56		50.00	56	52.00
THALLIUM	mg/L	0.002		<0.002			<0.002			<0.002			<0.002		0.00	0	0
TOC	mg/l			5.49											5.49	5.49	5.49
TURBIDITY ED 1/1/2002	NTU	0.3		5.03			14.8			14.8			4.5		4.50	14.8	9.78
UV254				0.137			0.176			0.176			0.177		0.14	0.177	0.167
VANADIUM, ICP	mg/L			<0.01			<0.01			<0.01			<0.01		0.00	0	0
ZINC, ICP P	mg/L	5		<0.005			0.01			0.01			<0.005		0.01	0.01	0.010

LAB:

*Secondary Maximum Contaminant Level

P-Proposed

D-Deferred

ED-Effective Date

S - State of Illinois Only

**IN-HOUSE pH

ANNUAL WELL 2012

CHEMICAL ANALYSIS 2012

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	WELL WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L			299			297			286			281		281	299	290.75
ALUMINUM, ICP *	mg/L	0.05 - 0.2		<0.05			<0.05			<0.05			<0.05		0	0	0
ANTIMONY ED 1/17/94	mg/L	0.006		<0.006			<0.006			<0.006			<0.006		0	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01		<0.002			<0.002			<0.002			<0.002		0	0	0
BARIUM, ICP	mg/L	2.0		0.142			0.111			0.131			0.2		0.111	0.2	0.146
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004		<0.001			<0.001			<0.001			<0.001		0	0	0
BORON, ICP P	mg/L	0.6/1.0		0.32			0.47			0.32			0.3		0.3	0.47	0.353
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005		<0.001			<0.001			,0.001			<0.001		0	0	0
CALCIUM, AA	mg/L			72.8			69.2			63.3			67		63.3	72.8	68.08
CHLORIDE	mg/L	250					48.3			26.9					26.9	48.3	37.60
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10		<0.001			<0.001			<0.001			<0.001		0	0	0
COBALT, ICP	mg/L			<0.001			<0.001			<0.001			<0.001		0	0	0
CONDUCTIVITY	umhos/cm			789			812			682			669		669	812	738.00
COPPER, ICP SDWA 7/30/92	mg/L	1.3		<0.001			<0.001			<0.001			<0.001		0	0	0
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2		<0.005			<0.005			<0.005			<0.005		0	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2		0.69						0.850					0.69	0.85	0.770
HARDNESS Ca	mg/L			226			202			168			172		168	226	192.00
HARDNESS, TOTAL	mg/L			388			396			288			321		288	396	348.25
IRON, ICP S	mg/L	0.3		0.6			0.39			<0.01			0.1		0.1	0.6	0.363
LEAD, GFAA SDWA 7/30/92	mg/L	0.015		<0.002			<0.002			<0.002			<0.002		0	0	0
MAGNESIUM, AA	mg/L			27.9			33.7			23.1			24.2		23.1	33.7	27.23
MANGANESE, ICP S	mg/L	0.05		0.013			0.022			0.009			0.01		0.009	0.022	0
NICKEL, ICP ED 1/17/94	mg/L	0.10		<0.001			<0.001			<0.001			<0.001		0	0	0
NITROGEN - AMMONIA	mg/L			0.50			0.50			0.43					0.43	0.5	0.477
NITRATE + NITRITE, AS NITROGEN	mg/L	10		<0.10			<0.10			<0.10			<0.10		0	0	0
pH	UNITS			7.56						7.59			7.51		7.51	7.59	7.55
POTASSIUM, AA	mg/L			11.5			12.8			10.8			11.4		10.8	12.8	11.63
SELENIUM, AA SDWA 7/30/92	mg/L	0.05		<0.002			<0.002			<0.002			<0.002		0	0	0
SILICA	mg/L						3			8			4		3	8	5.00
SILVER, ICP * SDWA 7/30/92	mg/L	0.10		<0.001			<0.001			<0.001			<0.001		0	0	0
SODIUM, AA	mg/L			36.4			42.6			31.9			30.4		30.4	42.6	35.33
SOLIDS, TOTAL DISSOLVED	mg/L	500					487			410					410	487	448.50
STRONTIUM, ICP	mg/L			2.06			1.56			1.90			2.13		1.56	2.13	1.91
SULFATE	mg/L	250					29			43			33		29	43	35.00
THALLIUM	mg/L	0.002		<0.002			<0.002			<0.002			<0.002		0	0	0
TOC	mg/l									xxx					0	0	0
TURBIDITY ED 1/1/2002	NTU	0.3		1.4			0.88			0.82			1.96		0.82	1.96	1.27
UV254				0.020			0.025			0.07			0.008		0.008	0.07	0.031
VANADIUM, ICP	mg/L			<0.01			<0.01			<0.01			<0.01		0	0	0
ZINC, ICP P	mg/L	S		<0.005			0.009			<0.005			<0.005		0.009	0.009	0.009

LAB: ED-Effective Date S-State of Illinois Only

*Secondary Maximum Contaminant Level P-Proposed **IN-HOUSE pH

ANNUAL FINISHED WATER 2012

CHEMICAL ANALYSIS 2012

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	FINISHED WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L			82			73			51			68		51	82	68.50
ALUMINUM, ICP *	mg/L	0.05 - 0.2		<0.05			<0.05			<<0.05			<0.05		0	0	0
ANTIMONY ED 1/17/94	mg/L	0.006		<0.006			<0.006			<0.006			<0.006		0	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01		<0.002			<0.002			<0.002			<0.002		0	0	0
BARIUM, ICP	mg/L	2.0		0.008			0.010			0.028			0.018		0.008	0.028	0.016
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004		<0.001			<0.001			<0.001			<0.001		0	0	0
BORON, ICP P	mg/L	0.6/1.0		0.26			0.32			0.2			0.16		0.16	0.32	0.235
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005		<0.001			<0.001			<0.001			<0.001		0	0	0
CALCIUM, AA	mg/L			13.0			12.6			21.4			18.8		12.6	21.4	16.45
CHLORIDE	mg/L	*250					100			120					100	120	110.00
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10		<0.001			0.003			0.004			<0.001		0.003	0.004	0.004
COBALT, ICP	mg/L			<0.001			<0.001			<0.001			<0.001		0	0	0
CONDUCTIVITY	umhos/cm			695			595			621			665		595	695	644.00
COPPER, ICP SDWA 7/30/92	mg/L	1.3		<0.001			<0.001			<0.001			0.02		0.02	0.02	0.020
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2		<0.005			<0.005			<0.005			<0.005		0	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2		0.98						1.00					0.98	1	0.990
HARDNESS Ca	mg/L			56			33			50			56		33	56	48.75
HARDNESS, TOTAL	mg/L			176			130			150			162		130	176	154.50
IRON, ICP S	mg/L	*0.3		<0.01			<0.01			<0.01			<0.01		0	0	0
LEAD, GFAA SDWA 7/30/92	mg/L	0.015		<0.002			<0.002			<0.002			<0.002		0	0	0
MAGNESIUM, AA	mg/L			22.1			22.5			11.8			18.7		11.8	22.5	18.78
MANGANESE, ICP S	mg/L	*0.05		<0.001			0.006			<0.001			<0.001		0.006	0.006	0.006
NICKEL, ICP ED 1/17/94	mg/L	0.10		<0.001			<0.001			0.004			0.003		0.003	0.004	0.004
NITROGEN - AMMONIA	mg/L														0	0	0
NITRATE + NITRITE, AS NITROGEN	mg/L	10		0.97			0.96			0.44			0.81		0.44	0.97	0.795
pH	UNITS			9.04						8.93			9.02		8.93	9.04	9.00
POTASSIUM, AA	mg/L			9.8			8.8			9.9			8.2		8.2	9.9	9.18
SELENIUM, AA SDWA 7/30/92	mg/L	0.05		<0.002			<0.002			<0.002			<0.002		0	0	0
SILICA	mg/L						1			3			3		1	3	2.33
SILVER, ICP * SDWA 7/30/92	mg/L	0.10		<0.001			<0.001			<0.001			<0.001		0	0	0
SODIUM, AA	mg/L			55.3			50			74.7			74.4		50	74.7	63.60
SOLIDS, TOTAL DISSOLVED	mg/L	500					335			346					335	346	340.50
STRONTIUM, ICP	mg/L			0.220			0.280			0.440			0.310		0.22	0.44	0
SULFATE	mg/L	*250					39			45			47		39	47	43.67
THALLIUM	mg/L	0.002		<0.002			<0.002			<0.002			<0.002		0	0	0
TOC	mg/l			2.19						1.8					1.8	2.19	2.00
TURBIDITY ED 1/1/2002	NTU	0.3		0.02			<0.05			0.04			0.04		0.02	0.04	0.033
UV254				0.043			0.039			0.34			0.036		0.036	0.34	0.115
VANADIUM, ICP	mg/L			<0.01			<0.01			<0.01			<0.01		0	0	0
ZINC, ICP P	mg/L	5		<0.005			0.007			<0.005			<0.005		0.007	0.007	0.007
THM'S (TRIHALOMETHANES) TOTAL (FW)	ug/L	80	31	37.8	0	0	52.5	0	0	45.4	0	0.0	25.0	0.0	0	52.5	15.98
Bromodichloromethane	ug/L		8.8	10.2			13.5			11.5			10.3		8.8	13.5	10.86
Bromoform	ug/L		1.4	2.7			1.2			1.6			1.2		1.2	2.7	1.62
Chlorodibromomethane	ug/L		6.4	8.6			8.6			23.7			7.1		6.4	23.7	10.88
Chloroform	ug/L		14.4	16.3			29.2			8.6			16.7		8.6	29.2	17.04
THM'S (TRIHALOMETHANES) TOTAL (MPS)	ug/L	80	35.2	30.3	0	0	49.9	0.0	0.0	50.7	0.0	0.0	34.4	0.0	0	50.7	16.71
Bromodichloromethane	ug/L		9.2	8.7			12.4			13			9.9		8.7	13	10.64
Bromoform	ug/L		1.1	1.2			1.2			3.1			1.8		1.1	3.1	1.68
Chlorodibromomethane	ug/L		6.2	6.4			8.5			23.3			7.4		6.2	23.3	10.36
Chloroform	ug/L		18.7	14			27.8			11.3			15.3		11.3	27.8	17.42

LAB:
*Secondary Maximum Contaminant Level

D-Deferred
ED-Effective Date

S-State of Illinois Only
**IN-HOUSE pH

ANNUAL RIVER 2011

CHEMICAL ANALYSIS 2011

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	FOX RIVER WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L			308			240		227				247		227.00	308	255.50
ALUMINUM, ICP *	mg/L	0.05 - 0.2		<0.05			0.56		0.05				0.29		0.05	0.56	0.300
ANTIMONY ED 1/17/94	mg/L	0.006		<0.006			<0.006		<0.006				<0.006		0.00	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01		<0.002			<0.002		<0.002				<0.002		0.00	0	0
BARIUM, ICP	mg/L	2.0		0.116			0.071		0.084				0.11		0.07	0.116	0.095
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004		<0.001			0.001		<0.001				<0.001		0.00	0.001	0.001
BORON, ICP P	mg/L	0.6/1.0		0.08			0.04		0.07				0.06		0.04	0.08	0.063
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005		<0.001			<0.001		<0.001				<0.001		0.00	0	0
CALCIUM, AA	mg/L			92.1			61.6		50.2				67.2		50.20	92.1	67.78
CHLORIDE	mg/L	250		161			113		192				140		113.00	192	151.50
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10		<0.001			0.001		<0.001				<0.001		0.00	0.001	0.001
COBALT, ICP	mg/L			<0.001			<0.001		<0.001				<0.001		0.00	0	0
CONDUCTIVITY	umhos/cm			1,210			807		909				997		807.00	1210	980.75
COPPER, ICP SDWA 7/30/92	mg/L	1.3		<0.001			<0.001		0.003				<0.001		0.00	0.003	0.003
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2		<0.005			<0.005		<0.005				<0.005		0.00	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2		0.29			0.29		0.29				0.263		0.26	0.291	0.284
HARDNESS Ca	mg/L			255			160		127				236		127.00	255	194.50
HARDNESS, TOTAL	mg/L			408			300		280				392		280.00	408	345.00
IRON, ICP S	mg/L	0.3		<0.01			0.62		0.14				0.46		0.14	0.62	0.407
LEAD, GFAA SDWA 7/30/92	mg/L	0.015		<0.002			<0.002		<0.002				<0.002		0.00	0	0
MAGNESIUM, AA	mg/L			48.4			30.1		37.4				37.5		30.10	48.4	38.35
MANGANESE, ICP S	mg/L	0.05		0.017			0.053		0.094				0.057		0.02	0.094	0.055
NICKEL, ICP ED 1/17/94	mg/L	0.10		<0.001			0.002		<0.001				<0.001		0.00	0.002	0.002
NITROGEN - AMMONIA	mg/L			0.02			0.03		0.04				0.03		0.02	0.04	0.030
NITRATE + NITRITE, AS NITROGEN	mg/L	10		3.54			1.75		0.1				1.80		0.10	3.54	1.80
pH	UNITS			8.26			8.34		8.23				8.58		8.23	8.58	8.35
POTASSIUM, AA	mg/L			5.1			4.2		4.2				4.5		4.20	5.1	4.50
SELENIUM, AA SDWA 7/30/92	mg/L	0.05		<0.002			<0.002		<0.002				<0.002		0.00	0	0
SILICA	mg/L			6			2.0		5.0				8		2.00	8	5.25
SILVER, ICP * SDWA 7/30/92	mg/L	0.10		<0.001			<0.001		<0.001				<0.001		0.00	0	0
SODIUM, AA	mg/L			101			49.5		75.1				76.6		49.50	101	75.55
SOLIDS, TOTAL DISSOLVED	mg/L	500		705			461		518				668		461.00	705	588.00
STRONTIUM, ICP	mg/L			0.790			0.350		0.370				0.480		0.35	0.79	0.498
SULFATE	mg/L	250		53			43		45				47		43.00	53	47.00
THALLIUM	mg/L	0.002		<0.002			<0.002		<0.002				<0.002		0.00	0	0
TOC	mg/l			4.2			6.6		9.1						4.20	9.1	6.63
TURBIDITY ED 1/1/2002	NTU	0.3		1.38			46		12.1				12.8		1.38	46	18.07
UV254				0.114			0.23		0.212				0.157		0.11	0.23	0.178
VANADIUM, ICP	mg/L			<0.01			<0.01		<0.01				<0.01		0.00	0	0
ZINC, ICP P	mg/L	5		<0.005			0.006		<0.005				6.600		0.01	6.6	3.30

LAB:

*Secondary Maximum Contaminant Level

P-Proposed

D-Deferred

ED-Effective Date

S - State of Illinois Only

**IN-HOUSE pH

ANNUAL WELL 2011

CHEMICAL ANALYSIS 2011

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	WELL WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L			279			270		280				271		270	280	275.00
ALUMINUM, ICP *	mg/L	0.05 - 0.2		<0.05			0.08		<0.05				<0.05		0.08	0.08	0.080
ANTIMONY ED 1/17/94	mg/L	0.006		<0.006			<0.006		<0.006				<0.006		0	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01		<0.002			<0.002		<0.002				<0.002		0	0	0
BARIUM, ICP	mg/L	2.0		0.129			0.187		0.14				0.122		0.122	0.187	0.145
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004		<0.001			<0.001		<0.001				<0.001		0	0	0
BORON, ICP P	mg/L	0.6/1.0		0.34			0.37		0.32				0.31		0.31	0.37	0.335
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005		<0.001			<0.001		<0.001				<0.001		0	0	0
CALCIUM, AA	mg/L			66.2			59.8		67.2				81.9		59.8	81.9	68.78
CHLORIDE	mg/L	250		37.2			29.7		45				123		29.7	123	58.73
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10		<0.001			<0.001		<0.001				<0.001		0	0	0
COBALT, ICP	mg/L			<0.001			<0.001		<0.001				<0.001		0	0	0
CONDUCTIVITY	umhos/cm			656			672		662				986		656	986	744.00
COPPER, ICP SDWA 7/30/92	mg/L	1.3		<0.001			<0.001		<0.001				<0.001		0	0	0
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2		<0.005			<0.005		<0.005				<0.005		0	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2		0.763			0.935		0.859				0.791		0.763	0.935	0.837
HARDNESS Ca	mg/L			175			160		170				228		160	228	183.25
HARDNESS, TOTAL	mg/L			274			265		285				368		265	368	298.00
IRON, ICP S	mg/L	0.3		<0.01			0.14		0.27				0.46		0.14	0.46	0.290
LEAD, GFAA SDWA 7/30/92	mg/L	0.015		<0.002			<0.002		<0.002				<0.002		0	0	0
MAGNESIUM, AA	mg/L			25.2			23.8		26.2				29.9		23.8	29.9	26.28
MANGANESE, ICP S	mg/L	0.05		0.01			0.02		0.018				0.034		0.01	0.034	0.021
NICKEL, ICP ED 1/17/94	mg/L	0.10		<0.001			<0.001		<0.001				<0.001		0	0	0
NITROGEN - AMMONIA	mg/L			0.56			0.48		0.50				0.48		0.48	0.56	0.505
NITRATE + NITRITE, AS NITROGEN	mg/L	10		<0.10			0.11		<0.10				<0.10		0.11	0.11	0.110
pH	UNITS			7.51			7.26		7.56				7.62		7.26	7.62	7.49
POTASSIUM, AA	mg/L			14.3			14.4		10.9				12		10.9	14.4	12.90
SELENIUM, AA SDWA 7/30/92	mg/L	0.05		<0.002			<0.002		<0.002				<0.002		0	0	0
SILICA	mg/L			7			5		3				9		3	9	6.00
SILVER, ICP * SDWA 7/30/92	mg/L	0.10		<0.001			<0.001		<0.001				<0.001		0	0	0
SODIUM, AA	mg/L			33.6			33.7		2.8.				72.5		33.6	72.5	46.60
SOLIDS, TOTAL DISSOLVED	mg/L	500		378			381		378				560		378	560	424.25
STRONTIUM, ICP	mg/L			2.19			2.47		1.95				1.79		1.79	2.47	2.10
SULFATE	mg/L	250		20			36		37				40		20	40	33.25
THALLIUM	mg/L	0.002		<0.002			<0.002		<0.002				<0.002		0	0	0
TOC	mg/l			1.6											1.6	1.6	1.60
TURBIDITY ED 1/1/2002	NTU	0.3		0.2			0.48		0.79				1.29		0.2	1.29	0.690
UV254				0.001			0.012		0.012				0.024		0.001	0.024	0.012
VANADIUM, ICP	mg/L			<0.01			<0.01		<0.01				<0.01		0	0	0
ZINC, ICP P	mg/L	5		<0.005			<0.005		<0.005				<0.005		0	0	0

LAB:

*Secondary Maximum Contaminant Level

ED-Effective Date

P-Proposed

S-State of Illinois Only

**IN-HOUSE pH

ANNUAL FINISHED WATER 2011

CHEMICAL ANALYSIS 2011

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	FINISHED WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L			123			64		59				68		59	123	78.50
ALUMINUM, ICP *	mg/L	0.05 - 0.2		<0.05			0.08		0.07				<0.05		0.07	0.08	0.075
ANTIMONY ED 1/17/94	mg/L	0.006		<0.006			<0.006		<0.006				<0.006		0	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01		<0.002			<0.002		<0.002				<0.002		0	0	0
BARIUM, ICP	mg/L	2.0		0.037			0.013		0.015				0.013		0.013	0.037	0.020
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004		<0.001			<0.001		<0.001				<0.001		0	0	0
BORON, ICP P	mg/L	0.6/1.0		0.18			0.15		0.19				0.12		0.12	0.19	0.160
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005		<0.001			<0.001		<0.001				<0.001		0	0	0
CALCIUM, AA	mg/L			18.2			15.9		16.7				15.3		15.3	18.2	16.53
CHLORIDE	mg/L	*250		118			108		151				132		108	151	127.25
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10		<0.001			0.002		0.004				<0.001		0.002	0.004	0.003
COBALT, ICP	mg/L			<0.001			<0.001		<0.001				<0.001		0	0	0
CONDUCTIVITY	umhos/cm			764			534		488				718		488	764	626.00
COPPER, ICP SDWA 7/30/92	mg/L	1.3		<0.001			<0.001		<0.001				<0.001		0	0	0
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2		<0.005			<0.005		<0.005				<0.005		0	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2		1.00			0.98		0.89				1.1		0.893	1.1	0.994
HARDNESS Ca	mg/L			49			44		36				50		36	50	44.75
HARDNESS, TOTAL	mg/L			187			138		99				170		99	187	148.50
IRON, ICP S	mg/L	*0.3		<0.01			0.02		<0.01				<0.01		0.02	0.02	0.020
LEAD, GFAA SDWA 7/30/92	mg/L	0.015		<0.002			<0.002		<0.002				<0.002		0	0	0
MAGNESIUM, AA	mg/L			37.8			18		17.7				21.4		17.7	37.8	23.73
MANGANESE, ICP S	mg/L	*0.05		<0.001			0.005		<0.001				<0.001		0.005	0.005	0.005
NICKEL, ICP ED 1/17/94	mg/L	0.10		<0.001			<0.001		<0.001				<0.001		0	0	0
NITROGEN - AMMONIA	mg/L														0	0	0
NITRATE + NITRITE, AS NITROGEN	mg/L	10		2.61			1.30		<0.10				4.00		1.3	4	2.64
pH	UNITS			9.09			9.04		9.11				9.02		9.02	9.11	9.07
POTASSIUM, AA	mg/L			8.7			7.6		8.1				7		7	8.7	7.85
SELENIUM, AA SDWA 7/30/92	mg/L	0.05		<0.002			<0.002		<0.002				<0.002		0	0	0
SILICA	mg/L			6			3		1				6		1	6	4.00
SILVER, ICP * SDWA 7/30/92	mg/L	0.10		<0.001			<0.001		<0.001				<0.001		0	0	0
SODIUM, AA	mg/L			82.5			48.4		62.8				75.2		48.4	82.5	67.23
SOLIDS, TOTAL DISSOLVED	mg/L	500		428			305		278				447		278	447	364.50
STRONTIUM, ICP	mg/L			0.380			0.260		0.330				0.240		0.24	0.38	0.303
SULFATE	mg/L	*250		42			35		39						35	42	38.67
THALLIUM	mg/L	0.002		<0.002			<0.002		<0.002				<0.002		0	0	0
TOC	mg/l			1.6			1.8		2.3						1.6	2.3	1.90
TURBIDITY ED 1/1/2002	NTU	0.3		0.04			<0.05		0.04				<0.05		0.04	0.04	0.040
UV254				0.038			0.041		0.075				0.039		0.038	0.075	0.048
VANADIUM, ICP	mg/L			<0.01			<0.01		<0.01				<0.01		0	0	0
ZINC, ICP P	mg/L	5		<0.005			<0.005		<0.005				<0.005		0	0	0
THM'S (TRIHALOMETHANES) TOTAL (FW)	ug/L	80	19	28.6	28.2	34.6	40.7	47.9	46.9	46.9	46.2	30.1	36.4	38.2	19	47.9	36.98
Bromodichloromethane	ug/L		5.1	7.9	7.7	9.7	10.7	12.5	10.7	10.7	11.8	11.3	10.9	11.6	5.1	12.5	10.05
Bromoform	ug/L		1.1	2.8	<0.5	<0.5	<0.5	2.6	1.5	1.5	1.4	0.6	5.7	0.6	0.6	5.7	1.98
Chlorodibromomethane	ug/L		5.2	8.8	4.4	5.7	5.9	23.0	8.6	8.6	7.8	5.3	12.7	5.1	4.4	23	8.43
Chloroform	ug/L		7.6	9.1	16.1	19.2	24.1	9.8	26.1	26.1	25.2	24.2	18.0	20.9	7.6	26.1	18.87
THM'S (TRIHALOMETHANES) TOTAL (MPS)	ug/L	80	18.6	27.1	33.2	38.3	37.3	30.0	24.9	24.9	47.9	44.7	49.7	42.3	18.6	49.7	34.91
Bromodichloromethane	ug/L		5.1	6.6	9.3	9.6	9.6	11	6.3	6.3	12.7	11.2	12.7	10.9	5.1	12.7	9.28
Bromoform	ug/L		1.1	3.3	<0.5	<0.5	0.7	1.7	0.7	0.7	1.4	0.8	1.4	0.8	0.7	3.3	1.26
Chlorodibromomethane	ug/L		4.6	8.2	4.8	4.8	6.1	20.3	4.5	4.5	7.9	6.3	8.0	6.6	4.5	20.3	7.22
Chloroform	ug/L		7.8	9	19.1	23.9	20.9	8	13.4	13.4	25.9	26.4	27.6	24.0	7.8	27.6	18.28

LAB:

*Secondary Maximum Contaminant Level

D-Deferred

ED-Effective Date

S-State of Illinois Only

**IN-HOUSE pH

ANNUAL RIVER 2010

CHEMICAL ANALYSIS 2010

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	FOX RIVER WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L									247			276		247.00	276	261.50
ALUMINUM, ICP *	mg/L	0.05 - 0.2			0.18			0.72		0.09			0.15		0.09	0.72	0.285
ANTIMONY ED 1/17/94	mg/L	0.006			<0.006			<0.006		<0.006			<0.006		0.00	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01			<0.002			<0.002		<0.002			<0.002		0.00	0	0
BARIUM, ICP	mg/L	2.0			0.086			0.137		0.065			0.125		0.07	0.137	0.103
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004			<0.001			<0.001		<0.001			<0.001		0.00	0	0
BORON, ICP P	mg/L	0.6/1.0			0.06			0.09		<0.01			0.14		0.06	0.14	0.097
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005			<0.001			<0.001		<0.001			<0.001		0.00	0	0
CALCIUM, AA	mg/L				78			87.7		<0.1			87.6		78.00	87.7	84.43
CHLORIDE	mg/L	250								79.5			136		79.50	136	107.75
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10			<0.001			<0.001		<0.001			<0.001		0.00	0	0
COBALT, ICP	mg/L				<0.001			<0.001		<0.001			<0.001		0.00	0	0
CONDUCTIVITY	umhos/cm									675			996		675.00	996	835.50
COPPER, ICP SDWA 7/30/92	mg/L	1.3			0.003			0.004		<0.001			<0.001		0.00	0.004	0.004
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2			<0.005			<0.005		<0.005			<0.005		0.00	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2								0.264			0.278		0.26	0.278	0.271
HARDNESS Ca	mg/L									142			208		142.00	208	175.00
HARDNESS, TOTAL	mg/L									275			379		275.00	379	327.00
IRON, ICP S	mg/L	0.3			0.38			1		0.23			0.3		0.23	1	0.478
LEAD, GFAA SDWA 7/30/92	mg/L	0.015			<0.002			0.002		<0.002			<0.002		0.00	0.002	0.002
MAGNESIUM, AA	mg/L				39.4			48.3		26.9			49.7		26.90	49.7	41.08
MANGANESE, ICP S	mg/L	0.05			0.052			0.086		0.052			0.0053		0.01	0.086	0.049
NICKEL, ICP ED 1/17/94	mg/L	0.10			0.003			0.005		<0.001			0.002		0.00	0.005	0.003
NITROGEN - AMMONIA	mg/L									0			0.03		0.00	0.03	0.015
NITRATE + NITRITE, AS NITROGEN	mg/L	10			2.79			1.53		0.61			2.57		0.61	2.79	1.88
pH	UNITS									7.94			8.34		7.94	8.34	8.14
POTASSIUM, AA	mg/L				0.4			5.1		3.5			7.4		0.40	7.4	4.10
SELENIUM, AA SDWA 7/30/92	mg/L	0.05			<0.002			<0.002		<0.002			<0.002		0.00	0	0
SILICA	mg/L									8			6		6.00	8	7.00
SILVER, ICP * SDWA 7/30/92	mg/L	0.10			<0.001			<0.001		<0.001			<0.001		0.00	0	0
SODIUM, AA	mg/L				80.5			89.8		41.1			68		41.10	89.8	69.85
SOLIDS, TOTAL DISSOLVED	mg/L	500								399			585		399.00	585	492.00
STRONTIUM, ICP	mg/L				0.480			0.520		<0.01			0.700		0.48	0.7	0.567
SULFATE	mg/L	250								8			54		8.00	54	31.00
THALLIUM	mg/L	0.002			<0.002			<0.002		<0.002			<0.002		0.00	0	0
TOC	mg/l														0.00	0	0
TURBIDITY ED 1/1/2002	NTU	0.3			8.39					67.3			13.7		8.39	67.3	29.80
UV254										0.306			0.15		0.15	0.306	0.228
VANADIUM, ICP	mg/L				<0.01			<0.01		<0.01			<0.01		0.00	0	0
ZINC, ICP P	mg/L	5			0.007			0.009		<0.005		0.011	0.007		0.01	0.011	0.009

LAB:

*Secondary Maximum Contaminant Level

P-Proposed

D-Deferred

ED-Effective Date

S - State of Illinois Only

**IN-HOUSE pH

ANNUAL WELL 2010

CHEMICAL ANALYSIS 2010

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	WELL WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L									374			278		278	374	326.00
ALUMINUM, ICP *	mg/L	0.05 - 0.2			<0.05			0.05		<0.05			<0.05		0.05	0.05	0.050
ANTIMONY ED 1/17/94	mg/L	0.006			<0.006			<0.006		<0.006			<0.006		0	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01			<0.002			<0.002		<0.002			<0.002		0	0	0
BARIUM, ICP	mg/L	2.0			0.101			0.134		0.134			0.125		0.101	0.134	0.124
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004			<0.001			<0.001		<0.001			<0.001		0	0	0
BORON, ICP P	mg/L	0.6/1.0			0.3			0.36		0.33			0.52		0.3	0.52	0.378
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005			<0.001			<0.001		<0.001			<0.001		0	0	0
CALCIUM, AA	mg/L				60.3			62.9		67			62.4		60.3	67	63.15
CHLORIDE	mg/L	250								55.8			12.1		12.1	55.8	33.95
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10			<0.001			<0.001		<0.001			<0.001		0	0	0
COBALT, ICP	mg/L				<0.001			<0.001		<0.001			<0.001		0	0	0
CONDUCTIVITY	umhos/cm									761			589		589	761	675.00
COPPER, ICP SDWA 7/30/92	mg/L	1.3			<0.001			<0.001		<0.001			<0.001		0	0	0
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2			<0.005			<0.005		<0.005			<0.005		0	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2								0.876			0.973		0.876	0.973	0.925
HARDNESS Ca	mg/L									163			183		163	183	173.00
HARDNESS, TOTAL	mg/L									294			308		294	308	301.00
IRON, ICP S	mg/L	0.3			<0.01			0.2		1.34			0.02		0.02	1.34	0.520
LEAD, GFAA SDWA 7/30/92	mg/L	0.015			<0.002			<0.002		<0.003			<0.002		0	0	0
MAGNESIUM, AA	mg/L				23.5			24.8		26.3			26.2		23.5	26.3	25.20
MANGANESE, ICP S	mg/L	0.05			0.022			0.013		0.017			0.005		0.005	0.022	0
NICKEL, ICP ED 1/17/94	mg/L	0.10			<0.001			<0.001		<0.002			<0.001		0	0	0
NITROGEN - AMMONIA	mg/L									0.54			0.49		0.49	0.54	0.515
NITRATE + NITRITE, AS NITROGEN	mg/L	10			0.17			<0.10		<0.10			<0.10		0.17	0.17	0.170
pH	UNITS									7.63			7.67		7.63	7.67	7.65
POTASSIUM, AA	mg/L				10.7			12.4		12			17.2		10.7	17.2	13.08
SELENIUM, AA SDWA 7/30/92	mg/L	0.05			<0.002			<0.002		<0.002			<0.002		0	0	0
SILICA	mg/L									2			4		2	4	3.00
SILVER, ICP * SDWA 7/30/92	mg/L	0.10			<0.001			<0.001		<0.001			<0.001		0	0	0
SODIUM, AA	mg/L				41.7			34.3		37.4			30.4		30.4	41.7	35.95
SOLIDS, TOTAL DISSOLVED	mg/L	500								435			326		326	435	380.50
STRONTIUM, ICP	mg/L				1.60			2.34		2.08			2.42		1.6	2.42	2.11
SULFATE	mg/L	250								2			38		2	38	20.00
THALLIUM	mg/L	0.002			<0.002			<0.002		<0.002			<0.002		0	0	0
TOC	mg/l														0	0	0
TURBIDITY ED 1/1/2002	NTU	0.3			0.89					1.32			8.98		0.89	8.98	3.73
UV254										0.036			0.004		0.004	0.036	0.020
VANADIUM, ICP	mg/L				<0.01			<0.01		<0.01			<0.01		0	0	0
ZINC, ICP P	mg/L	5			<0.005			<0.005		<0.005			<0.005		0	0	0

LAB:

*Secondary Maximum Contaminant Level

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**IN-HOUSE pH

ANNUAL FINISHED WATER 2010 — CHEMICAL ANALYSIS 2010

ANALYTE	UNITS	DRINKING WATER REGULATORY LIMIT	FINISHED WATER														
			JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	MIN	MAX	AVG
ALKALINITY, TOTAL (CaCO3)	mg/L									59			91		59	91	75.00
ALUMINUM, ICP *	mg/L	0.05 - 0.2			<0.05			<0.05		<0.05			<0.05		0	0	0
ANTIMONY ED 1/17/94	mg/L	0.006			<0.006			<0.006		<0.006			<0.006		0	0	0
ARSENIC, AA SDWA 1/23/2006	mg/L	0.01			<0.002			<0.002		<0.002			<0.002		0	0	0
BARIUM, ICP	mg/L	2.0			0.010			0.015		0.017			0.008		0.008	0.017	0.013
BERYLLIUM, ICP ED 1/17/94	mg/L	0.004			<0.001			<0.001		<0.001			<0.001		0	0	0
BORON, ICP P	mg/L	0.6/1.0			0.16			0.13		0.017			0.31		0.017	0.31	0.154
CADMIUM, ICP SDWA 7/30/92	mg/L	0.005			<0.001			<0.001		<0.001			<0.001		0	0	0
CALCIUM, AA	mg/L				15.5			19.2		0.08			11.1		0.08	19.2	11.47
CHLORIDE	mg/L	*250								105			71.7		71.7	105	88.35
CHROMIUM, ICP SDWA 7/30/92	mg/L	0.10			0.004			<0.001		<0.001			0.003		0.003	0.004	0.004
COBALT, ICP	mg/L				<0.001			<0.001		<0.001			<0.001		0	0	0
CONDUCTIVITY	umhos/cm									502			528		502	528	515.00
COPPER, ICP SDWA 7/30/92	mg/L	1.3			<0.001			<0.001		<0.001			<0.001		0	0	0
CYANIDE,TOTAL (AS FREE CYANIDE)	mg/L	0.2			<0.005			<0.005		<0.005			<0.005		0	0	0
FLUORIDE (4.00 PPM)	mg/L	0.9 - 1.2								0.98			1.05		0.98	1.05	1.015
HARDNESS Ca	mg/L									44			34		34	44	39.00
HARDNESS, TOTAL	mg/L									120			129		120	129	124.500
IRON, ICP S	mg/L	*0.3			<0.01			<0.01		<0.01			<0.01		0	0	0
LEAD, GFAA SDWA 7/30/92	mg/L	0.015			<0.002			<0.002		<0.002			<0.002		0	0	0
MAGNESIUM, AA	mg/L				28.4			16.3		10.3			24.4		10.3	28.4	19.85
MANGANESE, ICP S	mg/L	*0.05			<0.001			<0.001		<0.001			<0.001		0	0	0
NICKEL, ICP ED 1/17/94	mg/L	0.10			<0.001			<0.001		<0.001			0.001		0.001	0.001	0.001
NITROGEN - AMMONIA	mg/L												0		0	0	0
NITRATE + NITRITE, AS NITROGEN	mg/L	10			1.73			1.23		0.58			1.39		0.58	1.73	1.23
pH	UNITS									9.04			9.03		9.03	9.04	9.04
POTASSIUM, AA	mg/L				6.4			6.5		6.0			11.8		6	11.8	7.68
SELENIUM, AA SDWA 7/30/92	mg/L	0.05			<0.002			<0.002		<0.002			<0.002		0	0	0
SILICA	mg/L									5			3		3	5	4.00
SILVER, ICP * SDWA 7/30/92	mg/L	0.10			<0.001			<0.001		<0.001			<0.001		0	0	0
SODIUM, AA	mg/L				71.6			69.1		52.4			49.3		49.3	71.6	60.60
SOLIDS, TOTAL DISSOLVED	mg/L	500								270			271		270	271	270.50
STRONTIUM, ICP	mg/L				<0.01			0.290		0.300			0.300		0.29	0.3	0.297
SULFATE	mg/L	*250								5			36		5	36	20.50
THALLIUM	mg/L	0.002			<0.002			<0.002		<0.002			<0.002		0	0	0
TOC	mg/l														0	0	0
TURBIDITY ED 1/1/2002	NTU	0.3								0.02			0.02		0.02	0.02	0.020
UV254										0.042			0.029		0.029	0.042	0.036
VANADIUM, ICP	mg/L				<0.01			<0.01		<0.01			<0.01		0	0	0
ZINC, ICP P	mg/L	5			<0.005			<0.005		<0.005			<0.005		0	0	0
THM'S (TRIHALOMETHANES) TOTAL (FW)	ug/L	80						41.9		58.2			29.6		29.6	58.2	43.23
Bromodichloromethane	ug/L							9.7		13.3			7.8		7.8	13.3	10.27
Bromoform	ug/L							2.2		3.2			1.6		1.6	3.2	2.33
Chlorodibromomethane	ug/L							11.0		12.6			6.2		6.2	12.6	9.93
Chloroform	ug/L							19		29.1			14.0		14	29.1	20.70
THM'S (TRIHALOMETHANES) TOTAL (MPS)	ug/L	80						35.65		42.0			30.7		30.7	42	36.12
Bromodichloromethane	ug/L							5.6		8.4			8.3		5.6	8.4	7.43
Bromoform	ug/L							0.8		1			1.6		0.75	1.6	1.12
Chlorodibromomethane	ug/L							9.3		5			6.4		5	9.3	6.90
Chloroform	ug/L							20		27.6			14.4		14.4	27.6	20.67

LAB:
*Secondary Maximum Contaminant Level
D-Deferred
ED-Effective Date
S-State of Illinois Only
**IN-HOUSE pH

Appendix O:

Lime Sludge Analysis Results Tables and Laboratory Analysis Reports

CITY OF AURORA
CLASS V UIC PERMIT APPLICATION
WTP SLUDGE DATA

	6/3/1999	7/17/2000	7/6/2001	6/10/2002	6/26/2003	6/21/2004	6/21/2005	7/6/2005	10/9/2008	10/20/2008	5/4/2010						8/9/2011	4/24/2012	6/28/2012	7/3/2012	7/3/2012 rerun	7/19/2012
VOC (5035A/8260B), mg/kg																						
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.100	NA						NA	<10.000	NA	0.125	<0.100	<0.100
Benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	0.139	NA	<0.005	<0.005	<0.005
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Bromoform	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Bromomethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
2-Butanone (MEK)	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.100	NA						NA	<10.000	NA	<0.100	<0.100	<0.100
Carbon disulfide	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Carbon tetrachloride	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Chlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Chlorodibromomethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Chloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
Chloroform	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Chloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
1,2-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
cis-1,2-Dichoroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	0.400	NA	<0.005	<0.005	<0.005
trans-1,2-Dichoroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.400	NA	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.400	NA	<0.005	<0.005	<0.005
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
Methyl-tert-butylether (MTBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	0.320	NA	<0.005	<0.005	<0.005
4-Methyl-2-pentanon (MIBK)	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.020	NA						NA	<2.000	NA	<0.020	<0.020	<0.020
Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Toluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Trichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
Vinyl acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	NA						NA	<1.000	NA	<0.010	<0.010	<0.010
Xylene, total	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
VOC (8011), mg/kg																						
1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.200	NA	<0.002	<0.002	<0.002
1,2-Dibromoethane (EDB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.500	NA	<0.005	<0.005	<0.005
SVOC (3540C/8270C), mg/kg																						
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.090	NA						NA	<0.180	NA	<0.180	<0.180	<0.180
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzo(ghi)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzoic acid	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Benzyl alcohol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
bis-(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
bis(2-Cloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
bis(2-Chloroisopropyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
bis(2-Ethylhexyl)phthate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Butyl benzyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2-Chloronapthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660

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	6/3/1999	7/17/2000	7/6/2001	6/10/2002	6/26/2003	6/21/2004	6/21/2005	7/6/2005	10/9/2008	10/20/2008	5/4/2010						8/9/2011	4/24/2012	6/28/2012	7/3/2012	7/3/2012	7/19/2012
Dibenzo(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.090	NA						NA	<0.180	NA	<0.180	<0.180	<1.890
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.660	NA						NA	<1.320	NA	<1.320	<1.320	<1.320
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2,4 Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Di-n-butyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.250	NA						NA	<0.500	NA	<0.500	<0.500	<0.500
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.260	NA						NA	<0.520	NA	<0.520	<0.520	<0.520
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
3 & 4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<0.520	NA	<0.520	<0.520	<0.520
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.260	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<3.200	NA	<3.200	<3.200	<3.200
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.600	NA						NA	<0.180	NA	<0.180	<0.180	<0.180
n-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
n-Nitrosodimethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	12.0	NA	18.8	15.0	20.0
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.080	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
Pyridine	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.330	NA						NA	<0.660	NA	<0.660	<0.660	<0.660
SV Pest (3540C/8270C), mg/kg																						
Alachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.080	NA	<0.120	NA	<0.080
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.132	NA	<0.120	NA	<0.132
Simazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.080	NA	<0.120	NA	<0.080
Pest/PCB (3540C/8081A/8082), mg/kg																						
Aldrin	NA	NA	NA	NA	NA	NA	NA		NA	<0.008	NA						NA	<0.008	NA	<0.008	NA	<0.008
Aroclor 1016	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.080	NA	<0.080	NA						NA	<0.080	NA	<0.080	NA	<0.080
Aroclor 1221	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.080	NA	<0.080	NA						NA	<0.080	NA	<0.080	NA	<0.080
Aroclor 1232	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.080	NA	<0.080	NA						NA	<0.080	NA	<0.080	NA	<0.080
Aroclor 1242	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.080	NA	<0.080	NA						NA	<0.080	NA	<0.080	NA	<0.080
Aroclor 1248	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.080	NA	<0.080	NA						NA	<0.160	NA	<0.160	NA	<0.160
Aroclor 1254	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.160	NA	<0.160	NA						NA	<0.160	NA	<0.160	NA	<0.160
Aroclor 1260	<0.050	<0.028	<0.030	<0.029	<0.033	<0.030	<0.035	<0.160	NA	<0.160	NA						NA	<0.002	NA	<0.002	NA	<0.002
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002	NA						NA	<0.008	NA	<0.008	NA	<0.008
beta-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.008	NA						NA	<0.008	NA	<0.008	NA	<0.008
delta-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.008	NA						NA	<0.008	NA	<0.008	NA	<0.008
gamma-BHC(Lindane)	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.008	NA						NA	<0.080	NA	<0.080	NA	<0.080
alpha-Chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.080	NA						NA	<0.080	NA	<0.080	NA	<0.080
gamma-Chlordane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.080	NA						NA	<0.016	NA	<0.016	NA	<0.016
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA											

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4,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.008	NA						NA	<0.008	NA	<0.008	NA	<0.008
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Endrin ketone	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.016	NA						NA	<0.016	NA	<0.016	NA	<0.016
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.008	NA						NA	<0.008	NA	<0.008	NA	<0.008
Heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.008	NA						NA	<0.008	NA	<0.008	NA	<0.008
Methoxychlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.080	NA						NA	<0.080	NA	<0.080	NA	<0.080
Toxaphene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.160	NA						NA	<0.160	NA	<0.160	NA	<0.160
Endothall	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Carbamate Pest (8318) mg/kg																						
Aldicarb	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.200	NA	<1.000	NA	<0.050
Carbofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.200	NA	<1.000	NA	<0.050
Herbicides (8321A) mg/kg																						
2,4-D	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.100	NA						NA	<0.100	NA	<0.100	NA	<0.100
Silvex (2,4,5-TP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.100	NA						NA	<0.100	NA	<0.100	NA	<0.100
Dalapon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.100	NA	<0.100	NA	<0.100
Dinoseb	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.100	NA	<0.100	NA	<0.100
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.020	NA	<0.020	NA	<0.020
Picloram	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.100	NA	<0.100	NA	<0.100
2,4,5-T	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<0.100	NA	<0.100	NA	<0.100
Total Metals (3050B/6010B) mg/kg																						
Aluminum	940.00	980.00	790.00	830.00	1,300.00	1,400.00	2,700.00	1,910.00	616.00	NA	419.00						248.00	NA	646.00	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						<1.00	<2.50	NA	<1.00	NA	<1.00
Arsenic	0.74	<0.830	<0.890	1.10	1.70	1.20	1.40	3.10	2.20	1.20	1.10						0.90	3.00	<0.200	4.20	NA	4.00
Barium	89.00	140.00	140.00	130.00	190.00	250.00	200.00	149.00	176.00	65.60	179.00						46.80	160.00	198.00	1,630.00	NA	197.00
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						<0.100	<0.20	NA	<0.100	NA	<0.100
Boron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	17.70	NA	658.00	NA	112.00
Cadmium	<0.500	<1.70	<1.80	<1.70	<1.90	<0.620	<0.330	0.20	<0.100	0.10	0.20						<0.100	0.80	<0.100	<0.100	NA	0.80
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA	62,800.00	NA						63,500.00	NA	NA	NA	NA	NA
Chromium	<2.0	<1.70	<1.80	2.10	2.90	2.30	2.40	2.80	5.50	2.00	7.00						2.20	6.60	7.70	22.70	NA	7.60
Chromium, hexavalent (7196A)	<10.0	<0.830	0.89	<0.430	<0.960	<0.880	<1.00	<2.50	<2.50	<2.50	<2.50						<2.50	NA	<2.50	NA	NA	NA
Cobalt	<5.0	<1.70	<1.80	<1.70	<1.90	<0.610	0.39	1.00	0.80	0.20	0.70						0.30	0.50	<0.100	<0.100	NA	0.80
Copper	2.20	3.30	2.70	1.90	4.80	3.30	3.50	7.10	15.50	4.70	9.30						2.00	7.30	6.80	48.30	NA	6.40
Iron	1,500.00	1,300.00	1,300.00	1,000.00	1,600.00	1,100.00	1,300.00	2,510.00	7,370.00	2,420.00	7,840.00						2,220.00	6,460.00	7,550.00	7,670.00	NA	7,710.00
Lead	1.40	1.80	<1.80	<1.70	2.90	1.80	1.30	3.60	0.80	0.30	<0.200						1.00	<0.500	1.90	4.20	NA	<0.200
Magnesium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						11,000.00	NA	NA	NA	NA	NA
Manganese	67.00	270.00	390.00	400.00	540.00	490.00	450.00	497.00	126.00	42.90	107.00						47.30	154.00	188.00	227.00	NA	172.00
Mercury (7470A)	<0.040	<0.170	<0.180	<0.170	<0.190	0.04	0.02	0.16	<0.140	<0.050	0.13						<0.050	<0.050	<0.050	<0.050	NA	<0.050
Molybdenum	<5.0	<8.30	<8.90	<8.60	<9.60	<1.80	<2.00	<1.00	NA	<1.0	<1.00						NA	<2.50	NA	<1.00	NA	<1.00
Nickel	<2.5	2.30	2.70	2.20	3.50	2.80	2.20	4.50	3.90	1.30	5.30						1.40	4.80	7.40	13.00	NA	4.40
Potassium	130.00	600.00	610.00	690.00	880.00	460.00	180.00	413.00	177.00	60.00	154.00						103.00	NA	96.00	NA	NA	NA
Selenium	<0.500	<1.70	<1.80	<1.70	<1.90	<0.610	<0.900	<0.200	<0.200	<0.200	<0.200						<0.200	<0.500	<0.200	<0.200	NA	<0.200
Silver	2.80	<1.70	<1.80	<1.70	<1.90	<0.610	<0.140	<0.100	<0.100	<0.100	<0.100						<0.100	<0.200	<0.100	<0.100	NA	<0.100
Sodium	320.00	630.00	430.00	740.00	730.00	460.00	510.00	561.00	883.00	310.00	1,430.00						363.00	NA	739.00	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						<1.00	<2.50	NA	<1.00	NA	<1.00
Vanadium	<2.5	1.80	<1.80	2.90	3.80	3.50	3.70	5.00	2.58	2.00	4.40						1.70	5.10	6.40	6.00	NA	4.00
Zinc	<10.0	13.00	16.00	10.00	21.00	16.00	16.00	19.00	22.10	6.60	15.40						19.40	49.70	46.60	192.00	NA	58.70
Radionuclides, pCi/g											Bed 1-A	Bed 1-B	Bed 4-A	Bed 4-B	Bed 5-A	Bed 5-B						
Gross Alpha (900.0)	27.90	39.20	22.30	18.40	13.60	12.60	7.90	NA	6.47	14.90	NA	NA	NA	NA	NA	NA	20.13	NA	NA	23.90	NA	17.00
Gross Beta (900.0)	20.50	12.10	17.10	12.80	13.60	11.20	10.20	NA	2.85	0.73	NA	NA	NA	NA	NA	NA	15.73	NA	NA	19.30	NA	13.20
Radium 226 (901.1M)	3.80	3.30	5.00	3.90	4.70	2.95	4.71	2.60	4.03	3.24	4.52	4.78	3.84	4.30	5.53	5.43	6.18	4.30		4.10	NA	4.00
Radium 228 (901.1M)	1.00	3.00	7.00	4.20	3.50	4.50	4.90	0.89	2.11	1.69	4.10	4.45	2.93	3.59	4.86	4.44	4.04	2.90		3.50	NA	3.30
Total Radium	4.80	6.30	12.00	8.10	8.20	7.45	9.61	3.49	6.14	4.93	8.62	9.23	6.77	7.89	10.39	9.87	10.22	7.20	7.85	7.60	NA	7.30
Inorganics, mg/kg																						
Cyanide, total (4500CN,C,E)	<0.250	<0.830	<0.890	<0.860	<0.960	<0.880	<1.00	<0.100	<0.100	<0.100	1.45						<0.100	<0.100	<0.100	<0.100	NA	<0.100
Cyanide, reactive (SW-846, Ch. 7)	<10.0	<1.70	<1.80	<1.70	<1.90	<10.0	<2.0	<10.0	NA	<10.0	<10.0						<10.0	NA	NA	NA	NA	NA
Phenols (420.1)	4.62	10.00	5.90	3.10	9.60	6.00	3.30	<2.50	18.20	<2.50	<2.50						<2.50	NA	5.80	NA	NA	NA
Sulfate (9038)	<100.0	130.00	9.80	190.00	40.00	100.00	150.00	627.00	NA	NA	617.00						NA	<150.0	NA	1,110.00	NA	2,150.00
Sulfide (450052,C,D)	25.00	<25.0	<27.0	<26.0	<1.0	<2.0	<10.0	9.80	9.60	<1.00	<1.00						1.00	<1.00	8.00	3.00	NA	<1.00
Sulfide, reactive (7.3.4.2)	20.00	<15.0	<27.0	<26.0	<29.0	<18.0	<20.0	<10.0	NA	<10.0	<10.0						NA	NA	NA	NA	NA	NA
Sulfur, % (ASTM E775-87)	NA	0.045	0.055	0.034	0.054	0.056	0.061	0.200	0.13	0.13	0.205						NA	NA	NA	NA	NA	NA
pH (9045C)	8.57	9.00	9.01	12.00	9.32	11.44	12.07	9.07	9.74	9.68	10.76						10.06	9.29	9.72	9.77	NA	10.10

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Nitrate as N (353.2R1.0)	NA	NA	<0.890	<0.860	<0.960	<0.880	<1.00	NA	NA	<10.00	NA						NA	<10.00	NA	<10.00	NA	<10.00
Total Kjeldahl Nitrogen (351.2R2.0)	500.00	260.00	630.00	660.00	1,500.00	580.00	960.00	1,230.00	1,170.00	NA	315.00						206.00	NA	1,050.00	NA	NA	NA
Ammonia, as N (350.1R2.0)	50.60	110.00	63.00	43.00	23.00	80.00	110.00	27.70	207.00	22.80	8.30						25.20	147.00	203.00	245.00	NA	233.00
Phosphorous, as P (4500P,B,E)	147.00	97.00	8.60	11.00	81.00	17.00	22.00	20.10	79.50	1.90	<0.500						13.40	17.90	<0.500	2.10	NA	2,680.00
Acidity, total (2310B)	<50.0	<170.0	<100.0	<200.0	<100.0	<100.0	<100.0	NA	<50.0	NA	NA						NA	<50.0	<50.0	<50.0	NA	<50.0
Alkalinity, total as CaCO3 (2320B)	920.00	1,700.00	5,200.00	1,200.00	6,300.00	1,400.00	4,300.00	3,140.00	2,370.00	1,300.00	1,150.00						1,940.00	2,660.00	5,010.00	3,620.00	NA	12,800.00
Ash, % (2540G/E)	96.60	89.00	57.00	97.00	93.00	94.00	97.00	56.04	NA	32.45	44.43						NA	NA	NA	NA	NA	NA
Calcium Carbonate, % (EPA)	91.80	47.00	51.00	48.00	6.50	16.00	82.00	89.70	NA	95.50	99.80						94.60	NA	94.50	NA	NA	NA
BOD, 5 day (5210B)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<100.0	NA	2,420.00	1,400.00	1,610.00
COD (5220D)	220.00	450.00	500.00	580.00	5,600.00	8,900.00	<10.0	<2,000	5,520.00	690.00	639.00						790.00	3,330.00	5,720.00	5,230.00	NA	2,130.00
Conductivity, MHOS (120.1)	NA	250.00	280.00	1,800.00	720.00	7,400.00	3,100.00	NA	NA	3,840.00	404.00						NA	NA	NA	NA	NA	NA
EOX (9023)	<10.0	<67.0	<71.0	<69.0	<77.0	<70.0	<82.0	<25.0	NA	<25.0	<25.0						NA	<50.0	NA	<50.0	NA	<55.0
Total Volatile Solids, % (2540G)	4.00	5.70	22.00	1.80	3.90	3.50	1.70	5.78	6.76	NA	3.74						6.88	NA	6.90	6.66	NA	NA
Total Solids, % (2540B)						49.00					45.40						29.86	39.60	31.11	33.11	NA	NA
FOC, (0.58 conv. factor), % (D2974-00)	NA	NA	NA	NA	NA	NA	NA	1.94	NA	2.53	1.36						NA	1.89	NA	1.93	NA	3.04
FOC, organic matter @ 440°C, %	NA	NA	NA	NA	NA	NA	NA	3.34	NA	4.37	2.35						NA	3.26	NA	3.32	NA	5.24
TOC (9060M)	10,900.00	220.00	120.00	110,000.00	28,000.00	24,000.00	2,300.00	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Chloride (4500CL,C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	404.00	NA	302.00	NA	639.00
Fluoride (4500F,C)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	<100.0	NA	<5.00	NA	<5.00
TCLP VOCs (1311/5030B/8260B), mg/L																						
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Benzene	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Bromoform	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Bromomethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2-Butanone (MEK)	<0.400	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
Carbon disulfide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Carbon tetrachloride	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
Chlorobenzene	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
Chlorodibromomethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Chloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Chloroform	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
Chloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
1,2-Dichloroethane	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
cis-1,2-Dichoroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
trans-1,2-Dichoroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
(MTBE)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
(MIBK)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Tetrachloroethene	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
Toluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Trichloroethene	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.050	<0.050	NA	<0.050						<0.050	NA	<0.050	NA	NA	NA
Vinyl acetate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Vinyl chloride	<0.020	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
Xylene, total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
TCLP VOCs (8011), mg/L																						
1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,2-Dibromoethane (EDB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
TCLP SVOCs (1311/3510C/8270B), mg/L																						
Benzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Benzoic acid	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Benzyl alcohol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
bis-(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
bis(2-Cloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
bis(2-Chloroisopropyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA

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bis(2-ethylhexyl)phthate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4-Chloroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4-Chloro-3methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2-Chloronapthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2,4 Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4,6- Dinitro-2-methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Hexachlorobenzene	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
Hexachlorobutadiene	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Hexachloroethane	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2-Methylphenol	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
3 & 4-Methylphenol	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Nitrobenzene	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
n-Nitrosodimethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
n-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Pentachlorophenol	<0.500	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.500	<0.500	NA	<0.500						<0.500	NA	<0.500	NA	NA	NA
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Pyridine	<0.100	<0.400	<0.400	<0.400	<0.400	<0.400	<0.400	<0.500	<0.500	NA	<0.500						<0.500	NA	<0.500	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	<0.500	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
2,4,6-Trichlorophenol	<0.100	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.100	NA	<0.100						<0.100	NA	<0.100	NA	NA	NA
TCLP SVOC Pests (8270C), mg/L																						
Alachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Atrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Simazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
TCLP Pests/PCBs (1311/3510C/8081), mg/L																						
Aldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
gamma-BHC(Lindane)	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.0025	<0.005	<0.500	NA	<0.005						<0.005	NA	<0.005	NA	NA	NA
alpha-Chlordane	<0.005	<0.010	<0.010	<0.010	<0.010	<0.025	<0.025	<0.005	<0.500	NA	<0.005						<0.005	NA	<0.005	NA	NA	NA
gamma-Chlordane	<0.005	<0.010	<0.010	<0.010	<0.010	<0.025	<0.025	<0.005	<0.500	NA	<0.005						<0.005	NA	<0.005	NA	NA	NA

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4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Endrin	<0.001	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005	<0.001	<0.100	NA	<0.001						<0.001	NA	<0.001	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Heptachlor	<0.005	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.0025	<0.005	<0.500	NA	<0.005						<0.005	NA	<0.005	NA	NA	NA
Heptachlor epoxide	<0.005	<0.001	<0.001	<0.001	<0.001	<0.0025	<0.0025	<0.005	<0.500	NA	<0.005						<0.005	NA	<0.005	NA	NA	NA
Methoxychlor	<0.005	<0.010	<0.010	<0.010	<0.010	<0.025	<0.025	<0.005	<0.500	NA	<0.005						<0.005	NA	<0.005	NA	NA	NA
Toxaphene	<0.005	<0.060	<0.060	<0.060	<0.060	<0.150	<0.150	<0.010	<1.000	NA	<0.010						<0.010	NA	<0.010	NA	NA	NA
Endothall (548.1R1.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Aldicarb (531.1R3.1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Carbofuran (531.1R3.1)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
TCLP Herbicides (1311/515.1R4.0), mg/L																						
2,4-D	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001	<0.500	NA	<0.001						<0.001	NA	<0.001	NA	NA	NA
Silvex (2,4,5-TP)	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0005	<0.500	NA	<0.002						<0.002	NA	<0.002	NA	NA	NA
Dalapon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Dinoseb	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Picloram	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
2,4,5-T	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
TCLP Metals (1311/3010A/6010B), mg/L																						
Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Arsenic	<0.200	<0.010	<0.050	<0.050	<0.050	<0.050	0.0037	0.0080	<0.002	NA	<0.002						<0.002	NA	<0.002	NA	NA	NA
Barium	0.381	3.60	1.80	1.20	1.20	0.45	0.69	<1.00	<1.00	NA	<1.00						<1.00	NA	1.10	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Boron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Cadmium	<0.010	<0.005	<0.010	<0.010	<0.010	<0.010	<0.0019	<0.001	<0.001	NA	<0.001						<0.001	NA	<0.001	NA	NA	NA
Chromium	<0.040	<0.005	<0.010	<0.030	<0.010	<0.025	<0.00099	<0.001	<0.001	NA	<0.001						<0.001	NA	0.007	NA	NA	NA
Cobalt	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Copper	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Lead	<0.200	<0.005	<0.050	<0.050	<0.050	<0.050	<0.0023	<0.002	<0.002	NA	<0.002						<0.002	NA	<0.002	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Mercury	<0.0004	<0.010	<0.010	<0.010	<0.0002	<0.00003	<0.0002	<0.0005	<0.0005	NA	<0.0005						<0.0005	NA	<0.0005	NA	NA	NA
Molybdenum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Selenium	<0.200	<0.010	<0.100	<0.100	<0.100	<0.100	<0.0063	<0.002	<0.007	NA	<0.002						<0.002	NA	<0.002	NA	NA	NA
Silver	<0.040	<0.010	<0.020	<0.020	0.170	<0.020	<0.0015	<0.001	<0.001	NA	<0.001						<0.001	NA	<0.001	NA	NA	NA
Sodium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA
Zinc	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						NA	NA	NA	NA	NA	NA

First Environmental Laboratories, Inc.
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September 06, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044- (T&M)
First Environmental File ID: 12-3410
Date Received: July 19, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker

Lorrie Walker
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044- (T&M)**

First Environmental File ID: **12-3410**

Date Received: **July 19, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
12-3410-001	Lime Sludge - Bed 4	*Pesticides/PCBs* Surrogate recovery outside control limits; low bias due to matrix interference.
12-3410-001	Lime Sludge - Bed 4	*Extractable Organic Halogen* Matrix spike recovery outside control limits.
12-3410-001	Lime Sludge - Bed 4	*Semi-Volatile Compounds* The reporting limits are elevated due to matrix interference.
12-3410-001	Lime Sludge - Bed 4	*Semi-Volatile Pesticides* The reporting limits are elevated due to matrix interference.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 07/19/12				
Total Solids	24.89		%	
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 07/25/12				
Acetone	< 100	100	ug/kg	
Benzene	< 5.0	5.0	ug/kg	
Bromodichloromethane	< 5.0	5.0	ug/kg	
Bromoform	< 5.0	5.0	ug/kg	
Bromomethane	< 10.0	10.0	ug/kg	
2-Butanone (MEK)	< 100	100	ug/kg	
Carbon disulfide	< 5.0	5.0	ug/kg	
Carbon tetrachloride	< 5.0	5.0	ug/kg	
Chlorobenzene	< 5.0	5.0	ug/kg	
Chlorodibromomethane	< 5.0	5.0	ug/kg	
Chloroethane	< 10.0	10.0	ug/kg	
Chloroform	< 5.0	5.0	ug/kg	
Chloromethane	< 10.0	10.0	ug/kg	
1,1-Dichloroethane	< 5.0	5.0	ug/kg	
1,2-Dichloroethane	< 5.0	5.0	ug/kg	
1,1-Dichloroethene	< 5.0	5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
1,2-Dichloropropane	< 5.0	5.0	ug/kg	
cis-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
trans-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
2-Hexanone	< 10.0	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/kg	
Methylene chloride	< 20.0	20.0	ug/kg	
Styrene	< 5.0	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/kg	
Tetrachloroethene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	5.0	ug/kg	
Trichloroethene	< 5.0	5.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 07/25/12				
Vinyl acetate	< 10.0	10.0	ug/kg	
Vinyl chloride	< 10.0	10.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
1,2-Dibromo-3-chloropropane	< 2.0	10.0	ug/kg	J
1,2-Dibromoethane (EDB)	< 5.0	5.0	ug/kg	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 07/24/12		Preparation Date: 07/23/12		
Acenaphthene	< 660	330	ug/kg	
Acenaphthylene	< 660	330	ug/kg	
Anthracene	< 660	330	ug/kg	
Benzidine	< 660	330	ug/kg	
Benzo(a)anthracene	< 660	330	ug/kg	
Benzo(a)pyrene	< 180	90	ug/kg	
Benzo(b)fluoranthene	< 660	330	ug/kg	
Benzo(k)fluoranthene	< 660	330	ug/kg	
Benzo(ghi)perylene	< 660	330	ug/kg	
Benzoic acid	< 660	330	ug/kg	
Benzyl alcohol	< 660	330	ug/kg	
bis(2-Chloroethoxy)methane	< 660	330	ug/kg	
bis(2-Chloroethyl)ether	< 660	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 660	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 660	330	ug/kg	
4-Bromophenyl phenyl ether	< 660	330	ug/kg	
Butyl benzyl phthalate	< 660	330	ug/kg	
Carbazole	< 660	330	ug/kg	
4-Chloroaniline	< 660	330	ug/kg	
4-Chloro-3-methylphenol	< 660	330	ug/kg	
2-Chloronaphthalene	< 660	330	ug/kg	
2-Chlorophenol	< 660	330	ug/kg	
4-Chlorophenyl phenyl ether	< 660	330	ug/kg	
Chrysene	< 660	330	ug/kg	
Dibenzo(a,h)anthracene	< 1,890	90	ug/kg	
Dibenzofuran	< 660	330	ug/kg	
1,2-Dichlorobenzene	< 660	330	ug/kg	
1,3-Dichlorobenzene	< 660	330	ug/kg	
1,4-Dichlorobenzene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/24/12		**Preparation Method 3540C** Preparation Date: 07/23/12		
3,3'-Dichlorobenzidine	< 1,320	660	ug/kg	
2,4-Dichlorophenol	< 660	330	ug/kg	
Diethyl phthalate	< 660	330	ug/kg	
2,4-Dimethylphenol	< 660	330	ug/kg	
Dimethyl phthalate	< 660	330	ug/kg	
Di-n-butyl phthalate	< 660	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 3,200	1600	ug/kg	
2,4-Dinitrophenol	< 3,200	1600	ug/kg	
2,4-Dinitrotoluene	< 500	250	ug/kg	
2,6-Dinitrotoluene	< 520	260	ug/kg	
Di-n-octylphthalate	< 660	330	ug/kg	
Fluoranthene	< 660	330	ug/kg	
Fluorene	< 660	330	ug/kg	
Hexachlorobenzene	< 660	330	ug/kg	
Hexachlorobutadiene	< 660	330	ug/kg	
Hexachlorocyclopentadiene	< 660	330	ug/kg	
Hexachloroethane	< 660	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 660	330	ug/kg	
Isophorone	< 660	330	ug/kg	
2-Methylnaphthalene	< 660	330	ug/kg	
2-Methylphenol	< 660	330	ug/kg	
3 & 4-Methylphenol	< 660	330	ug/kg	
Naphthalene	< 660	330	ug/kg	
2-Nitroaniline	< 3,200	1600	ug/kg	
3-Nitroaniline	< 3,200	1600	ug/kg	
4-Nitroaniline	< 3,200	1600	ug/kg	
Nitrobenzene	< 520	260	ug/kg	
2-Nitrophenol	< 3,200	1600	ug/kg	
4-Nitrophenol	< 3,200	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 180	90	ug/kg	
n-Nitrosodimethylamine	< 660	330	ug/kg	
n-Nitrosodiphenylamine	< 660	330	ug/kg	
Pentachlorophenol	< 660	330	ug/kg	
Phenanthrene	< 660	330	ug/kg	
Phenol	20,000	330	ug/kg	
Pyrene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/24/12		**Preparation Method 3540C** Preparation Date: 07/23/12		
Pyridine	< 660	330	ug/kg	
1,2,4-Trichlorobenzene	< 660	330	ug/kg	
2,4,5-Trichlorophenol	< 660	330	ug/kg	
2,4,6-Trichlorophenol	< 660	330	ug/kg	
Pesticides/PCBs **Method: 8081A/8082** Analysis Date: 07/25/12		**Preparation Method 3540C** Preparation Date: 07/24/12		
Aldrin	< 8.0	8.0	ug/kg	
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
alpha-BHC	< 2.0	2.0	ug/kg	
beta-BHC	< 8.0	8.0	ug/kg	
delta-BHC	< 8.0	8.0	ug/kg	
gamma-BHC (Lindane)	< 8.0	8.0	ug/kg	
alpha-Chlordane	< 80.0	80.0	ug/kg	
gamma-Chlordane	< 80.0	80.0	ug/kg	
4,4'-DDD	< 16.0	16.0	ug/kg	
4,4'-DDE	< 16.0	16.0	ug/kg	
4,4'-DDT	< 16.0	16.0	ug/kg	
Dieldrin	< 16.0	16.0	ug/kg	
Endosulfan I	< 8.0	8.0	ug/kg	
Endosulfan II	< 16.0	16.0	ug/kg	
Endosulfan sulfate	< 16.0	16.0	ug/kg	
Endrin	< 16.0	16.0	ug/kg	
Endrin aldehyde	< 16.0	16.0	ug/kg	
Endrin ketone	< 16.0	16.0	ug/kg	
Heptachlor	< 8.0	8.0	ug/kg	
Heptachlor epoxide	< 8.0	8.0	ug/kg	
Methoxychlor	< 80.0	80.0	ug/kg	
Toxaphene	< 160	160	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3540C**				
Analysis Date: 07/24/12 Preparation Date: 07/23/12				
Alachlor	< 80	40	ug/kg	N
Atrazine	< 132	66	ug/kg	N
Simazine	< 80	40	ug/kg	N
Herbicides **Method: 8321**				
Analysis Date: 07/25/12				
Dalapon	< 100	100	ug/kg	NS
2,4-Dichlorophenoxyacetic acid (2,4-D)	< 100	100	ug/kg	NS
Dinoseb	< 100	100	ug/kg	NS
Pentachlorophenol	< 20	20	ug/kg	NS
Picloram	< 100	100	ug/kg	NS
2,4,5-T	< 100	100	ug/kg	NS
Silvex (2,4,5-TP)	< 100	100	ug/kg	NS
Carbamate Pesticides **Method: 8318**				
Analysis Date: 07/23/12				
Aldicarb	< 0.50	0.50	mg/kg	NS
Carbofuran	< 0.50	0.50	mg/kg	NS
Total Metals **Method: 6010B** **Preparation Method 3050B**				
Analysis Date: 07/25/12 Preparation Date: 07/20/12				
Antimony	< 1.0	1.0	mg/kg	
Arsenic	4.0	0.2	mg/kg	
Barium	197	0.1	mg/kg	
Beryllium	< 0.1	0.1	mg/kg	
Boron	112	1.0	mg/kg	
Cadmium	0.8	0.1	mg/kg	
Chromium	7.6	0.1	mg/kg	
Cobalt	0.8	0.1	mg/kg	
Copper	6.4	0.1	mg/kg	
Iron	7,710	1.0	mg/kg	
Lead	< 0.2	0.2	mg/kg	
Manganese	172	0.1	mg/kg	
Molybdenum	< 1.0	1.0	mg/kg	
Nickel	4.4	0.1	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	
Thallium	< 1.0	1.0	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 07/25/12		Preparation Date: 07/20/12		
Vanadium	4.0	1.0	mg/kg	
Zinc	58.7	0.5	mg/kg	
Total Mercury **Method: 7470A**				
Analysis Date: 07/20/12				
Mercury	< 0.05	0.05	mg/kg	
Acidity, Total **Method: 2310B**				
Analysis Date: 07/30/12				
Acidity, Total	< 50	50	mg/kg	
Alkalinity, Total (as CaCO3) **Method: 2320B**				
Analysis Date: 07/24/12				
Alkalinity, Total (as CaCO3)	12,800	50	mg/kg	
Chloride, Soluble **Method: 4500CL,C**				
Analysis Date: 07/24/12				
Chloride, Soluble	639	50	mg/kg	N
BOD, 5 Day **Method: 5210B**				
Analysis Date: 07/19/12 15:00				
BOD, 5 Day	1,610	100	mg/kg	
COD, Soluble **Method: 5220D**				
Analysis Date: 07/25/12				
COD, Soluble	2,130	100	mg/kg	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 07/24/12				
Cyanide, Total	< 0.10	0.10	mg/kg	
Extractable Organic Halogen **Method: 9023**				
Analysis Date: 07/23/12				
Extractable Organic Halogens	< 55	50	mg/kg	S
Fluoride, Soluble **Method: 4500F,C**				
Analysis Date: 07/26/12				
Fluoride, Soluble	< 5.0	5.0	mg/kg	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 07/31/12				
Ammonia (as N)	233	2.0	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044- (T&M)
Sample ID: Lime Sludge - Bed 4
Sample No: 12-3410-001

Date Collected: 07/19/12
Time Collected: 7:45
Date Received: 07/19/12
Date Reported: 09/06/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Nitrate (as N), Soluble	**Method: 353.2R1.0**			
Analysis Date: 07/30/12				
Nitrate + Nitrite (as N), Soluble	< 10.0	10.0	mg/kg	N
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 07/26/12				
Phosphorus (as P)	2,680	0.5	mg/kg	
Sulfide	**Method: 4500S2,C,D**			
Analysis Date: 07/27/12				
Sulfide	< 1.0	1.0	mg/kg	
Sulfate, Soluble	**Method: 9038**			
Analysis Date: 07/26/12				
Sulfate, Soluble	2,150	150	mg/kg	
FOC (0.58 conversion factor)	**Method: D2974-00**			
Analysis Date: 07/24/12				
FOC (0.58 conversion factor)	3.04		%	N
Organic Matter @ 440°C	5.24		%	N
pH @ 25°C, 1:2	**Method: 9045C**			
Analysis Date: 07/20/12 15:00				
pH @ 25°C, 1:2	10.10		Units	
Radium 226 & 228	**Method: 901.1M**			
Analysis Date: 08/29/12				
Radium 226	4.0+/-0.1		pCi/g dry	N S
Radium 228	3.3+/-0.3		pCi/g dry	N S
Gross Alpha	**Method: 900.0**			
Analysis Date: 08/06/12				
Gross Alpha	17.0+/-4.2		pCi/g dry	N S
Gross Beta	**Method: 900.0**			
Analysis Date: 08/06/12				
Gross Beta	13.2+/-2.6		pCi/g dry	N S
Total Volatile Solids	**Method: 2540G**			
Analysis Date: 07/24/12				
Total Volatile Solids	7.34	1.00	%	

First Environmental Laboratories, Inc.

First Environmental Laboratories
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E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Page 1 pgs

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By:

Project I.D.: 96044-10 (TRM)
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	See Attached Parameters	Comments	Lab I.D.
7/19/12 7:45A	Lime Sludge - Bed 4	O	✓		12-3410-001

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ ____°C
Received within 6 hrs. of collection: ____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature: ____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature: ____°C

Containers Received Preserved: ☐ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: Carrie J Carter Date/Time 7/19/12 8:45A Received By: Date/Time 7/19/12 0845
Relinquished By: Date/Time Received By: Date/Time

Rev. 9/08

Supernate List/Lime Sludge/Deep Well:
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gamma-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine
  - Simazine
- PCBs (full)
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - ~~Endothall~~ ## Deleted for sludge only
  - Aldicarb
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - *Molybdenum*
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- BOD
- COD
- ~~Conductivity~~ ## Deleted for sludge only
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- Nitrate as N
- pH
- Phosphorus
- Sulfide
- Sulfate
- ~~Total Dissolved~~ Solids ## Deleted for sludge only
- *TOC (FOC –Solids)*
- ~~VSS~~ (Sludge) ## TVS
- Gross alpha
- Gross beta
- Radium 226 and 228

add T.S.

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August 21, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-10-303
First Environmental File ID: 12-3156
Date Received: July 03, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-10-303**

First Environmental File ID: **12-3156**

Date Received: **July 03, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
12-3156-002	Lime Sludge - Bed #	*Semi-Volatile Compounds* Surrogates recovery outside control limits; low bias due to matrix interference.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 07/05/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B** Analysis Date: 07/05/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011** Analysis Date: 07/04/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 07/09/12 Preparation Date: 07/06/12				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C** Analysis Date: 07/09/12 Preparation Date: 07/06/12				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C** Analysis Date: 07/05/12 Preparation Date: 07/05/12				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 07/05/12		Preparation Date: 07/05/12		
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall	**Method: 548.1R1.0**			
Analysis Date: 07/10/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides	**Method: 531.1R3.1**			
Analysis Date: 07/09/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides	**Method: 8321A**			
Analysis Date: 07/10/12				
2,4-D	0.6	0.3	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.4	0.4	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury	**Method: 7470A**			
Analysis Date: 07/05/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6020A**	**Preparation Method 3010A**		
Analysis Date: 07/06/12		Preparation Date: 07/05/12		
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.039	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.32	0.01	mg/L	
Cadmium	< 0.001	0.001	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6020A**		**Preparation Method 3010A**		
Analysis Date: 07/06/12		Preparation Date: 07/05/12		
Chromium	0.004	0.001	mg/L	
Cobalt	< 0.001	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	0.06	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.004	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	< 0.001	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Acidity, Total **Method: 2310B**				
Analysis Date: 07/06/12				
Acidity, Total	< 5	5	mg/L	
Alkalinity, Total (CaCO3) **Method: 2320B**				
Analysis Date: 07/06/12				
Alkalinity, Total (CaCO3)	130	5	mg/L	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 07/10/12				
Ammonia (as N)	0.63	0.10	mg/L	
BOD, 5 Day **Method: 5210B**				
Analysis Date: 07/05/12				
BOD, 5 Day	5	1	mg/L	
COD **Method: 5220D**				
Analysis Date: 07/05/12				
COD	19	10	mg/L	
Conductivity **Method: 2510B**				
Analysis Date: 07/06/12				
Conductivity	6,310	5	umhos/cm	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 07/11/12				
Cyanide, Total	< 0.005	0.005	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Chloride	**Method: 4500Cl, C**			
Analysis Date: 07/09/12				
Chloride	108	5	mg/L	
Fluoride	**Method: 4500F,C**			
Analysis Date: 07/09/12				
Fluoride	0.35	0.10	mg/L	
Nitrate (as N)	**Method: 353.2R2.0**			
Analysis Date: 07/09/12				
Nitrate (as N)	0.60	0.10	mg/L	
Nitrite (as N)	**Method: 4500NO2,B**			
Analysis Date: 07/02/12 16:00				
Nitrite (as N)	0.14	0.01	mg/L	
pH @ 25°C	**Method: 4500H+,B**			
Analysis Date: 07/03/12 15:00				
pH @ 25°C	11.11		Units	
Phenols	**Method: 9066**			
Analysis Date: 07/10/12				
Phenols	0.015	0.010	mg/L	
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 07/06/12				
Phosphorus (as P)	0.04	0.01	mg/L	
Sulfate	**Method: 4500S04,E**			
Analysis Date: 07/10/12				
Sulfate	45	15	mg/L	N
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 07/09/12				
Sulfide	< 0.05	0.05	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 07/06/12				
Total Dissolved Solids	256	10	mg/L	
TOC	**Method: 5310C**			
Analysis Date: 07/17/12				
TOC	3.8	0.1	mg/L	N

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
TOX **Method: 9020B**				
Analysis Date: 07/09/12				
TOX	< 0.020	0.020	mg/L	S
Radium 226 & 228 **Method: 903.1/Ra-05**				
Analysis Date: 08/02/12				
Radium 226	0.8+/-0.2		pCi/L	N S
Radium 228	1.3+/-0.9		pCi/L	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 07/31/12				
Gross Alpha	1.5+/-0.7		pCi/L	N S
Gross Beta **Method: 900.0**				
Analysis Date: 07/31/12				
Gross Beta	6.1+/-0.7		pCi/L	N S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 07/03/12				
Total Solids	33.11		%	
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 07/10/12				
Acetone	125	100	ug/kg	
Benzene	< 5.0	5.0	ug/kg	
Bromodichloromethane	< 5.0	5.0	ug/kg	
Bromoform	< 5.0	5.0	ug/kg	
Bromomethane	< 10.0	10.0	ug/kg	
2-Butanone (MEK)	< 100	100	ug/kg	
Carbon disulfide	< 5.0	5.0	ug/kg	
Carbon tetrachloride	< 5.0	5.0	ug/kg	
Chlorobenzene	< 5.0	5.0	ug/kg	
Chlorodibromomethane	< 5.0	5.0	ug/kg	
Chloroethane	< 10.0	10.0	ug/kg	
Chloroform	< 5.0	5.0	ug/kg	
Chloromethane	< 10.0	10.0	ug/kg	
1,1-Dichloroethane	< 5.0	5.0	ug/kg	
1,2-Dichloroethane	< 5.0	5.0	ug/kg	
1,1-Dichloroethene	< 5.0	5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
1,2-Dichloropropane	< 5.0	5.0	ug/kg	
cis-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
trans-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
2-Hexanone	< 10.0	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/kg	
Methylene chloride	< 20.0	20.0	ug/kg	
Styrene	< 5.0	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/kg	
Tetrachloroethene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	5.0	ug/kg	
Trichloroethene	< 5.0	5.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 07/10/12				
Vinyl acetate	< 10.0	10.0	ug/kg	
Vinyl chloride	< 10.0	10.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
1,2-Dibromo-3-chloropropane	< 2.0	10.0	ug/kg	J
1,2-Dibromoethane (EDB)	< 5.0	5.0	ug/kg	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 07/06/12		Preparation Date: 07/03/12		
Acenaphthene	< 660	330	ug/kg	
Acenaphthylene	< 660	330	ug/kg	
Anthracene	< 660	330	ug/kg	
Benzidine	< 660	330	ug/kg	
Benzo(a)anthracene	< 660	330	ug/kg	
Benzo(a)pyrene	< 180	90	ug/kg	
Benzo(b)fluoranthene	< 660	330	ug/kg	
Benzo(k)fluoranthene	< 660	330	ug/kg	
Benzo(ghi)perylene	< 660	330	ug/kg	
Benzoic acid	< 660	330	ug/kg	
Benzyl alcohol	< 660	330	ug/kg	
bis(2-Chloroethoxy)methane	< 660	330	ug/kg	
bis(2-Chloroethyl)ether	< 660	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 660	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 660	330	ug/kg	
4-Bromophenyl phenyl ether	< 660	330	ug/kg	
Butyl benzyl phthalate	< 660	330	ug/kg	
Carbazole	< 660	330	ug/kg	
4-Chloroaniline	< 660	330	ug/kg	
4-Chloro-3-methylphenol	< 660	330	ug/kg	
2-Chloronaphthalene	< 660	330	ug/kg	
2-Chlorophenol	< 660	330	ug/kg	
4-Chlorophenyl phenyl ether	< 660	330	ug/kg	
Chrysene	< 660	330	ug/kg	
Dibenzo(a,h)anthracene	< 180	90	ug/kg	
Dibenzofuran	< 660	330	ug/kg	
1,2-Dichlorobenzene	< 660	330	ug/kg	
1,3-Dichlorobenzene	< 660	330	ug/kg	
1,4-Dichlorobenzene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/06/12		**Preparation Method 3540C** Preparation Date: 07/03/12		
3,3'-Dichlorobenzidine	< 1,320	660	ug/kg	
2,4-Dichlorophenol	< 660	330	ug/kg	
Diethyl phthalate	< 660	330	ug/kg	
2,4-Dimethylphenol	< 660	330	ug/kg	
Dimethyl phthalate	< 660	330	ug/kg	
Di-n-butyl phthalate	< 660	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 3,200	1600	ug/kg	
2,4-Dinitrophenol	< 3,200	1600	ug/kg	
2,4-Dinitrotoluene	< 500	250	ug/kg	
2,6-Dinitrotoluene	< 520	260	ug/kg	
Di-n-octylphthalate	< 660	330	ug/kg	
Fluoranthene	< 660	330	ug/kg	
Fluorene	< 660	330	ug/kg	
Hexachlorobenzene	< 660	330	ug/kg	
Hexachlorobutadiene	< 660	330	ug/kg	
Hexachlorocyclopentadiene	< 660	330	ug/kg	
Hexachloroethane	< 660	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 660	330	ug/kg	
Isophorone	< 660	330	ug/kg	
2-Methylnaphthalene	< 660	330	ug/kg	
2-Methylphenol	< 660	330	ug/kg	
3 & 4-Methylphenol	< 660	330	ug/kg	
Naphthalene	< 660	330	ug/kg	
2-Nitroaniline	< 3,200	1600	ug/kg	
3-Nitroaniline	< 3,200	1600	ug/kg	
4-Nitroaniline	< 3,200	1600	ug/kg	
Nitrobenzene	< 520	260	ug/kg	
2-Nitrophenol	< 3,200	1600	ug/kg	
4-Nitrophenol	< 3,200	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 180	90	ug/kg	
n-Nitrosodimethylamine	< 660	330	ug/kg	
n-Nitrosodiphenylamine	< 660	330	ug/kg	
Pentachlorophenol	< 660	330	ug/kg	
Phenanthrene	< 660	330	ug/kg	
Phenol	18,800	330	ug/kg	
Pyrene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** **Preparation Method 3540C**				
Analysis Date: 07/06/12 Preparation Date: 07/03/12				
Pyridine	< 660	330	ug/kg	
1,2,4-Trichlorobenzene	< 660	330	ug/kg	
2,4,5-Trichlorophenol	< 660	330	ug/kg	
2,4,6-Trichlorophenol	< 660	330	ug/kg	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3540C**				
Analysis Date: 07/06/12 Preparation Date: 07/03/12				
Alachlor	< 120	40	ug/kg	N
Atrazine	< 120	66	ug/kg	N
Simazine	< 120	40	ug/kg	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3540C**				
Analysis Date: 07/11/12 Preparation Date: 07/04/12				
Aldrin	< 8.0	8.0	ug/kg	
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
alpha-BHC	< 2.0	2.0	ug/kg	
beta-BHC	< 8.0	8.0	ug/kg	
delta-BHC	< 8.0	8.0	ug/kg	
gamma-BHC (Lindane)	< 8.0	8.0	ug/kg	
alpha-Chlordane	< 80.0	80.0	ug/kg	
gamma-Chlordane	< 80.0	80.0	ug/kg	
4,4'-DDD	< 16.0	16.0	ug/kg	
4,4'-DDE	< 16.0	16.0	ug/kg	
4,4'-DDT	< 16.0	16.0	ug/kg	
Dieldrin	< 16.0	16.0	ug/kg	
Endosulfan I	< 8.0	8.0	ug/kg	
Endosulfan II	< 16.0	16.0	ug/kg	
Endosulfan sulfate	< 16.0	16.0	ug/kg	
Endrin	< 16.0	16.0	ug/kg	
Endrin aldehyde	< 16.0	16.0	ug/kg	
Endrin ketone	< 16.0	16.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3540C**		
Analysis Date: 07/11/12		Preparation Date: 07/04/12		
Heptachlor	< 8.0	8.0	ug/kg	
Heptachlor epoxide	< 8.0	8.0	ug/kg	
Methoxychlor	< 80.0	80.0	ug/kg	
Toxaphene	< 160	160	ug/kg	
Carbamate Pesticides	**Method: 8318**			
Analysis Date: 07/12/12				
Aldicarb	< 1.00	1.00	mg/kg	NS
Carbofuran	< 1.00	1.00	mg/kg	NS
Herbicides	**Method: 8321**			
Analysis Date: 07/10/12				
Dalapon	< 10	10	ug/kg	NS
2,4-Dichlorophenoxyacetic acid (2,4-D)	< 10	10	ug/kg	NS
Dinoseb	< 10	10	ug/kg	NS
Pentachlorophenol	< 20	20	ug/kg	NS
Picloram	< 10	10	ug/kg	NS
2,4,5-T	< 10	10	ug/kg	NS
Silvex (2,4,5-TP)	< 10	10	ug/kg	NS
Total Metals	**Method: 6010B**	**Preparation Method 3050B**		
Analysis Date: 07/10/12		Preparation Date: 07/03/12		
Antimony	< 1.0	1.0	mg/kg	
Arsenic	4.2	0.2	mg/kg	
Barium	1,630	0.1	mg/kg	
Beryllium	< 0.1	0.1	mg/kg	
Boron	658	1.0	mg/kg	
Cadmium	< 0.1	0.1	mg/kg	
Chromium	22.7	0.1	mg/kg	
Cobalt	< 0.1	0.1	mg/kg	
Copper	48.3	0.1	mg/kg	
Iron	7,670	1.0	mg/kg	
Lead	4.2	0.2	mg/kg	
Manganese	227	0.1	mg/kg	
Molybdenum	< 1.0	1.0	mg/kg	
Nickel	13.0	0.1	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Total Metals Method: 6010B		Preparation Method 3050B		
Analysis Date: 07/10/12		Preparation Date: 07/03/12		
Thallium	< 1.0	1.0	mg/kg	
Vanadium	6.0	1.0	mg/kg	
Zinc	192	0.5	mg/kg	
Total Mercury Method: 7470A				
Analysis Date: 07/05/12				
Mercury	< 0.05	0.05	mg/kg	
Acidity, Total Method: 2310B				
Analysis Date: 07/06/12				
Acidity, Total	< 50	50	mg/kg	
Alkalinity, Total (as CaCO3) Method: 2320B				
Analysis Date: 07/06/12				
Alkalinity, Total (as CaCO3)	3,620	50	mg/kg	
BOD, 5 Day Method: 5210B				
Analysis Date: 07/05/12				
BOD, 5 Day	2,420	100	mg/kg	
Chloride, Soluble Method: 4500CL,C				
Analysis Date: 07/09/12				
Chloride, Soluble	302	50	mg/kg	N
Cyanide, Total Method: 4500CN,C,E				
Analysis Date: 07/11/12				
Cyanide, Total	< 0.10	0.10	mg/kg	
COD, Soluble Method: 5220D				
Analysis Date: 07/11/12				
COD, Soluble	5,230	100	mg/kg	
Extractable Organic Halogen Method: 9023				
Analysis Date: 07/10/12				
Extractable Organic Halogens	< 50	50	mg/kg	S
Fluoride, Soluble Method: 4500F,C				
Analysis Date: 07/09/12				
Fluoride, Soluble	< 5.0	5.0	mg/kg	
FOC (0.58 conversion factor) Method: D2974-00				
Analysis Date: 07/10/12				
FOC (0.58 conversion factor)	1.93		%	N

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
FOC (0.58 conversion factor)	**Method: D2974-00**			
Analysis Date: 07/10/12				
Organic Matter @ 440°C	3.32		%	N
Ammonia (as N)	**Method: 350.1R2.0**			
Analysis Date: 07/10/12				
Ammonia (as N)	245	2.0	mg/kg	
Nitrate (as N), Soluble	**Method: 353.2R1.0**			
Analysis Date: 07/09/12				
Nitrate + Nitrite (as N), Soluble	< 10.0	10.0	mg/kg	N
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 07/06/12				
Phosphorus (as P)	2.1	0.5	mg/kg	
pH @ 25°C, 1:2	**Method: 9045C**			
Analysis Date: 07/05/12 15:00				
pH @ 25°C, 1:2	9.77		Units	
Sulfide	**Method: 4500S2,C,D**			
Analysis Date: 07/09/12				
Sulfide	3.0	1.0	mg/kg	
Sulfate, Soluble	**Method: 9038**			
Analysis Date: 07/10/12				
Sulfate, Soluble	1,110	150	mg/kg	N
Total Volatile Solids	**Method: 2540G**			
Analysis Date: 07/05/12				
Total Volatile Solids	6.66	1.00	%	
Radium 226 & 228	**Method: 901.1M**			
Analysis Date: 08/09/12				
Radium 226	4.1+/-0.1		pCi/g dry	N S
Radium 228	3.5+/-0.2		pCi/g dry	N S
Gross Alpha	**Method: 900.0**			
Analysis Date: 08/15/12				
Gross Alpha	23.9+6.7		pCi/g dry	N S
Gross Beta	**Method: 900.0**			
Analysis Date: 08/15/12				
Gross Beta	19.3+/-3.8		pCi/g dry	N S

First Environmental Laboratories, Inc.

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IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5646 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter / Philippe Moreau

Project I.D.: 96044-10-303
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses: See Attached Parameter Sheet

Date/Time Taken	Sample Description	Matrix									Comments	Lab I.D.
7/3/12 7:00am	Lime Separate - Bed #1	W	✓								18 bottles	12-3156-001
7/3/12 7:20am	Lime Sludge - Bed # 5	O	✓								3 jars	002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No. ___ ___ °C
Received within 6 hrs. of collection: ___
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ °C
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ °C

Containers Received Preserved: ☑ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: Please e-mail preliminary VOC/SVOC report when complete

Relinquished By: Carrie J Carter Date/Time 7/5/12 0810 Received By: [signature] Date/Time 7/7/12 810
Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 9/08

Supernate List/ Lime Sludge/Dewatering
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine — 8270 pests
  - Simazine
- PCBs – full
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - Endothall – No sludge
  - Aldicarb –
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - ~~Molybdenum~~ Molybdenum
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- BOD
- *COD*
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- **Nitrate as N**
- *Phosphorus*
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC* (FoC - solids)
- Gross alpha
- Gross beta
- Radium 226 and 228

- pH
- VSS (Sludge)

RERUN

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July 25, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-10-303
First Environmental File ID: 12-3363
Date Received: July 03, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-10-303**

First Environmental File ID: **12-3363**

Date Received: **July 03, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
12-3363-001	Lime Sludge Bed #5	*Semi-Volatile Compounds* Surrogate recovery outside control limits; low bias due to matrix interference.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge Bed #5
Sample No: 12-3363-001

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 07/25/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 07/17/12				
Total Solids	35.61		%	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 07/24/12		Preparation Date: 07/23/12		
Acenaphthene	< 660	330	ug/kg	
Acenaphthylene	< 660	330	ug/kg	
Anthracene	< 660	330	ug/kg	
Benzidine	< 660	330	ug/kg	
Benzo(a)anthracene	< 660	330	ug/kg	
Benzo(a)pyrene	< 180	90	ug/kg	
Benzo(b)fluoranthene	< 660	330	ug/kg	
Benzo(k)fluoranthene	< 660	330	ug/kg	
Benzo(ghi)perylene	< 660	330	ug/kg	
Benzoic acid	< 660	330	ug/kg	
Benzyl alcohol	< 660	330	ug/kg	
bis(2-Chloroethoxy)methane	< 660	330	ug/kg	
bis(2-Chloroethyl)ether	< 660	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 660	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 660	330	ug/kg	
4-Bromophenyl phenyl ether	< 660	330	ug/kg	
Butyl benzyl phthalate	< 660	330	ug/kg	
Carbazole	< 660	330	ug/kg	
4-Chloroaniline	< 660	330	ug/kg	
4-Chloro-3-methylphenol	< 660	330	ug/kg	
2-Chloronaphthalene	< 660	330	ug/kg	
2-Chlorophenol	< 660	330	ug/kg	
4-Chlorophenyl phenyl ether	< 660	330	ug/kg	
Chrysene	< 660	330	ug/kg	
Dibenzo(a,h)anthracene	< 180	90	ug/kg	
Dibenzofuran	< 660	330	ug/kg	
1,2-Dichlorobenzene	< 660	330	ug/kg	
1,3-Dichlorobenzene	< 660	330	ug/kg	
1,4-Dichlorobenzene	< 660	330	ug/kg	
3,3'-Dichlorobenzidine	< 1,320	660	ug/kg	
2,4-Dichlorophenol	< 660	330	ug/kg	
Diethyl phthalate	< 660	330	ug/kg	
2,4-Dimethylphenol	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge Bed #5
Sample No: 12-3363-001

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 07/25/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/24/12		**Preparation Method 3540C** Preparation Date: 07/23/12		
Dimethyl phthalate	< 660	330	ug/kg	
Di-n-butyl phthalate	< 660	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 3,200	1600	ug/kg	
2,4-Dinitrophenol	< 3,200	1600	ug/kg	
2,4-Dinitrotoluene	< 500	250	ug/kg	
2,6-Dinitrotoluene	< 520	260	ug/kg	
Di-n-octylphthalate	< 660	330	ug/kg	
Fluoranthene	< 660	330	ug/kg	
Fluorene	< 660	330	ug/kg	
Hexachlorobenzene	< 660	330	ug/kg	
Hexachlorobutadiene	< 660	330	ug/kg	
Hexachlorocyclopentadiene	< 660	330	ug/kg	
Hexachloroethane	< 660	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 660	330	ug/kg	
Isophorone	< 660	330	ug/kg	
2-Methylnaphthalene	< 660	330	ug/kg	
2-Methylphenol	< 660	330	ug/kg	
3 & 4-Methylphenol	< 660	330	ug/kg	
Naphthalene	< 660	330	ug/kg	
2-Nitroaniline	< 3,200	1600	ug/kg	
3-Nitroaniline	< 3,200	1600	ug/kg	
4-Nitroaniline	< 3,200	1600	ug/kg	
Nitrobenzene	< 520	260	ug/kg	
2-Nitrophenol	< 3,200	1600	ug/kg	
4-Nitrophenol	< 3,200	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 180	90	ug/kg	
n-Nitrosodimethylamine	< 660	330	ug/kg	
n-Nitrosodiphenylamine	< 660	330	ug/kg	
Pentachlorophenol	< 660	330	ug/kg	
Phenanthrene	< 660	330	ug/kg	
Phenol	15,000	330	ug/kg	
Pyrene	< 660	330	ug/kg	
Pyridine	< 660	330	ug/kg	
1,2,4-Trichlorobenzene	< 660	330	ug/kg	
2,4,5-Trichlorophenol	< 660	330	ug/kg	
2,4,6-Trichlorophenol	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge Bed #5
Sample No: 12-3363-001

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 07/25/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 07/17/12				
Acetone	< 100	100	ug/kg	
Benzene	< 5.0	5.0	ug/kg	
Bromodichloromethane	< 5.0	5.0	ug/kg	
Bromoform	< 5.0	5.0	ug/kg	
Bromomethane	< 10.0	10.0	ug/kg	
2-Butanone (MEK)	< 100	100	ug/kg	
Carbon disulfide	< 5.0	5.0	ug/kg	
Carbon tetrachloride	< 5.0	5.0	ug/kg	
Chlorobenzene	< 5.0	5.0	ug/kg	
Chlorodibromomethane	< 5.0	5.0	ug/kg	
Chloroethane	< 10.0	10.0	ug/kg	
Chloroform	< 5.0	5.0	ug/kg	
Chloromethane	< 10.0	10.0	ug/kg	
1,1-Dichloroethane	< 5.0	5.0	ug/kg	
1,2-Dichloroethane	< 5.0	5.0	ug/kg	
1,1-Dichloroethene	< 5.0	5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
1,2-Dichloropropane	< 5.0	5.0	ug/kg	
cis-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
trans-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
2-Hexanone	< 10.0	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/kg	
Methylene chloride	< 20.0	20.0	ug/kg	
Styrene	< 5.0	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/kg	
Tetrachloroethene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	5.0	ug/kg	
Trichloroethene	< 5.0	5.0	ug/kg	
Vinyl acetate	< 10.0	10.0	ug/kg	
Vinyl chloride	< 10.0	10.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge Bed #5
Sample No: 12-3363-001

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 07/25/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5035A/8260B**			
Analysis Date: 07/17/12				
1,2-Dibromo-3-chloropropane	< 2.0	10.0	ug/kg	J
1,2-Dibromoethane (EDB)	< 5.0	5.0	ug/kg	
BOD, 5 Day	**Method: 5210B**			
Analysis Date: 07/19/12 15:00				
BOD, 5 Day	1,400	100	mg/kg	

First Environmental Laboratories, Inc.

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E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter / Philippe Moreau

Project I.D.: 96044-10-303
P.O. #.: _____

Matrix Codes: S = Soil W = Water O = Other

Analyses: See Attached Parameter Sheet; VOCs; SVOCs; BOD; Re-analyze per C Carter 7/17/12. (w)

Date/Time Taken	Sample Description	Matrix									Comments	Lab I.D.
7/3/12 7:00am	Lime Separate - Bed #1	W	✓								18 bottles	12-3156-001
7/3/12 7:20am	Lime Sludge - Bed # 5	O	✓		X	X	X				3 jars	12-3363-001 002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No. ___ ___ °C
Received within 6 hrs of collection: ___
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ °C
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ °C

Containers Received Preserved: ☑ Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: Please e-mail preliminary VOC/SVOC report when complete

Relinquished By: Carrie J Carter Date/Time 7/3/12 0810 Received By: [signature] Date/Time 7/3/12 810

Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 9/08

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Preliminary Analytical Report

Client: AURORA, CITY OF
Project ID: Lagoon Sludge
Sample ID: Lagoon Composite
Sample No: 12-3071-001

Date Collected: 06/28/12
Time Collected:
Date Received: 06/28/12
Date Reported:

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
TCLP Volatiles Method 1311 **Method: 5030B/8260B** Analysis Date: 07/02/12				
Benzene	< 0.050	0.050	mg/L	
2-Butanone (MEK)	< 0.100	0.100	mg/L	
Carbon tetrachloride	< 0.050	0.050	mg/L	
Chlorobenzene	< 0.050	0.050	mg/L	
Chloroform	< 0.050	0.050	mg/L	
1,2-Dichloroethane	< 0.050	0.050	mg/L	
1,1-Dichloroethene	< 0.050	0.050	mg/L	
Tetrachloroethene	< 0.050	0.050	mg/L	
Trichloroethene	< 0.050	0.050	mg/L	
Vinyl chloride	< 0.100	0.100	mg/L	
TCLP Semi-Volatiles Method 1311 **Method: 8270C** **Preparation Method 3510C** Analysis Date: 07/05/12 Preparation Date: 07/05/12				
1,4-Dichlorobenzene	< 0.10	0.10	mg/L	
2,4-Dinitrotoluene	< 0.10	0.10	mg/L	
Hexachlorobenzene	< 0.10	0.10	mg/L	
Hexachlorobutadiene	< 0.10	0.10	mg/L	
Hexachloroethane	< 0.10	0.10	mg/L	
2-Methylphenol	< 0.10	0.10	mg/L	
3 & 4-Methylphenol	< 0.10	0.10	mg/L	
Nitrobenzene	< 0.10	0.10	mg/L	
Pentachlorophenol	< 0.50	0.50	mg/L	
Pyridine	< 0.50	0.50	mg/L	
2,4,5-Trichlorophenol	< 0.10	0.10	mg/L	
2,4,6-Trichlorophenol	< 0.10	0.10	mg/L	
TCLP Pesticides Method 1311 **Method: 8081A** **Preparation Method 3510C** Analysis Date: 07/05/12 Preparation Date: 07/05/12				
Endrin	< 0.001	0.001	mg/L	
gamma-BHC (Lindane)	< 0.005	0.005	mg/L	
Heptachlor	< 0.005	0.005	mg/L	
Heptachlor epoxide	< 0.005	0.005	mg/L	
Methoxychlor	< 0.005	0.005	mg/L	
Toxaphene	< 0.010	0.01	mg/L	

Important Note: These results have not been subject to final review and are to be considered preliminary. This report will list only completed analyses. Other analyses may have been requested on this sample and will be included in the final report.

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Preliminary Analytical Report

Client: AURORA, CITY OF
Project ID: Lagoon Sludge
Sample ID: Lagoon Composite
Sample No: 12-3071-001

Date Collected: 06/28/12
Time Collected:
Date Received: 06/28/12
Date Reported:

Results reported on an "as received" basis.

Analyte		Result	R.L.	Units	Flags
TCLP Pesticides Method 1311	**Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 07/05/12			Preparation Date: 07/05/12		
Chlordane (Total)		< 0.005	0.005	mg/L	
TCLP Herbicides Method 1311	**Method: 8321A**				
Analysis Date: 07/05/12					
2,4-D		< 0.5	0.5	mg/L	S
Silvex (2,4,5-TP)		< 0.5	0.5	mg/L	S
TCLP Metals Method 1311	**Method: 6020A**		**Preparation Method 3010A**		
Analysis Date: 07/03/12			Preparation Date: 07/03/12		
Arsenic		< 0.002	0.002	mg/L	
Barium		1.1	1.0	mg/L	
Cadmium		< 0.001	0.001	mg/L	
Chromium		0.007	0.001	mg/L	
Lead		< 0.002	0.002	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
TCLP Mercury Method 1311	**Method: 7470A**				
Analysis Date: 06/29/12					
Mercury		< 0.0005	0.0005	mg/L	
Percent Total Solids	**Method: 2540B**				
Analysis Date: 07/03/12					
Total Solids		31.11		%	
Alkalinity, Total (as CaCO3)	**Method: 2320B**				
Analysis Date: 07/03/12					
Alkalinity, Total (as CaCO3)		5,010	50	mg/kg	
Ammonia (as N)	**Method: 350.1R2.0**				
Analysis Date: 07/10/12					
Ammonia (as N)		203	2.0	mg/kg	
Chromium, Hexavalent	**Method: 3060A/7196A**				
Analysis Date: 07/05/12 14:30					
Chromium, Hexavalent		< 2.5	2.5	mg/kg	

Important Note: These results have not been subject to final review and are to be considered preliminary. This report will list only completed analyses. Other analyses may have been requested on this sample and will be included in the final report.

Preliminary Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	06/28/12
Project ID:	Lagoon Sludge	**Time Collected:**	
Sample ID:	Lagoon Composite	**Date Received:**	06/28/12
Sample No:	12-3071-001	**Date Reported:**	

Results reported on an "as received" basis.

Analyte		Result	R.L.	Units	Flags
TCLP Pesticides Method 1311 Analysis Date: 07/05/12	**Method: 8081A**		**Preparation Method 3510C** Preparation Date: 07/05/12		
Chlordane (Total)		< 0.005	0.005	mg/L	
TCLP Herbicides Method 1311 Analysis Date: 07/05/12	**Method: 8321A**				
2,4-D		< 0.5	0.5	mg/L	S
Silvex (2,4,5-TP)		< 0.5	0.5	mg/L	S
TCLP Metals Method 1311 Analysis Date: 07/03/12	**Method: 6020A**		**Preparation Method 3010A** Preparation Date: 07/03/12		
Arsenic		< 0.002	0.002	mg/L	
Barium		1.1	1.0	mg/L	
Cadmium		< 0.001	0.001	mg/L	
Chromium		0.007	0.001	mg/L	
Lead		< 0.002	0.002	mg/L	
Selenium		< 0.002	0.002	mg/L	
Silver		< 0.001	0.001	mg/L	
TCLP Mercury Method 1311 Analysis Date: 06/29/12	**Method: 7470A**				
Mercury		< 0.0005	0.0005	mg/L	
Percent Total Solids Analysis Date: 07/03/12	**Method: 2540B**				
Total Solids		31.11		%	
Alkalinity, Total (as CaCO3) Analysis Date: 07/03/12	**Method: 2320B**				
Alkalinity, Total (as CaCO3)		5,010	50	mg/kg	
Ammonia (as N) Analysis Date: 07/10/12	**Method: 350.1R2.0**				
Ammonia (as N)		203	2.0	mg/kg	
Calcium Carbonate Equivalent Analysis Date: 07/14/12	**Method: EPA**				
Calcium Carbonate Equivalent		94.5	0.1	% CaCO3	N

Important Note: These results have not been subject to final review and are to be considered preliminary. This report will list only completed analyses. Other analyses may have been requested on this sample and will be included in the final report.

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Preliminary Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	06/28/12
Project ID:	Lagoon Sludge	**Time Collected:**	
Sample ID:	Lagoon Composite	**Date Received:**	06/28/12
Sample No:	12-3071-001	**Date Reported:**	

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
COD **Method: 5220D**				
Analysis Date: 07/11/12				
COD	5,720	100	mg/kg	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 07/03/12				
Cyanide, Total	< 0.10	0.10	mg/kg	
Oil & Grease **Method: 9071B**				
Analysis Date: 07/06/12				
Oil & Grease	< 100	100	mg/kg	
pH @ 25°C, 1:2 **Method: 9045C**				
Analysis Date: 07/03/12 13:00				
pH @ 25°C, 1:2	9.72		Units	
Phenols **Method: 420.1**				
Analysis Date: 07/03/12				
Phenols	5.8	2.5	mg/kg	
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 07/06/12				
Phosphorus (as P)	9.1	0.5	mg/kg	
Sulfide **Method: 4500S2,C,D**				
Analysis Date: 07/09/12				
Sulfide	8.0	1.0	mg/kg	H
Sulfur **Method: 6020A**				
Analysis Date: 07/06/12				
Sulfur	2,400	100	mg/kg	N S
Total Volatile Solids **Method: 2540E**				
Analysis Date: 07/05/12				
Total Volatile Solids	6.90	1.00	%	
Total Kjeldahl Nitrogen (TKN) **Method: 351.2R2.0**				
Analysis Date: 07/12/12				
Total Kjeldahl Nitrogen (TKN)	1,050	100	mg/kg	

Important Note: These results have not been subject to final review and are to be considered preliminary. This report will list only completed analyses. Other analyses may have been requested on this sample and will be included in the final report.

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Preliminary Analytical Report

Client: AURORA, CITY OF
Project ID: Lagoon Sludge
Sample ID: Lagoon Composite
Sample No: 12-3071-001

Date Collected: 06/28/12
Time Collected:
Date Received: 06/28/12
Date Reported:

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 07/03/12		Preparation Date: 06/29/12		
Aluminum	646	5.0	mg/kg	
Arsenic	< 0.2	0.2	mg/kg	
Barium	198	0.1	mg/kg	
Cadmium	< 0.1	0.1	mg/kg	
Chromium	7.7	0.1	mg/kg	
Cobalt	< 0.1	0.1	mg/kg	
Copper	6.8	0.1	mg/kg	
Iron	7,550	1.0	mg/kg	
Lead	1.9	0.2	mg/kg	
Manganese	188	0.1	mg/kg	
Nickel	7.4	0.1	mg/kg	
Potassium	96	10	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	
Sodium	739	10	mg/kg	
Vanadium	6.4	1.0	mg/kg	
Zinc	46.6	0.5	mg/kg	
Total Mercury **Method: 7470A**				
Analysis Date: 07/03/12				
Mercury	< 0.05	0.05	mg/kg	
Acidity, Total **Method: 2310B**				
Analysis Date: 07/03/12				
Acidity, Total	< 50	50	mg/kg	

Important Note: These results have not been subject to final review and are to be considered preliminary. This report will list only completed analyses. Other analyses may have been requested on this sample and will be included in the final report.

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June 19, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-
First Environmental File ID: 12-1818
Date Received: April 24, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker

Lorrie Walker
Project Manager

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-**

First Environmental File ID: **12-1818**

Date Received: **April 24, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
12-1818-001	Lime Sludge	*Semi-Volatile Compounds* The reporting limits are elevated due to matrix interference.
12-1818-001	Lime Sludge	*Semi-Volatile Pesticides* The reporting limits are elevated due to matrix interference.
12-1818-001	Lime Sludge	*Volatile Organic Compounds* The reporting limits are elevated due to matrix interference.

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 04/24/12				
Total Solids	39.60		%	
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 05/01/12				
Acetone	< 10,000	100	ug/kg	
Benzene	139	5.0	ug/kg	
Bromodichloromethane	< 500	5.0	ug/kg	
Bromoform	< 500	5.0	ug/kg	
Bromomethane	< 1,000	10.0	ug/kg	
2-Butanone (MEK)	< 10,000	100	ug/kg	
Carbon disulfide	< 500	5.0	ug/kg	
Carbon tetrachloride	< 500	5.0	ug/kg	
Chlorobenzene	< 500	5.0	ug/kg	
Chlorodibromomethane	< 500	5.0	ug/kg	
Chloroethane	< 1,000	10.0	ug/kg	
Chloroform	< 500	5.0	ug/kg	
Chloromethane	< 1,000	10.0	ug/kg	
1,1-Dichloroethane	< 500	5.0	ug/kg	
1,2-Dichloroethane	< 500	5.0	ug/kg	
1,1-Dichloroethene	< 500	5.0	ug/kg	
cis-1,2-Dichloroethene	400	5.0	ug/kg	
trans-1,2-Dichloroethene	< 500	5.0	ug/kg	
1,2-Dichloropropane	< 500	5.0	ug/kg	
cis-1,3-Dichloropropene	< 400	4.0	ug/kg	
trans-1,3-Dichloropropene	< 400	4.0	ug/kg	
Ethylbenzene	< 500	5.0	ug/kg	
2-Hexanone	< 1,000	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	320	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 1,000	10.0	ug/kg	
Methylene chloride	< 2,000	20.0	ug/kg	
Styrene	< 500	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 500	5.0	ug/kg	
Tetrachloroethene	< 500	5.0	ug/kg	
Toluene	< 500	5.0	ug/kg	
1,1,1-Trichloroethane	< 500	5.0	ug/kg	
1,1,2-Trichloroethane	< 500	5.0	ug/kg	
Trichloroethene	< 500	5.0	ug/kg	

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Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 05/01/12				
Vinyl acetate	< 1,000	10.0	ug/kg	
Vinyl chloride	< 1,000	10.0	ug/kg	
Xylene, Total	< 500	5.0	ug/kg	
1,2-Dibromo-3-chloropropane	< 200	10.0	ug/kg	J
1,2-Dibromoethane (EDB)	< 500	5.0	ug/kg	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 04/27/12		Preparation Date: 04/26/12		
Acenaphthene	< 660	330	ug/kg	
Acenaphthylene	< 660	330	ug/kg	
Anthracene	< 660	330	ug/kg	
Benzidine	< 660	330	ug/kg	
Benzo(a)anthracene	< 660	330	ug/kg	
Benzo(a)pyrene	< 180	90	ug/kg	
Benzo(b)fluoranthene	< 660	330	ug/kg	
Benzo(k)fluoranthene	< 660	330	ug/kg	
Benzo(ghi)perylene	< 660	330	ug/kg	
Benzoic acid	< 660	330	ug/kg	
Benzyl alcohol	< 660	330	ug/kg	
bis(2-Chloroethoxy)methane	< 660	330	ug/kg	
bis(2-Chloroethyl)ether	< 660	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 660	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 660	330	ug/kg	
4-Bromophenyl phenyl ether	< 660	330	ug/kg	
Butyl benzyl phthalate	< 660	330	ug/kg	
Carbazole	< 660	330	ug/kg	
4-Chloroaniline	< 660	330	ug/kg	
4-Chloro-3-methylphenol	< 660	330	ug/kg	
2-Chloronaphthalene	< 660	330	ug/kg	
2-Chlorophenol	< 660	330	ug/kg	
4-Chlorophenyl phenyl ether	< 660	330	ug/kg	
Chrysene	< 660	330	ug/kg	
Dibenzo(a,h)anthracene	< 180	90	ug/kg	
Dibenzofuran	< 660	330	ug/kg	
1,2-Dichlorobenzene	< 660	330	ug/kg	
1,3-Dichlorobenzene	< 660	330	ug/kg	
1,4-Dichlorobenzene	< 660	330	ug/kg	

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Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

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Date Reported: 06/19/12

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Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 04/27/12		Preparation Date: 04/26/12		
3,3'-Dichlorobenzidine	< 1,320	660	ug/kg	
2,4-Dichlorophenol	< 660	330	ug/kg	
Diethyl phthalate	< 660	330	ug/kg	
2,4-Dimethylphenol	< 660	330	ug/kg	
Dimethyl phthalate	< 660	330	ug/kg	
Di-n-butyl phthalate	< 660	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 3,200	1600	ug/kg	
2,4-Dinitrophenol	< 3,200	1600	ug/kg	
2,4-Dinitrotoluene	< 500	250	ug/kg	
2,6-Dinitrotoluene	< 520	260	ug/kg	
Di-n-octylphthalate	< 660	330	ug/kg	
Fluoranthene	< 660	330	ug/kg	
Fluorene	< 660	330	ug/kg	
Hexachlorobenzene	< 660	330	ug/kg	
Hexachlorobutadiene	< 660	330	ug/kg	
Hexachlorocyclopentadiene	< 660	330	ug/kg	
Hexachloroethane	< 660	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 660	330	ug/kg	
Isophorone	< 660	330	ug/kg	
2-Methylnaphthalene	< 660	330	ug/kg	
2-Methylphenol	< 660	330	ug/kg	
3 & 4-Methylphenol	< 660	330	ug/kg	
Naphthalene	< 660	330	ug/kg	
2-Nitroaniline	< 3,200	1600	ug/kg	
3-Nitroaniline	< 3,200	1600	ug/kg	
4-Nitroaniline	< 3,200	1600	ug/kg	
Nitrobenzene	< 520	260	ug/kg	
2-Nitrophenol	< 3,200	1600	ug/kg	
4-Nitrophenol	< 3,200	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 180	90	ug/kg	
n-Nitrosodimethylamine	< 660	330	ug/kg	
n-Nitrosodiphenylamine	< 660	330	ug/kg	
Pentachlorophenol	< 660	330	ug/kg	
Phenanthrene	< 660	330	ug/kg	
Phenol	12,000	330	ug/kg	
Pyrene	< 660	330	ug/kg	

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Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 04/27/12		**Preparation Method 3540C** Preparation Date: 04/26/12		
Pyridine	< 660	330	ug/kg	
1,2,4-Trichlorobenzene	< 660	330	ug/kg	
2,4,5-Trichlorophenol	< 660	330	ug/kg	
2,4,6-Trichlorophenol	< 660	330	ug/kg	
Pesticides/PCBs **Method: 8081A/8082** Analysis Date: 04/30/12		**Preparation Method 3540C** Preparation Date: 04/26/12		
Aldrin	< 8.0	8.0	ug/kg	
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
alpha-BHC	< 2.0	2.0	ug/kg	
beta-BHC	< 8.0	8.0	ug/kg	
delta-BHC	< 8.0	8.0	ug/kg	
gamma-BHC (Lindane)	< 8.0	8.0	ug/kg	
alpha-Chlordane	< 80.0	80.0	ug/kg	
gamma-Chlordane	< 80.0	80.0	ug/kg	
4,4'-DDD	< 16.0	16.0	ug/kg	
4,4'-DDE	< 16.0	16.0	ug/kg	
4,4'-DDT	< 16.0	16.0	ug/kg	
Dieldrin	< 16.0	16.0	ug/kg	
Endosulfan I	< 8.0	8.0	ug/kg	
Endosulfan II	< 16.0	16.0	ug/kg	
Endosulfan sulfate	< 16.0	16.0	ug/kg	
Endrin	< 16.0	16.0	ug/kg	
Endrin aldehyde	< 16.0	16.0	ug/kg	
Endrin ketone	< 16.0	16.0	ug/kg	
Heptachlor	< 8.0	8.0	ug/kg	
Heptachlor epoxide	< 8.0	8.0	ug/kg	
Methoxychlor	< 80.0	80.0	ug/kg	
Toxaphene	< 160	160	ug/kg	

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Analyte		Result	R.L.	Units	Flags
Semi-Volatile Pesticides	**Method: 8270C**		**Preparation Method 3540C**		
Analysis Date: 04/27/12			Preparation Date: 04/26/12		
Alachlor		< 80	40	ug/kg	N
Atrazine		< 132	66	ug/kg	N
Simazine		< 80	40	ug/kg	N
Herbicides	**Method: 8321**				
Analysis Date: 04/27/12					
Dalapon		< 100	100	ug/kg	N S
2,4-Dichlorophenoxyacetic acid (2,4-D)		< 100	100	ug/kg	N S
Dinoseb		< 100	100	ug/kg	N S
Pentachlorophenol		< 20	20	ug/kg	N S
Picloram		< 100	100	ug/kg	N S
2,4,5-T		< 100	100	ug/kg	N S
Silvex (2,4,5-TP)		< 100	100	ug/kg	N S
Carbamate Pesticides	**Method: 8318**				
Analysis Date: 05/09/12					
Aldicarb		< 0.20	0.2	mg/kg	N S
Carbofuran		< 0.20	0.2	mg/kg	N S
Total Metals	**Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 04/30/12			Preparation Date: 04/26/12		
Antimony		< 2.5	1.0	mg/kg	
Arsenic		3.0	0.2	mg/kg	
Barium		160	0.1	mg/kg	
Beryllium		< 0.2	0.1	mg/kg	
Boron		17.7	1.0	mg/kg	
Cadmium		0.8	0.1	mg/kg	
Chromium		6.6	0.1	mg/kg	
Cobalt		0.5	0.1	mg/kg	
Copper		7.3	0.1	mg/kg	
Iron		6,460	1.0	mg/kg	
Lead		< 0.5	0.2	mg/kg	
Manganese		154	0.1	mg/kg	
Molybdenum		< 2.5	1.0	mg/kg	
Nickel		4.8	0.1	mg/kg	
Selenium		< 0.5	0.2	mg/kg	
Silver		< 0.2	0.1	mg/kg	
Thallium		< 2.5	1.0	mg/kg	

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Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 04/30/12		Preparation Date: 04/26/12		
Vanadium	5.1	1.0	mg/kg	
Zinc	49.7	0.5	mg/kg	
Total Mercury **Method: 7470A**				
Analysis Date: 04/26/12				
Mercury	< 0.05	0.05	mg/kg	
Acidity, Total **Method: 2310B**				
Analysis Date: 04/27/12				
Acidity, Total	< 50	50	mg/kg	
Alkalinity, Total (as CaCO3) **Method: 2320B**				
Analysis Date: 04/26/12 13:15				
Alkalinity, Total (as CaCO3)	2,660	50	mg/kg	
Chloride, Soluble **Method: 4500CL,C**				
Analysis Date: 04/27/12				
Chloride, Soluble	404	50	mg/kg	N
BOD, 5 Day **Method: 5210B**				
Analysis Date: 04/26/12 15:00				
BOD, 5 Day	< 100	100	mg/kg	
COD, Soluble **Method: 5220D**				
Analysis Date: 04/26/12				
COD, Soluble	3,230	100	mg/kg	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 05/01/12				
Cyanide, Total	< 0.10	0.10	mg/kg	
Extractable Organic Halogen **Method: 9023**				
Analysis Date: 05/07/12				
Extractable Organic Halogens	< 50	50	mg/kg	S
Fluoride, Soluble **Method: 4500F,C**				
Analysis Date: 04/24/12				
Fluoride, Soluble	< 5.0	5.0	mg/kg	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 04/30/12				
Ammonia (as N)	147	2.0	mg/kg	

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Analyte	Result	R.L.	Units	Flags
Nitrate (as N), Soluble **Method: 353.2R1.0**				
Analysis Date: 04/29/12				
Nitrate + Nitrite (as N), Soluble	< 10.0	10.0	mg/kg	N
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 04/30/12				
Phosphorus (as P)	17.9	0.5	mg/kg	
Sulfide **Method: 4500S2,C,D**				
Analysis Date: 04/25/12				
Sulfide	< 1.0	1.0	mg/kg	
Sulfate, Soluble **Method: 9038**				
Analysis Date: 04/25/12				
Sulfate, Soluble	< 150	150	mg/kg	N
FOC (0.58 conversion factor) **Method: D2974-00**				
Analysis Date: 04/26/12				
FOC (0.58 conversion factor)	1.89		%	N
Organic Matter @ 440°C	3.26		%	N
pH @ 25°C, 1:10 **Method: 9045C**				
Analysis Date: 04/24/12 15:00				
pH @ 25°C, 1:10	9.29		Units	
Radium 226 & 228 **Method: 901.1M**				
Analysis Date: 06/08/12				
Radium 226	4.3+/-0.1		pCi/g dry	N S
Radium 228	2.9+/-0.2		pCi/g dry	N S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 04/25/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	1.2	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	04/24/12
Project ID:	96044-	**Time Collected:**	7:40
Sample ID:	Supernate Bed #1	**Date Received:**	04/24/12
Sample No:	12-1818-002	**Date Reported:**	06/19/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 04/25/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011**				
Analysis Date: 05/09/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 04/25/12		Preparation Date: 04/25/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 04/25/12		**Preparation Method 3510C** Preparation Date: 04/25/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 04/25/12		**Preparation Method 3510C** Preparation Date: 04/25/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 04/25/12 Preparation Date: 04/25/12				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C** Analysis Date: 04/25/12 Preparation Date: 04/25/12				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C** Analysis Date: 05/08/12 Preparation Date: 04/25/12				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs Method: 8081A/8082 — Preparation Method 3510C Analysis Date: 05/08/12 — Preparation Date: 04/25/12				
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall Method: 548.1R1.0 Analysis Date: 05/04/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides Method: 531.1R3.1 Analysis Date: 05/15/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides Method: 8321A Analysis Date: 04/27/12				
2,4-D	< 0.2	0.2	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.3	0.3	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury Method: 7470A Analysis Date: 04/26/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals Method: 6010B — Preparation Method 3010A Analysis Date: 04/30/12 — Preparation Date: 04/27/12				
Aluminum	< 0.05	0.05	mg/L	
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.026	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.28	0.01	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 04/30/12		Preparation Date: 04/27/12		
Cadmium	< 0.001	0.001	mg/L	
Chromium	0.003	0.001	mg/L	
Cobalt	< 0.001	0.001	mg/L	
Copper	0.004	0.001	mg/L	
Iron	0.15	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.004	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	0.002	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Acidity, Total **Method: 2310B**				
Analysis Date: 04/27/12				
Acidity, Total	< 5	5	mg/L	
Alkalinity, Total (CaCO3) **Method: 2320B**				
Analysis Date: 04/26/12 13:15				
Alkalinity, Total (CaCO3)	94	5	mg/L	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 04/30/12				
Ammonia (as N)	0.65	0.10	mg/L	
COD **Method: 5220D**				
Analysis Date: 04/26/12				
COD	< 10	10	mg/L	
Conductivity **Method: 2510B**				
Analysis Date: 05/02/12				
Conductivity	716	5	umhos/cm	
Cyanide, Total **Method: 335.4R1.0**				
Analysis Date: 05/01/12				
Cyanide, Total	< 0.005	0.005	mg/L	

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	04/24/12
Project ID:	96044-	**Time Collected:**	7:40
Sample ID:	Supernate Bed #1	**Date Received:**	04/24/12
Sample No:	12-1818-002	**Date Reported:**	06/19/12

Analyte	Result	R.L.	Units	Flags
Chloride **Method: 4500Cl, E**				
Analysis Date: 04/27/12				
Chloride	114	5	mg/L	
Fluoride **Method: 4500F,C**				
Analysis Date: 04/24/12				
Fluoride	0.30	0.10	mg/L	
Nitrate (as N) **Method: 353.2R2.0**				
Analysis Date: 04/29/12				
Nitrate (as N)	0.41	0.10	mg/L	
Nitrite (as N) **Method: 4500NO2,B**				
Analysis Date: 04/25/12 14:30				
Nitrite (as N)	0.02	0.01	mg/L	
pH @ 25°C **Method: 4500H+,B**				
Analysis Date: 04/24/12 15:00				
pH @ 25°C	11.02		Units	
Phenols **Method: 9066**				
Analysis Date: 04/30/12				
Phenols	< 0.010	0.010	mg/L	
Sulfate **Method: 375.2R2.0**				
Analysis Date: 05/01/12				
Sulfate	37	15	mg/L	
Sulfide **Method: 4500S2C,D**				
Analysis Date: 04/25/12				
Sulfide	< 0.05	0.05	mg/L	
Total Kjeldahl Nitrogen (TKN) **Method: 351.2R2.0**				
Analysis Date: 04/27/12				
Total Kjeldahl Nitrogen (TKN)	< 1.0	1.0	mg/L	
Total Dissolved Solids **Method: 2540C**				
Analysis Date: 04/27/12				
Total Dissolved Solids	310	10	mg/L	
TOC **Method: 5310C**				
Analysis Date: 04/27/12				
TOC	4.5	0.1	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
TOX **Method: 9020B**				
Analysis Date: 05/03/12				
TOX	0.017	0.020	mg/L	J S
Radium 226 & 228 **Method: 903.1/Ra-05**				
Analysis Date: 06/15/12				
Radium 226	1.1+/-0.3		pCi/L	N S
Radium 228	< 1.1		pCi/L	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 05/16/12				
Gross Alpha	< 0.7		pCi/L	N S
Gross Beta **Method: 900.0**				
Analysis Date: 05/16/12				
Gross Beta	3.7+/-0.7		pCi/L	N S

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IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: DEI
Street Address: 230 Waterman Ave
City: Aurora State: IL Zip: 60504
Phone: 630 897-7350 Fax: e-mail:
Send Report To: Dave Carter Via: Fax ☐ e-mail ☐
Sampled By: Dave Carter / Philippe Moreau

Project I.D.: 960144-
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Sat. Attached	Reservoir sheet	VOC's (Added by Carrie Cook 4/25/12 MSK)							Comments	Lab I.D.
4/24/12 7:30	Lime Slurge - Bed # 5	O	✓		✓							12-1818-001	
4/24/12 7:40	Supernate - Bed #1	W	✓										002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6ºC Yes X No__ <6 ºC
Received within 6 hrs. of collection:____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____ºC
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____ºC

Containers Received Preserved: X Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: [signature] Date/Time 4/24/12 8:58 Received By: MY Date/Time 4/24/12 0858
Relinquished By: Date/Time Received By: Date/Time

Rev. 9/08

Supernate List:
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor } SVOC redo
  - Atrazine
  - Simazine
- PCBs – full
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - Endothall
  - Aldicarb
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - ~~Molybdenum~~ Molybdenum
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- BOD – missed - need new sample
- COD
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- **Nitrate as N**
- *Phosphorus* – missed - relog
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC*
- Gross alpha
- Gross beta
- Radium 226 and 228

° pH

~~Supernate list:~~ Lime Sludge
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method ~~8011~~)
- SVOCs ~~/PNAs~~
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine } 8270C pests
  - Simazine
- PCBs – full
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - ~~Endothall~~ ??
  - Aldicarb
  - Carbofuran > Sub.

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - ~~Molybdenum~~ Molybdenum
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity* 1:10
- *alkalinity* 1:10
- Chloride soluble
- BOD soluble
- COD soluble
- ~~*Conductivity*~~
- Cyanide
- *EOX*
- Fluoride soluble
- N-Ammonia
- **Nitrate as N** soluble
- *Phosphorus*
- *Sulfide*
- Sulfate soluble
- ~~Total Dissolved Solids~~
- ~~TOC~~ FOC
- ~~Gross alpha~~
- ~~Gross beta~~
- Radium 226 and 228

° pH

Changes JJ 04/24/12

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	08/09/11
Project ID:	Lagoon Sampling	**Time Collected:**	8:30
Sample ID:	Lagoon Composite	**Date Received:**	08/09/11
Sample No:	11-3454-001	**Date Reported:**	09/09/11

Results are reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
TCLP Volatiles Method 1311/8260B **Method: 5030B/8260B**				
Analysis Date: 08/11/11				
Benzene	< 0.050	0.050	mg/L	
2-Butanone (MEK)	< 0.100	0.100	mg/L	
Carbon tetrachloride	< 0.050	0.050	mg/L	
Chlorobenzene	< 0.050	0.050	mg/L	
Chloroform	< 0.050	0.050	mg/L	
1,2-Dichloroethane	< 0.050	0.050	mg/L	
1,1-Dichloroethene	< 0.050	0.050	mg/L	
Tetrachloroethene	< 0.050	0.050	mg/L	
Trichloroethene	< 0.050	0.050	mg/L	
Vinyl chloride	< 0.100	0.100	mg/L	
TCLP Semi-Volatiles Method 1311/8270C **Method: 3510C/8270C** **Preparation Method 3510C**				
Analysis Date: 08/12/11 Preparation Date: 08/10/11				
1,4-Dichlorobenzene	< 0.10	0.10	mg/L	
2,4-Dinitrotoluene	< 0.10	0.10	mg/L	
Hexachlorobenzene	< 0.10	0.10	mg/L	
Hexachlorobutadiene	< 0.10	0.10	mg/L	
Hexachloroethane	< 0.10	0.10	mg/L	
2-Methylphenol	< 0.10	0.10	mg/L	
3 & 4-Methylphenol	< 0.10	0.10	mg/L	
Nitrobenzene	< 0.10	0.10	mg/L	
Pentachlorophenol	< 0.50	0.50	mg/L	
Pyridine	< 0.50	0.50	mg/L	
2,4,5-Trichlorophenol	< 0.10	0.10	mg/L	
2,4,6-Trichlorophenol	< 0.10	0.10	mg/L	
TCLP Pesticides Method 1311/8081A **Method: 3510C/8081A** **Preparation Method 3510C**				
Analysis Date: 08/16/11 Preparation Date: 08/15/11				
Endrin	< 0.001	0.001	mg/L	
gamma-BHC (Lindane)	< 0.005	0.005	mg/L	
Heptachlor	< 0.005	0.005	mg/L	
Heptachlor epoxide	< 0.005	0.005	mg/L	
Methoxychlor	< 0.005	0.005	mg/L	
Toxaphene	< 0.010	0.01	mg/L	
Chlordane (Total)	< 0.005	0.005	mg/L	

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	08/09/11
Project ID:	Lagoon Sampling	**Time Collected:**	8:30
Sample ID:	Lagoon Composite	**Date Received:**	08/09/11
Sample No:	11-3454-001	**Date Reported:**	09/09/11

Results are reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
TCLP Herbicides Method 1311 **Method: 8321A** Analysis Date: 08/15/11				
2,4-D	< 2	2	mg/L	S
Silvex (2,4,5-TP)	< 1	1	mg/L	S
TCLP Metals Method 1311 **Method: 6010B** **Preparation Method 3010A** Analysis Date: 08/11/11 Preparation Date: 08/10/11				
Arsenic	< 0.002	0.002	mg/L	
Barium	< 1.0	1.0	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Lead	< 0.002	0.002	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
TCLP Mercury Method 1311/7470A **Method: 7470A** Analysis Date: 08/12/11				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals **Method: 6010B** **Preparation Method 3050B** Analysis Date: 08/12/11 Preparation Date: 08/12/11				
Aluminum	248	5.0	mg/kg	
Antimony	< 1.0	1.0	mg/kg	
Arsenic	0.9	0.2	mg/kg	
Barium	46.8	0.1	mg/kg	
Beryllium	< 0.1	0.1	mg/kg	
Cadmium	< 0.1	0.1	mg/kg	
Calcium	63,500	10	mg/kg	
Chromium	2.2	0.1	mg/kg	
Cobalt	0.3	0.1	mg/kg	
Copper	2.0	0.1	mg/kg	
Iron	2,220	1.0	mg/kg	
Lead	1.0	0.2	mg/kg	
Magnesium	11,000	10	mg/kg	
Manganese	47.3	0.1	mg/kg	
Nickel	1.4	0.1	mg/kg	
Potassium	103	10	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	
Sodium	363	10	mg/kg	

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Analytical Report

Client: AURORA, CITY OF
Project ID: Lagoon Sampling
Sample ID: Lagoon Composite
Sample No: 11-3454-001

Date Collected: 08/09/11
Time Collected: 8:30
Date Received: 08/09/11
Date Reported: 09/09/11

Results are reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Total Metals Method: 6010B Analysis Date: 08/12/11		Preparation Method 3050B Preparation Date: 08/12/11		
Thallium	< 1.0	1.0	mg/kg	
Vanadium	1.7	1.0	mg/kg	
Zinc	19.4	0.5	mg/kg	
Total Mercury Method: 7470A Analysis Date: 08/12/11				
Mercury	< 0.05	0.05	mg/kg	
Chromium, Hexavalent Method: 7196A Analysis Date: 08/11/11				
Chromium, Hexavalent	< 2.5	2.5	mg/kg	
COD, Soluble Method: 5220D Analysis Date: 08/11/11				
COD, Soluble	790	100	mg/kg	
Alkalinity, Total (as CaCO3) Method: 2320B Analysis Date: 08/12/11				
Alkalinity, Total (as CaCO3)	1,940	50	mg/kg	
Calcium Carbonate Equivalent Method: EPA Analysis Date: 08/11/11				
Calcium Carbonate Equivalent	94.6	0.1	% CaCO3	N
Ammonia (as N) Method: 350.1R2.0 Analysis Date: 08/12/11				
Ammonia (as N)	25.2	2.0	mg/kg	
Total Kjeldahl Nitrogen (TKN) Method: 351.2R2.0 Analysis Date: 08/11/11				
Total Kjeldahl Nitrogen (TKN)	206	100	mg/kg	
Oil & Grease Method: 9071B Analysis Date: 08/16/11				
Oil & Grease	124	10	mg/kg	
pH @ 25°C, 1:10 Method: 4500H+B Analysis Date: 08/10/11 13:40				
pH @ 25°C, 1:10	10.06		Units	
Phenols Method: 420.1 Analysis Date: 08/12/11				
Phenols	< 2.5	2.5	mg/kg	

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	08/09/11
Project ID:	Lagoon Sampling	**Time Collected:**	8:30
Sample ID:	Lagoon Composite	**Date Received:**	08/09/11
Sample No:	11-3454-001	**Date Reported:**	09/09/11

Results are reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 08/10/11				
Phosphorus (as P)	13.4	0.5	mg/kg	
Total Volatile Solids **Method: 2540G**				
Analysis Date: 08/15/11				
Total Volatile Solids	6.88	1.00	%	
Percent Total Solids **Method: 2540B**				
Analysis Date: 08/15/11				
Total Solids	29.86		%	
Sulfide **Method: 4500S2,C,D**				
Analysis Date: 08/10/11				
Sulfide	1.0	1.0	mg/kg	
Sulfur **Method: 6010B**				
Analysis Date: 08/15/11				
Sulfur	722	10	mg/kg	NS
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 08/12/11				
Cyanide, Total	< 0.10	0.10	mg/kg	
Radium 226 & 228 **Method: 901.1M**				
Analysis Date: 09/06/11				
Radium 226	6.18+/-0.19		pCi/g dry	NS
Radium 228	4.04+/-0.33		pCi/g dry	NS
Gross Alpha **Method: 900.0**				
Analysis Date: 08/18/11				
Gross Alpha	20.13+/-4.57		pCi/g dry	NS
Gross Beta **Method: 900.0**				
Analysis Date: 08/18/11				
Gross Beta	15.73+/-2.51		pCi/g dry	NS

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Analytical Report

Client: AURORA, CITY OF
Project ID: Annual Lagoon Sampling
Sample ID: Lagoon Sample (Sludge)
Sample No: 10-1706-001

Date Collected: 05/04/10
Time Collected: 7:45
Date Received: 05/04/10
Date Reported: 06/07/10

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
TCLP Volatiles Method 1311 Analysis Date: 05/07/10	**Method: 5030B/8260B**			
Benzene	< 0.050	0.050	mg/L	
2-Butanone (MEK)	< 0.100	0.100	mg/L	
Carbon tetrachloride	< 0.050	0.050	mg/L	
Chlorobenzene	< 0.050	0.050	mg/L	
Chloroform	< 0.050	0.050	mg/L	
1,2-Dichloroethane	< 0.050	0.050	mg/L	
1,1-Dichloroethene	< 0.050	0.050	mg/L	
Tetrachloroethene	< 0.050	0.050	mg/L	
Trichloroethene	< 0.050	0.050	mg/L	
Vinyl chloride	< 0.100	0.100	mg/L	
TCLP Semi-Volatiles Method 1311 Analysis Date: 05/07/10	**Method: 8270C**	**Preparation Method 3510C** Preparation Date: 05/07/10		
1,4-Dichlorobenzene	< 0.10	0.10	mg/L	
2,4-Dinitrotoluene	< 0.10	0.10	mg/L	
Hexachlorobenzene	< 0.10	0.10	mg/L	
Hexachlorobutadiene	< 0.10	0.10	mg/L	
Hexachloroethane	< 0.10	0.10	mg/L	
2-Methylphenol	< 0.10	0.10	mg/L	
3 & 4-Methylphenol	< 0.10	0.10	mg/L	
Nitrobenzene	< 0.10	0.10	mg/L	
Pentachlorophenol	< 0.50	0.50	mg/L	
Pyridine	< 0.50	0.50	mg/L	
2,4,5-Trichlorophenol	< 0.10	0.10	mg/L	
2,4,6-Trichlorophenol	< 0.10	0.10	mg/L	
TCLP Pesticides Method 1311 Analysis Date: 05/11/10	**Method: 8081A**	**Preparation Method 3510C** Preparation Date: 05/06/10		
Endrin	< 0.001	0.001	mg/L	
gamma-BHC (Lindane)	< 0.005	0.005	mg/L	
Heptachlor	< 0.005	0.005	mg/L	
Heptachlor epoxide	< 0.005	0.005	mg/L	
Methoxychlor	< 0.005	0.005	mg/L	
Toxaphene	< 0.010	0.01	mg/L	
Chlordane (Total)	< 0.005	0.005	mg/L	

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	05/04/10
Project ID:	Annual Lagoon Sampling	**Time Collected:**	7:45
Sample ID:	Lagoon Sample (Sludge)	**Date Received:**	05/04/10
Sample No:	10-1706-001	**Date Reported:**	06/07/10

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
TCLP Herbicides Method 1311 **Method: 515.1R4.0**				
Analysis Date: 05/12/10				
2,4-D	< 1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 2	0.05	ug/L	S
Polychlorinated biphenyls (PCBs) **Method: 8082** **Preparation Method 3540C**				
Analysis Date: 05/06/10 Preparation Date: 05/05/10				
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
TCLP Metals Method 1311 **Method: 6010B** **Preparation Method 3010A**				
Analysis Date: 05/07/10 Preparation Date: 05/06/10				
Arsenic	< 0.002	0.002	mg/L	
Barium	< 1.0	1.0	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Lead	< 0.002	0.002	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
TCLP Metals Method 1311 **Method: 7470A**				
Analysis Date: 05/07/10				
Mercury	< 0.0005	0.0005	mg/L	
Alkalinity, Total (as CaCO3) **Method: 2320B**				
Analysis Date: 05/10/10				
Alkalinity, Total (as CaCO3)	1,150	50	mg/kg	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 05/12/10				
Ammonia (as N)	8.3	2.0	mg/kg	
Percent Ash **Method: 2540G/E**				
Analysis Date: 05/10/10				
Percent Ash	44.43	0.01	%	N

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	05/04/10
Project ID:	Annual Lagoon Sampling	**Time Collected:**	7:45
Sample ID:	Lagoon Sample (Sludge)	**Date Received:**	05/04/10
Sample No:	10-1706-001	**Date Reported:**	06/07/10

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Calcium Carbonate Equivalent **Method: EPA**				
Analysis Date: 05/15/10				
Calcium Carbonate Equivalent	99.8	0.1	% CaCO3	N
Chromium, Hexavalent **Method: 7196A**				
Analysis Date: 05/10/10				
Chromium, Hexavalent	< 2.5	2.5	mg/kg	
COD **Method: 5220D**				
Analysis Date: 05/07/10				
COD	639	100	mg/kg	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 05/10/10				
Cyanide, Total	1.45	0.10	mg/kg	
Cyanide, Reactive **Method: 7.3.3.2.**				
Analysis Date: 05/11/10				
Cyanide, Reactive	< 10	10	mg/kg	
Extractable Organic Halogen **Method: 9023**				
Analysis Date: 05/13/10				
Extractable Organic Halogens	< 25	25	mg/kg	S
Flash Point - Open Cup **Method: 1010M**				
Analysis Date: 05/11/10				
Flash Point - Open Cup	No Flash @		212 °F	
FOC (0.58 conversion factor) **Method: D2974-00**				
Analysis Date: 05/07/10				
FOC (0.58 conversion factor)	1.36		%	N
Organic Matter @ 440°C	2.35		%	N
Oil & Grease **Method: 9071B**				
Analysis Date: 05/12/10				
Oil & Grease	242	1	mg/kg	
pH @ 25°C, 1:10 **Method: 4500H+,B**				
Analysis Date: 05/06/10 15:00				
pH @ 25°C, 1:10	10.76		Units	
Paint Filter Test **Method: 9095A**				
Analysis Date: 05/11/10				
Paint Filter Test	No Liquid			

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	05/04/10
Project ID:	Annual Lagoon Sampling	**Time Collected:**	7:45
Sample ID:	Lagoon Sample (Sludge)	**Date Received:**	05/04/10
Sample No:	10-1706-001	**Date Reported:**	06/07/10

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Phenols **Method: 420.1**				
Analysis Date: 05/06/10				
Phenols	< 2.5	2.5	mg/kg	
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 05/11/10				
Phosphorus (as P)	< 0.5	0.5	mg/kg	
Sulfate, Soluble **Method: 9038**				
Analysis Date: 05/07/10				
Sulfate, Soluble	617	150	mg/kg	
Sulfide **Method: 4500S2,C,D**				
Analysis Date: 05/11/10				
Sulfide	< 1.0	1.0	mg/kg	
Sulfide, Reactive **Method: 7.3.4.2.**				
Analysis Date: 05/11/10				
Sulfide, Reactive	< 10	10	mg/kg	
Sulfur **Method: ASTM E775-87**				
Analysis Date: 05/14/10				
Sulfur	0.205	0.0020	%	N S
Total Volatile Solids **Method: 2540E**				
Analysis Date: 05/10/10				
Total Volatile Solids	3.74	1.00	%	
Total Kjeldahl Nitrogen (TKN) **Method: 351.2R2.0**				
Analysis Date: 05/12/10				
Total Kjeldahl Nitrogen (TKN)	315	100	mg/kg	
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 05/07/10		Preparation Date: 05/05/10		
Aluminum	419	5.0	mg/kg	
Arsenic	1.1	0.2	mg/kg	
Barium	179	0.1	mg/kg	
Cadmium	0.2	0.1	mg/kg	
Chromium	7.0	0.1	mg/kg	
Cobalt	0.7	0.1	mg/kg	
Copper	9.3	0.1	mg/kg	
Iron	7,840	1.0	mg/kg	
Lead	< 0.2	0.2	mg/kg	

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Analytical Report

Client: AURORA, CITY OF
Project ID: Annual Lagoon Sampling
Sample ID: Lagoon Sample (Sludge)
Sample No: 10-1706-001

Date Collected: 05/04/10
Time Collected: 7:45
Date Received: 05/04/10
Date Reported: 06/07/10

Results are reported on a dry weight basis.

Analyte		Result	R.L.	Units	Flags
Total Metals	**Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 05/07/10			Preparation Date: 05/05/10		
Manganese		107	0.1	mg/kg	
Molybdenum		< 1.0	1.0	mg/kg	
Nickel		5.3	0.1	mg/kg	
Potassium		154	10	mg/kg	
Selenium		< 0.2	0.2	mg/kg	
Silver		< 0.1	0.1	mg/kg	
Sodium		1,430	10	mg/kg	
Vanadium		4.4	1.0	mg/kg	
Zinc		15.4	0.5	mg/kg	
Total Metals	**Method: 7470A**				
Analysis Date: 05/07/10					
Mercury		0.13	0.05	mg/kg	
Solids, total	**Method: 2540B**				
Analysis Date: 05/06/10					
Total Solids		45.40		%	

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/07/09
Project ID:	Not Provided	**Time Collected:**	8:30
Sample ID:	Sludge - Bed 1-A	**Date Received:**	10/07/09
Sample No:	9-4210-001	**Date Reported:**	12/02/09

Results are reported on dry weight basis.

Analyte		Result	R.L.	Units	Flags
Radium 226 & 228	**Method: 901.1M**				
Analysis Date: 11/06/09					
Radium 226		4.52+/-0.83		pCi/g	S
Radium 228		4.10+/-0.81		pCi/g	S

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/07/09
Project ID:	Not Provided	**Time Collected:**	8:35
Sample ID:	Sludge - Bed 1-B	**Date Received:**	10/07/09
Sample No:	9-4210-002	**Date Reported:**	12/02/09

Results are reported on dry weight basis.

Analyte		Result	R.L.	Units	Flags
Radium 226 & 228	**Method: 901.1M**				
Analysis Date: 11/06/09					
Radium 226		4.78+/-0.82		pCi/g	S
Radium 228		4.45+/-0.79		pCi/g	S

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/06/09
Project ID:	Not Provided	**Time Collected:**	7:40
Sample ID:	Sludge - Bed 4-A	**Date Received:**	10/07/09
Sample No:	9-4210-003	**Date Reported:**	12/02/09

Results are reported on dry weight basis.

Analyte	Result	R.L.	Units	Flags
Radium 226 & 228 **Method: 901.1M**				
Analysis Date: 11/06/09				
Radium 226	3.84+/-0.71		pCi/g	S
Radium 228	2.93+/-0.56		pCi/g	S

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/06/09
Project ID:	Not Provided	**Time Collected:**	7:40
Sample ID:	Sludge - Bed 4-B	**Date Received:**	10/07/09
Sample No:	9-4210-004	**Date Reported:**	12/02/09

Results are reported on dry weight basis.

Analyte	Result	R.L.	Units	Flags
Radium 226 & 228 **Method: 901.1M**				
Analysis Date: 11/06/09				
Radium 226	4.30+/-0.78		pCi/g	S
Radium 228	3.59+/-0.69		pCi/g	S

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/07/09
Project ID:	Not Provided	**Time Collected:**	8:45
Sample ID:	Sludge - Bed 5-A	**Date Received:**	10/07/09
Sample No:	9-4210-005	**Date Reported:**	12/02/09

Results are reported on dry weight basis.

Analyte	Result	R.L.	Units	Flags
Radium 226 & 228 **Method: 901.1M**				
Analysis Date: 11/06/09				
Radium 226	5.53+/-0.95		pCi/g	S
Radium 228	4.86+/-0.89		pCi/g	S

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/07/09
Project ID:	Not Provided	**Time Collected:**	8:50
Sample ID:	Sludge - Bed 5-B	**Date Received:**	10/07/09
Sample No:	9-4210-006	**Date Reported:**	12/02/09

Results are reported on dry weight basis.

Analyte		Result	R.L.	Units	Flags
Radium 226 & 228	**Method: 901.1M**				
Analysis Date: 11/06/09					
Radium 226		5.43+/-0.98		pCi/g	S
Radium 228		4.44+/-0.82		pCi/g	S

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November 19, 2008

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 07002-00
First Environmental File ID: 8-4774
Date Received: October 20, 2008

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002045: effective 05/14/08 through 02/28/09.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **07002-00**

First Environmental File ID: **8-4774**

Date Received: **October 20, 2008**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
8-4774-001	Lime Sludge	*Conductivity, 1:5* Sample analyzed at 5:100

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	10/20/08
Project ID:	07002-00	**Time Collected:**	8:00
Sample ID:	Lime Sludge	**Date Received:**	10/20/08
Sample No:	8-4774-001	**Date Reported:**	11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Percent Total Solids **Method: 2540B**				
Analysis Date: 10/21/08				
Total Solids	34.85		%	
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 10/25/08				
Acetone	< 100	100	ug/kg	
Benzene	< 5.0	5.0	ug/kg	
Bromodichloromethane	< 5.0	5.0	ug/kg	
Bromoform	< 5.0	5.0	ug/kg	
Bromomethane	< 10.0	10.0	ug/kg	
2-Butanone (MEK)	< 100	100	ug/kg	
Carbon disulfide	< 5.0	5.0	ug/kg	
Carbon tetrachloride	< 5.0	5.0	ug/kg	
Chlorobenzene	< 5.0	5.0	ug/kg	
Chlorodibromomethane	< 5.0	5.0	ug/kg	
Chloroethane	< 10.0	10.0	ug/kg	
Chloroform	< 5.0	5.0	ug/kg	
Chloromethane	< 10.0	10.0	ug/kg	
1,1-Dichloroethane	< 5.0	5.0	ug/kg	
1,2-Dichloroethane	< 5.0	5.0	ug/kg	
1,1-Dichloroethene	< 5.0	5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
1,2-Dichloropropane	< 5.0	5.0	ug/kg	
cis-1,3-Dichloropropene	< 5.0	5.0	ug/kg	
trans-1,3-Dichloropropene	< 5.0	5.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
2-Hexanone	< 10.0	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/kg	
Methylene chloride	< 20.0	20.0	ug/kg	
Styrene	< 5.0	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/kg	
Tetrachloroethene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	5.0	ug/kg	
Trichloroethene	< 5.0	5.0	ug/kg	

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	10/20/08
Project ID:	07002-00	**Time Collected:**	8:00
Sample ID:	Lime Sludge	**Date Received:**	10/20/08
Sample No:	8-4774-001	**Date Reported:**	11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5035A/8260B**			
Analysis Date: 10/25/08				
Vinyl acetate	< 10.0	10.0	ug/kg	
Vinyl chloride	< 10.0	10.	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
Semi-Volatile Compounds	**Method: 8270C**	**Preparation Method 3540C**		
Analysis Date: 10/24/08		Preparation Date: 10/23/08		
Acenaphthene	< 330	330	ug/kg	
Acenaphthylene	< 330	330	ug/kg	
Anthracene	< 330	330	ug/kg	
Benzidine	< 330	330	ug/kg	
Benzo(a)anthracene	< 330	330	ug/kg	
Benzo(a)pyrene	< 90	90	ug/kg	
Benzo(b)fluoranthene	< 330	330	ug/kg	
Benzo(k)fluoranthene	< 330	330	ug/kg	
Benzo(ghi)perylene	< 330	330	ug/kg	
Benzoic acid	< 330	330	ug/kg	
Benzyl alcohol	< 330	330	ug/kg	
bis(2-Chloroethoxy)methane	< 330	330	ug/kg	
bis(2-Chloroethyl)ether	< 330	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 330	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 330	330	ug/kg	
4-Bromophenyl phenyl ether	< 330	330	ug/kg	
Butyl benzyl phthalate	< 330	330	ug/kg	
Carbazole	< 330	330	ug/kg	
4-Chloroaniline	< 330	330	ug/kg	
4-Chloro-3-methylphenol	< 330	330	ug/kg	
2-Chloronaphthalene	< 330	330	ug/kg	
2-Chlorophenol	< 330	330	ug/kg	
4-Chlorophenyl phenyl ether	< 330	330	ug/kg	
Chrysene	< 330	330	ug/kg	
Dibenzo(a,h)anthracene	< 90	90	ug/kg	
Dibenzofuran	< 330	330	ug/kg	
1,2-Dichlorobenzene	< 330	330	ug/kg	
1,3-Dichlorobenzene	< 330	330	ug/kg	
1,4-Dichlorobenzene	< 330	330	ug/kg	
3,3'-Dichlorobenzidine	< 660	660	ug/kg	
2,4-Dichlorophenol	< 330	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Lime Sludge
Sample No: 8-4774-001

Date Collected: 10/20/08
Time Collected: 8:00
Date Received: 10/20/08
Date Reported: 11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 10/24/08		**Preparation Method 3540C** Preparation Date: 10/23/08		
Diethyl phthalate	< 330	330	ug/kg	
2,4-Dimethylphenol	< 330	330	ug/kg	
Dimethyl phthalate	< 330	330	ug/kg	
Di-n-butyl phthalate	< 330	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 1,600	1600	ug/kg	
2,4-Dinitrophenol	< 1,600	1600	ug/kg	
2,4-Dinitrotoluene	< 250	250	ug/kg	
2,6-Dinitrotoluene	< 260	260	ug/kg	
Di-n-octylphthalate	< 330	330	ug/kg	
Fluoranthene	< 330	330	ug/kg	
Fluorene	< 330	330	ug/kg	
Hexachlorobenzene	< 330	330	ug/kg	
Hexachlorobutadiene	< 330	330	ug/kg	
Hexachlorocyclopentadiene	< 330	330	ug/kg	
Hexachloroethane	< 330	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 330	330	ug/kg	
Isophorone	< 330	330	ug/kg	
2-Methylnaphthalene	< 330	330	ug/kg	
2-Methylphenol	< 330	330	ug/kg	
3 & 4-Methylphenol	< 330	330	ug/kg	
Naphthalene	< 330	330	ug/kg	
2-Nitroaniline	< 1,600	1600	ug/kg	
3-Nitroaniline	< 1,600	1600	ug/kg	
4-Nitroaniline	< 1,600	1600	ug/kg	
Nitrobenzene	< 260	260	ug/kg	
2-Nitrophenol	< 1,600	1600	ug/kg	
4-Nitrophenol	< 1,600	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 330	330	ug/kg	
n-Nitrosodimethylamine	< 330	330	ug/kg	
n-Nitrosodiphenylamine	< 330	330	ug/kg	
Pentachlorophenol	< 330	330	ug/kg	
Phenanthrene	< 330	330	ug/kg	
Phenol	1,080	330	ug/kg	
Pyrene	< 330	330	ug/kg	
Pyridine	< 330	330	ug/kg	
1,2,4-Trichlorobenzene	< 330	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Lime Sludge
Sample No: 8-4774-001

Date Collected: 10/20/08
Time Collected: 8:00
Date Received: 10/20/08
Date Reported: 11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds Method: 8270C Analysis Date: 10/24/08		Preparation Method 3540C Preparation Date: 10/23/08		
2,4,5-Trichlorophenol	< 330	330	ug/kg	
2,4,6-Trichlorophenol	< 330	330	ug/kg	
Pesticides/PCBs Method: 8081A/8082 Analysis Date: 10/24/08		Preparation Method 3540C Preparation Date: 10/23/08		
Aldrin	< 8.0	8.0	ug/kg	
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
alpha-BHC	< 2.0	2.0	ug/kg	
beta-BHC	< 8.0	8.0	ug/kg	
delta-BHC	< 8.0	8.0	ug/kg	
gamma-BHC (Lindane)	< 8.0	8.0	ug/kg	
alpha-Chlordane	< 80.0	80.0	ug/kg	
gamma-Chlordane	< 80.0	80.0	ug/kg	
4,4'-DDD	< 16.0	16.0	ug/kg	
4,4'-DDE	< 16.0	16.0	ug/kg	
4,4'-DDT	< 16.0	16.0	ug/kg	
Dieldrin	< 16.0	16.0	ug/kg	
Endosulfan I	< 8.0	8.0	ug/kg	
Endosulfan II	< 16.0	16.0	ug/kg	
Endosulfan sulfate	< 16.0	16.0	ug/kg	
Endrin	< 16.0	16.0	ug/kg	
Endrin aldehyde	< 16.0	16.0	ug/kg	
Endrin ketone	< 16.0	16.0	ug/kg	
Heptachlor	< 8.0	8.0	ug/kg	
Heptachlor epoxide	< 8.0	8.0	ug/kg	
Methoxychlor	< 80.0	80.0	ug/kg	
Toxaphene	< 160	160	ug/kg	
Calcium Carbonate Equivalent Method: EPA Analysis Date: 10/28/08				
Calcium Carbonate Equivalent	95.5	0.1	% CaCO3	N

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Lime Sludge
Sample No: 8-4774-001
Date Collected: 10/20/08
Time Collected: 8:00
Date Received: 10/20/08
Date Reported: 11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Chromium, Hexavalent	**Method: 7196A**			
Analysis Date: 10/21/08 15:00				
Chromium, Hexavalent	< 2.5	2.5	mg/kg	
COD	**Method: 5220D**			
Analysis Date: 10/29/08				
COD	690	100	mg/kg	
Cyanide, Total	**Method: 4500CN,C,E**			
Analysis Date: 10/21/08				
Cyanide, Total	< 0.10	0.10	mg/kg	
pH @ 25°C, 1:10	**Method: 4500H+,B**			
Analysis Date: 10/22/08 14:00				
pH @ 25°C, 1:10	9.68		Units	
Cyanide, Reactive	**Method: 7.3.3.2.**			
Analysis Date: 10/27/08				
Cyanide, Reactive	< 10	10	mg/kg	
Phenols	**Method: 420.1**			
Analysis Date: 10/27/08				
Phenols	< 2.5	2.5	mg/kg	
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 10/22/08 16:20				
Phosphorus (as P)	1.9	0.5	mg/kg	
Sulfide	**Method: 4500S2,C,D**			
Analysis Date: 10/28/08				
Sulfide	< 1.0	1.0	mg/kg	
Conductivity, 1:5	**Method: 2510B**			
Analysis Date: 10/24/08				
Conductivity, 1:100	3,840	5	umhos/cm	
Sulfide, Reactive	**Method: 7.3.4.2.**			
Analysis Date: 10/27/08				
Sulfide, Reactive	< 10	10	mg/kg	
Nitrate + Nitrite (as N), Soluble	**Method: 353.2R2.0**			
Analysis Date: 10/30/08				
Nitrate + Nitrite (as N), Soluble	< 10.0	10.0	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Lime Sludge
Sample No: 8-4774-001
Date Collected: 10/20/08
Time Collected: 8:00
Date Received: 10/20/08
Date Reported: 11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Alkalinity, Total (as CaCO3) **Method: 2320B**				
Analysis Date: 10/23/08 14:30				
Alkalinity, Total (as CaCO3)	1,300	50	mg/kg	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 10/31/08				
Ammonia (as N)	22.8	2.0	mg/kg	
Paint Filter Test **Method: 9095A**				
Analysis Date: 10/22/08				
Paint Filter Test	No Liquid			
FOC (0.58 conversion factor) **Method: D2974-00**				
Analysis Date: 10/21/08				
FOC (0.58 conversion factor)	2.53		%	N
Organic Matter @ 440°C	4.37		%	N
Percent Ash **Method: 2540G/E**				
Analysis Date: 10/21/08				
Percent Ash	32.45	0.01	%	N
Flash Point - Open Cup **Method: 1010M**				
Analysis Date: 10/22/08				
Flash Point - Open Cup	No Flash @		212 °F	
Oil & Grease **Method: 9071B**				
Analysis Date: 10/31/08				
Oil & Grease	177	1	mg/kg	
Total Metals **Method: 7470A**				
Analysis Date: 10/22/08				
Mercury	< 0.05	0.05	mg/kg	
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 10/23/08		Preparation Date: 10/22/08		
Arsenic	1.2	0.2	mg/kg	
Barium	65.6	0.1	mg/kg	
Cadmium	0.1	0.1	mg/kg	
Calcium	62,800	10	mg/kg	
Chromium	2.0	0.1	mg/kg	
Cobalt	0.2	0.1	mg/kg	
Copper	4.7	0.1	mg/kg	
Iron	2,420	1.0	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-00
Sample ID: Lime Sludge
Sample No: 8-4774-001

Date Collected: 10/20/08
Time Collected: 8:00
Date Received: 10/20/08
Date Reported: 11/19/08

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Total Metals Method: 6010B Analysis Date: 10/23/08		Preparation Method 3050B Preparation Date: 10/22/08		
Lead	0.3	0.2	mg/kg	
Manganese	42.9	0.1	mg/kg	
Molybdenum	< 1.0	1.0	mg/kg	
Nickel	1.3	0.1	mg/kg	
Potassium	60	10	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	
Sodium	310	10	mg/kg	
Vanadium	2.0	1.0	mg/kg	
Zinc	6.6	0.5	mg/kg	
Radium 226 & 228 Method: RA-100 Analysis Date: 11/17/08				
Radium 226	3.24+/-1.38		pCi/g	S
Radium 228	1.69+/-0.18		pCi/g	S
Gross Alpha Method: SM7110 Analysis Date: 11/05/08				
Gross Alpha	14.9+/-4.68		pCi/g	S
Gross Beta Method: SM7110 Analysis Date: 11/05/08				
Gross Beta	0.73+/-1.71		pCi/g	S
Herbicides Method: 8321 Analysis Date: 10/29/08				
2,4-Dichlorophenoxyacetic acid (2,4-D)	< 100	100	ug/kg	S
Silvex (2,4,5-TP)	< 100	100	ug/kg	S
Extractable Organic Halogen Method: 9023 Analysis Date: 10/27/08				
Extractable Organic Halogens	< 25	25	mg/kg	S
Sulfur Method: ASTM E775-87 Analysis Date: 10/29/08				
Sulfur	0.13	0.01	%	NS

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IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter / Tim Rutsey

Project I.D.: 07002-00
P.O. #:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Comments	Lab I.D.
10/20/08 8:00A	Lime Sludge	O		

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No ___ 4.6 °C
Received within 6 hrs. of collection: X
Ice Present: Yes ✓ No ___

Sample Refrigerated: Yes ___ No ___
Refrigerator Temperature: ___ °C
5035 Vials Frozen: Yes ___ No ___
Freezer Temperature: ___ °C

Containers Received Preserved: ☐ Yes ☐ No

Notes and Special Instructions: Totals not TCLP

Relinquished By: Carrie Carter Date/Time 10/20/08 11:45A Received By: M Sk Date/Time 10/20/08 1145
Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 4/06

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8390 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter / Tim Rutsey

Project I.D.: 07002-00
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Arsenic, Aluminum, Calcium, Chromium, Cadmium, Copper, Iron, Lead, Manganese, Magnesium, Nickel, Potassium, Selenium, Silver, Sodium, Zinc, Phosphorus, Hardness, Thallium	1,4-Dioxane, Volatile Organics, 8260	Comments	Lab I.D.
10/20/08 8:00A	Lime Sludge	O	✓	✓		

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No__ 4.6 °C
Received within 6 hrs. of collection: X
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ☐ Yes ☐ No

Notes and Special Instructions: Totals not TCLP's

Relinquished By: Carrie Carter Date/Time 10/20/08 11:45A Received By: M Hall Date/Time 10/20/08 1145
Relinquished By:_____ Date/Time_____ Received By:_____ Date/Time_____

Rev. 4/06

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/09/08
Project ID:	Sludge Sample Lagoon #3 RT25/UIC	**Time Collected:**	9:05
Sample ID:	Lagoon #3	**Date Received:**	10/10/08
Sample No:	8-4591-001	**Date Reported:**	11/17/08

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
TCLP Metals Method 1311 **Method: 6010B** **Preparation Method 3010A** Analysis Date: 10/14/08 Preparation Date: 10/14/08				
Arsenic	< 0.002	0.002	mg/L	
Barium	< 1.0	1.0	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Lead	< 0.002	0.002	mg/L	
Selenium	0.007	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
TCLP Metals Method 1311 **Method: 7470A** Analysis Date: 10/16/08				
Mercury	< 0.0005	0.0005	mg/L	
TCLP Volatiles Method 1311 **Method: 5030B/8260B** Analysis Date: 10/15/08				
Benzene	< 0.050	0.050	mg/L	
2-Butanone (MEK)	< 0.100	0.100	mg/L	
Carbon tetrachloride	< 0.050	0.050	mg/L	
Chlorobenzene	< 0.050	0.050	mg/L	
Chloroform	< 0.050	0.050	mg/L	
1,2-Dichloroethane	< 0.050	0.050	mg/L	
1,1-Dichloroethene	< 0.050	0.050	mg/L	
Tetrachloroethene	< 0.050	0.050	mg/L	
Trichloroethene	< 0.050	0.050	mg/L	
Vinyl chloride	< 0.100	0.100	mg/L	
TCLP Semi-Volatiles Method 1311 **Method: 8270C** **Preparation Method 3510C** Analysis Date: 10/17/08 Preparation Date: 10/15/08				
1,4-Dichlorobenzene	< 0.10	0.10	mg/L	
2,4-Dinitrotoluene	< 0.10	0.10	mg/L	
Hexachlorobenzene	< 0.10	0.10	mg/L	
Hexachlorobutadiene	< 0.10	0.10	mg/L	
Hexachloroethane	< 0.10	0.10	mg/L	
2-Methylphenol	< 0.10	0.10	mg/L	
3 & 4-Methylphenol	< 0.10	0.10	mg/L	
Nitrobenzene	< 0.10	0.10	mg/L	
Pentachlorophenol	< 0.50	0.50	mg/L	
Pyridine	< 0.50	0.50	mg/L	
2,4,5-Trichlorophenol	< 0.10	0.10	mg/L	

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Analytical Report

Client: AURORA, CITY OF
Project ID: Sludge Sample Lagoon #3 RT25/UIC
Sample ID: Lagoon #3
Sample No: 8-4591-001

Date Collected: 10/09/08
Time Collected: 9:05
Date Received: 10/10/08
Date Reported: 11/17/08

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
TCLP Semi-Volatiles Method 1311 **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 10/17/08		Preparation Date: 10/15/08		
2,4,6-Trichlorophenol	< 0.10	0.10	mg/L	
TCLP Pesticides Method 1311 **Method: 8081A**		**Preparation Method 3510C**		
Analysis Date: 10/17/08		Preparation Date: 10/16/08		
Endrin	< 0.100	0.001	mg/L	
gamma-BHC (Lindane)	< 0.500	0.005	mg/L	
Heptachlor	< 0.500	0.005	mg/L	
Heptachlor epoxide	< 0.500	0.005	mg/L	
Methoxychlor	< 0.500	0.005	mg/L	
Toxaphene	< 1.000	0.01	mg/L	
Chlordane (Total)	< 0.500	0.005	mg/L	
TCLP Herbicides Method 1311 **Method: 8321A**				
Analysis Date: 10/16/08				
2,4-D	< 0.5	0.5	mg/L	S
Silvex (2,4,5-TP)	< 0.5	0.5	mg/L	S
Solids, total **Method: 2540B**				
Analysis Date: 10/10/08				
Total Solids	36.22		%	
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 10/14/08		Preparation Date: 10/13/08		
Aluminum	616	5.0	mg/kg	
Arsenic	2.2	0.2	mg/kg	
Barium	176	0.1	mg/kg	
Cadmium	< 0.1	0.1	mg/kg	
Chromium	5.5	0.1	mg/kg	
Cobalt	0.8	0.1	mg/kg	
Copper	15.5	0.1	mg/kg	
Iron	7,370	1.0	mg/kg	
Lead	0.8	0.2	mg/kg	
Manganese	126	0.1	mg/kg	
Nickel	3.9	0.1	mg/kg	
Potassium	177	10	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	
Sodium	883	10	mg/kg	
Vanadium	2.8	1.0	mg/kg	

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Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/09/08
Project ID:	Sludge Sample Lagoon #3 RT25/UIC	**Time Collected:**	9:05
Sample ID:	Lagoon #3	**Date Received:**	10/10/08
Sample No:	8-4591-001	**Date Reported:**	11/17/08

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 10/14/08		Preparation Date: 10/13/08		
Zinc	22.1	0.5	mg/kg	
Total Metals **Method: 7470A**				
Analysis Date: 10/14/08				
Mercury	< 0.14	0.05	mg/kg	W
Chromium, Hexavalent **Method: 7196A**				
Analysis Date: 10/15/08				
Chromium, Hexavalent	< 2.5	2.5	mg/kg	
COD, Soluble **Method: 5220D**				
Analysis Date: 10/14/08				
COD, Soluble	5,520	100	mg/kg	
Acidity, Total **Method: 2310B**				
Analysis Date: 10/20/08				
Acidity, Total	< 50	50	mg/kg	
Alkalinity, Total (as CaCO3) **Method: 2320B**				
Analysis Date: 10/13/08 13:30				
Alkalinity, Total (as CaCO3)	2,370	50	mg/kg	
Alkalinity, Carbonate (as CaCO3) **Method: 2320B**				
Analysis Date: 10/13/08 13:30				
Alkalinity, Carbonate (as CaCO3)	331	50	mg/kg	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 10/16/08				
Ammonia (as N)	207	2.0	mg/kg	
Total Kjeldahl Nitrogen (TKN) **Method: 351.2R2.0**				
Analysis Date: 10/20/08				
Total Kjeldahl Nitrogen (TKN)	1,170	100	mg/kg	
Oil & Grease **Method: 9071B**				
Analysis Date: 10/16/08				
Oil & Grease	267	10	mg/kg	
pH @ 25°C, 1:10 **Method: 4500H+B**				
Analysis Date: 10/14/08 13:00				
pH @ 25°C, 1:10	9.74		Units	

First
Environmental
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IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client:	AURORA, CITY OF	**Date Collected:**	10/09/08
Project ID:	Sludge Sample Lagoon #3 RT25/UIC	**Time Collected:**	9:05
Sample ID:	Lagoon #3	**Date Received:**	10/10/08
Sample No:	8-4591-001	**Date Reported:**	11/17/08

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Phenols	**Method: 420.1**			
Analysis Date: 10/14/08				
Phenols	18.2	2.5	mg/kg	
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 10/17/08				
Phosphorus (as P)	79.5	1.0	mg/kg	
Total Volatile Solids	**Method: 2540G**			
Analysis Date: 10/15/08				
Total Volatile Solids	6.76	1.00	%	
Sulfide	**Method: 4500S2,C,D**			
Analysis Date: 10/15/08				
Sulfide	9.6	1.0	mg/kg	
Cyanide, Total	**Method: 4500CN,C,E**			
Analysis Date: 10/13/08				
Cyanide, Total	< 0.10	0.10	mg/kg	
Chlorine and Sulfur	**Method: 5050/300**			
Analysis Date: 10/22/08				
Chlorine	< 0.01	0.01	%	NS
Sulfur	0.13	0.01	%	NS
Radium 226 & 228	**Method: 901.1M**			
Analysis Date: 11/11/08				
Radium 226	4.03+/-2.05		pCi/g	S
Radium 228	2.11+/-0.28		pCi/g	S
Gross Alpha	**Method: SM7110**			
Analysis Date: 10/25/08				
Gross Alpha	6.47+/-3.46		pCi/g	S
Gross Beta	**Method: SM7110**			
Analysis Date: 10/25/08				
Gross Beta	2.85+/-1.66		pCi/g	S

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August 16, 2005

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.,
Aurora, IL 60506

Project ID: 96044
First Environmental File ID: 5-1799
Date Received: July 06, 2005

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All analyses were performed in accordance with established methods and within established holding times. All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our certificate is number 001201: 02/17/05 through 02/28/06.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Franklin
Project Manager

First Environmental Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233
IL ELAP / NELAC Accreditation # 100292

Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044**
First Environmental File ID: **5-1799**
Date Received: **July 06, 2005**

Definition of Flags:

DF : Dilution Factor (Sample was analyzed at this dilution to obtain the reported result.)
L : The analyte was detected as part of a GC/MS database search. The identification is considered tentative and the concentration is estimated.
N : Analyte is not part of our NELAC accreditation.
ND : Analyte was not detected.
RL : Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)
S : Analyte was sub-contracted to another laboratory for analysis.

Additional Comments:

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044
Sample ID: Lime Sludge
Sample No: 5-1799-001

Date Collected: 07/06/05
Time Collected: 13:45
Date Received: 07/06/05
Date Reported: 08/16/05

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Total Solids	60.60		%	07/07/05	2540B	
Alkalinity, Total (as CaCO3)	3,140	50	mg/kg	07/07/05	2320B	
Ammonia (as N)	27.7	2.0	mg/kg	07/13/05	350.1R2.0	
Percent Ash	56.04	0.01	%	07/11/05	2540E	N
Calcium Carbonate Equivalent	89.7	0.1	% CaCO3	07/08/05	EPA	N
Chromium, Hexavalent	< 2.5	2.5	mg/kg	07/07/05	7196A	
COD	< 2,000	2,000	mg/kg	07/08/05	5220D	
Cyanide, Total	< 0.10	0.10	mg/kg	07/11/05	4500CN,C,E	
Cyanide, Reactive	< 10	10	mg/kg	07/11/05	7.3.3.2.	
Extractable Organic Halogens	< 25	25	mg/L	07/08/05	9023	S
Flash Point - Open Cup	No Flash @		212 °F	07/07/05	1010M	
FOC (0.58 conversion factor)	1.94		%	07/11/05	D2974-87C	N
Organic Matter @ 440°C	3.34		%	07/11/05	D2974-87C	N
Oil & Grease	< 1	1	mg/kg	07/07/05	9071B	
pH @ 25°C, 1:10	9.07		Units	07/07/05	4500H+B	
Paint Filter Test	No Liquid			07/07/05	9095A	
Phenols	< 2.5	2.5	mg/kg	07/11/05	420.1	
Phosphorus (as P)	20.1	0.5	mg/kg	07/08/05	4500P,B,E	
Sulfate, Soluble	627	250	mg/kg	07/11/05	4500SO4,E	
Sulfide	9.8	1.0	mg/kg	07/08/05	4500S2,C,D	
Sulfide, Reactive	< 10	10	mg/kg	07/11/05	7.3.4.2.	
Percent Sulfur	0.20	0.01	%	07/22/05	ASTM E775-87	N S
Total Volatile Solids	5.78	1.00	%	07/11/05	2540E	
Total Kjeldahl Nitrogen (TKN)	1,230	1.0	mg/kg	07/15/05	SM4500N,C	S

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IL ELAP / NELAC Accreditation # 100292

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044
Sample ID: Lime Sludge
Sample No: 5-1799-001

Date Collected: 07/06/05
Time Collected: 13:45
Date Received: 07/06/05
Date Reported: 08/16/05

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
TCLP Volatiles Method 1311	**Method: 5030B/8260B**			
Analysis Date: 07/08/05				
Benzene	< 0.050	0.050	mg/L	
2-Butanone (MEK)	< 0.100	0.100	mg/L	
Carbon tetrachloride	< 0.050	0.050	mg/L	
Chlorobenzene	< 0.050	0.050	mg/L	
Chloroform	< 0.050	0.050	mg/L	
1,2-Dichloroethane	< 0.050	0.050	mg/L	
1,1-Dichloroethene	< 0.050	0.050	mg/L	
Tetrachloroethene	< 0.050	0.050	mg/L	
Trichloroethene	< 0.050	0.050	mg/L	
Vinyl chloride	< 0.100	0.100	mg/L	
TCLP Semi-Volatiles Method 1311	**Method: 8270C**	**Preparation Method 3510C**		
Analysis Date: 07/11/05		Preparation Date: 07/11/05		
1,4-Dichlorobenzene	< 0.10	0.10	mg/L	
2,4-Dinitrotoluene	< 0.10	0.10	mg/L	
Hexachlorobenzene	< 0.10	0.10	mg/L	
Hexachlorobutadiene	< 0.10	0.10	mg/L	
Hexachloroethane	< 0.10	0.10	mg/L	
2-Methylphenol	< 0.10	0.10	mg/L	
3 & 4-Methylphenol	< 0.10	0.10	mg/L	
Nitrobenzene	< 0.10	0.10	mg/L	
Pentachlorophenol	< 0.50	0.50	mg/L	
Pyridine	< 0.50	0.50	mg/L	
2,4,5-Trichlorophenol	< 0.10	0.10	mg/L	
2,4,6-Trichlorophenol	< 0.10	0.10	mg/L	
TCLP Pesticides Method 1311	**Method: 8081A**	**Preparation Method 3510C**		
Analysis Date: 07/12/05		Preparation Date: 07/12/05		
Chlordane (Total)	< 0.005	0.005	mg/L	
Endrin	< 0.001	0.001	mg/L	
gamma-BHC (Lindane)	< 0.005	0.005	mg/L	
Heptachlor	< 0.005	0.005	mg/L	
Heptachlor epoxide	< 0.005	0.005	mg/L	
Methoxychlor	< 0.005	0.005	mg/L	
Toxaphene	< 0.010	0.01	mg/L	

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IL ELAP / NELAC Accreditation # 100292

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044
Sample ID: Lime Sludge
Sample No: 5-1799-001

Date Collected: 07/06/05
Time Collected: 13:45
Date Received: 07/06/05
Date Reported: 08/16/05

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
TCLP Herbicides Method 1311 **Method: 515.1R4.0**				
Analysis Date: 07/11/05				
2,4-D	< 1.0	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.5	0.05	ug/L	S
Polychlorinated biphenyls (PCBs) **Method: 8082** **Preparation Method 3540C**				
Analysis Date: 07/11/05 Preparation Date: 07/07/05				
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
TCLP Metals Method 1311 **Method: 6010B** **Preparation Method 3010A**				
Analysis Date: 07/08/05 Preparation Date: 07/08/05				
Arsenic	0.008	0.002	mg/L	
Barium	< 1.0	1.0	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	< 0.001	0.001	mg/L	
Lead	< 0.002	0.002	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
TCLP Metals Method 1311 **Method: 7470A**				
Analysis Date: 07/11/05				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals **Method: 6010B** **Preparation Method 3050B**				
Analysis Date: 07/07/05 Preparation Date: 07/07/05				
Aluminum	1,910	5.0	mg/kg	
Arsenic	3.1	0.2	mg/kg	
Barium	149	0.1	mg/kg	
Cadmium	0.2	0.1	mg/kg	
Chromium	2.8	0.1	mg/kg	
Cobalt	1.0	0.1	mg/kg	
Copper	7.1	0.1	mg/kg	
Iron	2,510	1.0	mg/kg	
Lead	3.6	0.2	mg/kg	
Manganese	497	0.1	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044
Sample ID: Lime Sludge
Sample No: 5-1799-001

Date Collected: 07/06/05
Time Collected: 13:45
Date Received: 07/06/05
Date Reported: 08/16/05

Results reported on an "as received" basis.

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 07/07/05		Preparation Date: 07/07/05		
Molybdenum	< 1.0	1.0	mg/kg	
Nickel	4.5	0.1	mg/kg	
Potassium	413	10	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	
Sodium	561	10	mg/kg	
Vanadium	5.0	1.0	mg/kg	
Zinc	19.0	0.5	mg/kg	
Total Metals **Method: 7470A**				
Analysis Date: 07/07/05				
Mercury	0.16	0.05	mg/kg	
Radium 226 & 228 **Method: RA-100**				
Analysis Date:				
Radium 226	2.60+/-0.21		pCi/g	S
Radium 228	0.89+/-0.07		pCi/g	S

CHAIN OF CUSTODY RECORD

Page) of ___ pgs

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
24 Hr. Pager (708) 569-7507
E-mail: info@firstenv.com
IEPA Certification# 100292

Company Name: Devenlu Environmental, Inc.
Street Address: 230 Woodlawn Ave.
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-6796
Send Report To: Carrie Carter
Sampled By: Carrie Carter

Project I.D.: 96044
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	TCLP VOC + SVOC	TCLP Metals	Aluminum, Arsenic, Barium, Cadmium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Vanadium, Zinc + Ash	Alkalinity as CaCO3, Calcium, Chloride (Total + Free), COD	Cyanide, Fluoride, N. Ammonia, N. Nitrate, N. Nitrite, O.I. + Grease, Phenol, + Reactive Sulfide, Total Sulfide, Flash pt, Paint Filter	Phosphorus, pH, Phenols	Sulfur, Organic Carbon, TS, TVS	EDX, TCLP Pesticides, TCLP Herbicides, PCBs, RA 224/324 - Alkalinity, Ash, Fuel C, Carbon	Comments	Lab I.D.
7/6/05 1:45	Lime Sludge	O	✓	✓	✓	✓	✓	✓	✓	✓	✓	4 Containers	5-1799-01

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No__ ____°C
Received within 6 hrs. of collection: ✓
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature: ____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature: ____°C

Containers Received Preserved: ✓
Preserved in Lab: ___

Notes and Special Instructions: ___

Relinquished By: Carrie J. Carter Date/Time 7/6/05 2:35P Received By: Helen Mrock Date/Time 7/6/05 1435
Relinquished By: ___ Date/Time ___ Received By: ___ Date/Time ___

Rev. 10/04

USBIOSYSTEMS

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
44 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 1 of 5
Date: 08/09/2005
Log #: L113684-1

Sample Description:

Annual Sludge Sampling 2005

Analytical Report: Lime Sludge
Date Sampled: 06/21/2005
Time Sampled: 10:00
Date Received: 06/21/2005
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Anly. Date	Analyst
TCLP Extraction Date							
TCLP Extraction	06/23	date	1311 EXTR				WD
TCLP ZHE Extraction	06/28	date	1311 ZHE				GG
etals							
luminum	2700 V	mg/kg (dw)	3050/6010	1.6	06/27	07/05	VR
Arsenic	1.4	mg/kg (dw)	3050/6010	0.55	06/27	07/05	VR
Barium	200 C25	mg/kg (dw)	3050/6010	0.49	06/27	07/05	VR
Cadmium	BDL C25	mg/kg (dw)	3050/6010	0.33	06/27	07/05	VR
Calcium	330000 D100V	mg/kg (dw)	3050/6010	140	06/27	07/05	VR
Calcium Carbonate	820000	mg/kg (dw)	3050/6010	3.6	06/27	07/05	VR
Chromium	2.4 V	mg/kg (dw)	3050/6010	0.092	06/27	07/05	VR
Cobalt	0.39 IC25	mg/kg (dw)	3050/6010	0.37	06/27	07/05	VR
Copper	3.5 C25	mg/kg (dw)	3050/6010	0.41	06/27	07/05	VR
Iron	1300 V	mg/kg (dw)	3050/6010	2.4	06/27	07/05	VR
Lead	1.3 IC25	mg/kg (dw)	3050/6010	0.27	06/27	07/05	VR
Manganese	450 VC25	mg/kg (dw)	3050/6010	0.033	06/27	07/05	VR
Molybdenum	BDL	mg/kg (dw)	3050/6010	2.0	06/27	07/18	AR
Nickel	2.2 C25	mg/kg (dw)	3050/6010	0.22	06/27	07/05	VR
Potassium	180	mg/kg (dw)	3050/6010	27	06/27	07/18	AR
Selenium	BDL C25	mg/kg (dw)	3050/6010	0.90	06/27	07/05	VR
Silver	BDL C25	mg/kg (dw)	3050/6010	0.14	06/27	07/05	VR
Sodium	510 VC23	mg/kg (dw)	3050/6010	33	06/27	07/15	TB
Sulfur, Total	610	mg/kg (dw)	3050/6010	3.3	06/27	08/03	AR
Vanadium	3.7 C25	mg/kg (dw)	3050/6010	0.84	06/27	07/05	VR
Zinc	16 V	mg/kg (dw)	3050/6010	0.55	06/27	07/05	VR
Mercury	0.022 IC23	mg/kg (dw)	7471	0.20	06/26	06/27	VK
Subcontracted Services							
Subcontract Lab 1	E87358		9060M				SUB

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
44 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 2 of 5
Date: 08/09/2005
Log #: L113684-1

Sample Description:

Annual Sludge Sampling 2005

Analytical Report: Lime Sludge
Date Sampled: 06/21/2005
Time Sampled: 10:00
Date Received: 06/21/2005
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Anly. Date	Analyst
Subcontracted Services	(continued)						
Subcontract Lab 2	17134		SM4500NH3BF				SUB
Subcontract Lab 3	PARAGON						SUB
TCLP Metals							
Arsenic	0.0037 I	mg/l	3010/6010	0.0029	06/24	07/09	VR
Barium	0.69	mg/l	3010/6010	0.17	06/24	07/09	VR
Cadmium	BDL	mg/l	3010/6010	0.0019	06/24	07/09	VR
Chromium	BDL C23	mg/l	3010/6010	0.00099	06/24	07/09	VR
Lead	BDL C23	mg/l	3010/6010	0.0023	06/24	07/09	VR
Selenium	BDL	mg/l	3010/6010	0.0063	06/24	07/09	VR
Silver	BDL C23	mg/l	3010/6010	0.0015	06/24	07/09	VR
Mercury	BDL	mg/l	7470	0.00020	06/26	06/26	VK
lychlorinated Biphenyls							
B 1016	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
PCB 1221	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
PCB 1232	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
PCB 1242	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
PCB 1248	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
PCB 1254	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
PCB 1260	BDL	ug/kg (dw)	3550/8082	35	06/23	06/25	SB
Dilution Factor	1.0		3550/8082		06/23	06/25	SB
Surrogate Recoveries:							
TCMX	40	%	3550/8082	20-145	06/23	06/25	SB
Decachlorobiphenyl	69	%	3550/8082	11-159	06/23	06/25	SB
Organochlorine Pesticides - TCLP							
Chlordane	BDL	mg/l	3510/8081	0.025	06/26	06/30	MD
Lindane	BDL	mg/l	3510/8081	0.0025	06/26	06/30	MD
Methoxychlor	BDL	mg/l	3510/8081	0.025	06/26	06/30	MD
Toxaphene	BDL	mg/l	3510/8081	0.15	06/26	06/30	MD
Endrin	BDL	mg/l	3510/8081	0.0050	06/26	06/30	MD
Heptachlor	BDL	mg/l	3510/8081	0.0025	06/26	06/30	MD
Heptachlor Epoxide	BDL	mg/l	3510/8081	0.0025	06/26	06/30	MD
Dilution Factor	1.0		3510/8081		06/26	06/30	MD
Surrogate Recoveries:							
TCMX	56	%	3510/8081	41-153	06/26	06/30	MD
DCB	65	%	3510/8081	31-170	06/26	06/30	MD

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
44 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 3 of 5
Date: 08/09/2005
Log #: L113684-1

Sample Description:

Annual Sludge Sampling 2005

Analytical Report: Lime Sludge
Date Sampled: 06/21/2005
Time Sampled: 10:00
Date Received: 06/21/2005
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Anly. Date	Analyst
Chlorinated Herbicides - TCLP							
2,4-D	BDL	mg/l	8151	0.10	06/25	06/26	MR
2,4,5-TP	BDL	mg/l	8151	0.10	06/25	06/26	MR
Dilution Factor	1.0		8151		06/25	06/26	MR
Surrogate Recoveries:							
DCAA	65	%	8151	30-149	06/25	06/26	MR
TCLP Volatile Organic Compounds							
Benzene	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Chlorobenzene	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Chloroform	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Carbon Tetrachloride	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
1,2-Dichloroethane	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
1,1-Dichloroethene	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Methyl Ethyl Ketone	BDL	mg/l	5030/8260	1.0	06/29	06/29	GG
Tetrachloroethene	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Trichloroethene	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Vinyl Chloride	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
1,4-Dichlorobenzene	BDL	mg/l	5030/8260	0.10	06/29	06/29	GG
Dilution Factor	1.0		5030/8260		06/29	06/29	GG
Surrogate Recoveries:							
Dibromofluoromethane	85	%	5030/8260	68-145	06/29	06/29	GG
Toluene-D8	86	%	5030/8260	62-133	06/29	06/29	GG
4-Bromofluorobenzene	92	%	5030/8260	56-135	06/29	06/29	GG
TCLP Semivolatile Organic Compounds							
o-Cresol	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
m,p-Cresols	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
2,4-Dinitrotoluene	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
Hexachlorobenzene	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
Hexachlorobutadiene	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
Hexachloroethane	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
Nitrobenzene	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
Pentachlorophenol	BDL	mg/l	3510/8270	0.25	06/28	06/29	LN
Pyridine	BDL	mg/l	3510/8270	0.40	06/28	06/29	LN
2,4,5-Trichlorophenol	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
2,4,6-Trichlorophenol	BDL	mg/l	3510/8270	0.050	06/28	06/29	LN
Dilution Factor	1.0		3510/8270		06/28	06/29	LN
Surrogate Recoveries:							
2-Fluorophenol	22	%	3510/8270	10-115	06/28	06/29	LN
Phenol-d5	16	%	3510/8270	10-137	06/28	06/29	LN

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
44 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 4 of 5
Date: 08/09/2005
Log #: L113684-1

Sample Description:

Annual Sludge Sampling 2005

Analytical Report: Lime Sludge
Date Sampled: 06/21/2005
Time Sampled: 10:00
Date Received: 06/21/2005
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Anly. Date	Analyst
TCLP Semivolatile Organic Compounds	(continued)						
Nitrobenzene-d5	72	%	3510/8270	28-128	06/28	06/29	LN
2-Fluorobiphenyl	62	%	3510/8270	45-126	06/28	06/29	LN
2,4,6-Tribromophenol	85	%	3510/8270	51-134	06/28	06/29	LN
Terphenyl-d14	52	%	3510/8270	50-146	06/28	06/29	LN
General Chemistry							
Gross Alpha	7.9+/-1.7	pCi/g	903.1	1.1	07/05	07/07	SUB
Gross Beta	10.2/-2.3	pCi/g	903.1	2.4	07/05	07/07	SUB
Radium 226	4.71+/-0.98	pCi/g	903.1	0.22	07/12	07/18	SUB
Radium 228	4.9+/-1.5	pCi/g	9320	0.60	07/05	07/13	SUB
Percent Solids							
Percent Solid	49	%	160.3	0.10	06/22	06/22	TB
General Chemistry							
Chemical Oxygen Demand	BDL	mg/l	410.4	10	06/28	06/28	IG
Conductivity	3100	umhos/cm	120.1	2.0	06/30	06/30	TR
General Chemistry							
Ammonia	110	mg/kg(dw)	SM4500NH3BF	0.050	07/07	07/07	SUB
Sulfide	BDL	mg/kg(dw)	SM4500S2E	10	07/07	07/07	SUB
Total Organic Carbon	2300	mg/kg(dw)	9060M	1000	06/27	06/27	SUB
General Chemistry							
Acidity	BDL	mg/kg	305.1	100	07/18	07/18	IG
Alkalinity -Total as CaCO3	4300	mg/kg (dw)	310.1	41	07/12	07/12	SA
Cyanide	BDL	mg/kg (dw)	9012	1.0	06/23	06/28	IG
Cyanide, Reactive	BDL	mg/kg	SW846 CH7	2.0	06/28	06/28	IG
Extractable Halogens	BDL	mg/kg (dw)	9023	82	06/29	06/29	IG
Flashpoint	>180	Deg. F	1010	70	06/22	06/22	MM
Hexavalent Chromium	BDL	mg/kg (dw)	7196A-mod	1.0	07/14	07/14	SA
NO3 as N	BDL	mg/kg (dw)	300.0	1.0	07/09	07/09	MG
Oil/Grease	180	mg/kg (dw)	9071	82	07/19	07/19	TR
Paint Filter Test	NFL	ml	9095	1.0	06/30	06/30	MK
Percent Ash	97	%	160.4	0.10	07/12	07/12	MG
pH	12.07	pH Units	9045	0.10	06/27	06/27	JP
Phenols	3.3	mg/kg (dw)	9066	1.0	06/29	06/29	IG
Total Phosphorus as P	22	mg/kg (dw)	365.1	2.0	06/28	06/29	EF
Reactivity, Sulfide as H2S	BDL	mg/kg	SW846 CH7	20	06/28	06/30	IG

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
44 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 5 of 5
Date: 08/09/2005
Log #: L113684-1

Sample Description:

Annual Sludge Sampling 2005

Analytical Report: Lime Sludge
Date Sampled: 06/21/2005
Time Sampled: 10:00
Date Received: 06/21/2005
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Anly. Date	Analyst
General Chemistry (continued)							
Sulfate	150	mg/kg (dw)	300.0	10	07/09	07/09	MG
Total Kjeldahl Nitrogen as	960 C8	mg/kg (dw)	351.2	160	06/27	06/28	EF
Total Solids	490000	mg/kg	160.3	40	07/12	07/12	MG
Volatile Solids	17000	mg/kg	160.4	10	07/12	07/12	MG

All analyses were performed using EPA, ASTM, NIOSH, USGS, or Standard Methods and certified to meet NELAC requirements.
Flags: BDL or U-below reporting limit; DL-diluted out; IL-meets internal lab limits; MI-matrix interference; NA-not appl.
Flags: CFR-Pb/Cu rule; ND-non detect(RL estimated); NFL-no free liquids; dw-dry wt; ww-wet wt; C(#)-see attached USB code
FLDEP Flags: J(#)-estimated 1:surr. fail 2:no known QC req. 3:QC fail %R or %RPD; 4:matrix int. 5:improper fld. protocol
FLDEP Flags: L-exceeds calibration; Q-holding time exceeded; T-value < MDL; V-present in blank
FLDEP Flags: Y-improper preservation; B-colonies exceed range; I-result between MDL and PQL

FLDOH/NELAC# E86240
CERT# 444
CERT# 96031001
IL/NELAC CERT# 200020
VA CERT# 00395
KS/NELAC# E-10360
ADEM ID# 40850
TN CERT# 02985
GA CERT# 917
USDA Soil Permit# S-35240

Respectfully submitted,

Mike Kimmel
Senior Project Manager

USBIOSYSTEMS

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
11 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 1 of 5
Date: 08/09/2000
Log #: L45124-1

Sample Description:

Annual Sludge

Label: Lime Sludge Samples
Date Sampled: 07/17/2000
Time Sampled: 08:10
Date Received: 07/17/2000
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Percent Solids							
Percent Solid	60	%	SM2540B	0.10	07/18	07/18	KB
Semivolatile Organic Compounds							
o-Cresol	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
m,p-Cresols	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
2,4-Dinitrotoluene	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
Hexachlorobenzene	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
Hexachlorobutadiene	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
Hexachloroethane	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
Nitrobenzene	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
Pentachlorophenol	<0.25	mg/l	3510/8270	0.25	07/21	07/21	VN
Pyridine	<0.40	mg/l	3510/8270	0.40	07/21	07/21	VN
2,4,5-Trichlorophenol	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
2,4,6-Trichlorophenol	<0.050	mg/l	3510/8270	0.050	07/21	07/21	VN
Dilution Factor	5.0		3510/8270		07/21	07/21	VN
Surrogate Recoveries:							
2-Fluorophenol	22.0	%	3510/8270	21-103	07/21	07/21	VN
Phenol-d5	11.0	%	3510/8270	13-108	07/21	07/21	VN
Nitrobenzene-d5	38.0	%	3510/8270	16-112	07/21	07/21	VN
2-Fluorobiphenyl	56.0	%	3510/8270	17-115	07/21	07/21	VN
2,4,6-Tribromophenol	66.0	%	3510/8270	29-120	07/21	07/21	VN
Terphenyl-d14	74.0	%	3510/8270	35-115	07/21	07/21	VN
TCLP Extraction Date							
TCLP Extraction	07/19	date	1311 EXTR				SB
TCLP ZHE Extraction	07/20	date	1311 ZHE				GG
Chlorinated Herbicides - TCLP							
2,4-D	<0.10	mg/l	8151	0.10	07/21	07/21	RR
2,4,5-TP	<0.10	mg/l	8151	0.10	07/21	07/21	RR

ug-25-00 11:35A P.03

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
11 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 2 of 5
Date: 08/09/2000
Log #: L45124-1

Sample Description:

Annual Sludge

Label: Lime Sludge Samples
Date Sampled: 07/17/2000
Time Sampled: 08:10
Date Received: 07/17/2000
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
Chlorinated Herbicides - TCLP (continued)							
Dilution Factor	1.0		8151		07/21	07/21	RR
Surrogate Recoveries:							
DCAA	36.0	%	8151	31-128	07/21	07/21	RR
Organochlorine Pesticides - TCLP							
Chlordane	<0.010	mg/l	3510/8081	0.010	07/20	07/20	DM
Lindane	<0.0010	mg/l	3510/8081	0.0010	07/20	07/20	DM
Methoxychlor	<0.010	mg/l	3510/8081	0.010	07/20	07/20	DM
Toxaphene	<0.060	mg/l	3510/8081	0.060	07/20	07/20	DM
Endrin	<0.0020	mg/l	3510/8081	0.0020	07/20	07/20	DM
Heptachlor	<0.0010	mg/l	3510/8081	0.0010	07/20	07/20	DM
Heptachlor Epoxide	<0.0010	mg/l	3510/8081	0.0010	07/20	07/20	DM
Dilution Factor	1.0		3510/8081		07/20	07/20	DM
Surrogate Recoveries:							
TCMX	83.0	%	3510/8081	20-127	07/20	07/20	DM
Decachlorobiphenyl	83.0	%	3510/8081	24-131	07/20	07/20	DM
General Chemistry							
Gross Alpha	39.2+/-12.5	pCi/l	900.0	4.2	08/01	08/01	KLS
Gross Beta	12.1+/-2.3	pCi/l	900.0	3.2	08/01	08/01	KLS
Radium 226	3.3+/-0.2	pCi/l	903.1	0.10	07/28	07/28	KLS
Radium 228	3.0+/-0.2	pCi/l	904.0	0.20	07/28	07/28	KLS
General Chemistry							
Acidity	<170	mg/kg (dw)	305.1	170	07/31	07/31	MG
Total Alkalinity	1700	mg/kg (dw)	310.1	33	07/28	07/28	MA
Ammonia	110	mg/kg (dw)	350.1	0.83	07/28	07/28	MG
Chemical Oxygen Demand	450	mg/l (dw)	410.4	100	07/25	07/25	MA
Cyanide	<0.83	mg/kg (dw)	9010	0.83	07/19	07/19	MG
Cyanide, Reactive	<1.7	mg/kg	SW846 CH7	1.7	07/19	07/19	MG
Conductivity	250	umhos	SM2510B	100	08/04	08/04	RH
Extractable Halogens	<67	mg/kg (dw)	9023	67	07/20	07/20	RH
Flashpoint	>180	Deg. F	1010	120	07/25	07/25	RH
Hexavalent Chromium	<0.83	mg/kg (dw)	7196A	0.83	07/18	07/18	MG
Oil/Grease	<0.0068	% (dw)	9071	0.0068	07/26	07/26	MA
Paint Filter Test	pass	ml (dw)	9095	1.7	07/25	07/25	MG
Percent Ash	89	%	160.4	0.10	07/20	07/20	RH
pH	9.0	pH Units	9045	0.10	07/20	07/20	MG
Phenols	10	mg/kg (dw)	9066	0.83	07/19	07/19	MG
Total Phosphorus	97	mg/kg (dw)	365.1	8.3	07/18	07/21	SC

US Biosystems 3231 NW 7th Avenue Boca Raton, FL 33431 (888)862-5227

ug-25-00 11:35A P.04

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
11 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 3 of 5
Date: 08/09/2000
Log #: L45124-1

Sample Description:

Annual Sludge

Label: Lime Sludge Samples
Date Sampled: 07/17/2000
Time Sampled: 08:10
Date Received: 07/17/2000
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
General Chemistry (continued)							
Reactivity, Sulfide	<15	mg/kg	SW846 CH7	15	07/19	07/25	MG
Sulfate	130	mg/kg (dw)	300.0	8.3	07/19	07/19	MG
Sulfide	<25	mg/kg (dw)	9030A	25	07/25	07/25	MG
Total Kjeldahl Nitrogen	260	mg/kg (dw)	351.2	13	07/18	07/20	SL
Total Organic Carbon	220	mg/kg (dw)	9060	50	07/19	07/19	SL
Total Solids	51	%	160.3	0.010	07/20	07/20	RH
Volatile Solids	5.7	%	160.4	0.010	07/20	07/20	RH
Metals							
Aluminum	980	mg/kg (dw)	3050/6010	83	07/20	07/20	PVP
Arsenic	<0.83	mg/kg (dw)	3050/6010	0.83	07/20	07/20	PVP
Barium	140	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Cadmium	<1.7	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Calcium Carbonate	47	%	3050/6010	0.017	07/20	07/20	PVP
Chromium	<1.7	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Cobalt	<1.7	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Copper	3.3	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Iron	1300	mg/kg (dw)	3050/6010	100	07/20	07/20	PVP
Lead	1.8	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Manganese	270	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Molybdenum	<8.3	mg/kg (dw)	3050/6010	8.3	07/20	08/02	PVP
Nickel	2.3	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Potassium	600	mg/kg (dw)	3050/6010	83	07/20	08/02	PVP
Selenium	<1.7	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Silver	<1.7	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Sodium	630	mg/kg (dw)	3050/6010	83	07/20	07/20	PVP
Sulfur, Total	0.045	% (dw)	3050/6010	0.0017	07/20	08/02	PVP
Vanadium	1.8	mg/kg (dw)	3050/6010	1.7	07/20	07/20	PVP
Zinc	13	mg/kg (dw)	3050/6010	8.3	07/20	07/20	PVP
Mercury	<0.17	mg/kg (dw)	7471	0.17	07/20	07/20	ZL
Polychlorinated Biphenyls							
PCB 1016	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
PCB 1221	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
PCB 1232	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
PCB 1242	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
PCB 1248	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
PCB 1254	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
PCB 1260	<28	ug/kg (dw)	3550/8082	28	07/21	07/21	DM
Dilution Factor	1.0		3550/8082		07/21	07/21	DM

ug-25-00 11:35A

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
11 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Date: 08/09/2000
Log #: L45124-1

Sample Description:

Annual Sludge

Label: Lime Sludge Samples
Date Sampled: 07/17/2000
Time Sampled: 08:10
Date Received: 07/17/2000
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
[illegible]	(continued)						
Surrogate Recoveries:							
TCMX	93.0	%	3550/8082	30-150	07/21	07/21	DM
Decachlorobiphenyl	90.0	%	3550/8082	17-107	07/21	07/21	DM
[illegible]							
Arsenic	<0.010	mg/l	3010/6010	0.010	07/20	07/20	PVP
Barium	3.6	mg/l	3010/6010	0.010	07/20	07/20	PVP
Cadmium	<0.0050	mg/l	3010/6010	0.0050	07/20	07/20	PVP
Chromium	<0.0050	mg/l	3010/6010	0.0050	07/20	07/20	PVP
Lead	<0.0050	mg/l	3010/6010	0.0050	07/20	07/20	PVP
Selenium	<0.010	mg/l	3010/6010	0.010	07/20	07/20	PVP
Silver	<0.010	mg/l	3010/6010	0.010	07/20	07/20	PVP
Mercury	<0.010	mg/l	7470	0.010	07/21	07/21	ZL
[illegible] Compounds							
Benzene	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Chlorobenzene	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Chloroform	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Carbon Tetrachloride	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
1,2-Dichloroethane	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
1,1-Dichloroethene	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Methyl Ethyl Ketone	<1.0	mg/l	5030/8260	1.0	07/21	07/21	GG
Tetrachloroethene	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Trichloroethene	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Vinyl Chloride	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
1,4-Dichlorobenzene	<0.10	mg/l	5030/8260	0.10	07/21	07/21	GG
Dilution Factor	1.0		5030/8260		07/21	07/21	GG
Surrogate Recoveries:							
Dibromofluoromethane	101	%	5030/8260	65-131	07/21	07/21	GG
Toluene-D8	99	%	5030/8260	67-128	07/21	07/21	GG
4-Bromofluorobenzene	97	%	5030/8260	67-134	07/21	07/21	GG

P.06

ug-25-00 11:36A

CITY OF AURORA-WTP

Sludge Analysis

LABORATORY

volatile Compounds

semi-Volatile compounds

Pesticides/Herbicides

Metals

Total Metals

Inorganics

PCB's Non-Aqueous

Radiological

	REGULATORY LEVEL mg/l	8-4-97 N.E.T. Earth Lagoon Composite		8-12-98 N.E.T.		8-4-98 T.A. 0.8.82		7-17-00 U.E. Sample 0.8.82	
[illegible]									
[illegible]	0.5	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
[illegible]	0.5	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-CARBON TETRACHLORIDE	100.0	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-CHLOROBENZENE	8.0	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-CHLOROFORM	6.0	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-1-2 DICHLOROETHANE	0.5	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-1, 1-DICHLOROETHYLENE	0.7	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-METHYL ETHYL KETONE 2-butanone	200.0	<0.40	mg/L	<0.40	mg/L	<0.4	mg/L	<1.0	mg/L
CLP-TETRACHLOROETHYLENE	0.7	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-TRICHLOROETHYLENE	0.5	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-VINYL CHLORIDE	0.2	<0.020	mg/L	<0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-O-CRESOL (2, METHYLPHENOL)	200.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-M-CRESOL (3, METHYLPHENOL)	200.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-P-CRESOL (4 METHYLPHENOL)	200.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-1-4 DICHLOROBENZENE	7.5	<0.10	mg/L	0.020	mg/L	<0.020	mg/L	<0.10	mg/L
CLP-2-4 DINITROTOLUENE	0.13	<0.10	mg/L	<0.13	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-HEXACHLOROBENZENE	0.13	<0.10	mg/L	<0.13	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-HEXACHLOROBUTADIENE	0.5	<0.10	mg/L	<0.50	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-HEXACHLOROETHANE	3.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-NITROBENZENE	2.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-PENTACHLOROPHENOL	100.0	<0.50	mg/L	<5.0	mg/L	<0.50	mg/L	<0.25	mg/L
CLP-PYRIDINE	5.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.40	mg/L
CLP-2,4,5 TRICHLOROPHENOL	400.0	<0.50	mg/L	<0.50	mg/L	<0.50	mg/L	<0.050	mg/L
CLP-2,4,6 TRICHLOROPHENOL	2.0	<0.10	mg/L	<1.0	mg/L	<0.10	mg/L	<0.050	mg/L
CLP-CHLORDANE	0.03	<0.001	mg/L	0.005	mg/L	<0.005	mg/L	<0.010	mg/L (total)
CLP-ENDRIN	0.02	<0.002	mg/L	0.0010	mg/L	<0.0010	mg/L	<0.002	mg/L
CLP-HEPTACHLOR (& ITS HYDROXIDE)	0.008	<0.001	mg/L	0.005	mg/L	<0.0005	mg/L	<0.0010	mg/L
CLP-LINDANE	0.4	<0.001	mg/L	0.005	mg/L	<0.0005	mg/L	<0.0010	mg/L
CLP-METHOXYCLOR	10.0	<0.01	mg/L	0.005	mg/L	<0.005	mg/L	<0.010	mg/L
CLP-HEPTACHLOR EPOXIDE		<0.001	mg/L	0.005	mg/L	<0.0005	mg/L	<0.0010	mg/L
CLP-TOXAPHENE	0.5	<0.01	mg/L	0.005	mg/L	<0.005	mg/L	<0.080	mg/L
CLP-2,4 D	10.0	<0.020	mg/L	0.005	mg/L	<0.020	mg/L	<0.010	mg/L
CLP-2,4,5 - TP (SILVEX)	1.0	<0.020	mg/L	<0.02	mg/L	<0.020	mg/L	<0.010	mg/L
CLP-GAMMA CHLORDANE		<0.001	mg/L	<0.02	mg/L				
CLP-ARSENIC	5.0	<0.20	mg/L	<0.20	mg/L	<0.20	mg/L	<0.010	mg/L
CLP-BARIUM	100	1.2	mg/L	0.358	mg/L	0.381	mg/L	3.6	mg/L
CLP-CADMIUM	1.0	<0.010	mg/L	<0.010	mg/L	<0.01	mg/L	<0.0050	mg/L
CLP-CHROMIUM	5.0	<0.040	mg/L	<0.040	mg/L	<0.04	mg/L	<0.0050	mg/L
CLP-LEAD	5.0	<0.060	mg/L	<0.060	mg/L	<0.20	mg/L	<0.0050	mg/L
CLP-MERCURY	0.2	<0.0004	mg/L	<0.0004	mg/L	<0.0004	mg/L	<0.010	mg/L
CLP-SELENIUM	1.0	<0.20	mg/L	<0.20	mg/L	<0.20	mg/L	<0.010	mg/L
CLP-SILVER	5.0	<0.040	mg/L	<0.040	mg/L	<0.040	mg/L	<0.010	mg/L
ALUMINUM		940	mg/Kg	720	mg/Kg	940	mg/Kg	980	mg/Kg
[illegible]NIC		3.3	mg/Kg	1.4	mg/Kg	0.74	mg/Kg	<0.83	mg/Kg
[illegible]		140	mg/Kg	140	mg/Kg	89	mg/Kg	140	mg/Kg
[illegible]M.		<0.99	mg/Kg	<0.50	mg/Kg	<0.50	mg/Kg	<1.7	mg/Kg
[illegible]LIUM		2.2	mg/Kg	<2.0	mg/Kg	<2.0	mg/Kg	<1.7	mg/Kg
CHROMIUM HEXAVALENT		<10	mg/Kg	<1.0	mg/Kg	<10.0	mg/Kg	<0.83	mg/Kg
COBALT		<9.9	mg/Kg	<5.0	mg/Kg	<5.0	mg/Kg	<1.7	mg/Kg
COPPER		3.1	mg/Kg	2.3	mg/Kg	2.7	mg/Kg	3.3	mg/Kg
IRON		1,500	mg/Kg	850	mg/Kg	1,500	mg/Kg	1300	mg/Kg
LEAD		<9.9	mg/Kg	<4.0	mg/Kg	1.4	mg/Kg	1.8	mg/Kg
MANGANESE		440	mg/Kg	260	mg/Kg	67	mg/Kg	270	mg/Kg
MERCURY		<0.079	mg/Kg	<0.040	mg/Kg	<0.04	mg/Kg	<0.17	mg/Kg
NICKEL		2.7	mg/Kg	<2.5	mg/Kg	<2.5	mg/Kg	2.3	mg/Kg
POTASSIUM		130	mg/Kg	<50	mg/Kg	130	mg/Kg	600	mg/Kg
SELENIUM		<0.49	mg/Kg	0.40	mg/Kg	<0.50	mg/Kg	<1.7	mg/Kg
SODIUM		370	mg/Kg	290	mg/Kg	320	mg/Kg	630	mg/Kg
VANADIUM		2.7	mg/Kg	<2.5	mg/Kg	<2.5	mg/Kg	1.8	mg/Kg
ZINC		86	mg/Kg	30	mg/Kg	<10	mg/Kg	13	mg/Kg
SILVER		<4.0	mg/Kg	2.7	mg/Kg	2.8	mg/Kg	<1.7	mg/Kg
MOLYBDENUM		<9.9	mg/Kg	23	mg/Kg	<2.0	mg/Kg	<8.3	mg/Kg
CONDUCTIVITY		0.0015	MHOS		MHOS	0.567	MHOS	250	MHOS
COD SOLUBLE		725	mg/L	<200	mg/L	220	mg/L	450	mg/L
ACIDITY 10% SOLN		<50	mg/L	<50	mg/L	<50	mg/Kg	<170	mg/Kg
ALKALINITY (TOTAL CaCO 3)		1320	mg/L	800	mg/L	920	mg/Kg	1700	mg/Kg
CALCIUM CARBONATE %		90.2	%	89.7	%	91.8	%	47	%
N-AMMONIA		76	mg/L	16.2	mg/L	50.6	mg/Kg	110	mg/Kg
N-KJELDAHL		850	mg/L	1,250	mg/L	500	mg/Kg	260	mg/Kg
OIL & GREASE		<9.9	%	<0.1	%	<0.1	%	<0.0068	%
pH units NON-AQUEOUS		8.52	units	8.23	units	8.57	units	9	units
PHENOL		4.6	mg/L	1.40	mg/L	4.82	mg/Kg	10.0	mg/Kg
PHOSPHORUS TOTAL		80.8	mg/L	250	mg/L	147	mg/Kg	97	mg/Kg
SOLIDS, TOTAL %		50.6	%	80.9	%	53.2	%	60	%
SOLIDS, TOTAL VOLATILE %		5.3	%	6.9	%	4.0	%	5.7	%
SULFIDE		4.6	mg/L	<1.0	mg/L	25.0	mg/Kg	<25	mg/Kg
SULFUR, TOTAL %		<0.1	%		%	<0.1	%	0.045	%
CYANIDE		<0.16	mg/L	<0.25	mg/L	<0.25	mg/Kg	<0.83	mg/Kg
TOC		2,300	mg/L		mg/L	10,900	mg/Kg	220	mg/Kg
SULFATE 10% SOLN.		57	mg/L	<100	mg/L	<100	mg/Kg	130	mg/Kg
ASH		84.7	%	97.2	%	96.62	%	89	%
EOX		<10	mg/L	<10	mg/L	<10	mg/Kg	<67	mg/Kg
PAINT FILTER TEST		FAIL		PASSED		*FAIL		PASSED	
FLASH POINT		>212	°F	>212	°F	>212	°F	>180	°F
REACTIVE SULFIDE		<10	mg/L	<10	mg/L	20	mg/Kg	<15	mg/Kg
REACTIVE CYANIDE		<10	mg/L	<10	mg/L	<10	mg/Kg	<1.7	mg/Kg
PCB 1016		<40	ug/Kg	<500	ug/Kg	<50	ug/Kg	<28	ug/Kg
PCB 1221		<40	ug/Kg	<500	ug/Kg	<50	ug/Kg	<28	ug/Kg
PCB 1232		<40	ug/Kg	<500	ug/Kg	<50	ug/Kg	<28	ug/Kg
[illegible]B 1242		<40	ug/Kg	<500	ug/Kg	<50	ug/Kg	<28	ug/Kg
[illegible] 1248		<40	ug/Kg	<500	ug/Kg	<50	ug/Kg	<28	ug/Kg
[illegible] 1254		<40	ug/Kg	<500	ug/Kg	<50	ug/Kg	<28	ug/Kg
[illegible]B 1260									
GROSS ALPHA pci/L		20.5 ± 6.9	pci/g	21.0 ± 2.3	pci/g	27.9 ± 3.6	pci/g	39.2 ± 12.5	pci/g
GROSS BETA pci/L		13.4 ± 3.5	pci/g	18.0 ± 1.5	pci/g	20.5 ± 2.1	pci/g	12.1 ± 2.3	pci/g
RADIUM 226 pci/L		3.5 ± 0.1	pci/g	1.3 ± 0.1	pci/g	3.8 ± 0.1	pci/g	3.3 ± 0.2	pci/g
RADIUM 228 pci/L		3.5 ± 0.2	pci/g	<1.7	pci/g	1.0 ± 0.5	pci/g	3.0 ± 0.2	pci/g

* Paint Filter Test 8/9/99 T.A. Note: P.F.T done at COA-WTP-Lab on 5/24/99 & 6/7/99 both passed

1:51 PM 8/9/00

SLUDG2000.xls

ug-25-00 11:37A P.07

Client #: CHI-99-110601
Address: City of Aurora
Water Treatment Plant
11 E. Downer Place
Aurora, IL 60507-2067
Attn: Zeny Rick

Page: Page 5 of 5
Date: 08/09/2000
Log #: L45124-1

Sample Description:

Annual Sludge

Label: Lime Sludge Samples
Date Sampled: 07/17/2000
Time Sampled: 08:10
Date Received: 07/17/2000
Collected By: Client

Parameter	Results	Units	Method	Reportable Limit	Extr. Date	Analysis Date	Analyst
[redacted] Compounds (continued)							

BDL = Below Reportable Limit
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 980126
SUB DOH# 86122,86109,E86048
SC CERT# 96031001
ELPAT# 13801
VA CERT# 00395
DOH# E86240,86356
ADEM ID# 40850
TN CERT# 02985
GA CERT# 917
USDA Soil Permit# S-35240
NC CERT# 444
MA CERT# M-FL449
CT CERT# PH-0122

Respectfully submitted,

Mike Kimmel
Senior Project Manager

TestAmerica
INCORPORATED

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

NET Job Number: 99.05882

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of TestAmerica for analysis.

Project Description: Sludge Analysis 1999

Sample Number	Sample Description	Date Taken	Date Received
530302	1999-D.B. #2 Sludge Sample	06/03/1999	06/04/1999

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Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow TestAmerica Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. TestAmerica has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

850 W. BARTLETT RD./ BARTLETT, IL 60103 / 630-289-3100 / FAX: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

Sample No. : 530302

Job No.: 99.05882

Sample Description: 1999-D.B. #2 Sludge Sample
Sludge Analysis 1999

Date Taken: 06/03/1999
Time Taken:

Date Received: 06/04/1999
Time Received: 16:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
COD, Soluble	220		mg/kg	20	06/10/1999	sal	SM 5220
Alkalinity,Total-10% solution	920		mg/kg	50	06/08/1999	sal	EPA 310.1
Acidity-10% solution	<50		mg/kg	50	06/10/1999	mas	EPA 305.1
Ash	96.6		%	1.0	06/11/1999	lmf	SM 2540E
Calcium Carb. Equivalent	91.8		%	1	06/10/1999	mas	
Conductivity, Solid	See Attached	O			06/30/1999	dab	SW 9050
Cyanide, total	<0.25		mg/kg	0.25	06/17/1999	jrr	SW 9012A
EOX	<10	O	mg/kg	10	06/10/1999	out	SW 9020M
N-Ammonia	50.6		mg/kg	15	06/11/1999	jrr	SM 4500
N-Kjeldahl	500		mg/kg	10	06/10/1999	mas	EPA 351.4
Oil & Grease, Soxhlet	<0.1		%	0.1	06/08/1999	plb	SM 5520E
Paint Filter Test	Fail				06/09/1999	lmf	SW 9095A
pH, Non-Aqueous	8.57		units	0.10	06/10/1999	lmf	SW 9045B
Phenols, colorimetric	4.62		mg/kg	0.50	06/10/1999	kaf	SW 9065
Phosphorus, Total	147	MS	mg/kg	4.0	06/11/1999	jrr	SM 4500
Solids, Total	53.2		%	0.1	06/08/1999	mws	SM 2540
Solids, Total Volatile	4.0		%	0.1	06/08/1999	kaf	SM 2540
Sulfate-10% solution	<100		mg/kg	100	06/09/1999	kaf	SW 9038
Sulfide	25		mg/kg	1.0	06/10/1999	out	SW 9030
Total Organic Carbon	10,900		mg/kg	10	06/15/1999	out	SW 9060
TCLP, ZHE Volatiles Prep	Leached				06/10/1999	tpl	SW 1311
TCLP Metals Extraction	Leached				06/08/1999	tpl	SW 1311
Aluminum, ICP	940		mg/Kg	5.0	06/16/1999	jtt	SW 6010B
Arsenic, GFAA	0.74		mg/Kg	0.50	06/16/1999	sep	SW 7060
Barium, ICP	89		mg/Kg	1.0	06/15/1999	jtt	SW 6010B

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O : Parameter analysis was sub-contracted to an outside lab location.
MS: Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits; LCS was acceptable.

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

Sample No. : 530302

Job No.: 99.05882

Sample Description: 1999-D.B. #2 Sludge Sample
Sludge Analysis 1999

Date Taken: 06/03/1999
Time Taken:

Date Received: 06/04/1999
Time Received: 16:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Cadmium, ICP	<0.50		mg/Kg	0.50	06/15/1999	jtt	SW 6010B
Chromium, ICP	<2.0		mg/Kg	2.0	06/15/1999	jtt	SW 6010B
Chromium, Hexavalent	<10		mg/Kg	10	06/10/1999	jrr	SWII 3060
Cobalt, ICP	<5.0		mg/Kg	5.0	06/15/1999	jtt	SW 6010B
Copper, ICP	2.2		mg/Kg	0.50	06/16/1999	jtt	SW 6010B
Iron, ICP	1,500		mg/Kg	2.5	06/16/1999	jtt	SW 6010B
Lead, GFAA	1.4		mg/Kg	0.25	06/16/1999	jtt	SW 7421
Manganese, ICP	67		mg/Kg	0.50	06/15/1999	jtt	SW 6010B
Mercury, CVAA	<0.040		mg/Kg	0.040	06/16/1999	amc	SW 7471A
Molybdenum, ICP	<5.0		mg/Kg	5.0	06/16/1999	jtt	SW 6010B
Nickel, ICP	<2.5		mg/Kg	2.5	06/16/1999	jtt	SW 6010B
Potassium, AA	130		mg/Kg	50	06/16/1999	amc	SW 7610
Selenium, GFAA	<0.50		mg/Kg	0.50	06/16/1999	sep	SW 7740
Silver, AA	2.8	MS	mg/Kg	2.0	06/16/1999	amc	SW 7760
Sodium, AA	320	MS	mg/Kg	50	06/16/1999	amc	SW 7770
Vanadium, ICP	<2.5		mg/Kg	2.5	06/15/1999	jtt	SW 6010B
Zinc, ICP	<10	iec	mg/Kg	1.0	06/16/1999	jtt	SW 6010B
TCLP-Arsenic, ICP	<0.20		mg/L	0.20	06/15/1999	jtt	SW 6010B
TCLP-Barium, ICP	0.381		mg/L	0.020	06/14/1999	jtt	SW 6010B
TCLP-Cadmium, ICP	<0.010		mg/L	0.010	06/14/1999	jtt	SW 6010B
TCLP-Chromium,ICP	<0.040		mg/L	0.040	06/14/1999	jtt	SW 6010B
TCLP-Lead, ICP	<0.200		mg/L	0.200	06/15/1999	jtt	SW 6010B
TCLP-Mercury, CVAA	<0.0004		mg/L	0.0004	06/15/1999	amc	SW 7470A
TCLP-Selenium, ICP	<0.20		mg/L	0.20	06/15/1999	jtt	SW 6010B
TCLP-Silver, AA	<0.040		mg/L	0.040	06/11/1999	amc	SW 7760

MS : Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits; LCS was acceptable.
iec: Elevated reporting limit due to interelement interferences.

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

Sample No. : 530302

Job No.: 99.05882

Sample Description: 1999-D.B. #2 Sludge Sample
Sludge Analysis 1999

Date Taken: 06/03/1999
Time Taken:

Date Received: 06/04/1999
Time Received: 16:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
TCLP Organic Prep	Leached				06/08/1999	tpl	SW 1311
Prep, Pesticides 8081 TCLP	Complete				06/10/1999	bbw	SW 3510C
Prep PCBs 8082 NonAqueous	Complete				06/09/1999	jtt	SW 3540C
Prep, Herbicides TCLP	Complete				06/10/1999	rap	SW 8151
PCBs 8082 NonAqueous							
PCB-1016	<50		ug/Kg	50	06/16/1999	tls	SW 8082
PCB-1221	<50		ug/Kg	50	06/16/1999	tls	SW 8082
PCB-1232	<50		ug/Kg	50	06/16/1999	tls	SW 8082
PCB-1242	<50		ug/Kg	50	06/16/1999	tls	SW 8082
PCB-1248	<50		ug/Kg	50	06/16/1999	tls	SW 8082
PCB-1254	<50		ug/Kg	50	06/16/1999	tls	SW 8082
PCB-1260	<50		ug/Kg	50	06/16/1999	tls	SW 8082
Surr: Tetrachloroxylene (TCX)	105.0		%	31-128	06/16/1999	tls	SW 8082
Surr: Decachlorobiphenyl (DCB)	107.0		%	29-128	06/16/1999	tls	SW 8082

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TestAmerica
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ANALYTICAL REPORT

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

Sample No. : 530302

Job No.: 99.05882

Sample Description: 1999-D.B. #2 Sludge Sample
Sludge Analysis 1999

Date Taken: 06/03/1999
Time Taken:

Date Received: 06/04/1999
Time Received: 16:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
TCLP-PESTICIDES 8081							
TCLP-gamma-BHC (Lindane)	<0.0005		mg/L	0.0005	06/15/1999	skb	SW 8081A
TCLP-Chlordane	<0.005		mg/L	0.005	06/15/1999	skb	SW 8081A
TCLP-Endrin	<0.0010		mg/L	0.0010	06/15/1999	skb	SW 8081A
TCLP-Heptachlor	<0.0005		mg/L	0.0005	06/15/1999	skb	SW 8081A
TCLP-Heptachlor epoxide	<0.0005		mg/L	0.0005	06/15/1999	skb	SW 8081A
TCLP-Methoxychlor	<0.005		mg/L	0.005	06/15/1999	skb	SW 8081A
TCLP-Toxaphene	<0.005		mg/L	0.005	06/15/1999	skb	SW 8081A
Surr: Tetrachloroxylene (TCX)	75.7		%	22-154	06/15/1999	skb	SW 8081A
Surr: Decachlorobiphenyl (DCB)	87.2		%	23-154	06/15/1999	skb	SW 8081A
TCLP-HERBICIDES 8151							
TCLP-2,4-D	<0.02		mg/L	0.02	06/15/1999	btl	SW 8151
TCLP-2,4,5-TP	<0.02		mg/L	0.02	06/15/1999	btl	SW 8151
Surr: DCAA	64.6		%	23-131	06/15/1999	btl	SW 8151
Prep, BNA Extract (TCLP)	extracted				06/10/1999	rap	SW 3510C

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

Sample No. : 530302

Job No.: 99.05882

Sample Description: 1999-D.B. #2 Sludge Sample
Sludge Analysis 1999

Date Taken: 06/03/1999
Time Taken:

Date Received: 06/04/1999
Time Received: 16:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
TCLP-ACID COMPOUNDS 8270							
TCLP-Cresols, Total	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-o-Cresol	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-m&p Cresol	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-Pentachlorophenol	<0.50		mg/L	0.50	06/11/1999	pll	SW 8270B
TCLP-2,4,5-Trichlorophenol	<0.50		mg/L	0.50	06/11/1999	pll	SW 8270B
TCLP-2,4,6-Trichlorophenol	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
Surr: Phenol-d6	34.0		%	10-94	06/11/1999	pll	SW 8270B
Surr: 2-Fluorophenol	52.5		%	21-100	06/11/1999	pll	SW 8270B
Surr: 2,4,6-Tribromophenol	73.0		%	10-123	06/11/1999	pll	SW 8270B
TCLP-VOLATILES 8260							
TCLP-Benzene	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-Carbon Tetrachloride	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-Chlorobenzene	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-Chloroform	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-1,4-Dichlorobenzene	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-1,2-Dichloroethane	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-1,1-Dichloroethene	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-Methyl Ethyl Ketone	<0.40		mg/L	0.40	06/14/1999	mjo	SW 8260A
TCLP-Tetrachloroethene	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-Trichloroethene	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
TCLP-Vinyl Chloride	<0.020		mg/L	0.020	06/14/1999	mjo	SW 8260A
Surr: Dibromofluoromethane	104.8		%	75-130	06/14/1999	mjo	SW 8260A
Surr: Toluene-d8	94.0		%	85-117	06/14/1999	mjo	SW 8260A
Surr: Bromofluorobenzene	87.8		%	80-116	06/14/1999	mjo	SW 8260A

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

Mr. Arnold Eggleston
CITY OF AURORA
44 East Downer Place
Aurora, IL 60507-3302

07/22/1999

Sample No. : 530302

Job No.: 99.05882

Sample Description: 1999-D.B. #2 Sludge Sample
Sludge Analysis 1999

Date Taken: 06/03/1999
Time Taken:

Date Received: 06/04/1999
Time Received: 16:30

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Analytical Method
Gross Alpha	27.9 +/- 3.6	O	pCi/gram		07/21/1999	out	EPA 900.0
Gross Beta	20.5 +/- 2.1	O	pCi/gram		07/21/1999	out	EPA 900
Radium 226	3.8 +/- 0.1	O	pCi/gram		07/21/1999	out	EPA 903.1
Radium 228	1.0 +/- 0.5	O	pCi/gram		07/21/1999	out	EPA 904.0
TCLP BASE NEUTRAL COMPOUNDS							
TCLP-1,4-Dichlorobenzene	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-Hexachloroethane	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-Nitrobenzene	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-Hexachlorobutadiene	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-2,4-Dinitrotoluene	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-Hexachlorobenzene	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
TCLP-Pyridine	<0.10		mg/L	0.10	06/11/1999	pll	SW 8270B
Surr: Nitrobenzene-d5	79.5		%	35-114	06/11/1999	pll	SW 8270B
Surr: 2-Fluorobiphenyl	66.8		%	43-116	06/11/1999	pll	SW 8270B
Surr: Terphenyl-d14	73.5		%	33-141	06/11/1999	pll	SW 8270B
Sulfur, Total	<0.1		%	0.1	06/15/1999	lmf	ASTM D3177-75
Ignitability (Flash Point)	>212		degree F	>212	06/11/1999	lmf	SW 1010
Reactive Sulfide	20		mg/kg	10	06/11/1999	mkp	SW 7.3.4.2.
Reactive Cyanide	<10		mg/kg	10	06/11/1999	mkp	SW 7.3.3.2.

O : Parameter analysis sub-contracted to an outsdie lab location.

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TestAmerica Bartlett Division

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KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

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(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

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Appendix P:

Supernatant Analysis Results Tables and Laboratory Analysis Reports

CITY OF AURORA
CLASS V UIC PERMIT APPLICATION
LIME SLUDGE SUPERNATANT

	8/28/2002	6/13/2005	7/15/2005	7/14/2008	12/15/2011	4/24/2012	7/3/2012	35 IAC 611 Standard		35 IAC 620 Standard	
VOCs (5030B/8260B), mg/L								MCLG	MCL	Class I	Class II
Acetone	NA	NA	NA	<0.100	<0.100	<0.100	<0.100			6.3	6.3
Benzene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.005	0.005	0.025
Bromodichloromethane	NA	NA	NA	<0.001	<0.001	<0.001	<0.001				
Bromoform	NA	NA	NA	<0.001	<0.001	<0.001	<0.001				
Bromomethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005				
2-Butanone (MEK)	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			4.2	4.2
Carbon disulfide	NA	NA	NA	<0.005	<0.005	<0.005	<0.005			0.7	3.5
Carbon tetrachloride	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.005	0.005	0.025
Chlorobenzene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.1	0.1	0.1	0.5
Chlorodibromomethane	NA	NA	NA	<0.001	<0.001	<0.001	<0.001				
Chloroethane	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Chloroform	NA	NA	NA	<0.001	<0.001	0.0012	<0.001			0.07	0.35
Chloromethane	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
1,1-Dichloroethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005			1.4	7
1,2-Dichloroethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.005	0.005	0.025
1,1-Dichloroethene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.007	0.007	0.007	0.035
cis-1,2-Dichloroethene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.07	0.07	0.07	0.2
trans-1,2-Dichloroethene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.1	0.1	0.1	0.5
1,2-Dichloropropane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.005	0.005	0.025
cis-1,3-Dichloropropene	NA	NA	NA	<0.001	<0.001	<0.001	<0.001				
trans-1,3-Dichloropropene	NA	NA	NA	<0.001	<0.001	<0.001	<0.001				
Ethylbenzene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.7	0.7	0.7	1
2-Hexanone	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Methyl-tert-butylether (MTBE)	NA	NA	NA	<0.005	<0.005	<0.005	<0.005			0.07	0.07
4-Methyl-2-pentanone (MIBK)	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Methylene chloride	NA	NA	NA	<0.005	<0.005	<0.005	<0.005			0.005	0.05
Styrene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.1	0.1	0.1	0.5
1,1,2,2-Tetrachloroethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005				
Tetrachloroethene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.005	0.005	0.025
Toluene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	1.0	1.0	1.0	2.5
1,1,1-Trichloroethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.2	0.2	0.2	1
1,1,2-Trichloroethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.003	0.005	0.005	0.025
Trichloroethene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.005	0.005	0.005
Vinyl acetate	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Vinyl chloride	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	0	0.002	0.002	0.01
Xylene, total	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	10.0	10.0	10.0	10
VOCs (8011), mg/L											
1,2-Dibromo-3-chloropropane	NA	NA	NA	NA	<0.0002	<0.0002	<0.0002			0.0002	0.002
1,2-Dibromoethane (EDB)	NA	NA	NA	NA	<0.00005	<0.00005	<0.00005	0	0.00005	0.00005	0.0005
SVOCs (3510C/8270B), mg/L											
Benzidine	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Benzoic acid	NA	NA	NA	<0.050	<0.050	<0.050	<0.050			28	28
Benzyl alcohol	NA	NA	NA	<0.020	<0.020	<0.020	<0.020				
bis-(2-Chloroethoxy)methane	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
bis(2-Chloroethyl)ether	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
bis(2-Chloroisopropyl)ether	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
bis(2-ethylhexyl)phthate	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0	0.006	0.006	0.06
4-Bromophenyl phenyl ether	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Butyl benzyl phthalate	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Carbazole	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
4-Chloroaniline	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
4-Chloro-3-methylphenol	NA	NA	NA	<0.020	<0.020	<0.020	<0.020				
2-Chloronapthalene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
2-Chlorophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
4-Chlorophenyl phenyl ether	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Dibenzofuran	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
1,2-Dichlorobenzene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010	0.6	0.6	0.6	3.5
1,3-Dichlorobenzene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
1,4-Dichlorobenzene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010	0.075	0.075	0.075	0.375
3,3'-Dichlorobenzidine	NA	NA	NA	<0.020	<0.020	<0.020	<0.020				
2,4-Dichlorophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Diethyl phthalate	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			5.6	5.6
2,4 Dimethylphenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Dimethyl phthalate	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Di-n-butyl phthalate	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.7	3.5
4,6- Dinitro-2-methylphenol	NA	NA	NA	<0.050	<0.050	<0.050	<0.050				
2,4-Dinitrophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
2,4-Dinitrotoluene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.0001	0.0001
2,6-Dinitrotoluene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.00031	0.00031
Di-n-octylphthalate	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Hexachlorobenzene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010	0	0.001		
Hexachlorobutadiene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Hexachlorocyclopentadiene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010	0.05	0.05	0.05	0.5
Hexachloroethane	NA	NA	NA	<0.005	<0.005	<0.005	<0.005				
Isophorone	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
2-Methylnaphthalene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.028	0.14
2-Methylphenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.35	0.35
3 & 4-Methylphenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
2-Nitroaniline	NA	NA	NA	<0.050	<0.050	<0.050	<0.050				

CITY OF AURORA
CLASS V UIC PERMIT APPLICATION
LIME SLUDGE SUPERNATANT

	8/28/2002	6/13/2005	7/15/2005	7/14/2008	12/15/2011	4/24/2012	7/3/2012	35 IAC 611 Standard		35 IAC 620 Standard	
3-Nitroaniline	NA	NA	NA	<0.050	<0.050	<0.050	<0.050				
4-Nitroaniline	NA	NA	NA	<0.020	<0.020	<0.020	<0.020				
Nitrobenzene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
2-Nitrophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
4-Nitrophenol	NA	NA	NA	<0.050	<0.050	<0.050	<0.050				
n-Nitrosodimethylamine	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
n-Nitrosodiphenylamine	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
n-Nitrosodi-n-propylamine	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
Pentachlorophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.001	0.005
Phenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.1	0.1
1,2,4-Trichlorobenzene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010	0.07	0.07	0.07	0.7
2,4,5-Trichlorophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
2,4,6-Trichlorophenol	NA	NA	NA	<0.010	<0.010	<0.010	<0.010				
PAH (3510C/8270C), mg/l											
Acenaphthene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.42	2.1
Acenaphthylene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.42	2.1
Anthracene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005			2.1	10.5
Benzo(a)anthracene	NA	NA	NA	<0.00013	<0.00013	<0.00013	<0.00013			0.00013	0.00065
Benzo(a)pyrene	NA	NA	NA	<0.0002	<0.0002	<0.0002	<0.0002	0.0002	0.0002	0.0002	0.002
Benzo(b)fluoranthene	NA	NA	NA	<0.00018	<0.00018	<0.00018	<0.00018			0.00018	0.0009
Benzo(k)fluoranthene	NA	NA	NA	<0.00017	<0.00017	<0.00017	<0.00017			0.00017	0.006
Benzo(ghi)perylene	NA	NA	NA	<0.0004	<0.0004	<0.0004	<0.0004				
Chrysene	NA	NA	NA	<0.0015	<0.0015	<0.0015	<0.0015			0.012	0.06
Dibenzo(a,h)anthracene	NA	NA	NA	<0.0003	<0.0003	<0.0003	<0.0003			0.0003	0.0015
Fluoranthene	NA	NA	NA	<0.002	<0.002	<0.002	<0.002			0.28	1.4
Fluorene	NA	NA	NA	<0.002	<0.002	<0.002	<0.002			0.28	1.4
Indeno(1,2,3-cd)pyrene	NA	NA	NA	<0.0003	<0.0003	<0.0003	<0.0003			0.00043	0.0022
Naphthalene	NA	NA	NA	<0.010	<0.010	<0.010	<0.010			0.14	0.22
Phenanthrene	NA	NA	NA	<0.005	<0.005	<0.005	<0.005				
Pyrene	NA	NA	NA	<0.002	<0.002	<0.002	<0.002			0.21	1.05
SV Pests (3510C/8270C), mg/L											
Alachlor	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0	0.002	0.002	0.01
Atrazine	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	0.003	0.003	0.003	0.015
Simazine	NA	NA	NA	NA	<0.002	<0.002	<0.002	0.004	0.004	0.004	0.04
Pests/PCBs (3510C/8081A/8082), mg/L											
Aldrin	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005				
Aroclor 1016	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
Aroclor 1221	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
Aroclor 1232	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
Aroclor 1242	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
Aroclor 1248	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
Aroclor 1254	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
Aroclor 1260	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0	0.0005	0.0005	0.0025
alpha-BHC	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005			0.00011	0.00055
beta-BHC	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005				
delta-BHC	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005				
gamma-BHC(Lindane)	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005	0.0002	0.0002	0.0002	0.001
alpha-Chlordane	NA	NA	NA	<0.00050	<0.00050	<0.00050	<0.00050	0	0.002	0.002	0.01
gamma-Chlordane	NA	NA	NA	<0.00050	<0.00050	<0.00050	<0.00050	0	0.002	0.002	0.01
4,4'-DDD	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
4,4'-DDE	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
4,4'-DDT	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
Dieldrin	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
Endosulfan I	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005				
Endosulfan II	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
Endosulfan sulfate	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
Endrin	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010	0.002	0.002	0.002	0.01
Endrin aldehyde	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
Endrin ketone	NA	NA	NA	<0.00010	<0.00010	<0.00010	<0.00010				
Heptachlor	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005	0	0.0004	0.0004	0.002
Heptachlor epoxide	NA	NA	NA	<0.00005	<0.00005	<0.00005	<0.00005	0	0.0002	0.0002	0.001
Methoxychlor	NA	NA	NA	<0.00050	<0.00050	<0.00050	<0.00050	0.04	0.04	0.04	0.2
Toxaphene	NA	NA	NA	<0.0010	<0.0010	<0.0010	<0.0010	0	0.003	0.003	0.015
Endothall (548.1R1.0)	NA	NA	NA	NA	<0.040	<0.009	<0.009	0.1	0.1	0.1	0.1
Aldicarb (531.1R3.1)	NA	NA	NA	NA	<0.001	<0.001	<0.001			0.003	0.015
Carbofuran (531.1R3.1)	NA	NA	NA	NA	<0.004	<0.002	<0.002	0.04	0.04	0.04	0.2
Herbicides (8321A) mg/L											
2,4-D	NA	NA	NA	<0.0002	<0.0002	<0.0002	0.0006	0.07	0.07	0.07	0.35
Silvex (2,4,5-TP)	NA	NA	NA	<0.0001	<0.0001	<0.0001	<0.0001	0.05	0.05		
Dalapon	NA	NA	NA	NA	<0.0100	<0.0100	<0.0100	0.2	0.2	0.2	2
Dinoseb	NA	NA	NA	NA	<0.0003	<0.0003	<0.0003	0.007	0.007	0.007	0.07
Pentachlorophenol	NA	NA	NA	NA	<0.0002	<0.0002	<0.0002	0	0.001		
Picloram	NA	NA	NA	NA	<0.0002	<0.0002	<0.0002	0.5	0.5	0.5	5
2,4,5-T	NA	NA	NA	NA	<0.0001	<0.0001	<0.0001			0.05	0.25
Inorganics, mg/L											
pH (4500H+,B)	10.73	NA	9.06	10.14	10.66	11.02	11.11			6.5 to 9.0	6.5 to 9.0
Cyanide, total (4500CN,C,E)	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	0.2	0.2	0.20	0.6
Phenols (9066)	NA	NA	NA	NA	<0.010	<0.010	0.015				
Nitrate, as N (353.2R2.0)	NA	NA	NA	NA	0.99	0.41	0.6	10	10		
Nitrite, as N (4500NO2,B)	NA	NA	NA	NA	0.02	0.02	0.14	1	1	10.00	100
Nitrate + Nitrite, as N	NA	NA	NA	0.30	NA	NA	NA	10	10		

CITY OF AURORA
CLASS V UIC PERMIT APPLICATION
LIME SLUDGE SUPERNATANT

	8/28/2002	6/13/2005	7/15/2005	7/14/2008	12/15/2011	4/24/2012	7/3/2012	35 IAC 611 Standard		35 IAC 620 Standard	
Sulfate (4500SO4,E)	NA	NA	NA	41.00	45.00	37.00	45			400	400
Sulfide (4500S2C,D)	NA	NA	NA	<0.050	NA	<0.050	<0.050				
Sulfide, reactive (7.3.4.2)	NA	NA	NA	<10.00	NA	NA	NA				
Acidity, total (2310B)	NA	NA	NA	NA	NA	<5.0	<5.0				
Alkalinity, total (2320B)	NA	NA	NA	52.00	NA	94.00	130.00				
BOD, 5 day (5210B)	5.00	NA	NA	5.00	NA	NA	5.00				
COD (5220D)	NA	NA	NA	16.00	NA	<10.0	19.00				
TOX (9020B)	NA	NA	NA	NA	NA	0.017	<0.020				
Ammonia, as N (350.1R2.0)	2.42	NA	52.6	0.51	NA	0.65	0.63				
Total Kjeldahl Nitrogen (351.2R2.0)	NA	NA	NA	<1.00	NA	<1.00	NA				
Phosphorous (4500P,B,E)	0.03	NA	NA	0.04	NA	NA	0.04				
TOC (5310C)	NA	NA	NA	NA	NA	4.50	3.8				
TDS (2540C)	302.00	NA	NA	64.00	283.00	310.00	256			1200	1200
TSS (2540B)	31.00	NA	NA	243.00	NA	NA	NA				
Conductivity, umhos/cm (2510B)	NA	NA	NA	457.00	NA	716.00	6310				
Chloride (4500Cl,C)	89.00	NA	NA	84.00	NA	114.00	108			200	200
Fluoride (4500F,C)	<0.500	NA	NA	<0.500	NA	0.30	0.35			4.00	4.00
Metals (3010A/6010B), mg/L											
Aluminum	NA	NA	NA	<0.050	NA	<0.050	NA				
Antimony	NA	NA	NA	<0.006	<0.006	<0.006	<0.006	0.006	0.006	0.006	0.024
Arsenic	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	0	0.01	0.01	0.2
Barium	NA	NA	NA	0.015	0.011	0.026	0.039	2.0	2.0	2.00	2.00
Beryllium	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	0.004	0.004	0.004	0.5
Boron	NA	NA	NA	0.15	0.14	0.28	0.32			2.00	2.00
Cadmium	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	0.005	0.005	0.005	0.05
Chromium	NA	NA	NA	0.002	<0.001	0.003	0.004	0.1	0.1	0.100	1.00
Chromium, hexavalent	NA	NA	NA	<0.005	NA	<0.005	NA				
Cobalt	NA	NA	NA	<0.001	<0.001	<0.001	<0.001			1.00	1.00
Copper	NA	NA	NA	<0.001	<0.001	0.004	<0.001	1.3		0.65	0.65
Iron	NA	NA	NA	0.03	0.05	0.15	0.06			5.00	5.00
Lead	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	0	TT	0.0075	0.1
Manganese	NA	NA	NA	0.001	<0.001	0.004	0.004			0.15	10
Mercury (7470A)	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	0.002	0.002	0.002	0.01
Molybdenum	NA	NA	NA	<0.010	NA	<0.010	<0.010				
Nickel	NA	NA	NA	0.002	<0.001	0.002	<0.001			0.10	2
Potassium	NA	NA	NA	8.6	NA	NA	NA				
Selenium	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	0.05	0.05	0.05	0.05
Silver	NA	NA	NA	<0.001	<0.001	<0.001	<0.001			0.05	
Sodium	NA	NA	NA	41.1	NA	NA	NA				
Thallium	NA	NA	NA	<0.002	<0.002	<0.002	<0.002	0.005	0.002	0.002	0.02
Vanadium	NA	NA	NA	<0.010	NA	<0.010	<0.010			0.049	0.1
Zinc	NA	NA	NA	<0.005	<0.005	<0.005	<0.005			5.00	10
Radioactives, pCi/L											
Gross Alpha	NA	NA	NA	0.64	1.20	<0.700	1.50	0.00	15.00		
Gross Beta	NA	NA	NA	5.92	6.40	3.70	6.10	0.00	4.00		
Radium 226	0.70	1.51	NA	0.97	0.30	1.10	0.80	0.00	5.00	20.00	
Radium 228	<0.70	2.21	NA	0.67	1.90	<1.10	1.30	0.00	5.00	20.00	
Total Radium	0.70	3.72	NA	1.64	2.20	1.10	2.10	0.00	5.00	20.00	

mrem/yr

Duplicate for supervisors file

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
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August 21, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-10-303
First Environmental File ID: 12-3156
Date Received: July 03, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker

Lorrie Walker
Project Manager

First
Environmental
Laboratories, Inc.
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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-10-303**

First Environmental File ID: **12-3156**

Date Received: **July 03, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
12-3156-002	Lime Sludge - Bed #	*Semi-Volatile Compounds* Surrogates recovery outside control limits; low bias due to matrix interference.

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	07/03/12
Project ID:	96044-10-303	**Time Collected:**	7:00
Sample ID:	Lime Supernate - Bed # 1	**Date Received:**	07/03/12
Sample No:	12-3156-001	**Date Reported:**	08/20/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B** Analysis Date: 07/05/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	07/03/12
Project ID:	96044-10-303	**Time Collected:**	7:00
Sample ID:	Lime Supernate - Bed # 1	**Date Received:**	07/03/12
Sample No:	12-3156-001	**Date Reported:**	08/20/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B** Analysis Date: 07/05/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011** Analysis Date: 07/04/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C** **Preparation Method 3510C** Analysis Date: 07/09/12 Preparation Date: 07/06/12				
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** Analysis Date: 07/09/12		**Preparation Method 3510C** Preparation Date: 07/06/12		
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** Analysis Date: 07/05/12		**Preparation Method 3510C** Preparation Date: 07/05/12		
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C**				
Analysis Date: 07/05/12 Preparation Date: 07/05/12				
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall **Method: 548.1R1.0**				
Analysis Date: 07/10/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides **Method: 531.1R3.1**				
Analysis Date: 07/09/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides **Method: 8321A**				
Analysis Date: 07/10/12				
2,4-D	0.6	0.3	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.4	0.4	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury **Method: 7470A**				
Analysis Date: 07/05/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals **Method: 6020A** **Preparation Method 3010A**				
Analysis Date: 07/06/12 Preparation Date: 07/05/12				
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.039	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.32	0.01	mg/L	
Cadmium	< 0.001	0.001	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6020A**		**Preparation Method 3010A**		
Analysis Date: 07/06/12		Preparation Date: 07/05/12		
Chromium	0.004	0.001	mg/L	
Cobalt	< 0.001	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	0.06	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.004	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	< 0.001	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Acidity, Total **Method: 2310B**				
Analysis Date: 07/06/12				
Acidity, Total	< 5	5	mg/L	
Alkalinity, Total (CaCO3) **Method: 2320B**				
Analysis Date: 07/06/12				
Alkalinity, Total (CaCO3)	130	5	mg/L	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 07/10/12				
Ammonia (as N)	0.63	0.10	mg/L	
BOD, 5 Day **Method: 5210B**				
Analysis Date: 07/05/12				
BOD, 5 Day	5	1	mg/L	
COD **Method: 5220D**				
Analysis Date: 07/05/12				
COD	19	10	mg/L	
Conductivity **Method: 2510B**				
Analysis Date: 07/06/12				
Conductivity	6,310	5	umhos/cm	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 07/11/12				
Cyanide, Total	< 0.005	0.005	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
Chloride **Method: 4500Cl, C**				
Analysis Date: 07/09/12				
Chloride	108	5	mg/L	
Fluoride **Method: 4500F,C**				
Analysis Date: 07/09/12				
Fluoride	0.35	0.10	mg/L	
Nitrate (as N) **Method: 353.2R2.0**				
Analysis Date: 07/09/12				
Nitrate (as N)	0.60	0.10	mg/L	
Nitrite (as N) **Method: 4500NO2,B**				
Analysis Date: 07/02/12 16:00				
Nitrite (as N)	0.14	0.01	mg/L	
pH @ 25°C **Method: 4500H+,B**				
Analysis Date: 07/03/12 15:00				
pH @ 25°C	11.11		Units	
Phenols **Method: 9066**				
Analysis Date: 07/10/12				
Phenols	0.015	0.010	mg/L	
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 07/06/12				
Phosphorus (as P)	0.04	0.01	mg/L	
Sulfate **Method: 4500S04,E**				
Analysis Date: 07/10/12				
Sulfate	45	15	mg/L	N
Sulfide **Method: 4500S2C,D**				
Analysis Date: 07/09/12				
Sulfide	< 0.05	0.05	mg/L	
Total Dissolved Solids **Method: 2540C**				
Analysis Date: 07/06/12				
Total Dissolved Solids	256	10	mg/L	
TOC **Method: 5310C**				
Analysis Date: 07/17/12				
TOC	3.8	0.1	mg/L	N

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Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Supernate - Bed # 1
Sample No: 12-3156-001

Date Collected: 07/03/12
Time Collected: 7:00
Date Received: 07/03/12
Date Reported: 08/20/12

Analyte	Result	R.L.	Units	Flags
TOX	**Method: 9020B**			
Analysis Date: 07/09/12				
TOX	< 0.020	0.020	mg/L	S
Radium 226 & 228	**Method: 903.1/Ra-05**			
Analysis Date: 08/02/12				
Radium 226	0.8+/-0.2		pCi/L	N S
Radium 228	1.3+/-0.9		pCi/L	N S
Gross Alpha	**Method: 900.0**			
Analysis Date: 07/31/12				
Gross Alpha	1.5+/-0.7		pCi/L	N S
Gross Beta	**Method: 900.0**			
Analysis Date: 07/31/12				
Gross Beta	6.1+/-0.7		pCi/L	N S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 07/03/12				
Total Solids	33.11		%	
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 07/10/12				
Acetone	125	100	ug/kg	
Benzene	< 5.0	5.0	ug/kg	
Bromodichloromethane	< 5.0	5.0	ug/kg	
Bromoform	< 5.0	5.0	ug/kg	
Bromomethane	< 10.0	10.0	ug/kg	
2-Butanone (MEK)	< 100	100	ug/kg	
Carbon disulfide	< 5.0	5.0	ug/kg	
Carbon tetrachloride	< 5.0	5.0	ug/kg	
Chlorobenzene	< 5.0	5.0	ug/kg	
Chlorodibromomethane	< 5.0	5.0	ug/kg	
Chloroethane	< 10.0	10.0	ug/kg	
Chloroform	< 5.0	5.0	ug/kg	
Chloromethane	< 10.0	10.0	ug/kg	
1,1-Dichloroethane	< 5.0	5.0	ug/kg	
1,2-Dichloroethane	< 5.0	5.0	ug/kg	
1,1-Dichloroethene	< 5.0	5.0	ug/kg	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/kg	
1,2-Dichloropropane	< 5.0	5.0	ug/kg	
cis-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
trans-1,3-Dichloropropene	< 4.0	4.0	ug/kg	
Ethylbenzene	< 5.0	5.0	ug/kg	
2-Hexanone	< 10.0	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/kg	
Methylene chloride	< 20.0	20.0	ug/kg	
Styrene	< 5.0	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/kg	
Tetrachloroethene	< 5.0	5.0	ug/kg	
Toluene	< 5.0	5.0	ug/kg	
1,1,1-Trichloroethane	< 5.0	5.0	ug/kg	
1,1,2-Trichloroethane	< 5.0	5.0	ug/kg	
Trichloroethene	< 5.0	5.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds Analysis Date: 07/10/12	**Method: 5035A/8260B**			
Vinyl acetate	< 10.0	10.0	ug/kg	
Vinyl chloride	< 10.0	10.0	ug/kg	
Xylene, Total	< 5.0	5.0	ug/kg	
1,2-Dibromo-3-chloropropane	< 2.0	10.0	ug/kg	J
1,2-Dibromoethane (EDB)	< 5.0	5.0	ug/kg	
Semi-Volatile Compounds Analysis Date: 07/06/12	**Method: 8270C**	**Preparation Method 3540C** Preparation Date: 07/03/12		
Acenaphthene	< 660	330	ug/kg	
Acenaphthylene	< 660	330	ug/kg	
Anthracene	< 660	330	ug/kg	
Benzidine	< 660	330	ug/kg	
Benzo(a)anthracene	< 660	330	ug/kg	
Benzo(a)pyrene	< 180	90	ug/kg	
Benzo(b)fluoranthene	< 660	330	ug/kg	
Benzo(k)fluoranthene	< 660	330	ug/kg	
Benzo(ghi)perylene	< 660	330	ug/kg	
Benzoic acid	< 660	330	ug/kg	
Benzyl alcohol	< 660	330	ug/kg	
bis(2-Chloroethoxy)methane	< 660	330	ug/kg	
bis(2-Chloroethyl)ether	< 660	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 660	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 660	330	ug/kg	
4-Bromophenyl phenyl ether	< 660	330	ug/kg	
Butyl benzyl phthalate	< 660	330	ug/kg	
Carbazole	< 660	330	ug/kg	
4-Chloroaniline	< 660	330	ug/kg	
4-Chloro-3-methylphenol	< 660	330	ug/kg	
2-Chloronaphthalene	< 660	330	ug/kg	
2-Chlorophenol	< 660	330	ug/kg	
4-Chlorophenyl phenyl ether	< 660	330	ug/kg	
Chrysene	< 660	330	ug/kg	
Dibenzo(a,h)anthracene	< 180	90	ug/kg	
Dibenzofuran	< 660	330	ug/kg	
1,2-Dichlorobenzene	< 660	330	ug/kg	
1,3-Dichlorobenzene	< 660	330	ug/kg	
1,4-Dichlorobenzene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/06/12		**Preparation Method 3540C** Preparation Date: 07/03/12		
3,3'-Dichlorobenzidine	< 1,320	660	ug/kg	
2,4-Dichlorophenol	< 660	330	ug/kg	
Diethyl phthalate	< 660	330	ug/kg	
2,4-Dimethylphenol	< 660	330	ug/kg	
Dimethyl phthalate	< 660	330	ug/kg	
Di-n-butyl phthalate	< 660	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 3,200	1600	ug/kg	
2,4-Dinitrophenol	< 3,200	1600	ug/kg	
2,4-Dinitrotoluene	< 500	250	ug/kg	
2,6-Dinitrotoluene	< 520	260	ug/kg	
Di-n-octylphthalate	< 660	330	ug/kg	
Fluoranthene	< 660	330	ug/kg	
Fluorene	< 660	330	ug/kg	
Hexachlorobenzene	< 660	330	ug/kg	
Hexachlorobutadiene	< 660	330	ug/kg	
Hexachlorocyclopentadiene	< 660	330	ug/kg	
Hexachloroethane	< 660	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 660	330	ug/kg	
Isophorone	< 660	330	ug/kg	
2-Methylnaphthalene	< 660	330	ug/kg	
2-Methylphenol	< 660	330	ug/kg	
3 & 4-Methylphenol	< 660	330	ug/kg	
Naphthalene	< 660	330	ug/kg	
2-Nitroaniline	< 3,200	1600	ug/kg	
3-Nitroaniline	< 3,200	1600	ug/kg	
4-Nitroaniline	< 3,200	1600	ug/kg	
Nitrobenzene	< 520	260	ug/kg	
2-Nitrophenol	< 3,200	1600	ug/kg	
4-Nitrophenol	< 3,200	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 180	90	ug/kg	
n-Nitrosodimethylamine	< 660	330	ug/kg	
n-Nitrosodiphenylamine	< 660	330	ug/kg	
Pentachlorophenol	< 660	330	ug/kg	
Phenanthrene	< 660	330	ug/kg	
Phenol	18,800	330	ug/kg	
Pyrene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds Method: 8270C — Preparation Method 3540C Analysis Date: 07/06/12 — Preparation Date: 07/03/12				
Pyridine	< 660	330	ug/kg	
1,2,4-Trichlorobenzene	< 660	330	ug/kg	
2,4,5-Trichlorophenol	< 660	330	ug/kg	
2,4,6-Trichlorophenol	< 660	330	ug/kg	
Semi-Volatile Pesticides Method: 8270C — Preparation Method 3540C Analysis Date: 07/06/12 — Preparation Date: 07/03/12				
Alachlor	< 120	40	ug/kg	N
Atrazine	< 120	66	ug/kg	N
Simazine	< 120	40	ug/kg	N
Pesticides/PCBs Method: 8081A/8082 — Preparation Method 3540C Analysis Date: 07/11/12 — Preparation Date: 07/04/12				
Aldrin	< 8.0	8.0	ug/kg	
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
alpha-BHC	< 2.0	2.0	ug/kg	
beta-BHC	< 8.0	8.0	ug/kg	
delta-BHC	< 8.0	8.0	ug/kg	
gamma-BHC (Lindane)	< 8.0	8.0	ug/kg	
alpha-Chlordane	< 80.0	80.0	ug/kg	
gamma-Chlordane	< 80.0	80.0	ug/kg	
4,4'-DDD	< 16.0	16.0	ug/kg	
4,4'-DDE	< 16.0	16.0	ug/kg	
4,4'-DDT	< 16.0	16.0	ug/kg	
Dieldrin	< 16.0	16.0	ug/kg	
Endosulfan I	< 8.0	8.0	ug/kg	
Endosulfan II	< 16.0	16.0	ug/kg	
Endosulfan sulfate	< 16.0	16.0	ug/kg	
Endrin	< 16.0	16.0	ug/kg	
Endrin aldehyde	< 16.0	16.0	ug/kg	
Endrin ketone	< 16.0	16.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3540C**		
Analysis Date: 07/11/12		Preparation Date: 07/04/12		
Heptachlor	< 8.0	8.0	ug/kg	
Heptachlor epoxide	< 8.0	8.0	ug/kg	
Methoxychlor	< 80.0	80.0	ug/kg	
Toxaphene	< 160	160	ug/kg	
Carbamate Pesticides	**Method: 8318**			
Analysis Date: 07/12/12				
Aldicarb	< 1.00	1.00	mg/kg	NS
Carbofuran	< 1.00	1.00	mg/kg	NS
Herbicides	**Method: 8321**			
Analysis Date: 07/10/12				
Dalapon	< 10	10	ug/kg	NS
2,4-Dichlorophenoxyacetic acid (2,4-D)	< 10	10	ug/kg	NS
Dinoseb	< 10	10	ug/kg	NS
Pentachlorophenol	< 20	20	ug/kg	NS
Picloram	< 10	10	ug/kg	NS
2,4,5-T	< 10	10	ug/kg	NS
Silvex (2,4,5-TP)	< 10	10	ug/kg	NS
Total Metals	**Method: 6010B**	**Preparation Method 3050B**		
Analysis Date: 07/10/12		Preparation Date: 07/03/12		
Antimony	< 1.0	1.0	mg/kg	
Arsenic	4.2	0.2	mg/kg	
Barium	1,630	0.1	mg/kg	
Beryllium	< 0.1	0.1	mg/kg	
Boron	658	1.0	mg/kg	
Cadmium	< 0.1	0.1	mg/kg	
Chromium	22.7	0.1	mg/kg	
Cobalt	< 0.1	0.1	mg/kg	
Copper	48.3	0.1	mg/kg	
Iron	7,670	1.0	mg/kg	
Lead	4.2	0.2	mg/kg	
Manganese	227	0.1	mg/kg	
Molybdenum	< 1.0	1.0	mg/kg	
Nickel	13.0	0.1	mg/kg	
Selenium	< 0.2	0.2	mg/kg	
Silver	< 0.1	0.1	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002

Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3050B**		
Analysis Date: 07/10/12		Preparation Date: 07/03/12		
Thallium	< 1.0	1.0	mg/kg	
Vanadium	6.0	1.0	mg/kg	
Zinc	192	0.5	mg/kg	
Total Mercury **Method: 7470A**				
Analysis Date: 07/05/12				
Mercury	< 0.05	0.05	mg/kg	
Acidity, Total **Method: 2310B**				
Analysis Date: 07/06/12				
Acidity, Total	< 50	50	mg/kg	
Alkalinity, Total (as CaCO3) **Method: 2320B**				
Analysis Date: 07/06/12				
Alkalinity, Total (as CaCO3)	3,620	50	mg/kg	
BOD, 5 Day **Method: 5210B**				
Analysis Date: 07/05/12				
BOD, 5 Day	2,420	100	mg/kg	
Chloride, Soluble **Method: 4500CL,C**				
Analysis Date: 07/09/12				
Chloride, Soluble	302	50	mg/kg	N
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 07/11/12				
Cyanide, Total	< 0.10	0.10	mg/kg	
COD, Soluble **Method: 5220D**				
Analysis Date: 07/11/12				
COD, Soluble	5,230	100	mg/kg	
Extractable Organic Halogen **Method: 9023**				
Analysis Date: 07/10/12				
Extractable Organic Halogens	< 50	50	mg/kg	S
Fluoride, Soluble **Method: 4500F,C**				
Analysis Date: 07/09/12				
Fluoride, Soluble	< 5.0	5.0	mg/kg	
FOC (0.58 conversion factor) **Method: D2974-00**				
Analysis Date: 07/10/12				
FOC (0.58 conversion factor)	1.93		%	N

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-10-303
Sample ID: Lime Sludge - Bed # 5
Sample No: 12-3156-002
Date Collected: 07/03/12
Time Collected: 7:20
Date Received: 07/03/12
Date Reported: 08/20/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
FOC (0.58 conversion factor) **Method: D2974-00**				
Analysis Date: 07/10/12				
Organic Matter @ 440°C	3.32		%	N
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 07/10/12				
Ammonia (as N)	245	2.0	mg/kg	
Nitrate (as N), Soluble **Method: 353.2R1.0**				
Analysis Date: 07/09/12				
Nitrate + Nitrite (as N), Soluble	< 10.0	10.0	mg/kg	N
Phosphorus (as P) **Method: 4500P,B,E**				
Analysis Date: 07/06/12				
Phosphorus (as P)	2.1	0.5	mg/kg	
pH @ 25°C, 1:2 **Method: 9045C**				
Analysis Date: 07/05/12 15:00				
pH @ 25°C, 1:2	9.77		Units	
Sulfide **Method: 4500S2,C,D**				
Analysis Date: 07/09/12				
Sulfide	3.0	1.0	mg/kg	
Sulfate, Soluble **Method: 9038**				
Analysis Date: 07/10/12				
Sulfate, Soluble	1,110	150	mg/kg	N
Total Volatile Solids **Method: 2540G**				
Analysis Date: 07/05/12				
Total Volatile Solids	6.66	1.00	%	
Radium 226 & 228 **Method: 901.1M**				
Analysis Date: 08/09/12				
Radium 226	4.1+/-0.1		pCi/g dry	N S
Radium 228	3.5+/-0.2		pCi/g dry	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 08/15/12				
Gross Alpha	23.9+6.7		pCi/g dry	N S
Gross Beta **Method: 900.0**				
Analysis Date: 08/15/12				
Gross Beta	19.3+/-3.8		pCi/g dry	N S

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Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Cuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave.
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter / Philippe Moreau

Project I.D.: 96044-10-303
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	See Attached Remarks Sheet								Comments	Lab I.D.
7/5/12 7:00am	Lime Separate - Bed #1	W	✓								18 bottles	12-3156-001
7/3/12 7:20am	Lime Sludge - Bed # 5	O	✓								3 jars	002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No.__ _____°C
Received within 6 hrs of collection: ✓
Ice Present: Yes ✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature: _____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature: _____°C

Containers Received Preserved: ☑ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: Please e-mail preliminary VOC/SVOC report when complete

Relinquished By: Carrie J Carter Date/Time 7/3/12 0810 Received By: _____ Date/Time 7/3/12 810
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

Supernate List/ Lime Sludge/Dewater
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine } — 8270 pests
  - Simazine
- PCBs – full
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - Endothall – No sludge
  - Aldicarb –
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - ~~Molybdenum~~ Molybdenum
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- BOD
- COD
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- **Nitrate as N**
- *Phosphorus*
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- TOC (FOC - solids)
- Gross alpha
- Gross beta
- Radium 226 and 228
- pH
- VSS (Sludge)

DUPLICATE FOR OUTER MATRIX FILE

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June 19, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 96044-
First Environmental File ID: 12-1818
Date Received: April 24, 2012

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002902: effective 03/08/2012 through 02/28/2013.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Walker

Lorrie Walker
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **96044-**

First Environmental File ID: **12-1818**

Date Received: **April 24, 2012**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

Method Comments

Lab Number	Sample ID	Comments:
12-1818-001	Lime Sludge	*Semi-Volatile Compounds* The reporting limits are elevated due to matrix interference.
12-1818-001	Lime Sludge	*Semi-Volatile Pesticides* The reporting limits are elevated due to matrix interference.
12-1818-001	Lime Sludge	*Volatile Organic Compounds* The reporting limits are elevated due to matrix interference.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, Total **Method: 2540B**				
Analysis Date: 04/24/12				
Total Solids	39.60		%	
Volatile Organic Compounds **Method: 5035A/8260B**				
Analysis Date: 05/01/12				
Acetone	< 10,000	100	ug/kg	
Benzene	139	5.0	ug/kg	
Bromodichloromethane	< 500	5.0	ug/kg	
Bromoform	< 500	5.0	ug/kg	
Bromomethane	< 1,000	10.0	ug/kg	
2-Butanone (MEK)	< 10,000	100	ug/kg	
Carbon disulfide	< 500	5.0	ug/kg	
Carbon tetrachloride	< 500	5.0	ug/kg	
Chlorobenzene	< 500	5.0	ug/kg	
Chlorodibromomethane	< 500	5.0	ug/kg	
Chloroethane	< 1,000	10.0	ug/kg	
Chloroform	< 500	5.0	ug/kg	
Chloromethane	< 1,000	10.0	ug/kg	
1,1-Dichloroethane	< 500	5.0	ug/kg	
1,2-Dichloroethane	< 500	5.0	ug/kg	
1,1-Dichloroethene	< 500	5.0	ug/kg	
cis-1,2-Dichloroethene	400	5.0	ug/kg	
trans-1,2-Dichloroethene	< 500	5.0	ug/kg	
1,2-Dichloropropane	< 500	5.0	ug/kg	
cis-1,3-Dichloropropene	< 400	4.0	ug/kg	
trans-1,3-Dichloropropene	< 400	4.0	ug/kg	
Ethylbenzene	< 500	5.0	ug/kg	
2-Hexanone	< 1,000	10.0	ug/kg	
Methyl-tert-butylether (MTBE)	320	5.0	ug/kg	
4-Methyl-2-pentanone (MIBK)	< 1,000	10.0	ug/kg	
Methylene chloride	< 2,000	20.0	ug/kg	
Styrene	< 500	5.0	ug/kg	
1,1,2,2-Tetrachloroethane	< 500	5.0	ug/kg	
Tetrachloroethene	< 500	5.0	ug/kg	
Toluene	< 500	5.0	ug/kg	
1,1,1-Trichloroethane	< 500	5.0	ug/kg	
1,1,2-Trichloroethane	< 500	5.0	ug/kg	
Trichloroethene	< 500	5.0	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds Analysis Date: 05/01/12	**Method: 5035A/8260B**			
Vinyl acetate	< 1,000	10.0	ug/kg	
Vinyl chloride	< 1,000	10.0	ug/kg	
Xylene, Total	< 500	5.0	ug/kg	
1,2-Dibromo-3-chloropropane	< 200	10.0	ug/kg	J
1,2-Dibromoethane (EDB)	< 500	5.0	ug/kg	
Semi-Volatile Compounds Analysis Date: 04/27/12	**Method: 8270C**	**Preparation Method 3540C** Preparation Date: 04/26/12		
Acenaphthene	< 660	330	ug/kg	
Acenaphthylene	< 660	330	ug/kg	
Anthracene	< 660	330	ug/kg	
Benzidine	< 660	330	ug/kg	
Benzo(a)anthracene	< 660	330	ug/kg	
Benzo(a)pyrene	< 180	90	ug/kg	
Benzo(b)fluoranthene	< 660	330	ug/kg	
Benzo(k)fluoranthene	< 660	330	ug/kg	
Benzo(ghi)perylene	< 660	330	ug/kg	
Benzoic acid	< 660	330	ug/kg	
Benzyl alcohol	< 660	330	ug/kg	
bis(2-Chloroethoxy)methane	< 660	330	ug/kg	
bis(2-Chloroethyl)ether	< 660	330	ug/kg	
bis(2-Chloroisopropyl)ether	< 660	330	ug/kg	
bis(2-Ethylhexyl)phthalate	< 660	330	ug/kg	
4-Bromophenyl phenyl ether	< 660	330	ug/kg	
Butyl benzyl phthalate	< 660	330	ug/kg	
Carbazole	< 660	330	ug/kg	
4-Chloroaniline	< 660	330	ug/kg	
4-Chloro-3-methylphenol	< 660	330	ug/kg	
2-Chloronaphthalene	< 660	330	ug/kg	
2-Chlorophenol	< 660	330	ug/kg	
4-Chlorophenyl phenyl ether	< 660	330	ug/kg	
Chrysene	< 660	330	ug/kg	
Dibenzo(a,h)anthracene	< 180	90	ug/kg	
Dibenzofuran	< 660	330	ug/kg	
1,2-Dichlorobenzene	< 660	330	ug/kg	
1,3-Dichlorobenzene	< 660	330	ug/kg	
1,4-Dichlorobenzene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 04/27/12		**Preparation Method 3540C** Preparation Date: 04/26/12		
3,3'-Dichlorobenzidine	< 1,320	660	ug/kg	
2,4-Dichlorophenol	< 660	330	ug/kg	
Diethyl phthalate	< 660	330	ug/kg	
2,4-Dimethylphenol	< 660	330	ug/kg	
Dimethyl phthalate	< 660	330	ug/kg	
Di-n-butyl phthalate	< 660	330	ug/kg	
4,6-Dinitro-2-methylphenol	< 3,200	1600	ug/kg	
2,4-Dinitrophenol	< 3,200	1600	ug/kg	
2,4-Dinitrotoluene	< 500	250	ug/kg	
2,6-Dinitrotoluene	< 520	260	ug/kg	
Di-n-octylphthalate	< 660	330	ug/kg	
Fluoranthene	< 660	330	ug/kg	
Fluorene	< 660	330	ug/kg	
Hexachlorobenzene	< 660	330	ug/kg	
Hexachlorobutadiene	< 660	330	ug/kg	
Hexachlorocyclopentadiene	< 660	330	ug/kg	
Hexachloroethane	< 660	330	ug/kg	
Indeno(1,2,3-cd)pyrene	< 660	330	ug/kg	
Isophorone	< 660	330	ug/kg	
2-Methylnaphthalene	< 660	330	ug/kg	
2-Methylphenol	< 660	330	ug/kg	
3 & 4-Methylphenol	< 660	330	ug/kg	
Naphthalene	< 660	330	ug/kg	
2-Nitroaniline	< 3,200	1600	ug/kg	
3-Nitroaniline	< 3,200	1600	ug/kg	
4-Nitroaniline	< 3,200	1600	ug/kg	
Nitrobenzene	< 520	260	ug/kg	
2-Nitrophenol	< 3,200	1600	ug/kg	
4-Nitrophenol	< 3,200	1600	ug/kg	
n-Nitrosodi-n-propylamine	< 180	90	ug/kg	
n-Nitrosodimethylamine	< 660	330	ug/kg	
n-Nitrosodiphenylamine	< 660	330	ug/kg	
Pentachlorophenol	< 660	330	ug/kg	
Phenanthrene	< 660	330	ug/kg	
Phenol	12,000	330	ug/kg	
Pyrene	< 660	330	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 04/27/12		**Preparation Method 3540C** Preparation Date: 04/26/12		
Pyridine	< 660	330	ug/kg	
1,2,4-Trichlorobenzene	< 660	330	ug/kg	
2,4,5-Trichlorophenol	< 660	330	ug/kg	
2,4,6-Trichlorophenol	< 660	330	ug/kg	
Pesticides/PCBs **Method: 8081A/8082** Analysis Date: 04/30/12		**Preparation Method 3540C** Preparation Date: 04/26/12		
Aldrin	< 8.0	8.0	ug/kg	
Aroclor 1016	< 80.0	80.0	ug/kg	
Aroclor 1221	< 80.0	80.0	ug/kg	
Aroclor 1232	< 80.0	80.0	ug/kg	
Aroclor 1242	< 80.0	80.0	ug/kg	
Aroclor 1248	< 80.0	80.0	ug/kg	
Aroclor 1254	< 160	160	ug/kg	
Aroclor 1260	< 160	160	ug/kg	
alpha-BHC	< 2.0	2.0	ug/kg	
beta-BHC	< 8.0	8.0	ug/kg	
delta-BHC	< 8.0	8.0	ug/kg	
gamma-BHC (Lindane)	< 8.0	8.0	ug/kg	
alpha-Chlordane	< 80.0	80.0	ug/kg	
gamma-Chlordane	< 80.0	80.0	ug/kg	
4,4'-DDD	< 16.0	16.0	ug/kg	
4,4'-DDE	< 16.0	16.0	ug/kg	
4,4'-DDT	< 16.0	16.0	ug/kg	
Dieldrin	< 16.0	16.0	ug/kg	
Endosulfan I	< 8.0	8.0	ug/kg	
Endosulfan II	< 16.0	16.0	ug/kg	
Endosulfan sulfate	< 16.0	16.0	ug/kg	
Endrin	< 16.0	16.0	ug/kg	
Endrin aldehyde	< 16.0	16.0	ug/kg	
Endrin ketone	< 16.0	16.0	ug/kg	
Heptachlor	< 8.0	8.0	ug/kg	
Heptachlor epoxide	< 8.0	8.0	ug/kg	
Methoxychlor	< 80.0	80.0	ug/kg	
Toxaphene	< 160	160	ug/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3540C**				
Analysis Date: 04/27/12 Preparation Date: 04/26/12				
Alachlor	< 80	40	ug/kg	N
Atrazine	< 132	66	ug/kg	N
Simazine	< 80	40	ug/kg	N
Herbicides **Method: 8321**				
Analysis Date: 04/27/12				
Dalapon	< 100	100	ug/kg	N S
2,4-Dichlorophenoxyacetic acid (2,4-D)	< 100	100	ug/kg	N S
Dinoseb	< 100	100	ug/kg	N S
Pentachlorophenol	< 20	20	ug/kg	N S
Picloram	< 100	100	ug/kg	N S
2,4,5-T	< 100	100	ug/kg	N S
Silvex (2,4,5-TP)	< 100	100	ug/kg	N S
Carbamate Pesticides **Method: 8318**				
Analysis Date: 05/09/12				
Aldicarb	< 0.20	0.2	mg/kg	N S
Carbofuran	< 0.20	0.2	mg/kg	N S
Total Metals **Method: 6010B** **Preparation Method 3050B**				
Analysis Date: 04/30/12 Preparation Date: 04/26/12				
Antimony	< 2.5	1.0	mg/kg	
Arsenic	3.0	0.2	mg/kg	
Barium	160	0.1	mg/kg	
Beryllium	< 0.2	0.1	mg/kg	
Boron	17.7	1.0	mg/kg	
Cadmium	0.8	0.1	mg/kg	
Chromium	6.6	0.1	mg/kg	
Cobalt	0.5	0.1	mg/kg	
Copper	7.3	0.1	mg/kg	
Iron	6,460	1.0	mg/kg	
Lead	< 0.5	0.2	mg/kg	
Manganese	154	0.1	mg/kg	
Molybdenum	< 2.5	1.0	mg/kg	
Nickel	4.8	0.1	mg/kg	
Selenium	< 0.5	0.2	mg/kg	
Silver	< 0.2	0.1	mg/kg	
Thallium	< 2.5	1.0	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Total Metals Method: 6010B — Preparation Method 3050B Analysis Date: 04/30/12 — Preparation Date: 04/26/12				
Vanadium	5.1	1.0	mg/kg	
Zinc	49.7	0.5	mg/kg	
Total Mercury Method: 7470A Analysis Date: 04/26/12				
Mercury	< 0.05	0.05	mg/kg	
Acidity, Total Method: 2310B Analysis Date: 04/27/12				
Acidity, Total	< 50	50	mg/kg	
Alkalinity, Total (as CaCO3) Method: 2320B Analysis Date: 04/26/12 13:15				
Alkalinity, Total (as CaCO3)	2,660	50	mg/kg	
Chloride, Soluble Method: 4500CL,C Analysis Date: 04/27/12				
Chloride, Soluble	404	50	mg/kg	N
BOD, 5 Day Method: 5210B Analysis Date: 04/26/12 15:00				
BOD, 5 Day	< 100	100	mg/kg	
COD, Soluble Method: 5220D Analysis Date: 04/26/12				
COD, Soluble	3,230	100	mg/kg	
Cyanide, Total Method: 4500CN,C,E Analysis Date: 05/01/12				
Cyanide, Total	< 0.10	0.10	mg/kg	
Extractable Organic Halogen Method: 9023 Analysis Date: 05/07/12				
Extractable Organic Halogens	< 50	50	mg/kg	S
Fluoride, Soluble Method: 4500F,C Analysis Date: 04/24/12				
Fluoride, Soluble	< 5.0	5.0	mg/kg	
Ammonia (as N) Method: 350.1R2.0 Analysis Date: 04/30/12				
Ammonia (as N)	147	2.0	mg/kg	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Lime Sludge
Sample No: 12-1818-001

Date Collected: 04/24/12
Time Collected: 7:30
Date Received: 04/24/12
Date Reported: 06/19/12

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Nitrate (as N), Soluble	**Method: 353.2R1.0**			
Analysis Date: 04/29/12				
Nitrate + Nitrite (as N), Soluble	< 10.0	10.0	mg/kg	N
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 04/30/12				
Phosphorus (as P)	17.9	0.5	mg/kg	
Sulfide	**Method: 4500S2,C,D**			
Analysis Date: 04/25/12				
Sulfide	< 1.0	1.0	mg/kg	
Sulfate, Soluble	**Method: 9038**			
Analysis Date: 04/25/12				
Sulfate, Soluble	< 150	150	mg/kg	N
FOC (0.58 conversion factor)	**Method: D2974-00**			
Analysis Date: 04/26/12				
FOC (0.58 conversion factor)	1.89		%	N
Organic Matter @ 440°C	3.26		%	N
pH @ 25°C, 1:10	**Method: 9045C**			
Analysis Date: 04/24/12 15:00				
pH @ 25°C, 1:10	9.29		Units	
Radium 226 & 228	**Method: 901.1M**			
Analysis Date: 06/08/12				
Radium 226	4.3+/-0.1		pCi/g dry	N S
Radium 228	2.9+/-0.2		pCi/g dry	N S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 04/25/12				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	1.2	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B** Analysis Date: 04/25/12				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011** Analysis Date: 05/09/12				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 04/25/12		**Preparation Method 3510C** Preparation Date: 04/25/12		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 04/25/12		**Preparation Method 3510C** Preparation Date: 04/25/12		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 04/25/12		**Preparation Method 3510C** Preparation Date: 04/25/12		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte		Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons	**Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 04/25/12			Preparation Date: 04/25/12		
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	
Semi-Volatile Pesticides	**Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 04/25/12			Preparation Date: 04/25/12		
Alachlor		< 0.5	0.5	ug/L	N
Atrazine		< 0.5	0.5	ug/L	N
Simazine		< 2	2	ug/L	N
Pesticides/PCBs	**Method: 8081A/8082**		**Preparation Method 3510C**		
Analysis Date: 05/08/12			Preparation Date: 04/25/12		
Aldrin		< 0.05	0.05	ug/L	
Aroclor 1016		< 0.50	0.50	ug/L	
Aroclor 1221		< 0.50	0.50	ug/L	
Aroclor 1232		< 0.50	0.50	ug/L	
Aroclor 1242		< 0.50	0.50	ug/L	
Aroclor 1248		< 0.50	0.50	ug/L	
Aroclor 1254		< 0.50	0.50	ug/L	
Aroclor 1260		< 0.50	0.50	ug/L	
alpha-BHC		< 0.05	0.05	ug/L	
beta-BHC		< 0.05	0.05	ug/L	
delta-BHC		< 0.05	0.05	ug/L	
gamma-BHC (Lindane)		< 0.05	0.05	ug/L	
alpha-Chlordane		< 0.50	0.50	ug/L	
gamma-Chlordane		< 0.50	0.50	ug/L	
4,4'-DDD		< 0.10	0.10	ug/L	
4,4'-DDE		< 0.10	0.10	ug/L	
4,4'-DDT		< 0.10	0.10	ug/L	
Dieldrin		< 0.10	0.10	ug/L	
Endosulfan I		< 0.05	0.05	ug/L	
Endosulfan II		< 0.10	0.10	ug/L	
Endosulfan sulfate		< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 05/08/12		Preparation Date: 04/25/12		
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall	**Method: 548.1R1.0**			
Analysis Date: 05/04/12				
Endothall	< 9.0	9.0	ug/L	S
Carbamate Pesticides	**Method: 531.1R3.1**			
Analysis Date: 05/15/12				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 2.0	2.0	ug/L	S
Herbicides	**Method: 8321A**			
Analysis Date: 04/27/12				
2,4-D	< 0.2	0.2	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.3	0.3	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury	**Method: 7470A**			
Analysis Date: 04/26/12				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6010B**	**Preparation Method 3010A**		
Analysis Date: 04/30/12		Preparation Date: 04/27/12		
Aluminum	< 0.05	0.05	mg/L	
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.026	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.28	0.01	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6010B**		**Preparation Method 3010A**		
Analysis Date: 04/30/12		Preparation Date: 04/27/12		
Cadmium	< 0.001	0.001	mg/L	
Chromium	0.003	0.001	mg/L	
Cobalt	< 0.001	0.001	mg/L	
Copper	0.004	0.001	mg/L	
Iron	0.15	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.004	0.001	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Nickel	0.002	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Acidity, Total **Method: 2310B**				
Analysis Date: 04/27/12				
Acidity, Total	< 5	5	mg/L	
Alkalinity, Total (CaCO3) **Method: 2320B**				
Analysis Date: 04/26/12 13:15				
Alkalinity, Total (CaCO3)	94	5	mg/L	
Ammonia (as N) **Method: 350.1R2.0**				
Analysis Date: 04/30/12				
Ammonia (as N)	0.65	0.10	mg/L	
COD **Method: 5220D**				
Analysis Date: 04/26/12				
COD	< 10	10	mg/L	
Conductivity **Method: 2510B**				
Analysis Date: 05/02/12				
Conductivity	716	5	umhos/cm	
Cyanide, Total **Method: 335.4R1.0**				
Analysis Date: 05/01/12				
Cyanide, Total	< 0.005	0.005	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
Chloride	**Method: 4500Cl, E**			
Analysis Date: 04/27/12				
Chloride	114	5	mg/L	
Fluoride	**Method: 4500F,C**			
Analysis Date: 04/24/12				
Fluoride	0.30	0.10	mg/L	
Nitrate (as N)	**Method: 353.2R2.0**			
Analysis Date: 04/29/12				
Nitrate (as N)	0.41	0.10	mg/L	
Nitrite (as N)	**Method: 4500NO2,B**			
Analysis Date: 04/25/12 14:30				
Nitrite (as N)	0.02	0.01	mg/L	
pH @ 25°C	**Method: 4500H+,B**			
Analysis Date: 04/24/12 15:00				
pH @ 25°C	11.02		Units	
Phenols	**Method: 9066**			
Analysis Date: 04/30/12				
Phenols	< 0.010	0.010	mg/L	
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 05/01/12				
Sulfate	37	15	mg/L	
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 04/25/12				
Sulfide	< 0.05	0.05	mg/L	
Total Kjeldahl Nitrogen (TKN)	**Method: 351.2R2.0**			
Analysis Date: 04/27/12				
Total Kjeldahl Nitrogen (TKN)	< 1.0	1.0	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 04/27/12				
Total Dissolved Solids	310	10	mg/L	
TOC	**Method: 5310C**			
Analysis Date: 04/27/12				
TOC	4.5	0.1	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 96044-
Sample ID: Supernate Bed #1
Sample No: 12-1818-002

Date Collected: 04/24/12
Time Collected: 7:40
Date Received: 04/24/12
Date Reported: 06/19/12

Analyte	Result	R.L.	Units	Flags
TOX **Method: 9020B**				
Analysis Date: 05/03/12				
TOX	0.017	0.020	mg/L	J S
Radium 226 & 228 **Method: 903.1/Ra-05**				
Analysis Date: 06/15/12				
Radium 226	1.1+/-0.3		pCi/L	N S
Radium 228	< 1.1		pCi/L	N S
Gross Alpha **Method: 900.0**				
Analysis Date: 05/16/12				
Gross Alpha	< 0.7		pCi/L	N S
Gross Beta **Method: 900.0**				
Analysis Date: 05/16/12				
Gross Beta	3.7+/-0.7		pCi/L	N S

First Environmental Laboratories, Inc.

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IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: DCI

Street Address:

City: State: Zip:

Phone: Fax: e-mail:

Send Report To: Via: Fax ☐ e-mail ☐

Sampled By:

Project I.D.:

P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix			VOC's (added by Carrie Cover 4/24/12 MJH)						Comments	Lab I.D.
					✓						12-1818-001	
4/24/12 7:40		W	✓									002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ <6 °C
Received within 6 hrs. of collection:____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C

Containers Received Preserved: X Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions:

Relinquished By: Date/Time 4/24/12 8:58 Received By: MJH Date/Time 4/24/12 0858

Relinquished By: Date/Time Received By: Date/Time

Rev. 9/08

Supernate List:
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method 8011)
- SVOCs/PNAs
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor
  - Atrazine } SVOC redo
  - Simazine
- PCBs – full
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - Endothall
  - Aldicarb
  - Carbofuran

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - ~~Molybdenum~~ Molybdenum
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity*
- *alkalinity*
- Chloride
- BOD – missed - need new sample
- COD
- *Conductivity*
- Cyanide
- *EOX*
- Fluoride
- N-Ammonia
- **Nitrate as N**
- *Phosphorus* missed - relog
- *Sulfide*
- Sulfate
- Total Dissolved Solids
- *TOC*
- Gross alpha
- Gross beta
- Radium 226 and 228

° pH

~~Supernate list:~~ Lime Sludge
(Combined 35 IAC 620 Class I and 35 IAC 740 SRP List)
January 25, 2011 (CJC)
Revised 4/12/2012 (MRF)

- VOCs
  (EDB and DBCP Method ~~8011~~)
- SVOCs ~~/PNAs~~
- PESTs
  - aldrin
  - alpha-BHC
  - beta-BHC
  - delta-BHC
  - gamma-BHC
  - alpha-chlordane
  - gama-chlordane
  - 4,4'-DDD
  - 4,4'-DDE
  - 4,4'-DDT
  - Dieldrin
  - Endosulfan I
  - Endosulfan II
  - Endosulfan sulfate
  - Endrin
  - Endrin aldehyde
  - Endrin ketone
  - Heptachlor
  - Heptachlor epoxide
  - Methoxychlor
  - Toxaphene
  - Alachlor, Atrazine, Simazine } 8270C pests
- PCBs – all
- Herbs
  - 2,4-D
  - 2,4,5-T
  - 2,4,5-TP (Silvex)
  - Dalapon
  - Dinoseb
  - Pichloram
  - Pentachlorophenol
  - ~~Endothall~~ ??
  - Aldicarb, Carbofuran > Subs.

- Metals (Italics not on 620 list)
  - Antimony
  - Arsenic
  - Barium
  - Beryllium
  - Boron
  - Cadmium
  - Chromium
  - Cobalt
  - Copper
  - Iron
  - Lead
  - Manganese
  - Mercury
  - ~~Molybdenum~~ Molybdenum
  - Nickel
  - Selenium
  - Silver
  - Thallium
  - *Vanadium*
  - Zinc

- *acidity* 1:10
- *alkalinity* 1:10
- Chloride soluble
- BOD soluble
- COD soluble
- ~~Conductivity~~
- Cyanide
- *EOX*
- Fluoride soluble
- N-Ammonia
- **Nitrate as N** soluble
- *Phosphorus*
- *Sulfide*
- Sulfate soluble
- ~~Total Dissolved Solids~~
- ~~TOC~~ FOC
- ~~Gross alpha~~
- ~~Gross beta~~
- Radium 226 and 228

° pH

Changes JJ 04/24/12

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January 26, 2012

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: Underground Injection
First Environmental File ID: 11-5645
Date Received: December 15, 2011

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002687: effective 03/01/2011 through 02/28/2012.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Lorrie Franklin
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **Underground Injection**

First Environmental File ID: **11-5645**

Date Received: **December 15, 2011**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/19/11				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds **Method: 5030B/8260B**				
Analysis Date: 12/19/11				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	
Volatile Organic Compounds (8011) **Method: 8011**				
Analysis Date: 12/23/11				
1,2-Dibromo-3-chloropropane	< 0.2	0.2	ug/L	
1,2-Dibromoethane (EDB)	< 0.05	0.05	ug/L	
Semi-Volatile Compounds **Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 12/20/11		Preparation Date: 12/19/11		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 12/20/11		**Preparation Method 3510C** Preparation Date: 12/19/11		
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	
2-Methylphenol	< 10	10	ug/L	
3 & 4-Methylphenol	< 10	10	ug/L	
2-Nitroaniline	< 50	50	ug/L	
3-Nitroaniline	< 50	50	ug/L	
4-Nitroaniline	< 20	20	ug/L	
Nitrobenzene	< 10	10	ug/L	
2-Nitrophenol	< 10	10	ug/L	
4-Nitrophenol	< 50	50	ug/L	
n-Nitrosodimethylamine	< 10	10	ug/L	
n-Nitrosodi-n-propylamine	< 10	10	ug/L	
n-Nitrosodiphenylamine	< 10	10	ug/L	
Pentachlorophenol	< 10	10	ug/L	
Phenol	< 10	10	ug/L	
1,2,4-Trichlorobenzene	< 10	10	ug/L	
2,4,5-Trichlorophenol	< 10	10	ug/L	
2,4,6-Trichlorophenol	< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons **Method: 8270C** Analysis Date: 12/19/11		**Preparation Method 3510C** Preparation Date: 12/19/11		
Acenaphthene	< 10	10	ug/L	
Acenaphthylene	< 10	10	ug/L	
Anthracene	< 5	5	ug/L	
Benzo(a)anthracene	< 0.13	0.13	ug/L	
Benzo(a)pyrene	< 0.2	0.2	ug/L	
Benzo(b)fluoranthene	< 0.18	0.18	ug/L	
Benzo(k)fluoranthene	< 0.17	0.17	ug/L	
Benzo(ghi)perylene	< 0.4	0.4	ug/L	
Chrysene	< 1.5	1.5	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Polynuclear Aromatic Hydrocarbons **Method: 8270C** **Preparation Method 3510C** Analysis Date: 12/19/11 Preparation Date: 12/19/11				
Dibenzo(a,h)anthracene	< 0.3	0.3	ug/L	
Fluoranthene	< 2	2	ug/L	
Fluorene	< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene	< 0.3	0.3	ug/L	
Naphthalene	< 10	10	ug/L	
Phenanthrene	< 5	5	ug/L	
Pyrene	< 2	2	ug/L	
Semi-Volatile Pesticides **Method: 8270C** **Preparation Method 3510C** Analysis Date: 12/20/11 Preparation Date: 12/19/11				
Alachlor	< 0.5	0.5	ug/L	N
Atrazine	< 0.5	0.5	ug/L	N
Simazine	< 2	2	ug/L	N
Pesticides/PCBs **Method: 8081A/8082** **Preparation Method 3510C** Analysis Date: 01/03/12 Preparation Date: 12/20/11				
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 01/03/12		Preparation Date: 12/20/11		
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Endothall	**Method: 548.1R1.0**			
Analysis Date: 12/27/11				
Endothall	< 40	40	ug/L	S
Carbamate Pesticides	**Method: 531.1R3.1**			
Analysis Date: 12/29/11				
Aldicarb	< 1.0	1.0	ug/L	S
Carbofuran	< 4.0	4.0	ug/L	S
Herbicides	**Method: 8321A**			
Analysis Date: 12/23/11				
2,4-D	< 0.2	0.2	ug/L	S
Dalapon	< 10	10	ug/L	S
Dinoseb	< 0.3	0.3	ug/L	S
Pentachlorophenol	< 0.2	0.2	ug/L	S
Picloram	< 0.2	0.2	ug/L	S
2,4,5-T	< 0.1	0.1	ug/L	S
Silvex (2,4,5-TP)	< 0.1	0.1	ug/L	S
Total Mercury	**Method: 7470A**			
Analysis Date: 12/19/11				
Mercury	< 0.0005	0.0005	mg/L	
Total Metals	**Method: 6020A**	**Preparation Method 3010A**		
Analysis Date: 12/22/11		Preparation Date: 12/19/11		
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.011	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Boron	0.14	0.01	mg/L	
Cadmium	< 0.001	0.001	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Total Metals **Method: 6020A**		**Preparation Method 3010A**		
Analysis Date: 12/22/11		Preparation Date: 12/19/11		
Chromium	< 0.001	0.001	mg/L	
Cobalt	< 0.001	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	0.05	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	< 0.001	0.001	mg/L	
Nickel	< 0.001	0.001	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Thallium	< 0.002	0.002	mg/L	
Zinc	< 0.005	0.005	mg/L	
Cyanide, Total **Method: 4500CN,C,E**				
Analysis Date: 12/21/11				
Cyanide, Total	< 0.005	0.005	mg/L	
Chloride **Method: 4500Cl, E**				
Analysis Date: 12/15/11				
Chloride	97	5	mg/L	
Fluoride **Method: 4500F,C**				
Analysis Date: 12/20/11				
Fluoride	0.25	0.10	mg/L	
Nitrate (as N) **Method: 353.2R2.0**				
Analysis Date: 12/19/11				
Nitrate (as N)	0.99	0.10	mg/L	
Nitrite (as N) **Method: 4500NO2,B**				
Analysis Date: 12/15/11 16:30				
Nitrite (as N)	0.02	0.01	mg/L	
pH @ 25°C **Method: 4500H+,B**				
Analysis Date: 12/15/11 15:30				
pH @ 25°C	10.66		Units	
Phenols **Method: 9066**				
Analysis Date: 12/20/11				
Phenols	< 0.010	0.010	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Bed 4 - Super Natent Lime Sludge
Sample No: 11-5645-001

Date Collected: 12/15/11
Time Collected: 8:00
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 12/20/11				
Sulfate	45	15	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 12/19/11				
Total Dissolved Solids	283	10	mg/L	
Radium 226 & 228	**Method: 903.1/Ra-05**			
Analysis Date: 01/19/12				
Radium 226	0.3+/-0.1		pCi/L	N S
Radium 228	1.9+/-0.9		pCi/L	N S
Gross Alpha	**Method: 900.0**			
Analysis Date: 01/06/12				
Gross Alpha	1.2+/-0.6		pCi/L	N S
Gross Beta	**Method: 900.0**			
Analysis Date: 01/06/12				
Gross Beta	6.4+/-1.3		pCi/L	N S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Trip Blank
Sample No: 11-5645-002

Date Collected:
Time Collected:
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/19/11				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: Underground Injection
Sample ID: Trip Blank
Sample No: 11-5645-002

Date Collected:
Time Collected:
Date Received: 12/15/11
Date Reported: 01/26/12

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 12/19/11				
m&p-Xylene	< 5.0	5.0	ug/L	
o-Xylene	< 5.0	5.0	ug/L	

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E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental Inc.
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail:
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter / Philippe Moreau

Project I.D.: Underground Injection
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Iron Attached	Permeate Sheet	VOCs						Comments	Lab I.D.
12/15/2011 8:00 AM	Bed 4 - Super nutrient	W	✓									11-5645-001
	Lime Sludge											
	Trip Blank -	W			✓							002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes X No__ 4.6 °C
Received within 6 hrs. of collection:_____
Ice Present: Yes X No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ☐ Yes ☐ No
Need to meet: IL. TACO ☐ IN. RISC ☐

Notes and Special Instructions: _____

Relinquished By: Carrie J Carter Date/Time 12/15/11 9:12 AM Received By: _____ Date/Time 12/15/11 0912
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

CHEMICAL NAME	TYPE	CLASS 1 620 STD (mg/l)	TACO CLASS 1 STD (mg/l)	OTHER NAMES
chloride	inorganic	200	200	
fluoride	inorganic	4	4	
nitrate as N	inorganic	10	10	
pH	inorganic	6.5 to 9.0	na	
sulfate	inorganic	400	400	
TDS	inorganic	1200	na	
antimony	metal	0.006	0.006	
arsenic	metal	0.05	0.05	
barium	metal	2	2	
beryllium	metal	0.004	0.004	
boron	metal	2	2	
cadmium	metal	0.005	0.005	
chromium	metal	0.1	0.1	
cobalt	metal	1	1	
copper	metal	0.65	0.65	
cyanide	metal	0.2	0.2	
iron	metal	5	5	
lead	metal	0.0075	0.0075	
manganese	metal	0.15	0.15	
mercury	metal	0.002	0.002	
nickel	metal	0.1	0.1	
radium-226	metal	20	na	
radium-228	metal	20		
[illegible]	metal	8		
[illegible]	metal	20000		
selenium	metal	0.05	0.05	
silver	metal	0.05	0.05	
thallium	metal	0.002	0.002	
zinc	metal	5	5	
PCB's as decachlorobiphenyl	PCB	0.0005	0.0005	
aldicarb	pest/herb	0.003	0.003	
carbofuran	pest/herb	0.04	0.04	
chlordane	pest/herb	0.002	0.002	
dinoseb	pest/herb	0.007	0.007	
endrin	pest/herb	0.002	0.002	
heptachlor	pest/herb	0.0004	0.0004	
heptachlor epoxide	pest/herb	0.0002	0.0002	
lindane (gamma-hexachlorocyclohexane)	pest/herb	0.0002	0.0002	Gamma-HCH
methoxychlor	pest/herb	0.04	0.04	
toxaphene	pest/herb	0.003	0.003	
2,4,5-TP (silvex)	pest/herb	0.05	0.05	
2,4-D	pest/herb	0.07	0.07	
alachlor	pest/herb	0.002	0.002	
atrazine	pest/herb	0.003	0.003	
dalapon	pest/herb	0.2	0.2	
endothall	pest/herb	0.1	0.1	
picloram	pest/herb	0.5	0.5	
simazine	pest/herb	0.004	0.004	
1,2,4-trichlorobenzene	SVOC	0.07	0.07	
benzo(a)pyrene	SVOC	0.0002	0.0002	
di(2-ethylhexyl)phthalate	SVOC	0.006	0.006	
ethylene dibromide	SVOC	0.00005	0.00005	1,2-dibromoethane
hexachlorocyclohexane	SVOC	0.05	na	
ortho-dichlorobenzene	SVOC	0.6	0.6	1,2-dichlorobenzene
para-dichlorobenzene	SVOC	0.075	0.075	1,4-dichlorobenzene
pentachlorophenol	SVOC	0.001	0.001	
phenols	SVOC	0.1	0.1	
1,1,1-trichloroethane	VOC	0.2	0.2	
1,1,2-trichloroethane	VOC	0.005	0.005	
1,1-dichloroethylene	VOC	0.007	0.007	
1,2-dichloroethane	VOC	0.005	0.005	
1,2-dichloropropane	VOC	0.005	0.005	
benzene	VOC	0.005	0.005	
BETX	VOC	11.705	na	
carbon tetrachloride	VOC	0.005	0.005	
cis-1,2dichloroethylene	VOC	0.07	0.07	
dichloromethane	VOC	0.005	0.005	methylene chloride
ethylbenzene	VOC	0.7	0.7	
monochlorobenzene	VOC	0.1	0.1	
MTBE	VOC	0.07	0.07	
styrene	VOC	0.1	0.1	
tetrachloroethylene	VOC	0.005	0.005	
toluene	VOC	1	1	
trans-1,2dichloroethylene	VOC	0.1	0.1	
trichloroethylene	VOC	0.005	0.005	
vinyl chloride	VOC	0.002	0.002	
xylenes	VOC	10	10	
1,2-dibromo-3-chloropropane		0.0002	0.0002	

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September 12, 2008

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: WTP
First Environmental File ID: 8-3041
Date Received: July 14, 2008

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002045: effective 05/14/08 through 02/28/09.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

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Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **WTP**

First Environmental File ID: **8-3041**

Date Received: **July 14, 2008**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte	Result	R.L.	Units	Flags
Volatile Organic Compounds	**Method: 5030B/8260B**			
Analysis Date: 07/15/08				
Acetone	< 100	100	ug/L	
Benzene	< 5.0	5.0	ug/L	
Bromodichloromethane	< 1.0	1.0	ug/L	
Bromoform	< 1.0	1.0	ug/L	
Bromomethane	< 5.0	5.0	ug/L	
2-Butanone (MEK)	< 10.0	10.0	ug/L	
Carbon disulfide	< 5.0	5.0	ug/L	
Carbon tetrachloride	< 5.0	5.0	ug/L	
Chlorobenzene	< 5.0	5.0	ug/L	
Chlorodibromomethane	< 1.0	1.0	ug/L	
Chloroethane	< 10.0	10.0	ug/L	
Chloroform	< 1.0	1.0	ug/L	
Chloromethane	< 10.0	10.0	ug/L	
1,1-Dichloroethane	< 5.0	5.0	ug/L	
1,2-Dichloroethane	< 5.0	5.0	ug/L	
1,1-Dichloroethene	< 5.0	5.0	ug/L	
cis-1,2-Dichloroethene	< 5.0	5.0	ug/L	
trans-1,2-Dichloroethene	< 5.0	5.0	ug/L	
1,2-Dichloropropane	< 5.0	5.0	ug/L	
cis-1,3-Dichloropropene	< 1.0	1.0	ug/L	
trans-1,3-Dichloropropene	< 1.0	1.0	ug/L	
Ethylbenzene	< 5.0	5.0	ug/L	
2-Hexanone	< 10.0	10.0	ug/L	
Methyl-tert-butylether (MTBE)	< 5.0	5.0	ug/L	
4-Methyl-2-pentanone (MIBK)	< 10.0	10.0	ug/L	
Methylene chloride	< 5.0	5.0	ug/L	
Styrene	< 5.0	5.0	ug/L	
1,1,2,2-Tetrachloroethane	< 5.0	5.0	ug/L	
Tetrachloroethene	< 5.0	5.0	ug/L	
Toluene	< 5.0	5.0	ug/L	
1,1,1-Trichloroethane	< 5.0	5.0	ug/L	
1,1,2-Trichloroethane	< 5.0	5.0	ug/L	
Trichloroethene	< 5.0	5.0	ug/L	
Vinyl acetate	< 10.0	10.0	ug/L	
Vinyl chloride	< 2.0	2.0	ug/L	
Xylene, Total	< 5.0	5.0	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte	Result	R.L.	Units	Flags
Semi-Volatile Compounds **Method: 8270C** Analysis Date: 07/18/08		**Preparation Method 3510C** Preparation Date: 07/15/08		
Benzidine	< 10	10	ug/L	
Benzoic acid	< 50	50	ug/L	
Benzyl alcohol	< 20	20	ug/L	
bis(2-Chloroethoxy)methane	< 10	10	ug/L	
bis(2-Chloroethyl)ether	< 10	10	ug/L	
bis(2-Chloroisopropyl)ether	< 10	10	ug/L	
bis(2-Ethylhexyl)phthalate	< 5	5	ug/L	
4-Bromophenyl phenyl ether	< 10	10	ug/L	
Butyl benzyl phthalate	< 10	10	ug/L	
Carbazole	< 10	10	ug/L	
4-Chloroaniline	< 10	10	ug/L	
4-Chloro-3-methylphenol	< 20	20	ug/L	
2-Chloronaphthalene	< 10	10	ug/L	
2-Chlorophenol	< 10	10	ug/L	
4-Chlorophenyl phenyl ether	< 10	10	ug/L	
Dibenzofuran	< 10	10	ug/L	
1,2-Dichlorobenzene	< 10	10	ug/L	
1,3-Dichlorobenzene	< 10	10	ug/L	
1,4-Dichlorobenzene	< 10	10	ug/L	
3,3'-Dichlorobenzidine	< 20	20	ug/L	
2,4-Dichlorophenol	< 10	10	ug/L	
Diethyl phthalate	< 10	10	ug/L	
2,4-Dimethylphenol	< 10	10	ug/L	
Dimethyl phthalate	< 10	10	ug/L	
Di-n-butyl phthalate	< 10	10	ug/L	
4,6-Dinitro-2-methylphenol	< 50	50	ug/L	
2,4-Dinitrophenol	< 10	10	ug/L	
2,4-Dinitrotoluene	< 10	10	ug/L	
2,6-Dinitrotoluene	< 10	10	ug/L	
Di-n-octylphthalate	< 10	10	ug/L	
Hexachlorobenzene	< 10	10	ug/L	
Hexachlorobutadiene	< 10	10	ug/L	
Hexachlorocyclopentadiene	< 10	10	ug/L	
Hexachloroethane	< 5	5	ug/L	
Isophorone	< 10	10	ug/L	
2-Methylnaphthalene	< 10	10	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte		Result	R.L.	Units	Flags
Semi-Volatile Compounds	**Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 07/18/08			Preparation Date: 07/15/08		
2-Methylphenol		< 10	10	ug/L	
3 & 4-Methylphenol		< 10	10	ug/L	
2-Nitroaniline		< 50	50	ug/L	
3-Nitroaniline		< 50	50	ug/L	
4-Nitroaniline		< 20	20	ug/L	
Nitrobenzene		< 10	10	ug/L	
2-Nitrophenol		< 10	10	ug/L	
4-Nitrophenol		< 50	50	ug/L	
n-Nitrosodimethylamine		< 10	10	ug/L	
n-Nitrosodiphenylamine		< 10	10	ug/L	
n-Nitrosodi-n-propylamine		< 10	10	ug/L	
Pentachlorophenol		< 10	10	ug/L	
Phenol		< 10	10	ug/L	
1,2,4-Trichlorobenzene		< 10	10	ug/L	
2,4,5-Trichlorophenol		< 10	10	ug/L	
2,4,6-Trichlorophenol		< 10	10	ug/L	
Polynuclear Aromatic Hydrocarbons	**Method: 8270C**		**Preparation Method 3510C**		
Analysis Date: 07/15/08			Preparation Date: 07/15/08		
Acenaphthene		< 10	10	ug/L	
Acenaphthylene		< 10	10	ug/L	
Anthracene		< 5	5	ug/L	
Benzo(a)anthracene		< 0.13	0.13	ug/L	
Benzo(a)pyrene		< 0.2	0.2	ug/L	
Benzo(b)fluoranthene		< 0.18	0.18	ug/L	
Benzo(k)fluoranthene		< 0.17	0.17	ug/L	
Benzo(ghi)perylene		< 0.4	0.4	ug/L	
Chrysene		< 1.5	1.5	ug/L	
Dibenzo(a,h)anthracene		< 0.3	0.3	ug/L	
Fluoranthene		< 2	2	ug/L	
Fluorene		< 2	2	ug/L	
Indeno(1,2,3-cd)pyrene		< 0.3	0.3	ug/L	
Naphthalene		< 10	10	ug/L	
Phenanthrene		< 5	5	ug/L	
Pyrene		< 2	2	ug/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte	Result	R.L.	Units	Flags
Pesticides/PCBs	**Method: 8081A/8082**	**Preparation Method 3510C**		
Analysis Date: 07/15/08		Preparation Date: 07/15/08		
Aldrin	< 0.05	0.05	ug/L	
Aroclor 1016	< 0.50	0.50	ug/L	
Aroclor 1221	< 0.50	0.50	ug/L	
Aroclor 1232	< 0.50	0.50	ug/L	
Aroclor 1242	< 0.50	0.50	ug/L	
Aroclor 1248	< 0.50	0.50	ug/L	
Aroclor 1254	< 0.50	0.50	ug/L	
Aroclor 1260	< 0.50	0.50	ug/L	
alpha-BHC	< 0.05	0.05	ug/L	
beta-BHC	< 0.05	0.05	ug/L	
delta-BHC	< 0.05	0.05	ug/L	
gamma-BHC (Lindane)	< 0.05	0.05	ug/L	
alpha-Chlordane	< 0.50	0.50	ug/L	
gamma-Chlordane	< 0.50	0.50	ug/L	
4,4'-DDD	< 0.10	0.10	ug/L	
4,4'-DDE	< 0.10	0.10	ug/L	
4,4'-DDT	< 0.10	0.10	ug/L	
Dieldrin	< 0.10	0.10	ug/L	
Endosulfan I	< 0.05	0.05	ug/L	
Endosulfan II	< 0.10	0.10	ug/L	
Endosulfan sulfate	< 0.10	0.10	ug/L	
Endrin	< 0.10	0.10	ug/L	
Endrin aldehyde	< 0.10	0.10	ug/L	
Endrin ketone	< 0.10	0.10	ug/L	
Heptachlor	< 0.05	0.05	ug/L	
Heptachlor epoxide	< 0.05	0.05	ug/L	
Methoxychlor	< 0.50	0.50	ug/L	
Toxaphene	< 1.0	1.0	ug/L	
Herbicides Method 8321A	**Method: 8321A**			
Analysis Date: 07/17/08				
2,4-D	< 0.2	0.2	ug/L	S
Silvex (2,4,5-TP)	< 0.10	0.1	ug/L	S
Total Metals	**Method: 6010B**	**Preparation Method 3010A**		
Analysis Date: 07/17/08		Preparation Date: 07/15/08		
Aluminum	< 0.05	0.05	mg/L	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte	Result	R.L.	Units	Flags
Total Metals Method: 6010B		Preparation Method 3010A		
Analysis Date: 07/17/08		Preparation Date: 07/15/08		
Antimony	< 0.006	0.006	mg/L	
Arsenic	< 0.002	0.002	mg/L	
Barium	0.015	0.001	mg/L	
Beryllium	< 0.001	0.001	mg/L	
Cadmium	< 0.001	0.001	mg/L	
Chromium	0.002	0.001	mg/L	
Cobalt	< 0.001	0.001	mg/L	
Copper	< 0.001	0.001	mg/L	
Iron	0.03	0.01	mg/L	
Lead	< 0.002	0.002	mg/L	
Manganese	0.001	0.001	mg/L	
Nickel	0.002	0.001	mg/L	
Potassium	8.6	0.1	mg/L	
Selenium	< 0.002	0.002	mg/L	
Silver	< 0.001	0.001	mg/L	
Sodium	41.1	0.1	mg/L	
Thallium	< 0.002	0.002	mg/L	
Vanadium	< 0.01	0.01	mg/L	
Zinc	< 0.005	0.005	mg/L	
Boron	0.15	0.01	mg/L	
Molybdenum	< 0.01	0.01	mg/L	
Total Metals Method: 7470A				
Analysis Date: 07/15/08				
Mercury	< 0.0005	0.0005	mg/L	
Cyanide, Total Method: 335.4R1.0				
Analysis Date: 07/15/08				
Cyanide, Total	< 0.005	0.005	mg/L	
Chromium, Hexavalent Method: 3500Cr,D				
Analysis Date: 07/14/08 15:00				
Chromium, Hexavalent	< 0.005	0.005	mg/L	
Radium 226 & 228 Method: SM7500 Ra				
Analysis Date: 08/01/08				
Radium 226	0.97+/-0.60		pCi/L	S
Radium 228	0.67+/-0.40		pCi/L	S

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte	Result	R.L.	Units	Flags
Phosphorus (as P)	**Method: 4500P,B,E**			
Analysis Date: 07/18/08				
Phosphorus (as P)	0.04	0.01	mg/L	
Chloride	**Method: 4500Cl, C**			
Analysis Date: 07/16/08				
Chloride	84	5	mg/L	
Conductivity	**Method: 2510B**			
Analysis Date: 07/15/08 14:30				
Conductivity	457	5	umhos/cm	
BOD, 5 Day	**Method: 5210B**			
Analysis Date: 07/16/08				
BOD, 5 Day	5	1	mg/L	
COD	**Method: 5220D**			
Analysis Date: 07/18/08				
COD	16	10	mg/L	
Fluoride	**Method: 4500F,C**			
Analysis Date: 07/16/08				
Fluoride	< 0.50	0.5	mg/L	
Gross Alpha	**Method: SM7110**			
Analysis Date: 07/26/08				
Gross Alpha	0.64+/-1.20		pCi/L	S
Gross Beta	**Method: SM7110**			
Analysis Date: 07/26/08				
Gross Beta	5.92+/-1.99		pCi/L	S
Nitrate + Nitrite (as N)	**Method: 353.2R2.0**			
Analysis Date: 07/14/08				
Nitrate + Nitrite (as N)	0.30	0.10	mg/L	
Ammonia (as N)	**Method: 350.1R2.0**			
Analysis Date: 07/14/08				
Ammonia (as N)	0.51	0.10	mg/L	
Total Kjeldahl Nitrogen (TKN)	**Method: 351.2R2.0**			
Analysis Date: 07/16/08				
Total Kjeldahl Nitrogen (TKN)	< 1.0	1.0	mg/L	

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1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: WTP
Sample ID: Lime Sludge Supernate
Sample No: 8-3041-001

Date Collected: 07/14/08
Time Collected: 8:30
Date Received: 07/14/08
Date Reported: 09/12/08

Analyte	Result	R.L.	Units	Flags
pH @ 25°C	**Method: 4500H+,B**			
Analysis Date: 07/14/08 14:15				
pH @ 25°C	10.14		Units	
Sulfate	**Method: 375.2R2.0**			
Analysis Date: 07/15/08				
Sulfate	41	15	mg/L	
Sulfide, Reactive	**Method: 7.3.4.2.**			
Analysis Date: 07/15/08				
Sulfide, Reactive	< 10	10	mg/L	
Sulfide	**Method: 4500S2C,D**			
Analysis Date: 07/15/08				
Sulfide	< 0.05	0.05	mg/L	
Alkalinity, Total (CaCO3)	**Method: 2320B**			
Analysis Date: 07/15/08 13:15				
Alkalinity, Total (CaCO3)	52	5	mg/L	
Total Dissolved Solids	**Method: 2540C**			
Analysis Date: 07/14/08				
Total Dissolved Solids	64	10	mg/L	
Total Solids	**Method: 2540B**			
Analysis Date: 07/21/08				
Total Solids	243	10.00	mg/L	

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E-mail: info@firstenv.com
IEPA Certification# 100292

CHAIN OF CUSTODY RECORD

Page__ __pgs

Company Name: W DGI
Street Address: 230 Woodlawn Ave
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail: ccarter@dewhirst.com
Send Report To: Carrie Carter Via: Fax ☐ e-mail ☐
Sampled By: Carrie Carter

Project I.D.: WTP
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: See Attached	Comments	Lab I.D.
7/14/08 9:30A	Lime Sludge Supernate	W	/		8-3041-001

FOR LAB USE ONLY:
Cooler Temperature: 0.1-6°C Yes✓ No__ LLe °C
Received within 6 hrs. of collection:____
Ice Present: Yes✓ No__
Sample Refrigerated: Yes__ No__
Refrigerator Temperature:____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:____°C
Containers Received Preserved: ☐ Yes ☐ No

Notes and Special Instructions:

Relinquished By: Carrie J Carter Date/Time 7/14/08 9:25 A Received By: M D Date/Time 7/14/08 0925
Relinquished By: Date/Time Received By: Date/Time

TYPE	CHEMICAL NAME	CAS NO.	USEPA SAMPLE PREP METHOD	USEPA SW-846 ANALYSIS METHOD
INORGANICS	chloride	16887-00-6	NA	9250
	conductivity	NA	NA	9050
	BOD*	NA	NA	405.1
	COD*	NA	NA	410.1
	fluoride	16984-48-8	NA	300
	gross alpha	NA	NA	9310
	gross beta	NA	NA	9310
	nitrate as N	84145-82-4	NA	9200
	ammonium as N*	1336-21-6	NA	350.2
	Total Kjeldahl N*	NA	NA	351.3
	pH	NA	NA	9045C
	sulfate	14808-79-8	NA	9035
	sulfide, total and reactive	18496-52-8	NA	9030
	alkalinity*	NA	NA	310.1
	% solids*	NA	NA	160.3
	TDS	NA	NA	2540C
METALS	antimony	7440-36-0	3010A	6010B
	aluminum	7429-90-5	3010A	6010B
	arsenic	7440-38-2	3010A	6010B
	barium	7440-39-3	3010A	6010B
	beryllium	7440-41-7	3010A	6010B
	boron	7440-42-8	3010A	6010B
	cadmium	7440-43-9	3010A	6010B
	chromium	7440-47-3	3010A	6010B
	chromium, hexavalent	7440-47-3	3010A	6010B
	cobalt	7440-48-4	3010A	6010B
	copper	7440-50-8	3010A	6010B
	cyanide	57-12-5	3010A	9010B/9014
	iron	7439-89-6	3010A	6010B
	lead	7439-92-1	3010A	6010B
	manganese	7439-96-5	3010A	6010B
	mercury	7439-97-6	3010A	7470A
	molybdenum	7439-98-7	3010A	6010B
	nickel	7440-02-0	3010A	6010B
	potassium	7440-09-7	3010A	6010B
	phosphorus	7723-14-0	3010A	6010B
	radium-226	13982-63-3	3010A	9320
	radium-228	15262-20-1	3010A	9320
	selenium	7782-49-2	3010A	6010B
	silver	7440-22-4	3010A	6010B
	sodium	7440-23-5	3010A	6010B
	thallium	7440-28-0	3010A	6010B
	vanadium	7440-62-2	3010A	6010B
	zinc	7440-66-6	3010A	6010B
PCB	Aroclor - 1016	12674-11-2	3510C/3520C	8082
	Aroclor - 1221	11104-28-2	3510C/3520C	8082
	Aroclor - 1232	11141-16-5	3510C/3520C	8082
	Aroclor - 1242	53469-21-9	3510C/3520C	8082
	Aroclor - 1248	12672-29-6	3510C/3520C	8082
	Aroclor - 1254	11097-69-1	3510C/3520C	8082
	Aroclor - 1260	111096-82-5	3510C/3520C	8082
PESTICIDE/HERBICIDE	alpha-BHC	319-84-6	3510C/3520C	8081A/8151A
	beta-BHC	319-85-7	3510C/3520C	8081A/8151A
	delta-BHC	319-86-8	3510C/3520C	8081A/8151A
	gamma-BHC	58-89-9	3510C/3520C	8081A/8151A
	Heptachlor	76-44-8	3510C/3520C	8081A/8151A
	Aldrin	309-00-2	3510C/3520C	8081A/8151A
	Heptachlor epoxide	1024-57-3	3510C/3520C	8081A/8151A
	Endosulfan I	959-98-8	3510C/3520C	8081A/8151A
	Dieldrin	60-57-1	3510C/3520C	8081A/8151A
	4,4'-DDE	72-55-9	3510C/3520C	8081A/8151A
	Endrin	72-20-8	3510C/3520C	8081A/8151A
	Endosulfan II	33213-65-9	3510C/3520C	8081A/8151A
	4,4'-DDD	72-54-8	3510C/3520C	8081A/8151A
	Endosulfan sulfate	1031-07-8	3510C/3520C	8081A/8151A
	4,4'-DDT	50-29-3	3510C/3520C	8081A/8151A
	Methoxychlor	72-43-5	3510C/3520C	8081A/8151A

TYPE	CHEMICAL NAME	CAS NO.	USEPA SAMPLE PREP METHOD	USEPA SW-846 ANALYSIS METHOD
	Endrin ketone	53494-70-5	3510C/3520C	8081A/8151A
	Endrin aldehyde	7421-93-4	3510C/3520C	8081A/8151A
	alpha-Chlordane	5103-71-9	3510C/3520C	8081A/8151A
	gamma-Chlordane	5566-34-7	3510C/3520C	8081A/8151A
	Toxaphene	8001-35-2	3510C/3520C	8081A/8151A
SVOC/PAHs	Phenol	108-95-2	3510C	8270C
	bis(2-Chloroethyl) ether	111-44-4	3510C	8270C
	2-Chlorophenol	95-57-8	3510C	8270C
	1,2-Dichlorobenzene	95-50-1	3510C	8270C
	1,3-Dichlorobenzene	541-73-1	3510C	8270C
	1,4-Dichlorobenzene	106-46-7	3510C	8270C
	2-Methylphenol	95-48-7	3510C	8270C
	2,2'-oxybis (1-chloropropane)	108-60-1	3510C	8270C
	4-Methylphenol	106-44-5	3510C	8270C
	N-Nitroso-di-n-propylamine	621-64-7	3510C	8270C
	Hexachloroethane	67-72-1	3510C	8270C
	Nitrobenzene	98-95-3	3510C	8270C
	Isophorone	78-59-1	3510C	8270C
	2-Nitrophenol	88-75-5	3510C	8270C
	2,4-Dimethylphenol	105-67-9	3510C	8270C
	bis(2-Chloroethoxy) methane	111-91-1	3510C	8270C
	2,4-Dichlorophenol	120-83-2	3510C	8270C
	1,2,4-Trichlorobenzene	120-82-1	3510C	8270C
	Naphthalene	91-20-3	3510C	8270C
	4-Chloroaniline	106-47-8	3510C	8270C
	Hexachlorobutadiene	87-68-3	3510C	8270C
	4-Chloro-3-methylphenol	59-50-7	3510C	8270C
	2-Methylnaphthalene	91-57-6	3510C	8270C
	Hexachlorocyclopentadiene	77-47-4	3510C	8270C
	2,4,6-Trichlorophenol	88-06-2	3510C	8270C
	2,4,5-Trichlorophenol	95-96-4	3510C	8270C
	2-Chloronaphthalene	91-58-7	3510C	8270C
	2-Nitroaniline	88-74-4	3510C	8270C
	Dimethylphthalate	131-11-3	3510C	8270C
	Acenaphthylene	208-96-8	3510C	8270C
	2,6-dinitrotoluene	606-20-2	3510C	8270C
	3-Nitroanaline	99-09-2	3510C	8270C
	Acenaphthene	83-32-9	3510C	8270C
	2,4-Dinitrophenol	51-28-5	3510C	8270C
	4-Nitrophenol	100-02-7	3510C	8270C
	Dibenzofuran	132-64-9	3510C	8270C
	2,4-Dinitrotoluene	121-14-2	3510C	8270C
	Diethylphthalate	84-66-2	3510C	8270C
	4-Chlorophenyl-phenyl ether	7005-72-3	3510C	8270C
	Fluorene	86-73-7	3510C	8270C
	4-Nitroaniline	100-01-6	3510C	8270C
	4,6-Dinitro-2-methylphenol	534-52-1	3510C	8270C
	N-nitrosodiphenylamine	86-30-6	3510C	8270C
	4-Bromophenyl-phenyl ether	101-55-3	3510C	8270C
	Hexachlorobenzene	118-74-1	3510C	8270C
	Pentachlorophenol	87-86-5	3510C	8270C
	Phenanthrene	85-01-8	3510C	8270C
	Anthracene	120-12-7	3510C	8270C
	Carbazole	86-74-8	3510C	8270C
	Di-n-butylphthalate	84-74-2	3510C	8270C
	Fluoranthene	206-44-0	3510C	8270C
	Pyrene	129-00-0	3510C	8270C
	Butylbenzylphthalate	85-68-7	3510C	8270C
	3,3'-Dichlorobenzidine	91-94-1	3510C	8270C
	Benzo(a)anthracene	56-55-3	3510C	8270C
	Chrysene	218-01-9	3510C	8270C
	bis(2-Ethylhexyl)phthalate	117-81-7	3510C	8270C
	Di-n-octylphthalate	117-84-0	3510C	8270C
	Benzo(b)fluoranthene	205-99-2	3510C	8270C
	Benzo(k)fluoranthene	207-08-9	3510C	8270C
	Benzo(a)pyrene	50-32-8	3510C	8270C
	Indeno(1,2,3-c,d)pyrene	193-39-5	3510C	8270C
	Dibenz(a,h)anthracene	53-70-3	3510C	8270C

TYPE	CHEMICAL NAME	CAS NO.	USEPA SAMPLE PREP METHOD	USEPA SW-846 ANALYSIS METHOD
	Benzo(g,h,i)perylene	191-24-2	3510C	8270C
VOC	Acetone	67-64-1	5030B	8260B
	Benzene	71-43-2	5030B	8260B
	Bromodichloromethane	75-27-4	5030B	8260B
	Bromoform	75-25-2	5030B	8260B
	Bromomethane	74-83-9	5030B	8260B
	2-Butanone	78-93-3	5030B	8260B
	Carbon Disulfide	75-15-0	5030B	8260B
	Carbon Tetrachloride	56-23-5	5030B	8260B
	Chlorobenzene	108-90-7	5030B	8260B
	Chloroethane	75-00-3	5030B	8260B
	Chloroform	67-66-3	5030B	8260B
	Chloromethane	74-87-3	5030B	8260B
	Dibromochloromethane	124-48-1	5030B	8260B
	1,1-Dichloroethane	75-34-3	5030B	8260B
	1,2-Dichloroethane	107-06-2	5030B	8260B
	1,1-Dichloroethene	75-35-4	5030B	8260B
	cis-1,2-Dichloroethene	156-59-2	5030B	8260B
	trans-1,2-Dichloroethene	156-60-5	5030B	8260B
	cis-1,3-Dichloropropene	10061-01-5	5030B	8260B
	trans-1,3-Dichloropropene	10061-02-6	5030B	8260B
	1,2-Dichloropropane	78-87-5	5030B	8260B
	Ethylbenzene	100-41-4	5030B	8260B
	2-Hexanone	591-78-6	5030B	8260B
	4-Methyl-2-pentanone	108-10-1	5030B	8260B
	Methyl Tertiary-Butyl Ether	1634-04-4	5030B	8260B
	Methylene Chloride	75-09-2	5030B	8260B
	Styrene	100-42-5	5030B	8260B
	1,1,2,2-Tetrechloroethane	79-34-5	5030B	8260B
	Tetrachloroethene	127-18-4	5030B	8260B
	Toluene	108-88-3	5030B	8260B
	1,1,1-Trichloroethane	71-55-6	5030B	8260B
	1,1,2-Trichloroethane	79-00-5	5030B	8260B
	Trichloroethene	79-01-6	5030B	8260B
	Vinyl Acetate	108-05-4	5030B	8260B
	Vinyl Chloride	75-01-4	5030B	8260B
	Xylenes (total)	1330-20-7	5030B	8260B

* = Water/Wastewater methods (USEPA-600)

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July 18, 2005

Ms. Karen Clementi
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 97002-16 (T&M)
First Environmental File ID: 5-1988
Date Received: July 15, 2005

Dear Ms. Karen Clementi:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All analyses were performed in accordance with established methods and within established holding times. All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our certificate is number 001201: 02/17/05 through 02/28/06.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

S. Zaworski for

Stan Zaworski
Project Manager

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Laboratories, Inc.
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IL ELAP / NELAC Accreditation # 100292

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 97002-16 (T&M)
Sample ID: Lime Sludge Bed # 1
Sample No: 5-1988-001

Date Collected: 07/15/05
Time Collected: 14:00
Date Received: 07/15/05
Date Reported: 07/18/05

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
pH @ 25°C, 1:10	9.77		Units	07/15/05	4500H+B	
Ammonia (as N)	97.2	2.0	mg/kg	07/18/05	350.1R2.0	

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Analytical Report

Client:	DEUCHLER ENVIRONMENTAL	**Date Collected:**	07/15/05
Project ID:	97002-16 (T&M)	**Time Collected:**	14:00
Sample ID:	Lime Water Bed # 1	**Date Received:**	07/15/05
Sample No:	5-1988-002	**Date Reported:**	07/18/05

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
pH @ 25°C	9.06		Units	07/15/05 14:00	4500H+,B	
Ammonia (as N)	52.6	0.10	mg/L	07/18/05	350.1R2.0	

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E-mail: info@firstenv.com
IEPA Certification# 100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc
Street Address: 230 Woodlawn Ave.
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696
Send Report To: Karen Clementi
Sampled By: P. Moreau

Project I.D.: 97002-16 (TM)
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: pH	Analyses: Ammonia (N)	Comments	Lab I.D.
07/15/05 2pm	Lime Sludge, Bed #1	O	✓	✓		S-19950 001
07/15/05 2pm	Lime Water Bed #1	W	✓	✓		002

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes ✓ No__ _____°C
Received within 6 hrs. of collection:_____
Ice Present: Yes__ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ✓
Preserved in Lab: ___

Notes and Special Instructions: 24-hr. turnaround time please

Relinquished By: Karen Clementi Date/Time 07/15/05 2pm. Received By: Mary Kathleen Ray Date/Time 7/15/05 2:00 pm
Relinquished By: Mary Kathleen Ray Date/Time 7/15/05 2:30 Received By: Helen Mancuso Date/Time 7/15/05 1930

Rev. 10/04

First Environmental Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233
IL ELAP / NELAC Accreditation # 100292

June 13, 2005

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.,
Aurora, IL 60506

Project ID: 97002-16
First Environmental File ID: 5-0778
Date Received: May 10, 2005

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All analyses were performed in accordance with established methods and within established holding times. All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our certificate is number 001201: 02/17/05 through 02/28/06.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

First Environmental Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233
IL ELAP / NELAC Accreditation # 100292

Case Narrative

DEUCHLER ENVIRONMENTAL
Project ID: **97002-16**
First Environmental File ID: **5-0778**
Date Received: **May 10, 2005**

Definition of Flags:

N : Analyte is not part of our NELAC accreditation.
S : Analyte was sub-contracted to another laboratory for analysis.
ND : Analyte was not detected.
RL : Reporting Limit
DF : Dilution Factor (Sample was analyzed at a dilution to obtain the reported result.)
L : The analyte was detected as part of a GC/MS database search. The identification is considered tentative and the concentration is estimated.

Additional Comments:

First
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IL ELAP / NELAC Accreditation # 100292

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 97002-16
Sample ID: Drying Bed # 2
Sample No: 5-0778-001

Date Collected: 05/10/05
Time Collected: 13:20
Date Received: 05/10/05
Date Reported: 06/13/05

Analyte	Result	R.L.	Units	Date Analyzed	Method	Flag
Radium 226	1.51+/-0.75		pCi/L	06/04/05	SM7500 Ra	S
Radium 228	2.21+/-0.46		pCi/L	06/04/05	SM7500 Ra	S

First Environmental Laboratories, Inc.

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E-mail: info@firstenv.com
IEPA Certification# 100292

CHAIN OF CUSTODY RECORD

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave.
City: 230 Woodlawn Ave. State: Aurora Zip: IL
Phone: 630-897-8350 Fax: 630-897-5694
Send Report To: Carrie Carter
Sampled By: C. Carter / P. Moreau

Project I.D.: 97002-16
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Date/Time Taken	Sample Description	Matrix	Analyses: Radium 226	Analyses: Radium 228	Comments	Lab I.D.
5/10/05 1:20P	Drying Bed #2	W	✓	✓		5-6775-01

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes✓ No__ _____°C
Received within 6 hrs. of collection:_____
Ice Present: Yes✓ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ___
Preserved in Lab: ___

Notes and Special Instructions: _____

Relinquished By: Carrie Carter Date/Time 5/10/05 2:05P Received By: Ryan Gunn Date/Time 5/10/05 205
Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 10/04

First Environmental Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233
IEPA Certification #100292

December 17, 2002

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Avenue
Aurora, IL 60506

Project ID: 97002-04 T&M
First Environmental File ID: 66681
Date Received: August 28th, 2002

Dear Mr. Carter:

Enclosed are the radiation results for your sample submitted on August 28th, 2002.

Radiation analyses were performed in accordance with methods from Standard Methods for the Examination of Water and Wastewater, APHA-AWWA-WPCF, 20th Edition, 1998. The actual method references are listed on the Analytical Report. The radiological analyses were performed by Environmental, Inc. of Northbrook, IL.

All analyses were performed within established holding times, and all Quality Control criteria as outlined in the methods have been met. QA/QC documentation and raw data will remain on file for future reference.

It has been a pleasure providing you with analytical services, and we look forward to working with you again in the future. If you have any questions regarding this report, or need additional information, please contact me at (630) 778-1200.

Sincerely,

Stan Zaworski
Project Manager

First Environmental Laboratories, Inc.
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IEPA Certification #100292

Analytical Report

Client:	DEUCHLER ENVIRONMENTAL		
Project ID:	97002-04 T&M	Date Received:	08/28/02
Sample Number:	66681	Date Taken:	08/28/02
Sample Description:	Decant Water Bed #2	Time Taken:	9:40
Lab File ID:	66681	Date Reported:	12/17/02

Analyte	Result	Units	Date Analyzed	Method
BOD_5	5	mg/L	08/28/02	405.1
Chloride	89	mg/L	08/29/02	325.2
Chlorine, Residual	<0.05	mg/L	8/28/02 16:00	4500Cl-G
Fluoride	<0.50	mg/L	08/29/02	340.2
Hardness	180	mg/L	08/29/02	130.2
Ammonia Nitrogen	2.42	mg/L	08/29/02	350.1 R.2.0
Oil & Grease	<1	mg/L	08/29/02	1664A
pH @ 25°C	10.73	units	8/28/02 15:00	9040B
Phosphorus	0.03	mg/L	08/29/02	365.2
Solids, Tot Suspended	31	mg/L	08/28/02	160.2
Solilds, Total Dissolv	302	mg/L	08/28/02	160.1
Radium 226	0.7±0.1	pCi/L	10/14/02	7500-Ra
Radium 228	<0.7	pCi/L	10/19/02	7500-Ra

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Naperville, Illinois 60563
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24 Hr. Pager (708) 569-7507
E-mail: info@firstenv.com
IEPA Certification# 100292

CHAIN OF CUSTODY RECORD

__ of __ pgs

Company Name: Deuchler Environmental, Inc.
Street Address: 230 Woodlawn Ave.
City: Aurora State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696
Send Report To: Carrie Carter
Sampled By: Carrie Carter

Project I.D.: ~~97002-02~~ 97002-04 TZM
P.O. #.:

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Ammonia Nitrogen, Residue Chloride,	BOD5, Chloride, Fluoride, Nitrate	Oil + Grease, Phosphorus	Radium 226 + 228	TSS, TDS	PH	Hardness		Comments	Lab I.D.
8/28/02 9:40	Decant water Bed #2	W	✓	✓	✓	✓	✓	✓				66681

Cooler Temperature: ____ °C
Received within 6 hrs. of collection: ✓

Notes and Special Instructions: 24 HR TAT

Relinquished By: Carrie J. Carter Date/Time 8/29/02 10:18 AM Received By: Helen Nowak Date/Time 8/29/02 10:18
Relinquished By: ____ Date/Time ____ Received By: ____ Date/Time ____

Appendix Q:

Lime Sludge Density, Grain Size and Hydraulic Conductivity Test Reports

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

June 08, 2009

Ms. Carrie Carter
DEUCHLER ENVIRONMENTAL
230 Woodlawn Ave.
Aurora, IL 60506

Project ID: 07002-02 Lime Sludge
First Environmental File ID: 9-1796
Date Received: May 08, 2009

Dear Ms. Carrie Carter:

The above referenced project was analyzed as directed on the enclosed chain of custody record.

All Quality Control criteria as outlined in the methods and current IL ELAP/NELAP have been met unless otherwise noted. QA/QC documentation and raw data will remain on file for future reference. Our accreditation number is 100292 and our current certificate is number 002205: effective 02/06/09 through 02/28/10.

I thank you for the opportunity to be of service to you and look forward to working with you again in the future. Should you have any questions regarding any of the enclosed analytical data or need additional information, please contact me at (630) 778-1200 or stan@firstenv.com.

Sincerely,

Stan Zaworski
Project Manager

First Environmental Laboratories, Inc.
IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Case Narrative

DEUCHLER ENVIRONMENTAL

Project ID: **07002-02 Lime Sludge**

First Environmental File ID: **9-1796**

Date Received: **May 08, 2009**

Flag	Description	Flag	Description
<	Analyte not detected at or above the reporting limit.	L+	LCS recovery outside control limits; high bias.
B	Analyte detected in associated method blank.	L-	LCS recovery outside control limits; low bias.
C	Identification confirmed by GC/MS.	M	MS recovery outside control limits; LCS acceptable.
D	Surrogates diluted out; recovery not available.	M+	MS recovery outside control limits high bias; LCS acceptable.
E	Estimated result; concentration exceeds calibration range.	M-	MS recovery outside control limits low bias; LCS acceptable.
F	Field measurement.	N	Analyte is not part of our NELAC accreditation.
		ND	Analyte was not detected using a library search routine; No calibration standard was analyzed.
G	Surrogate recovery outside control limits; matrix effect.	P	Chemical preservation pH adjusted in lab.
H	Analysis or extraction holding time exceeded.	Q	The analyte was determined by a GC/MS database search.
J	Estimated result; concentration is less than calib range.	S	Analyte was sub-contracted to another laboratory for analysis.
K	RPD outside control limits.	T	Sample temperature upon receipt exceeded 0-6°C
RL	Routine Reporting Limit (Lowest amount that can be detected when routine weights/volumes are used without dilution.)	W	Reporting limit elevated due to sample matrix.

All quality control criteria, as outlined in the methods, have been met except as noted below or on the following analytical report.

Sample Batch Comments:

Sample acceptance criteria were met.

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-02 Lime Sludge
Sample ID: K-2
Sample No: 9-1796-001

Date Collected: 05/08/09
Time Collected: 11:10
Date Received: 05/08/09
Date Reported: 06/08/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, total	**Method: 2540B**			
Analysis Date: 05/11/09				
Total Solids	29.53		%	
Hydraulic Conductivity	**Method: ASTM D-5084**			
Analysis Date: 06/05/09				
Hydraulic Conductivity	Attached			N S
Grain Size (seive)	**Method: ASTM D-422**			
Analysis Date: 06/05/09				
Grain Size (Seive)	Attached			N S
Density	**Method: 2710F**			
Analysis Date: 05/14/09				
Density	1.24	1.00	g/cc	N
pH @ 25°C, 1:10	**Method: 4500H+B**			
Analysis Date: 05/11/09 13:10				
pH @ 25°C, 1:10	10.12		Units	

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Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-02 Lime Sludge
Sample ID: K-1
Sample No: 9-1796-002

Date Collected: 05/08/09
Time Collected: 11:25
Date Received: 05/08/09
Date Reported: 06/08/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, total	**Method: 2540B**			
Analysis Date: 05/11/09				
Total Solids	23.84		%	
Hydraulic Conductivity	**Method: ASTM D-5084**			
Analysis Date: 06/05/09				
Hydraulic Conductivity	Attached			N S
Grain Size (seive)	**Method: ASTM D-422**			
Analysis Date: 06/05/09				
Grain Size (Seive)	Attached			N S
Density	**Method: 2710F**			
Analysis Date: 05/14/09				
Density	1.16	1.00	g/cc	N
pH @ 25°C, 1:10	**Method: 4500H+B**			
Analysis Date: 05/11/09 13:10				
pH @ 25°C, 1:10	10.28		Units	

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IL ELAP / NELAC Accreditation # 100292
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233

Analytical Report

Client: DEUCHLER ENVIRONMENTAL
Project ID: 07002-02 Lime Sludge
Sample ID: S-1/S-2
Sample No: 9-1796-003

Date Collected: 05/08/09
Time Collected: 14:00
Date Received: 05/08/09
Date Reported: 06/08/09

Results are reported on a dry weight basis.

Analyte	Result	R.L.	Units	Flags
Solids, total **Method: 2540B**				
Analysis Date: 05/11/09				
Total Solids	32.24		%	
Grain Size (seive) **Method: ASTM D-422**				
Analysis Date: 06/05/09				
Grain Size (Seive)	Attached			NS
Density **Method: 2710F**				
Analysis Date: 05/14/09				
Density	1.21	1.00	g/cc	N
pH @ 25°C, 1:10 **Method: 4500H+B**				
Analysis Date: 05/11/09 13:10				
pH @ 25°C, 1:10	9.66		Units	

First Environmental Laboratories, Inc.

First Environmental Laboratories
1600 Shore Road, Suite D
Naperville, Illinois 60563
Phone: (630) 778-1200 • Fax: (630) 778-1233
E-mail: firstinfo@firstenv.com
IEPA Certification #100292

CHAIN OF CUSTODY RECORD

Page ___ of ___ pgs

Company Name: Deuchler Environmental
Street Address: 230 WOODLAWN AVE
City: AURORA State: IL Zip: 60506
Phone: 630-897-8380 Fax: 630-897-5696 e-mail: mfisher@deuchler.com
Send Report To: MARC FISHER Via: Fax ☐ e-mail ☑
Sampled By: MRF/PFM

Project I.D.: 07002-02
P.O. #.: LIME SLUDGE

Matrix Codes: S = Soil W = Water O = Other

Analyses

Date/Time Taken	Sample Description	Matrix	Hydraulic Conductivity	Grain Size Distribution	% SOLIDS	pH	Density	Comments	Lab I.D.
1110	K-2	S	✓	✓	✓	✓	✓		9-1796-001
1125	K-1	S	✓	✓	✓	✓	✓		002
1400	S-1	S		✓	✓	✓	✓		003
	S-2								

FOR LAB USE ONLY:

Cooler Temperature: 0.1-6°C Yes__ No__ N/A °C
Received within 6 hrs. of collection:_____
Ice Present: Yes__ No__

Sample Refrigerated: Yes__ No__
Refrigerator Temperature:_____°C
5035 Vials Frozen: Yes__ No__
Freezer Temperature:_____°C

Containers Received Preserved: ☐ Yes ☐ No

Need to meet: IL. TACO ☐ IN. RISC ☐

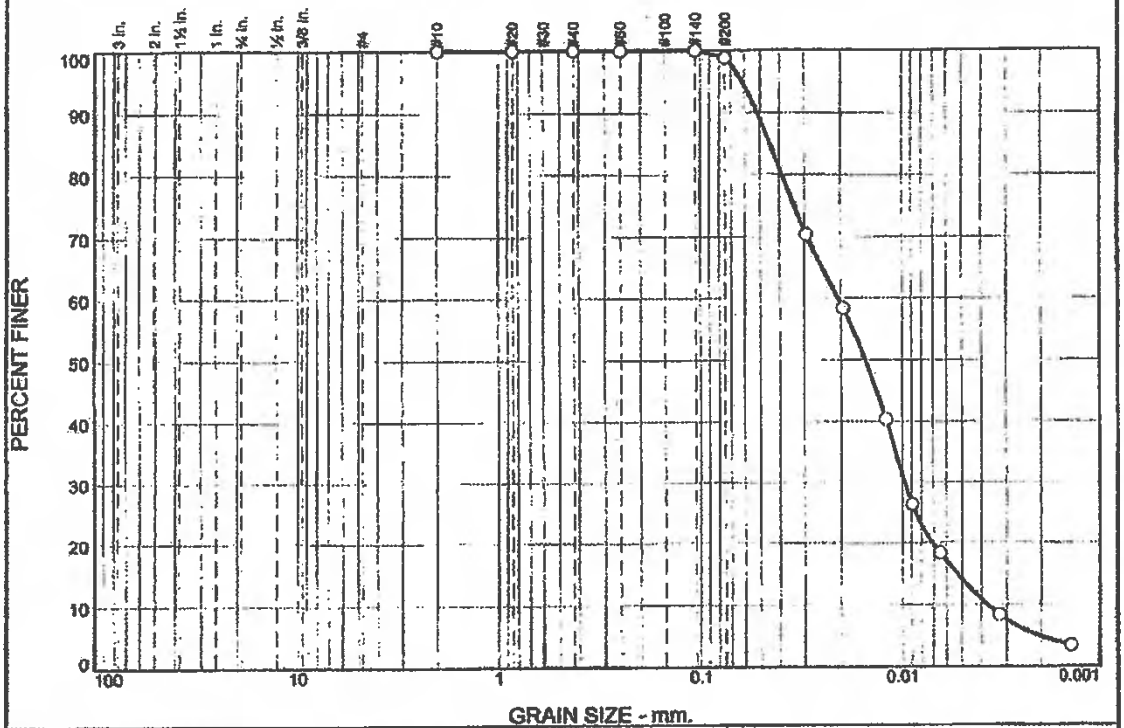
Notes and Special Instructions: FOR SAMPLES K-1 & K-2 run analyses other than Hydraulic Conductivity Only if sufficient sample is present; PRIORITY BEING ① HYD. COND ② GRAIN SIZE ③ DENSITY ④ pH ⑤ % SOLIDS

Relinquished By: [signature] Date/Time 5/8/09 1450 Received By: [signature] Date/Time 5/8/09 1460

Relinquished By: _____ Date/Time _____ Received By: _____ Date/Time _____

Rev. 9/08

Grain Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	1.2	93.9	4.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	100.0		
#60	100.0		
#140	100.0		
#200	98.8		

* (no specification provided)

Material Description

Dark Gray K-2

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0515 D_{85}= 0.0444 D_{60}= 0.0207
D_{50}= 0.0152 D_{30}= 0.0097 D_{15}= 0.0053
D_{10}= 0.0038 C_u= 5.50 C_c= 1.22

Classification

USCS= AASHTO=

Remarks

Lab # 9-1796-001

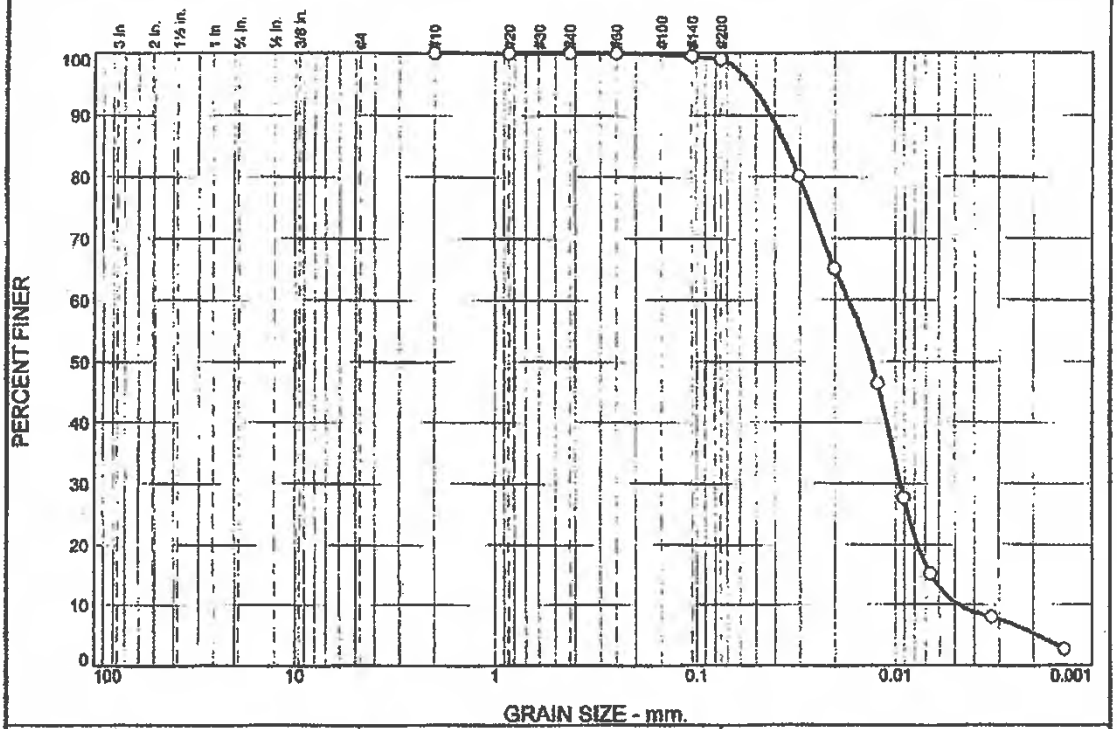
Location: Lab # 9-1796-001

Date: 6-5-09

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS
www.whitneyassociates.com

Client: First Environmental Laboratories
Project: FIRST ENVIRONMENTAL LABORATORIES
Naperville, Illinois
Project No: **Figure** GS-1

Grain Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	1.0	88.6	10.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	100.0		
#60	100.0		
#140	99.5		
#200	99.0		

* (no specification provided)

Material Description

Dark Gray K-1

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0420 D_{85}= 0.0351 D_{60}= 0.0171
D_{50}= 0.0131 D_{30}= 0.0094 D_{15}= 0.0066
D_{10}= 0.0048 C_u= 3.55 C_c= 1.09

Classification

USCS= AASHTO=

Remarks

Lab # 9-1796-002

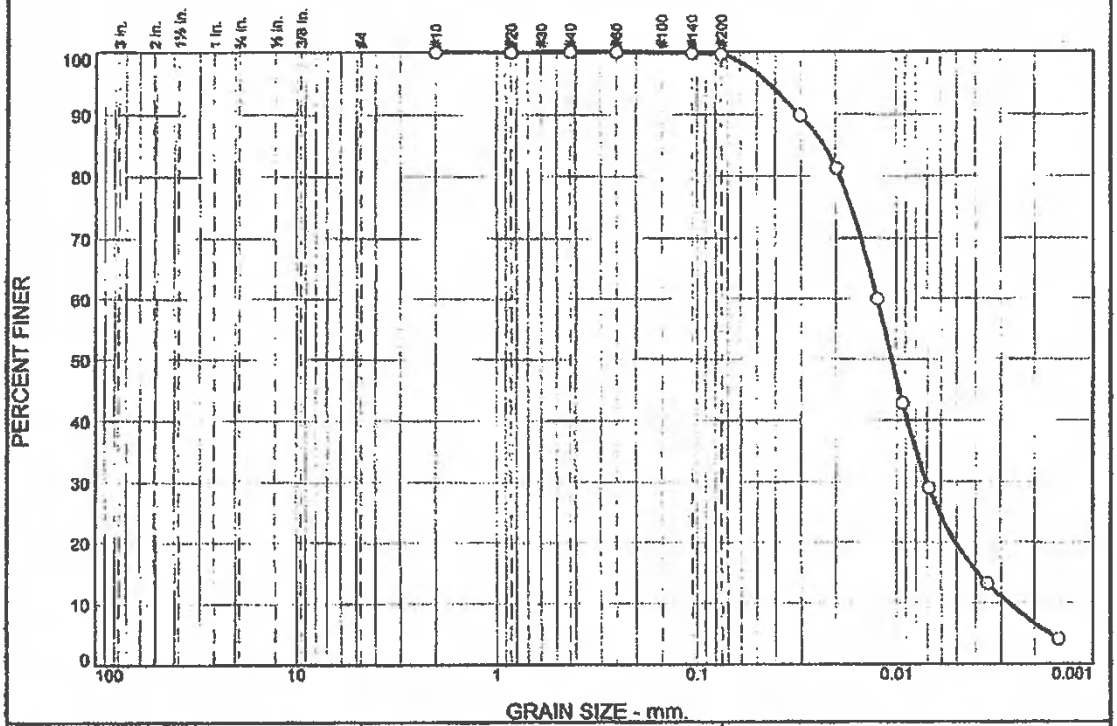
Location: Lab # 9-1796-002

Date: 6-5-09

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS
www.whitneyassociates.com

Client: First Environmental Laboratories
Project: FIRST ENVIRONMENTAL LABORATORIES
Naperville, Illinois
Project No:
Figure GS-2

Grain Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	0.4	79.9	19.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	100.0		
#60	100.0		
#140	99.8		
#200	99.6		

* (no specification provided)

Material Description

Gray S-2

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 0.0305 D_{85}= 0.0228 D_{60}= 0.0124
D_{50}= 0.0105 D_{30}= 0.0071 D_{15}= 0.0039
D_{10}= 0.0027 C_u= 4.56 C_c= 1.47

Classification

USCS= AASHTO=

Remarks

Lab # 9-1796-003

Location: Lab # 9-1796-003

Date: 6-5-09

WHITNEY & ASSOCIATES
PEORIA, ILLINOIS
www.whitneyassociates.com

Client: First Environmental Laboratories
Project: FIRST ENVIRONMENTAL LABORATORIES
Naperville, Illinois
Project No: **Figure** GS-3

PERMEABILITY TEST REPORT

TEST DATA:

Specimen Height (cm): 7.62
Specimen Diameter (cm): 4.45
Dry Unit Weight (pcf): 24.9
Moisture Before Test (%): 229.3
Moisture After Test (%): 135.2
Run Number: 1 ● 2 ▲
Cell Pressure (psi): 4.0
Test Pressure (psi): 2.0
Back Pressure (psi): 0.0
Diff. Head (psi): 2.0
Flow Rate (cc/sec): 3.26 x 10^-3
Perm. (cm/sec): 1.10 x 10^-5

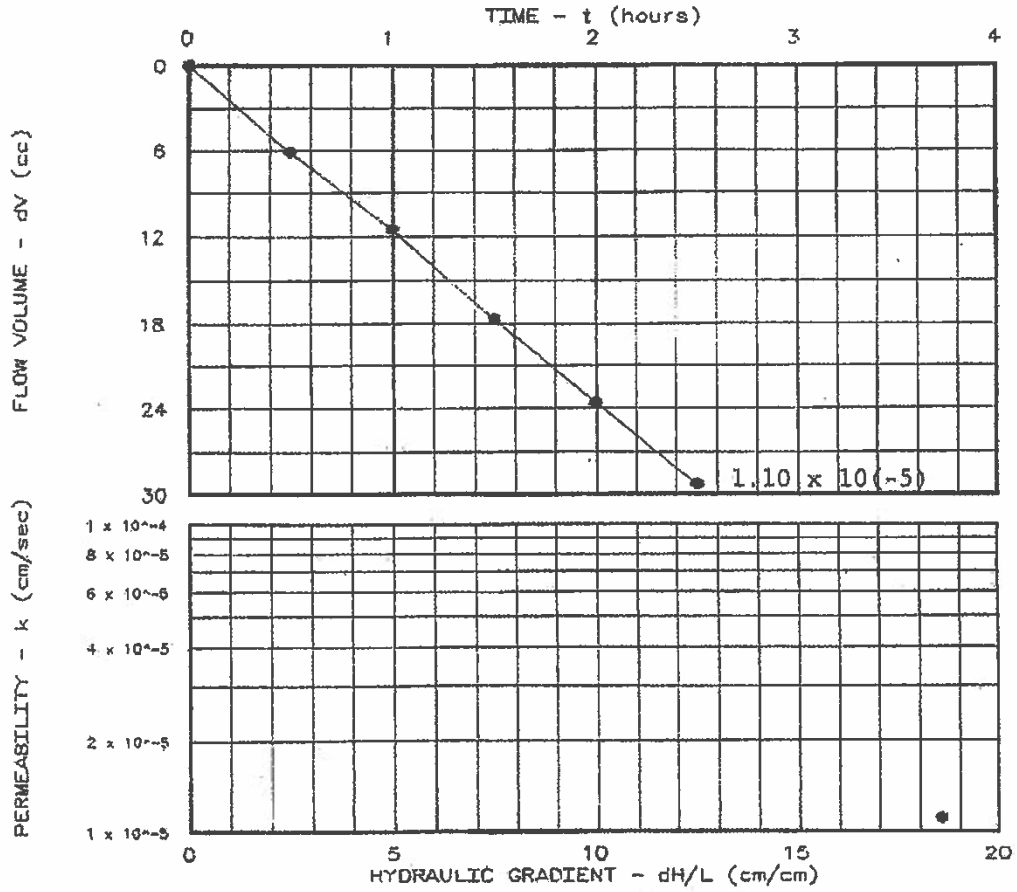
SAMPLE DATA:

Sample Identification: 9-1795-D01

Visual Description: Dark Gray, K-2

Remarks: ASTM D-5084 & IEPA Test Procedures
Maximum Dry Density (pcf): -
Optimum Moisture Content (%): -

Percent Compaction:
Permeameter type: B-K Flexwall
Sample type: 1.5" Remold



Project: FIRST ENVIRONMENTAL LABORATORIES
Location: Naperville, Illinois
Date: 6-5-09

PERMEABILITY TEST REPORT
WHITNEY & ASSOCIATES

Project No.: FEL-1
File No.: 1173
Lab No.: 4
Tested by: JRK
Checked by: JRK
Test: CH - Constant head

PERMEABILITY TEST REPORT

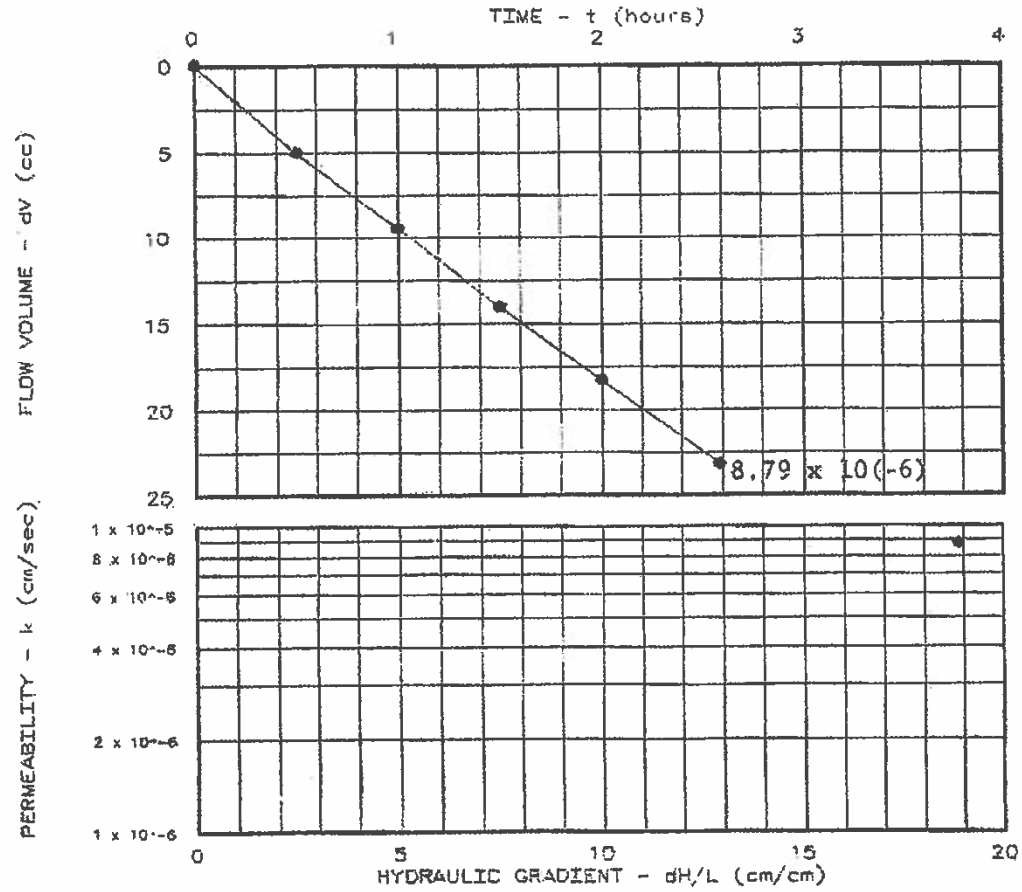
TEST DATA:
Specimen Height (cm): 7.62
Specimen Diameter (cm): 4.32
Dry Unit Weight (pcf): 25.8
Moisture Before Test (%): 239.2
Moisture After Test (%): 139.6
Run Number: 1 2
Cell Pressure (psi): 4.0
Test Pressure (psi): 2.0
Back Pressure (psi): 0.0
Diff. Head (psi): 2.0
Flow Rate (cc/sec): 2.49 x 10^-3
Perm. (cm/sec): 8.79 x 10^-6

SAMPLE DATA:
Sample Identification: 9-1796-002

Visual Description: Dark Grey, N-1

Remarks: ASTM D-5084 & IEPA Test Procedures
Maximum Dry Density (pcf): -
Optimum Moisture Content (%): -

Percent Compaction:
Permeameter type: B-K Flexwall
Sample type: 1.8" Remold



Project: FIRST ENVIRONMENTAL LABORATORIES
Location: Naperville, Illinois
Date: 6-5-09

PERMEABILITY TEST REPORT
WHITNEY & ASSOCIATES

Project No.: FEL-2
File No.: 1174
Lab No.: 5
Tested by: JRK
Checked by: JRK
Test: CH - Constant head

First
Environmental
Laboratories, Inc.
1600 Shore Road • Naperville, Illinois 60563 • Phone (630) 778-1200 • Fax (630) 778-1233
IEPA Certification #100292

Analytical Report

Client:	DEUCHLER ENVIRONMENTAL, INC.		
Project ID:	n/a	Date Received:	11/12/97
Sample Number:	46247	Date Taken:	11/12/97
Sample Description:	Lime Sludge - Lagoon	Date Report Revised	12/03/97

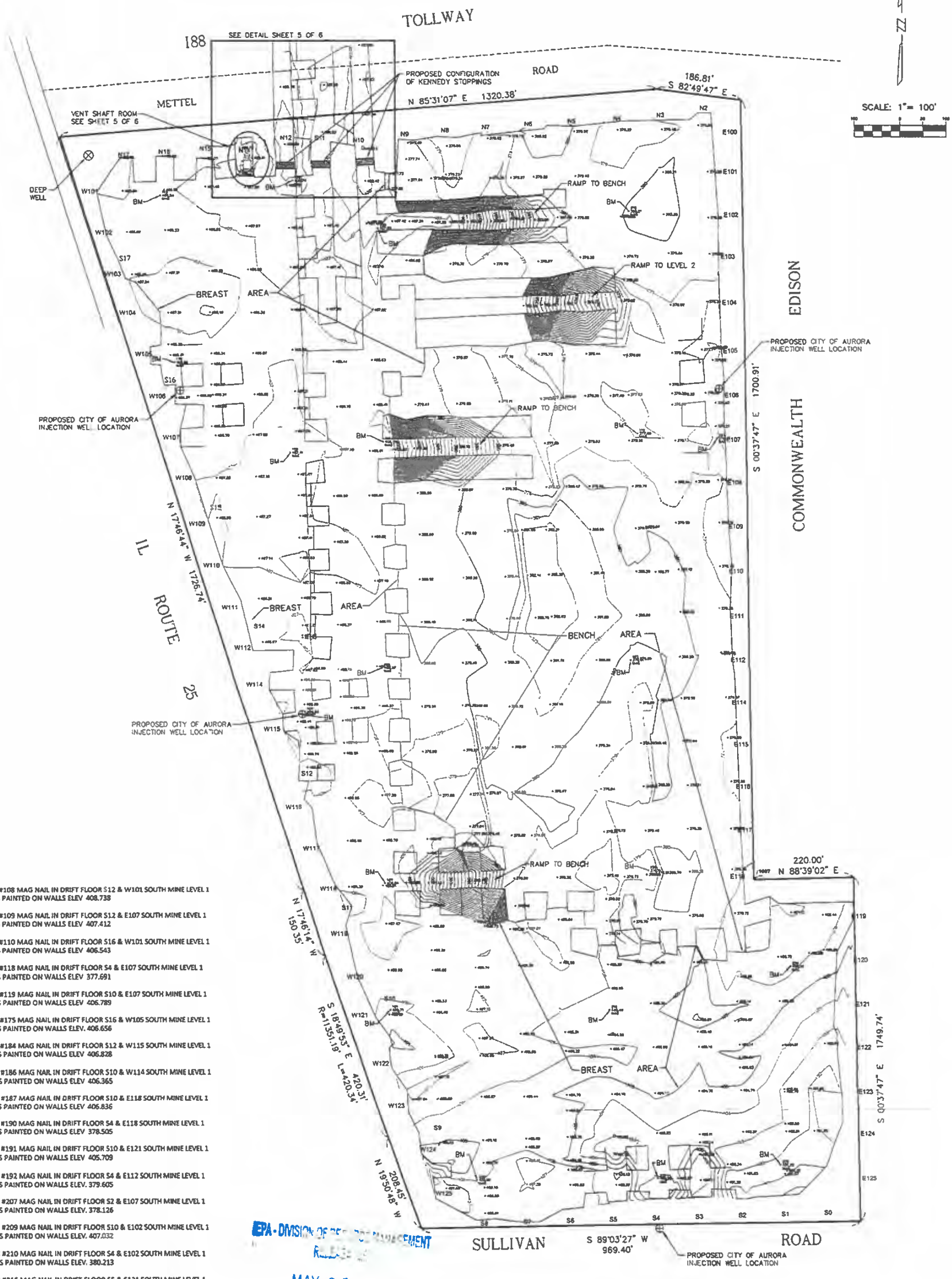
Analyte	Result	Units	Date Analyzed	Method
Specific Gravity	1.64	g/cc	12/02/97	2710F

Appendix R:

Mine Levels 1 and 2 Survey Maps

TOPOGRAPHIC SURVEY

LEVEL 1 FLOORS



BM #108 MAG NAIL IN DRIFT FLOOR S12 & W101 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 408.738

BM #109 MAG NAIL IN DRIFT FLOOR S12 & E107 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 407.412

BM #110 MAG NAIL IN DRIFT FLOOR S16 & W101 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 406.543

BM #118 MAG NAIL IN DRIFT FLOOR S4 & E107 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 377.691

BM #119 MAG NAIL IN DRIFT FLOOR S10 & E107 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 406.789

BM #175 MAG NAIL IN DRIFT FLOOR S16 & W105 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 406.656

BM #184 MAG NAIL IN DRIFT FLOOR S12 & W115 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 406.828

BM #186 MAG NAIL IN DRIFT FLOOR S10 & W114 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 406.365

BM #187 MAG NAIL IN DRIFT FLOOR S10 & E118 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 406.836

BM #190 MAG NAIL IN DRIFT FLOOR S4 & E118 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 378.505

BM #191 MAG NAIL IN DRIFT FLOOR S10 & E121 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV 405.709

BM #192 MAG NAIL IN DRIFT FLOOR S4 & E112 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 379.605

BM #207 MAG NAIL IN DRIFT FLOOR S2 & E107 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 378.126

BM #209 MAG NAIL IN DRIFT FLOOR S10 & E102 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 407.032

BM #210 MAG NAIL IN DRIFT FLOOR S4 & E102 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 380.213

BM #216 MAG NAIL IN DRIFT FLOOR S5 & E121 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 405.491

BM #221 MAG NAIL IN DRIFT FLOOR S4 & E125 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 402.905

BM #225 MAG NAIL IN DRIFT FLOOR S1 & E125 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 401.721

BM #228 MAG NAIL IN DRIFT FLOOR S8 & W125 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 405.872

BM #230 MAG NAIL IN DRIFT FLOOR S1 & E120 SOUTH MINE LEVEL 1
TIES PAINTED ON WALLS ELEV. 406.295

NOTE. THE BOUNDARY AND BEARINGS ARE BASED ON PLAT OF SURVEY BY SHAWNEE SURVEY & CONSULTING, INC. DATED 3/24/2005

THE ELEVATIONS ARE BASED ON CONTROL POINTS CP2, ELEVATION 685.72 PREVIOUSLY SET ON SITE FROM FIELD NOTES DATED 8/26/2008 AND TOP OF DEEP WELL DESCRIBED AS TOP OF LARGER PLASTIC PIPE (OF TWO) LOCATED WITHIN THE PAD LOCKED PROTECTIVE METAL CASING. ELEVATION 673.05.

This is to certify that a Topographical Survey of the above described property was made under my direction and that the plat hereon drawn correctly represents said survey to the best of my knowledge and belief.

Dimensions are given in feet and decimals thereof unless indicated otherwise.

Dated this 21ST day of SEPTEMBER, A.D., 2012 at South Elgin, Illinois

John H. Sweet
Illinois Professional Land Surveyor No 3158

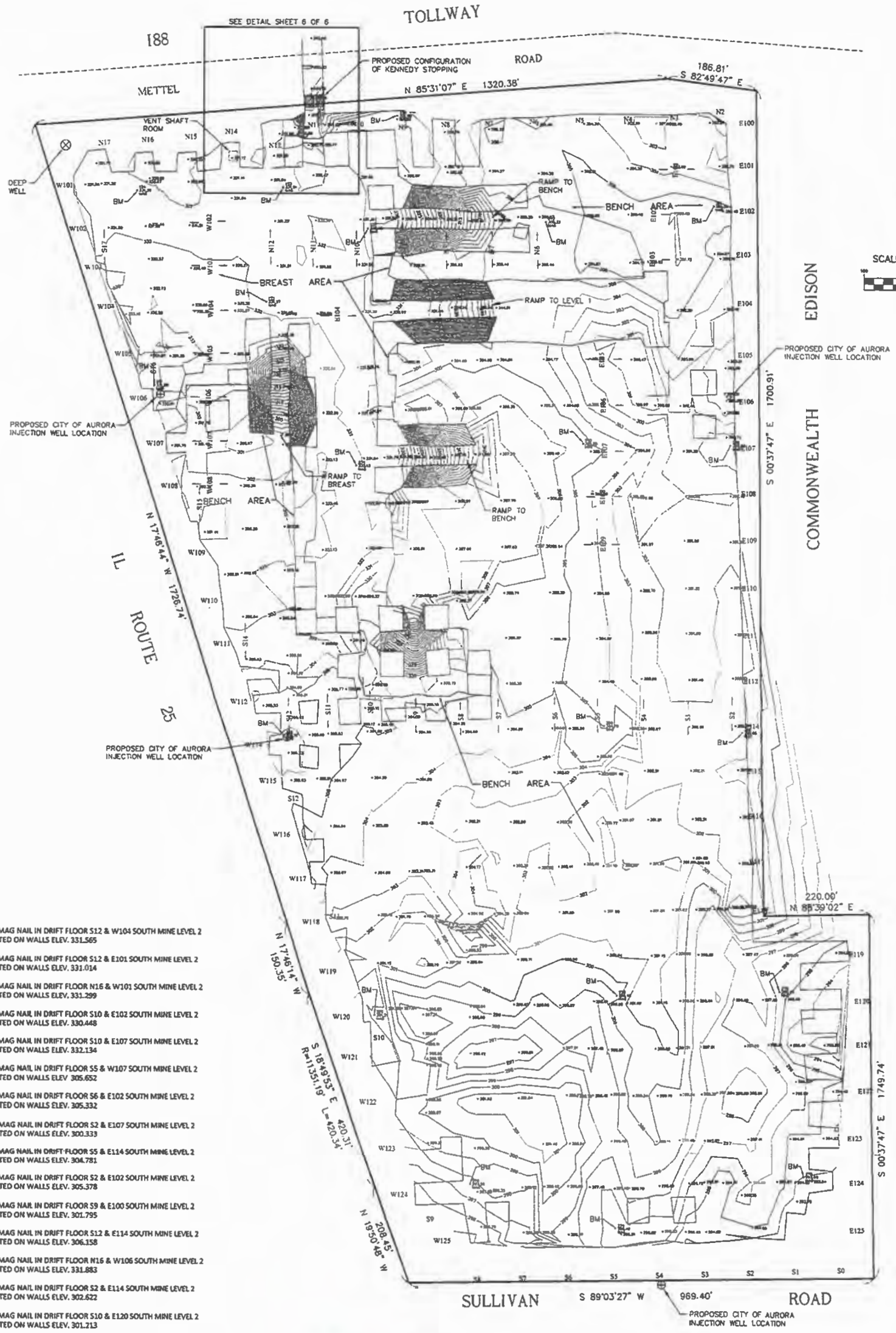
JOHN H. SWEET 3158 LAND SURVEYOR STATE OF ILLINOIS ELGIN, ILLINOIS

LICENSE EXPIRES 11/30/2012

TOPOGRAPHIC SURVEY OF PROPERTY LOCATED AT: 105 Conco St. North Aurora ,Illinois ACCOUNT NO. 12.0194.210	ORIGINAL FIELD WORK COMPLETED: 8-14-12 PROJECT: 120194 FILE. 120194-level1-topo	REVISIONS. 9-7-12 9-13-12 9-17-12	PREPARED FOR: LaFarge Conco & City of Aurora	HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 380 SHEPARD DRIVE ELGIN, ILLINOIS 60123 847.697.6700 www.hlrengineering.com 184.005999 PROFESSIONAL DESIGN FIRM & STRUCTURAL ENGINEERING CORP.	SHEET NO. 1 OF 6

TOPOGRAPHIC SURVEY

LEVEL 2 FLOORS



BM #122 MAG NAIL IN DRIFT FLOOR S12 & W104 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 331.565

BM #123 MAG NAIL IN DRIFT FLOOR S12 & E101 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 331.014

BM #124 MAG NAIL IN DRIFT FLOOR N16 & W101 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 331.299

BM #237 MAG NAIL IN DRIFT FLOOR S10 & E102 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 330.448

BM #238 MAG NAIL IN DRIFT FLOOR S10 & E107 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 332.134

BM #240 MAG NAIL IN DRIFT FLOOR S5 & W107 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV 305.652

BM #242 MAG NAIL IN DRIFT FLOOR S6 & E102 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 305.332

BM #249 MAG NAIL IN DRIFT FLOOR S2 & E107 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 300.333

BM #250 MAG NAIL IN DRIFT FLOOR S5 & E114 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 304.781

BM #251 MAG NAIL IN DRIFT FLOOR S2 & E102 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 305.378

BM #255 MAG NAIL IN DRIFT FLOOR S9 & E100 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 301.795

BM #258 MAG NAIL IN DRIFT FLOOR S12 & E114 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 306.158

BM #261 MAG NAIL IN DRIFT FLOOR N16 & W106 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 331.883

BM #262 MAG NAIL IN DRIFT FLOOR S2 & E114 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 302.622

BM #269 MAG NAIL IN DRIFT FLOOR S10 & E120 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 301.213

BM #270 MAG NAIL IN DRIFT FLOOR S5 & E120 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 299.464

BM #272 MAG NAIL IN DRIFT FLOOR S1 & E120 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 295.431

BM #274 MAG NAIL IN DRIFT FLOOR S5 & E125 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 296.464

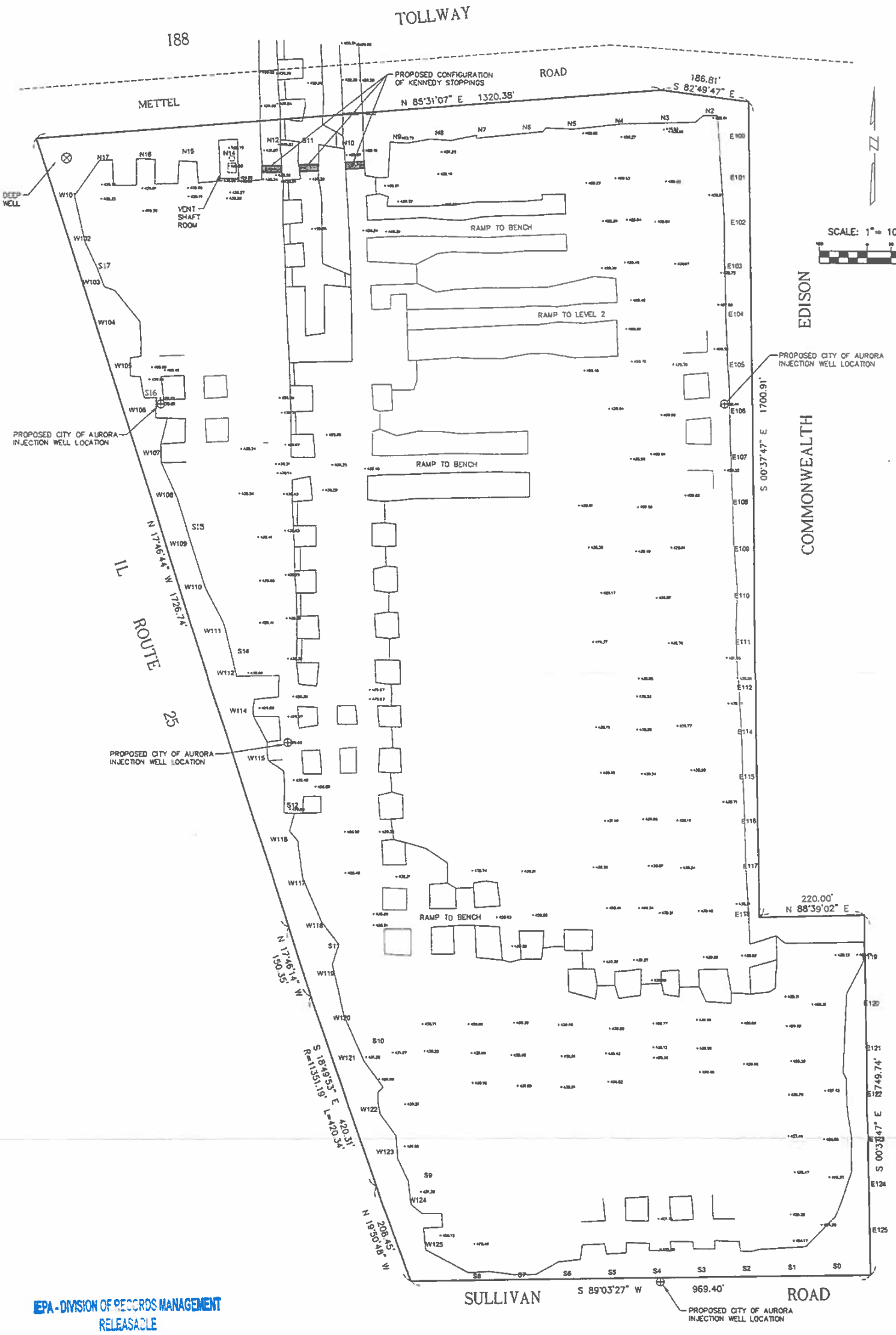
BM #275 MAG NAIL IN DRIFT FLOOR S1 & E124 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV. 293.991

BM #276 MAG NAIL IN DRIFT FLOOR S8 & E124 SOUTH MINE LEVEL 2 TIES PAINTED ON WALLS ELEV 297.587

TOPOGRAPHIC SURVEY OF PROPERTY LOCATED AT: 105 Conco St. North Aurora , Illinois ACCOUNT NO. 12.0194 210	ORIGINAL FIELD WORK COMPLETED: 8-14-12 PROJECT. 120194 FILE. 120194-level1-topo	REVISIONS. 9-7-12 9-13-12 9-17-12	PREPARED FOR LaFarge Conco & City of Aurora	HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS 350 SHEPARD DRIVE ELGIN, ILLINOIS 60123 847.697 8700 www.hlrengineering.com 184 000808 PROFESSIONAL DESIGN FIRM & STRUCTURAL ENGINEERING CORP.	SHEET NO 2 of 6

TOPOGRAPHIC SURVEY

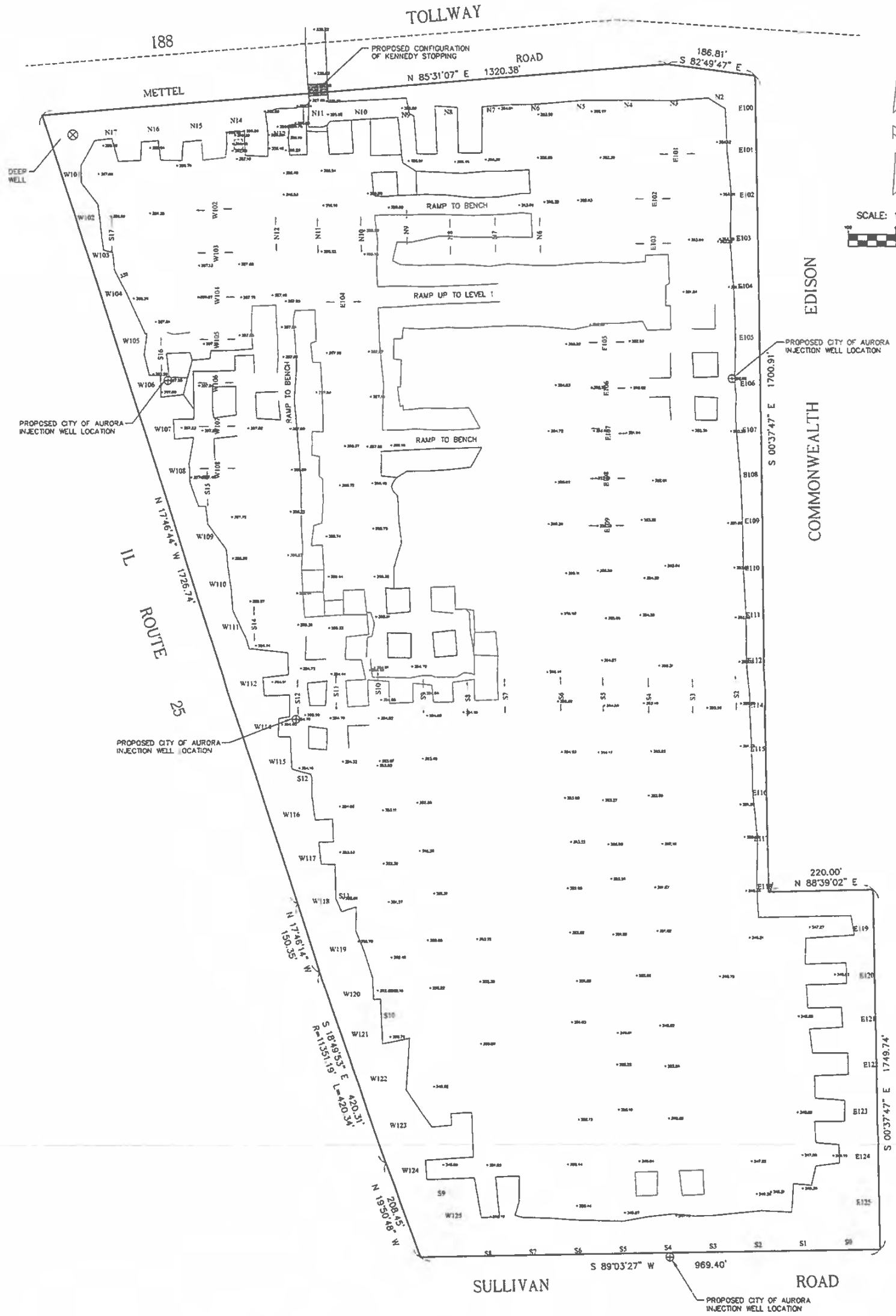
LEVEL 1 CEILING



TOPOGRAPHIC SURVEY OF PROPERTY LOCATED AT: 105 Conco St. North Aurora , Illinois ACCOUNT NO. 12.0194.210	ORIGINAL FIELD WORK COMPLETED: 8-14-12 PROJECT: 120194 FILE: 120194-level1-topo	REVISIONS: 9-7-12 9-13-12 9-17-12	PREPARED FOR LaFarge Conco & City of Aurora	HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 350 SHEPARD DRIVE ELGIN, ILLINOIS 60123 847.697.6700 www.hlrengineering.com 184.000669 PROFESSIONAL DESIGN FIRM & STRUCTURAL ENGINEERING CORP	SHEET NO. 3 OF 6

TOPOGRAPHIC SURVEY

LEVEL 2 CEILING



EPA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE

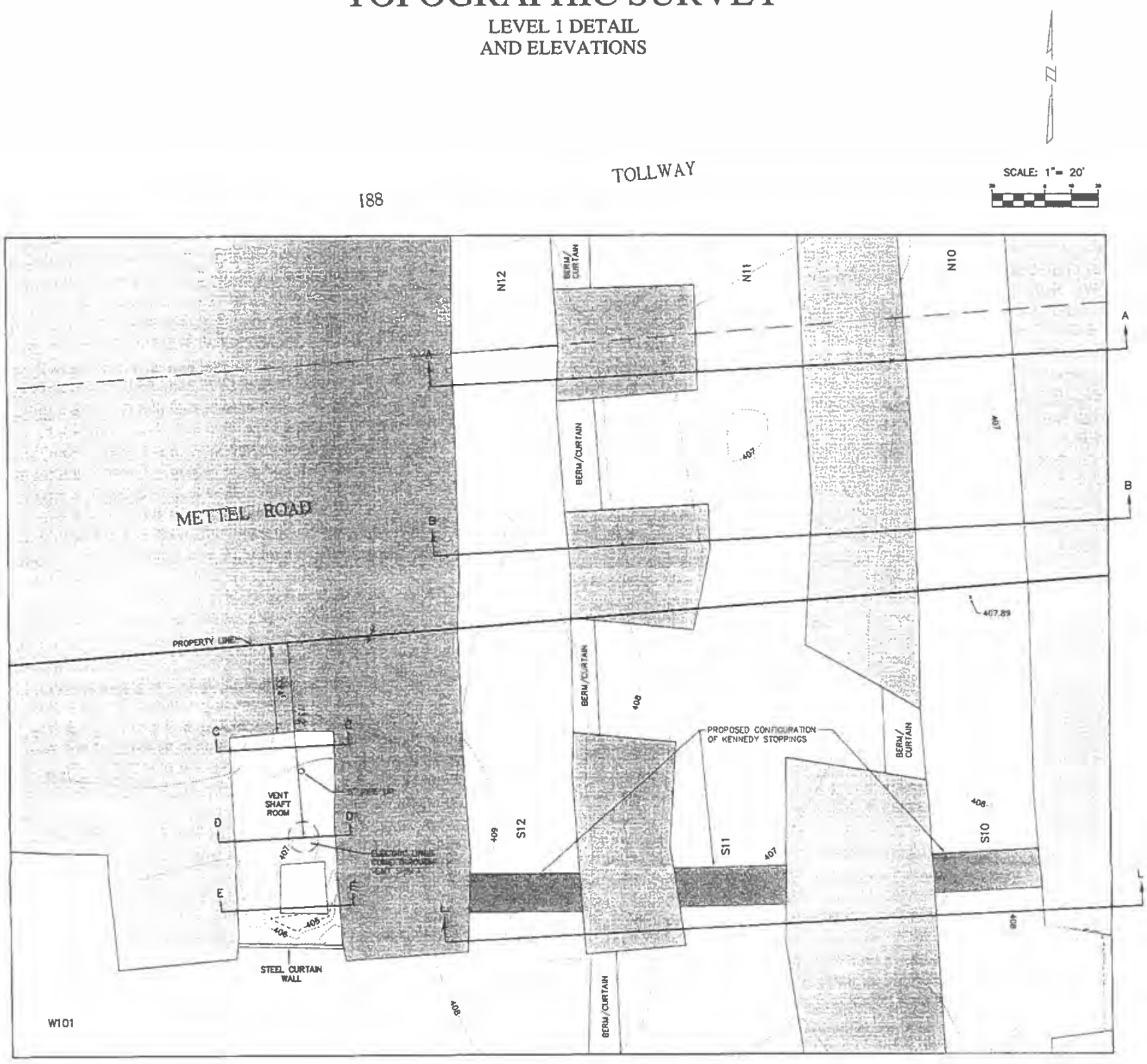
MAY 21 2015

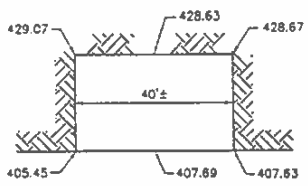
REVIEWER MED

TOPOGRAPHIC SURVEY OF PROPERTY LOCATED AT: 105 Conco St. North Aurora , Illinois ACCOUNT NO. 12.0194.210	ORIGINAL FIELD WORK COMPLETED: 8-14-12 PROJECT 120194 FILE: 120194-level2-topo	REVISIONS 9-7-12 9-13-12 9-17-12	PREPARED FOR LaFarge Conco & City of Aurora	HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 380 SHEPARD DRIVE ELGIN, ILLINOIS 60123 847.697.6700 www.hlrengineering.com 184.000699 PROFESSIONAL DESIGN FIRM & STRUCTURAL ENGINEERING CORP	SHEET NO 4 OF 6

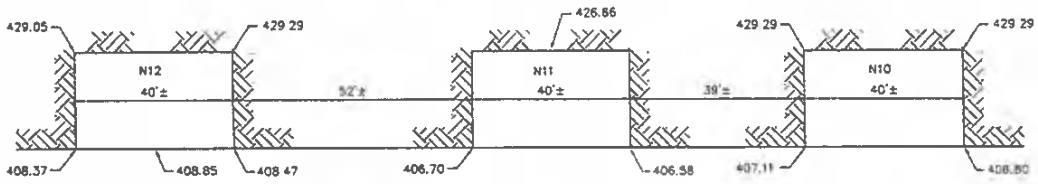
TOPOGRAPHIC SURVEY

LEVEL 1 DETAIL AND ELEVATIONS

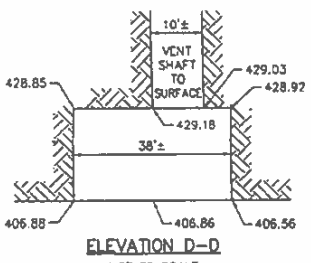




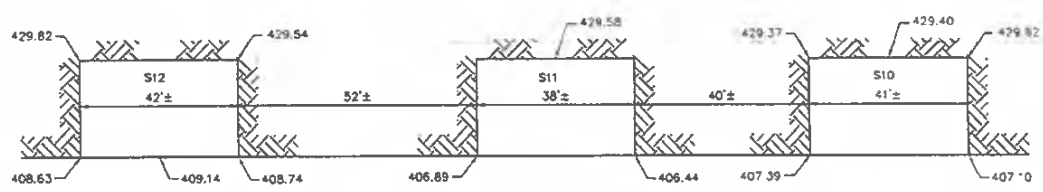
ELEVATION C–C
NOT TO SCALE



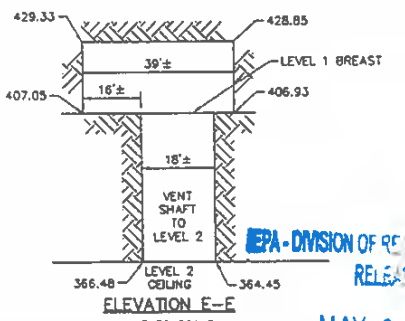
ELEVATION A–A
NOT TO SCALE



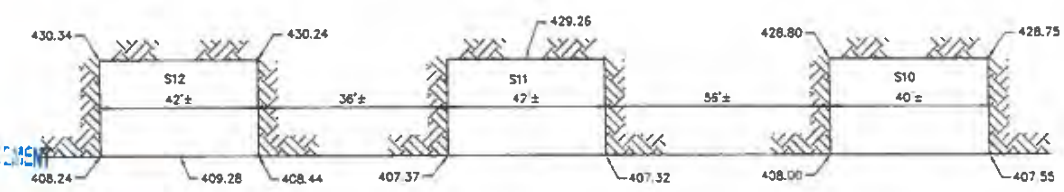
ELEVATION D–D
NOT TO SCALE



ELEVATION B–B
NOT TO SCALE



ELEVATION E–E
NOT TO SCALE



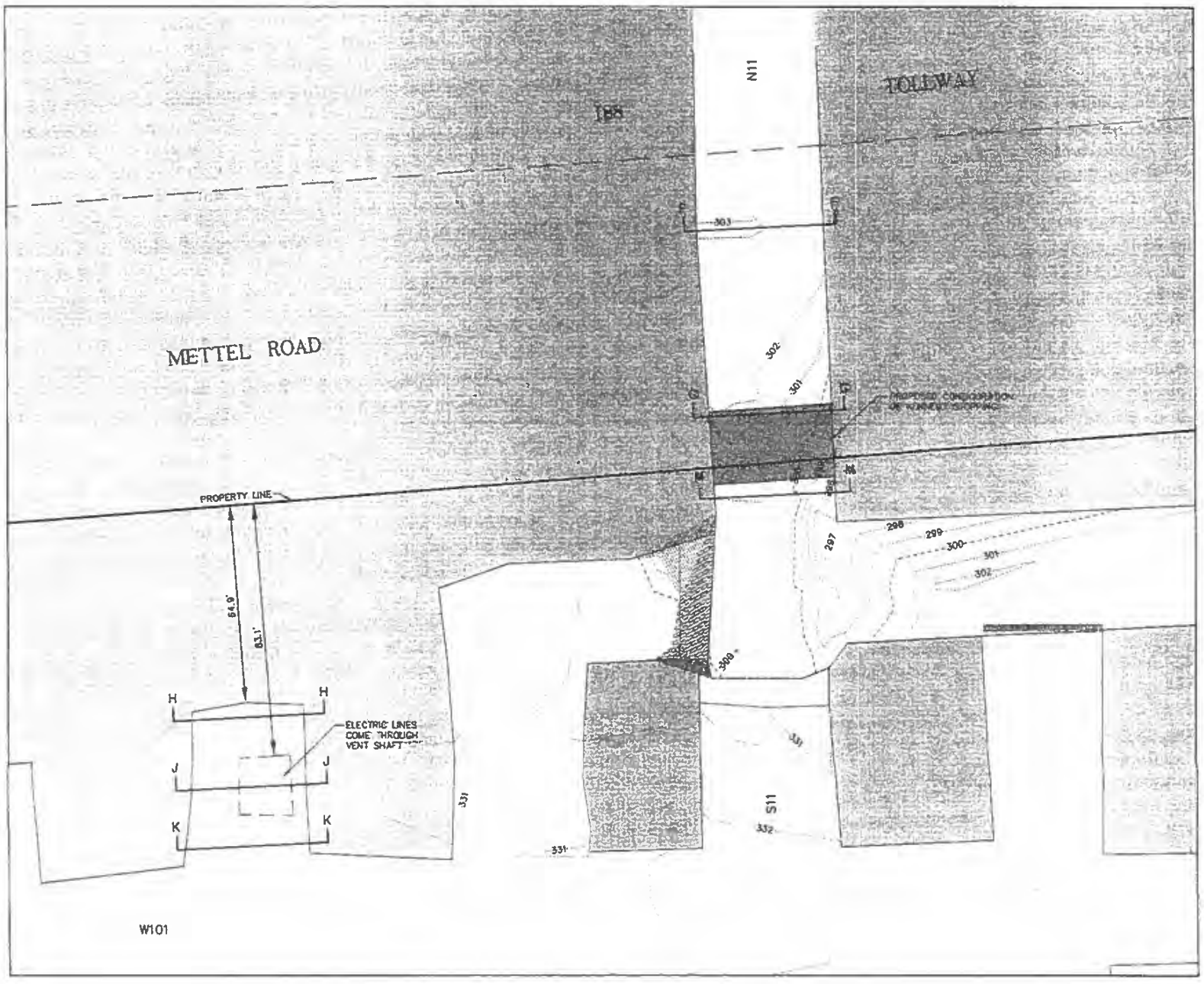
ELEVATION L–L
NOT TO SCALE

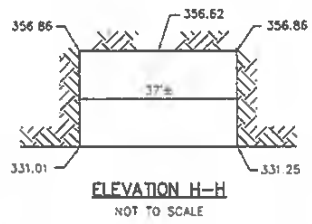
TOPOGRAPHIC SURVEY OF PROPERTY LOCATED AT: 105 Conco St. North Aurora, Illinois ACCOUNT NO. 12.0194.210	ORIGINAL FIELD WORK 8-14-12 PROJECT: 120194 FILE: 120194-level1-topo	REVISIONS: 9-7-12 9-13-12 9-17-12	PREPARED FOR LaFarge Conco & City of Aurora	HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS 380 SHEPARD DRIVE ELGIN, ILLINOIS 60123 847.697 6700 www.hlrengineering.com PROFESSIONAL DESIGN FIRM & STRUCTURAL ENGINEERING CORP	SHEET NO. 5 OF 6

TOPOGRAPHIC SURVEY

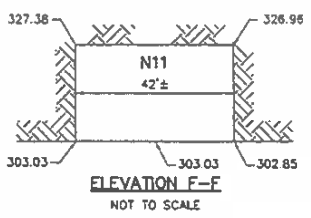
LEVEL 2 DETAIL
AND ELEVATIONS

SCALE: 1" = 20'

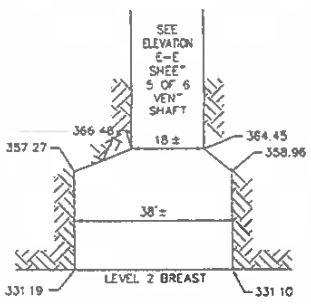




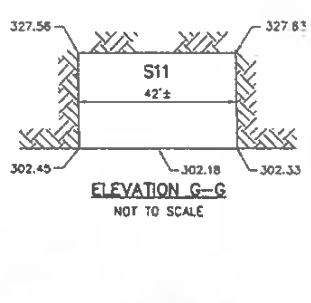
ELEVATION H–H
NOT TO SCALE



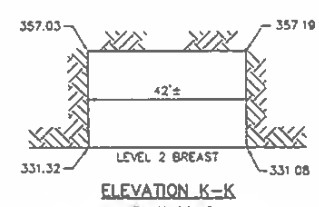
ELEVATION F–F
NOT TO SCALE



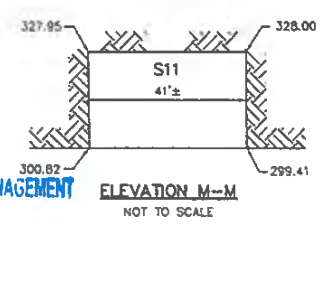
ELEVATION J–J
NOT TO SCALE



ELEVATION G–G
NOT TO SCALE



ELEVATION K–K
NOT TO SCALE



ELEVATION M–M
NOT TO SCALE

TOPOGRAPHIC SURVEY OF PROPERTY LOCATED AT: 105 Conco St North Aurora , Illinois ACCOUNT NO. 12.0194.210	ORIGINAL FIELD WORK COMPLETED: 8-14-12 PROJECT: 120194 FILE 120194-level1-topo	REVISIONS. 9-7-12 9-13-12 9-17-12	PREPARED FOR LaFarge Conco & City of Aurora	HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS · STRUCTURAL ENGINEERS · LAND SURVEYORS 380 SHEPARD DRIVE ELGIN, ILLINOIS 60123 847 697 6700 www.hlrengineering.com 184.000999 PROFESSIONAL DESIGN FIRM & STRUCTURAL ENGINEERING CORP.	SHEET NO. 6 OF 6