GROUNDWATER SAMPLING AND ANALYSIS PLAN

[*NOTE: Text proposed for addition is indicated in RED, and text proposed for deletion is indicated in ~~BLACK STRIKEOUT~~. Tables/Figures/Appendix Pages to be added or deleted are identified by a RED NOTE.*]

GROUNDWATER

SAMPLING AND ANALYSIS

PLAN

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TABLE OF CONTENTS

LIST OF TABLES

IN ORDER FOLLOWING REFERENCES

LIST OF FIGURES

IN ORDER FOLLOWING TABLES

LIST OF APPENDICES

IN ORDER FOLLOWING FIGURES

1.0 INTRODUCTION

CWM Chemical Services, L.L.C. (CWM) owns and operates a Treatment, Storage, Disposal and Recovery (TSDR) Facility at Model City, New York. Groundwater monitoring at the facility is required to comply with Title 6 of the New York Code of Rules and Regulations Part 373-2 (373-2). In a permit condition in the SLF-12 permit (Appendix A), the New York State Department of Environmental Conservation (NYSDEC) required the preparation of a Groundwater Sampling and Analysis Plan (GWSAP). The site-specific requirements for groundwater monitoring are located in Condition L, of Exhibit F of Schedule 1 of Module I of the Siteside Permit issued August 21, 2013.

This GWSAP provides procedures for collecting groundwater samples that are:

1) fully comprehensive to cover any sampling circumstance that might occur during the routine monitoring program;

2) technically sound so that the groundwater samples collected are subject to minimal sampling and analytical bias; and

3) uniform so that all the groundwater samples are collected and analyzed in a consistent manner for comparison purposes.

The procedures and protocols outlined in the GWSAP are applicable only to the routine groundwater monitoring program. Other monitoring programs (Surface Water Monitoring, Air Monitoring, etc.) have sampling and analysis plans developed specifically for them.

The GWSAP is kept at the facility and is updated as necessary. All site personnel involved in collecting and/or analyzing groundwater samples are appropriately trained in its application.

The GWSAP has been prepared from a number of documents. The documents include:

- Revised Final Report, Groundwater Monitoring Program for New York State Part 373-2 Permit, Model City TSD Facility," Volumes I and II, (Reference 1).
- WM Manual for Groundwater Sampling, (Reference 2),
- Sitewide Permit, Condition L, Exhibit F of Schedule 1 of Module I,
- Test America Laboratories, Inc., Quality Assurance Manual, February 2013(Reference 20).

The GWSAP primarily addresses the current monitoring requirements of the site's routine groundwater monitoring program. This program is very specific in its requirements for sample collection from certain wells at specified frequencies for specific parameters.

2.0 SITE BACKGROUND

The Model City TSDR Facility is located in Niagara County, New York, near the Niagara River and Lake Ontario (see Figure 1). The U.S. Government used the Facility for a variety of industrial purposes between 1942 and 1959.

The site was sold to a real estate company in 1966. In 1972, Chem-Trol Pollution Services purchased the site and began to use it as a private industrial waste operations facility. Chem-Trol was purchased by SCA Services, Inc. in 1973, then in 1984, SCA Services, Inc. was acquired by a WMI affiliate, Waste Management Acquiring Corporation, making SCA Chemical Services, Inc. a wholly-owned subsidiary of WMI.

In 1987, SCA Chemical Services, Inc. became a wholly owned subsidiary of Chemical Waste Management, Inc. and in July 1988, the facility name was changed to CWM Chemical Services, Inc. In 1998, CWM became a Limited Liability Company (L.L.C.) while its parent company Waste Management merged with USA Waste.

2.1 SITE DESCRIPTION

Current operations at the facility include treatment, recovery, disposal, and transfer of hazardous and industrial waste. The operations are comprised of waste receiving areas, storage and mixing tanks, chemical treatment facilities, biological treatment impoundments, and secure landfills.

The general site layout is shown on Figure 2.

2.2 SITE STRATIGRAPHY

The Model City Facility is situated on the Ontario Plain, an area of low topographic relief between the Niagara Escarpment and Lake Ontario. The unconsolidated geology at the site consists of about 30 feet to 60 feet of glacial and glaciolacustrine deposits of Late Wisconsin age. The glacial deposits overlie an estimated 1,000-foot thick sequence of red shale, siltstone, and sandstone of the Queenston Formation of Upper Ordovician Age.

The stratigraphy at the Model City Facility was described in detail in the Hydrogeologic Characterization Study report, 1985 (Reference 3), and updated in 1988 (Reference 4) and again in 1993 (Reference 8). The upper portion of the stratigraphy at the site generally includes low permeability Silt and Clay Tills over Glaciolacustrine Clay, underlain by a Glaciolacustrine Silt/Sand unit. Beneath these units is a lodgment till (Basal Red Till) above a shale bedrock.

Over the northwestern portion of the site, the Glaciolacustrine Clay unit is separated into upper and lower members by the Middle Silt Till, which was apparently deposited during a local oscillation of the glacial ice advance. The properties of the various glacial deposits are summarized in Table 1. This general stratigraphy is depicted on Figure 3 using two site borings for illustration. The hydraulic conductivities (permeabilities) of the geologic formations are also summarized in Table 1. These data indicate that the Glaciolacustrine Silt/Sand stratum is the most permeable geologic unit and forms the uppermost aquifer underlying the facility. The Silt Till, Clay Till, and Glaciolacustrine Clay above this aquifer are very low permeability materials, which restrict aquifer recharge from infiltration. The Basal Red Till and bedrock beneath the aquifer are also low permeability units, although the shallow, weathered bedrock is more permeable than the deep bedrock.

2.3 HYDROGEOLOGIC CHARACTERISTICS

Groundwater levels were measured in all of the site wells and piezometers most recently in October 2012. Potentiometric contours for the Glaciolacustrine Silt/Sand aquifer and the shallow water table in the Upper Tills, are available in Reference 15.

The groundwater potentiometric contours in the Glaciolacustrine Silt/Sand aquifer indicate that the flow direction is generally to the north, as expected from the regional hydrologic setting and historical site water level data, with a flow component toward the west. The water levels in the Glaciolacustrine Silt/Sand aquifer are several feet lower than those in the Upper Tills, which indicates a general downward (vertical) gradient across the site.

Previously, CWM had identified an artificially induced southerly flow component across the southeastern portion of the Facility. Additional investigations regarding this situation included the quarterly collection of water levels in the GSS to monitor this area, (see Reference 9). Current, GSS Potentiometric maps no longer show this southerly flow component.

Lateral gradients are low in the glacial aquifer and the rock because of the near-horizontal configuration of the top of rock and of the ground surface between the Niagara Escarpment and Lake Ontario. There is some ridging of bedrock across the site, which causes areas of steeper lateral gradients in the aquifer.

The potentiometric contours for the Upper Tills indicate that the shallow water table reflects the surface topography with a typical groundwater flow direction to north-northwest. The water table was about 9.2 feet below the ground surface in October 2012. In the vicinity of the FAC ponds and other unlined units, where some hydraulic connection is anticipated, the contour interpretation indicates elevated potentiometric levels, approaching the water levels in these facilities.

Because of the low hydraulic conductivity of the clay liners used for embankment construction and of the surrounding soils, these elevated potential levels dissipate at or near the embankments of these facilities. Also, drainage ditches at the site locally depress the surrounding water table. Lateral gradients in the Upper Tills (near surface water table) are low with respect to the vertical gradients across the site as a whole, but may steepen locally around the surface drainage features and around the open ponds with water levels above the natural water table, as discussed above. References 3, 4, and 8 clearly demonstrated that the Glaciolacustrine Silt/Sand unit is a confined aquifer and is the uppermost aquifer at the site. Primary aquifer recharge is from vertical flow through the upper glacial soils. The estimated groundwater flow rates through the various geologic units are low, on the order of feet to fractions of a foot per year. A schematic flow system is presented in Figure 4.

3.0 ROUTINE GROUNDWATER MONITORING SYSTEM

The routine groundwater monitoring system at the Facility is unit-specific. Each regulated unit is monitored by wells on the downgradient sides, typically north and west. Upgradient wells along the facility's southern boundary act as background wells for all regulated units.

The monitoring well system consists of uppermost aquifer (deep) wells and saturated zone (shallow), non-aquifer system wells. The uppermost aquifer system is the Detection Monitoring System required by 6 NYCRR 373-2.6. The Detection Monitoring System wells are installed in the Glaciolacustrine Silt/Sand Unit, which is the uppermost aquifer.

The shallow wells are installed in the Upper Tills above the Glaciolacustrine Clay unit. The shallow wells were installed to provide an early detection of potential releases to the groundwater system. Also, former operations, which have resulted in soil and groundwater contamination, might also be indicated from groundwater monitoring data from these wells.

3.1 GROUNDWATER MONITORING NETWORK

The site's active groundwater monitoring network consists of shallow wells, deep wells, piezometers, and Groundwater Extraction Systems (GWES) included in Table 2. The majority of these wells are used for routine monitoring, while the minority are used strictly for investigative purposes and are not subject to statistical analyses (see Table 2). Finally, a few wells are used for both purposes.

The wells and piezometers installed generally consist of 2-inch diameter, type 304 stainless steel (or PVC) well screen and riser pipe with flush-threaded joints. The screen sections of all wells and piezometers consist of No. 6 slot (0.006 inches) spiral-wrapped screen. A summary of the construction details for these wells and piezometers, including the regulated unit monitored by each, is presented in Table 3. The boring logs and well installation logs can be located in Appendix B-1, (RMU-1 boring and well installation logs are in References 9 and 10, RMU-2 boring and well installation logs are in References 25 and 26 while the GWES logs are in References 11, 12 13 14, 19, and 21, 23 and 24).

The well and piezometer locations are shown on Figure 5. A schematic diagram of the deep and shallow wells is shown on Figure 6. All wells and piezometers were developed after the well installation was completed. The well and piezometer development procedures are discussed in Reference 5, but generally include evacuating a well or piezometer using compressed air until the pH and specific conductance have stabilized and the water appears clear. Well development data are presented in Appendix B-2 and are summarized in Table 4 or can be found in References 9, 11, 16 and 17, 23, 25 and 26.

3.2 HYDRAULIC CONDUCTIVITY

Hydraulic conductivities were evaluated for all new wells using rising head tests. These tests were performed upon completion of well development. They consisted of purging by bailer or by gas lift, then monitoring the water level during recovery. The water level data and recovery curves can be found in Appendix B-3 or References 9, 10, 16, 17, and 21, 25 and 26.

Rising head tests were analyzed using a water level versus time relationship developed for cased holes with uncased (screened) extensions by Hvorslev (Reference 6). This method is applicable for hydraulic determinations at depth in soils that are relatively homogeneous and isotropic. The method assumes constant pressure levels in the formation, (i.e. that the well does not materially affect the formation potentiometric surface). The formula used in the analysis includes a well shape factor dependent on open interval length, radius of intake point and radius of standpipe, and a recovery term dependent on rate of change of unrecovered head. Hydraulic conductivity values estimated from the new site wells ranged between $6x10^{-4}$ cm/s in the aquifer and $4x10^{-8}$ cm/s in the Upper Tills. Details of the rising head tests and hydraulic conductivity estimates are included in References 5, 9, 10, 16, and 17, 25 and 26; the results are summarized in Table 4.

3.3 GROUNDWATER MONITORING SYSTEM MAINTENANCE

The groundwater monitoring system is maintained throughout the site's lifetime. Routine visual inspection of the well sampling system, the protective casing, the locking cap, well ID tag, lock, drainage, guard posts, and the concrete pads are conducted during each sampling event (see Table 6 7).
Every five years (unless noted below), the integrity of the groundwater monitoring system receives a thorough examination. The next "quintennial inspection" will be performed in 2016. The examination is certified by a professional engineer or by a qualified geologist and includes the following:

1. A survey of all groundwater wells and piezometers in the monitoring network performed by a New York State licensed surveyor to establish the top of well casing elevations and to provide an updated site plan. The survey must be accurate to within 0.01 feet of elevation and the site plan must be presented on a scale of 1 inch equals 200 feet;

2. An establishment of the ability of all wells and piezometers in the monitoring network to yield meaningful groundwater level elevations (or potentiometric surface information) when measured with a device accurate to within 0.01 feet. The ability of the wells to yield such information should be based upon a comparison of historic groundwater elevations from the wells and upon physical examination of the wells for screen obstructions. For most wells, the only type of physical examination necessary to demonstrate that the screen has not become obstructed will be "sounding" to establish the elevation of the bottom of the well.

It should be noted that although the well depth measurement is recorded to the nearest 0.01 foot, it is not as accurate as the water level measurement because the bottom is determined entirely by "feel." The procedure for "sounding" a well is as follows:

a. Rinse the water level indicator cable and probe off with DI water, shaking off any excess water.

b. Remove the dedicated sampling equipment from the well. Visually inspect the equipment for defects and protect the equipment from becoming contaminated. (Well Wizards™ are pressure tested according to the Well Wizard™ System Diagnosis Guide. See Appendix C-5).

c. Lower the probe into the well until it hits the bottom of the well; pull up the slack until tension is felt on the cable.

d. Slowly raise and lower the probe until a "feel" for the bottom is obtained.

e. Using the same reference point from which the elevation measurement is taken, read the depth off of the cable to the nearest 0.01-foot.

f. Wind the cable back onto the spool, rinse with DI water, and shake off any excess water.

g. Carefully replace the dedicated sampling equipment back into the well.

h. Record well depth measurement and inspection results in the Field Notebook. Replace sampling equipment as necessary, (i.e. excessive oxidation, frayed bailer cable, etc.).

A well is considered obstructed if 10% or more of the well screen (e.g. one foot for wells with 10-foot screen) is blinded or otherwise inaccessible. At a minimum, these wells are to be redeveloped to remove sediments from the bottom of the well;

3. An establishment of the ability of all groundwater wells to yield representative samples for determining the concentration of hazardous constituents that may be present in the groundwater. The ability of the wells to yield such information should be based upon a comparison of historic chemical analyses from each well and upon physical examination of the wells. Physical examination of the well will include removal and inspection of any dedicated sampling device to assure that the device is functioning as designed; and

4. The first triennial inspection (1991) indicated that most wells and sampling devices were in excellent condition, therefore, the inspection procedures were reduced to once every five years, next due in 2016. For well W1108D due to unusual wear on the equipment, the inspection remains at once every three years; next due in 2014.

If, for any reason, CWM personnel suspect that a well or piezometer is no longer providing representative samples or accurate potentiometric values, or may be damaged in some way, CWM must attempt to remedy the problem within 14 days. If the problem is not resolved, CWM will notify NYSDEC in writing within 30 days after learning that the well is suspect. Included with the notification will be a proposal for rehabilitating the well, if possible, or for replacing the well, if necessary. If CWM is unable to obtain a representative sample from the well as a result of damage to or problems with it or its sampling device, such information will be included in the notification of NYSDEC. Within 30 days after rehabilitation or replacement of the well, the repaired or replaced well will be sampled by CWM. CWM will receive the approval of NYSDEC before removing any well from service.

3.4 MONITORING PARAMETERS AND FREQUENCY

Site-specific indicator parameters (27 VOCs) listed in Exhibit F of Schedule 1 of Module I of the Sitewide Permit, and as presented in Table 5, are used as indicator parameters for this monitoring program. VOCs are present in the leachate and in the waste treatment system, are generally mobile, can be detected in low concentrations, and are not present in natural waters. They also offer the advantage of requiring only a small sample volume for analysis.

Typically, the frequency of sample collection is semiannually for the detection monitoring system. This monitoring frequency will continue through the post-closure monitoring period. Two deep wells were installed at the W202, W1201, W1202, W1203, W1208, F802, and R117 and R212 locations because the aquifer was greater than 20 feet in thickness. At each location, the well labeled "UD" is screened in the upper half of the aquifer, while the well labeled "LD" is screened in the lower half of the aquifer. The "UD" wells, namely W202UD, W121UD, W122UD, W123UD, W128UD, F802UD, and R117UD and R212UD are sampled semiannually. The "LD" wells, namely W202LD, W121LD, W122LD, W123LD, W128LD, F802LD, and R117LD and R212LD are sampled once every two years. {NOTE: Currently, R117LD and R117UD are used as deep well piezometers only.}

4.0 PERSONNEL RESPONSIBILITIES

The Environmental Monitoring Group is responsible for the ground water monitoring program at the Facility. This Group is under the direction of the Environmental Monitoring Manager, .

The Group's responsibilities include:

- Communication between the laboratory and regulatory personnel,
- (Re)-train team members,
- Scheduling, supervision, and proper execution of the sampling event, including field equipment procurement, calibration, and maintenance, measurement of field parameters, proper documentation of the sampling event, prompt sample shipment, and inspections, and
- Accurate data evaluation and timely reporting.

4.1 ANALYTICAL LABORATORIES AND RESPONSIBILITIES

Test America Laboratories, Inc. (TAL) in Amherst, New York provides primary analytical services. In addition, Model City Laboratory personnel perform semiannual analyses of the Groundwater Extraction Systems on-site.

Laboratory Contact – Candace Fox (TAL)

The Laboratory Contact shall provide all sampling containers and associated paperwork (Appendix C-3) in a sealable container (cooler) ready for the Environmental Monitoring Group. The Laboratory Contact shall notify the Environmental Monitoring Group if sample containers do not arrive on schedule or intact after a sampling event. The Laboratory Contact is also responsible for overseeing the laboratory analysis and notifying the Environmental Monitoring Manager if problems arise.

5.0 PRESAMPLING PROCEDURES

Presampling procedures include the procurement and calibration of equipment, procurement and preparation of sample containers, well observations, and well purging. Each of these procedures is addressed in the following sections. Preparation for a sampling event begins at least two weeks before the event is to take place to allow adequate time to accomplish all of the procedures and to correct any problems that may surface.

5.1 LABORATORY NOTIFICATION/VERIFICATION

The Environmental Monitoring Group works closely with the laboratory to schedule sampling events. Prior to each sampling event, the Environmental Monitoring Manager notifies the laboratory of tentative sampling dates, number and types of samples, and numbers and types of blanks. The laboratory prepares the necessary sample containers and sends them to the site in coolers. The Environmental Monitoring Group checks in the coolers and notifies the Environmental Monitoring Manager of any discrepancies.

5.2 PROCUREMENT, INSPECTION, AND CALIBRATION OF EQUIPMENT

NOTE: The collection of "field data" (pH, Specific Conductance, and Temperature) was indefinitely suspended on January 9, 2001. (See S. Doleski to R. Park Zayatz.) Should the collection of this data be re-instated, the following procedures will be used.

The procurement of equipment is the responsibility of the Environmental Monitoring Group.

Field measurements along with proper documentation are integral parts of the monitoring program. Before the actual trip to the field, all equipment necessary for a sampling event is cleaned, checked, and calibrated, as necessary. Prior to use in the field, all meters are calibrated by the Environmental Monitoring Group to ensure proper working order and to render integrity to the measured values. Calibration procedures provided by the manufacturer are to be followed and are attached to this manual as Appendix C-1.

Calibration of the field meter for pH is made using a minimum of two buffers (pH 4, pH 7, or pH 10).The buffers used should bracket the expected pH values of the samples. Since calibration for pH is temperature correlated, calibration is performed using the pH of the buffer at its ambient temperature. A chart of pH at different temperatures is provided on each buffer container. The measured value for the check buffer must be ±0.10 pH unit of the expected value or the meter must be recalibrated, (i.e. pH 4.01 buffer at 20°C must read between 3.91 - 4.11 on the field meter at 20°C).

Calibration of the field meter for specific conductance is made with a standard of approximately the same conductivity as that expected at the site and is measured at 25°C using a NIST-traceable thermometer. At least one additional standard is also checked. This standard has the same conductivity as the original standard, but has been refrigerated. In checking the conductivity of this cooled standard, a verification is also made of the automatic temperature compensator of the meter. The measured value of the cooled standard must be within ±5% of the expected value or the meter must be recalibrated, (i.e. a 1413 μS/cm standard must read between 1342 μS/cm and 1484 μS/cm on the field meter).

The conductivity of the deionized (DI) water being used in the field is also measured. If the conductivity of the DI water is greater than 50 μS/cm at 25 °C, the Environmental Monitoring Manager is contacted and will decide whether to use the DI water or obtain new DI water from an alternative source.

Instrument calibration checks of pH and specific conductance must be made after every 4 hours of operation and at the end of the day. Guidelines for an acceptable calibration check are the same as those for the initial calibration, except only one pH buffer and one conductivity standard is used.

If the calibration check is not within the limits listed above, the meter is completely recalibrated before being placed back into service.

The Environmental Monitoring Group is responsible for maintaining a logbook for all field meters. The log book contains information including field meter serial number, name and model of meter, year purchased, QA results, calibration notes for each day the equipment is used, etc.

5.3 PROCUREMENT AND PREPARATION OF SAMPLE BOTTLES

The procurement and preparation of sample bottles is the responsibility of the laboratory. For routine VOC monitoring, only pre-cleaned, 40-mL, glass vials with Teflon-lined septa are used.

If parameters other than VOCs are required, the laboratory also supplies these additional bottles. As necessary, the laboratory supplies pre-measured amounts of preserving reagents along with the sample bottles. The volume requirements, containers, preservatives used, and holding times for each analyte are presented in Appendix C-2.

TAL sends sample bottles to the site in sealed coolers. Upon arrival, the cooler seal is checked for intactness. The cooler is then "checked in" which involves removing the Chain-of-Custody (COC) and Field Information Form (FIF), (see Appendix C-3), visually examining, inventorying, and labeling the sample bottles, and ensuring the appropriate number and types of preservatives are present. Also, Trip Blank samples are examined for air bubbles.

5.4 STORAGE AND HANDLING OF SAMPLING EQUIPMENT

The sample bottles are stored inside coolers. When unattended, the coolers are stored in a designated, clean area with limited access during the day. This area is kept locked overnight.

All equipment is handled in a responsible manner to prevent breakage or contamination. The handling of any equipment that will come in contact with the sample water is only done wearing new, clean, powderless PVC or Latex gloves.

5.5 PERSONAL PROTECTIVE EQUIPMENT

As part of the site's health and safety program, the wearing of some personal protective equipment is required at all times. Steel-toed boots, long sleeve shirts and pants, and safety glasses are required for all on-site personnel. In addition, gloves are worn for all sampling activities.

Some wells on-site may require additional personal protective equipment. The additional personal protective equipment may include:

- one piece Tyvek or Saranex suits,
- respirators with organic vapor cartridges,
- splash goggles, and
- neoprene boots and gloves.

For site personnel conducting such monitoring refer to the site Health & Safety Manual, HS-1161 for Personal Protective Equipment.

6.0 PURGING PROCEDURES

6.1 FIELD OBSERVATIONS

Upon arrival at the well, various field observations regarding conditions at the well and its surrounding area are made. Specific measurements, such as purge volume determination and groundwater elevation, are also made at this time. These observations and measurements are all documented on the FIF and may include:

- physical surroundings including high weeds, standing water, cleanliness, activities nearby, and access,
- the presence and condition of the well's identification sign,
- well integrity including condition of the dedicated Well Wizard™ or bailer, condition of protective casing, guard posts, and lock, obstructions or kinks in the well casing that would prohibit sampling, presence of water in annular space, evidence of contamination such as animal or insect parts in well, etc.,
- weather conditions, and
- any upwind site activity.

6.2 GROUNDWATER ELEVATION MEASUREMENT

The groundwater elevation at a monitoring well is usually determined during each sampling event. A battery-operated water level indicator is used to measure the "Depth to Groundwater" at each well. To determine the groundwater elevation, the following procedure is used:

1. Rinse the water level indicator cable and probe with DI water, shake any excess water. Switch the instrument on and depress the testing button. A light should be illuminated and/or a buzzing sound should be heard. This ensures that the instrument is working.

2. Slowly lower the probe in the well until the buzzing sound can be heard and/or the red light on the instrument is illuminated.

3. Slowly raise and lower the probe to the exact point where the buzzer and/or light are activated simultaneously. This marks the static water level.

4. Read the depth off of the cable, which coincides with the top of the well casing (or well cap) to the nearest 0. 01-foot and record the measurement on the FIF.

5. Wind the cable back onto the spool, rinse with DI water, and shake off any excess water.

6. Perform a duplicate water level measurement once every 5 wells and record results on the FIF.

7. To convert the static water level measurement to elevation simply subtract the static water level from the well elevation. Measurement of the static water level must be referenced to the well datum.

On an annual basis, the groundwater flow rate and direction is determined in accordance with 6NYCRR 373-2.6(i)(5).

6.3 PURGE VOLUME DETERMINATION

Monitoring wells are evacuated prior to sampling to safeguard against collecting non-representative stagnant water. At a minimum, one to three well casing volumes are to be removed from each well or purging continues until the well goes dry. The volume of water in the well to be purged is calculated using the following equation.

$$1 \text{ Well Casing Volume (gallons)} = 7.48(\pi r^2 h)$$

Where
$\pi = 3.14$
r = radius of well casing (feet)
h = height of water column in well (feet)
7.48 = conversion from ft^3 to gallons.

The height of the water column in the well (h) is calculated by subtracting the "Depth to Groundwater" from the "Well Depth."

The volume of water in a two inch well is calculated as:

$$1 \text{ Casing Volume (gallons)} = 0.163h$$

To measure the volume of water being removed from the well, a graduated 5-gallon bucket or a known-volume container is used to collect the water. The volume of water to be purged is equal to the casing volume at a minimum, however, an effort is made to remove 3 casing volumes, if possible.

6.4 PURGING USING A DEDICATED BAILER

Most shallow wells contain a dedicated bailer, which is stored inside the well. The bottom-filling bailer is typically constructed of stainless steel with a Teflon check valve and is attached to the well cap with a length of stainless steel cable. The bailer resides on the bottom of the well when not in use. Well purging using this bailer is performed as follows:

1. After the water level measurement has been taken, withdraw bailer from the well. Be sure to coil the cable so that none of it touches the ground. As the bailer is being removed from the well, water pressure forces the check valve closed and keeps the bore full.

2. Empty the water into the 5-gallon graduated bucket, observe the water, and note any characteristics, (i.e. incidental odor, color, turbidity).

3. Slowly lower the bailer into the well until it contacts the water. When the bailer is lowered into the well, the Teflon ball in the check valve allows water to fill the bailer bore from the bottom.

4. Allow the bailer to fill with water.

5. Repeat the process until the appropriate volume of water has been purged from the well or the well goes dry.

6. Discard purge water at the well head unless otherwise indicated in the “Status Column” of the Well ID Chart. (See Appendix D).

6.5 PURGING USING A DEDICATED WELL WIZARD™ PUMP

All deep wells, some shallow wells, and any GWES wells that are routinely sampled contain dedicated Well Wizard™ sampling pumps which are stored inside the well. Well Wizards™ are constructed of Teflon and stainless steel. They function using compressed air to cyclically operate a collapsible bladder and check valve system, which in essence squeezes water up the sample tubing. A surface controller box regulates the compressed air pressure and timing of the pressure\venting cycle.

To purge a well using the Well Wizard™, the following procedure is used:

1. After the water level measurement has been taken, connect the downspout to the well, directing the discharge into the graduated 5-gallon bucket.

2. Connect the compressed air supply line to the controller box and the controller box line to the well.

3. Start the gasoline-powered compressor and locate it as far downwind from the well as possible.

4. Adjust the pressure and the cycle time on the controller box. With the pressure on, the bladder expands, the check valve closes, and water is forced up the annulus of the pump. When the pressure is vented, the check valve remains open allowing water to flow into the bladder and annulus sections of the pump.

5. Collect water into the 5-gallon graduated bucket until the desired amount of water is removed or the well goes dry.

6. Discard purge water at the well head unless otherwise indicated in the “Status Column” of the Well ID Chart. (See Appendix D.)

7.0 SAMPLING PROCEDURES

7.1 SAMPLE COLLECTION

Prior to sampling, the sample point identity is recorded on the COC and FIF. The sample bottles, COC, and FIF forms are re-checked to ensure that all match with respect to sample point, parameter, and preservative.

Samples that are to be split with regulatory agencies are also checked for consistent sample point ID numbers and for other methods of identification if used by the agency.

The methods used for sampling a well with a dedicated Well Wizard™ pump or bailer are the same as those used to purge the well. The equipment used for sampling each well remains dedicated to that well. The type of equipment does not change between sampling events unless an emergency arises in which a Well Wizard™ does not function. A stock of new, clean bailers is kept on hand for such emergencies. A well must be sampled within 24 hours from the time purging was completed. If there is no water in the well, the well is declared dry for the sampling event and is not sampled until the next scheduled event. If there is sufficient water to measure field parameters and fill some of the bottles, sampling continues and bottles are filled according to Section 7.3. A well may be revisited and additional volume removed until the 24 hour time period expires.

Groundwater samples are poured directly from the Well Wizard™ or bailer into the sample bottles in a manner, which minimizes aeration of the sample. The Environmental Monitoring Group collects all groundwater samples. New, disposable, powderless PVC or latex gloves are worn at each sample point during sampling and changed when dirty, torn, etc.

When filling the sample bottles, the following procedures and precautions are followed:

1. Bottle caps are removed carefully so that the inside of the cap is not touched. Bottle caps are not placed on the ground or interchanged between sample bottles. Caps for VOC vials contain a Teflon-lined septum. The Teflon side of the septum must face the sample to prevent contamination of the sample through the septum.

2. The sample bottles are filled with a minimal amount of air contact, and without allowing the sampling equipment or personnel to contact the inside of the bottles.

   Tubing or hoses from the Well Wizards™ do not contact the inside of the sample bottles.

3. Sample bottles containing preservatives are filled with as little overflow as possible and are inverted to mix the preservative with the sample. If the required preservative(s) are not in the bottles, the bottles should be filled, leaving adequate space to add the preservative(s) later.

   A listing of preservatives is included in Appendix C-2 for reference. No substitutes for the chemical preservatives supplied are used as the reagents are special high grade and are metal free. Arrangements may be made with the laboratory to store additional preservatives at the site, if necessary. If substitutions are made from on-site storage, it is noted on the COC form.

4. VOC vials are filled so that they contain no headspace. These sample vials, therefore, need to be over-filled (water tension will maintain a convex water surface in the bottle). The caps for these vials are replaced gently, so as to prevent introducing air bubbles in the sample. Then, the vials are checked by inverting and snapping them sharply with a finger. If any air bubbles appear, the vial is opened, more water is added, and the process is repeated until no air bubbles are present. The vial is not emptied and refilled as this would result in the loss of the preservative, if present.

5. All sample bottles are filled and preserved as necessary. Upon completion of the sampling event, all samples are placed on ice and shipped via overnight courier. The VOC vials are not placed in direct contact with ice packs as the sample may freeze and break the vial.

6. Sample bottles, caps, or septa, which fall on the ground before filling, are thoroughly rinsed with sample water before being used or are discarded. All circumstances regarding dropped caps or bottles, and their subsequent rinsing and use, are noted on the FIF.

7.2 FIELD MEASUREMENTS

NOTE: The collection of "field data" (pH, Specific Conductance, and Temperature) was indefinitely suspended on January 9, 2001. (See S. Doleski to R. Park Zayatz.) Should the collection of this data be re-instated, the following procedures will be used.

Field measurements are taken immediately for specific conductance, pH, temperature, and additional parameters as required and are recorded on the FIF. A disposable beaker, which has been triple-rinsed with sample water, is used for these measurements. This beaker may be reused provided that it is thoroughly rinsed prior to each use.

All results are recorded on the FIF, noting units to 3 significant figures. Duplicate field measurements from a separate sample aliquot are made on 1 of every 10 samples or at least once per day.

The duplicate field measurements are recorded on the FIF in the comment section.

If the specific conductance or pH values obtained are not within the normal ranges, as stated on the Well ID Charts (Appendix D), the data is not discarded, rather, 3 additional measurements are taken to confirm the original value. All values are recorded on the FIF.

7.3 ORDER OF SAMPLE COLLECTION

In the event that parameters other than VOCs are required, the priority sequence of parameter collection during sampling is as follows:

Priority	Parameter
1	Volatile Organics
2	Purgeable Organic Carbon (POC)
3	Purgeable Organic Halogens (POX)
4	Acid and Base/Neutral Extractable Organics
5	Pesticides, Dibenzofurans, and Dibenzodioxins
6	Total Metals, Phenols, Cyanide, Other Inorganics
7	Radiologicals

7.4 DUPLICATE SAMPLES

Duplicate samples are submitted to TAL at the request of the Environmental Monitoring Manager. Currently, one duplicate sample is collected for approximately every 20 routine samples. When a duplicate sample is collected, it is identified as "DUP", receives the same analyses as other routine samples, and is used to demonstrate the reproducibility of the analytical results generated by TAL. The actual identity of the duplicate sample is noted in the comment section of the FIF.

7.5 TRIP BLANKS AND FIELD BLANKS

Trip blanks and field blanks are used as controls and/or external QA/QC samples. They indicate contamination that may have been introduced in the field, in transit to or from the sampling site, during bottle preparation, sample log-in, or sample storage at the laboratory. The blanks may also reflect contamination that may have occurred during the analytical process.

A trip blank is a sample of GC/MS Reagent Grade water that is prepared at the same location and time as the bottles that are to be used for sampling. The blank remains with the sample bottles while in transit to the site, during sampling, and during the return trip to the laboratory. Upon returning to the lab, the trip blank is analyzed for VOCs using the same QA/QC procedures as a sample.

A trip blanks is not to be opened until it is returned to the lab. If it is opened by accident, it must be noted on the COC form. . One trip blank is analyzed for every group of coolers shipped to the laboratory each day. A trip blank is reported in the Technical Report as a separate sample using "TB" as the sample point designation.

A field blank is similar to a trip blank, however, the field blank is prepared at the sampling location by filling empty bottles with GC/MS reagent grade water supplied by the laboratory. The location where the field blank is prepared is noted in the comment section of the FIF. The number of field blanks is dependent on the number of samples included in the sampling event. Currently, one field blank is collected and analyzed for VOCs only for every 20 routine samples collected.

Field blank results are reported in the laboratory's Technical Report as separate samples using "FB" as the sample point designation.

7.6 SAMPLE PACKAGING AND SHIPMENT PROCEDURES

After sampling, samples are placed in coolers containing wet ice or are otherwise refrigerated in a clean, secure area until shipping arrangements can be made.

There are two important reminders for repacking the coolers:

1. Glass should not be packed in contact with glass. Bubble wrap and wet ice are placed between the bottles.

2. Completed COC and FIF forms must be returned to the cooler before the cooler is sealed.

Once the samples have been placed on ice, the COC and FIF are completed. All paper work is then put into a plastic bag and placed inside the cooler. A member of the sampling team arranges for transportation to the laboratory. Cooler s are delivered to a local lab on the day of the event or coolers are transported via overnight courier for receipt at the laboratory within 72 hours of sample collection; often samples are received within 24 hours. A listing of recommended holding times is contained in Appendix C-2 for reference. (NOTE: Although samples are chilled after sampling, it is a priority to ship the samples to the lab as soon as possible. As a result, some samples may arrive at the lab with a temperature of greater than 4°C. This lab notes this on the COC and these "warm" samples are analyzed as usual).

7.7 SAMPLE RECEIPT

Upon arrival at the laboratory, the samples are logged-in and COC procedures are maintained until the analyses are completed and reported.

Upon receipt of a sample, the laboratory records the following information on the Sample Receipt Log:

- Presence/absence of custody seal(s);
- Presence/absence of COC and FIF forms;

- Condition of samples (intact, broken, obvious movement during shipment, bubbles in VOC samples or trip blanks, OK, etc.);
- Presence/absence of sample point ID numbers, where applicable, job numbers on bottles, etc.;
- Notation of discrepancies between numbers on bottles received and those listed on the COC form;
- Temperature measurement of cooler;
- Notation of the preservation procedures.

Once a cooler is received at the laboratory, the Environmental Monitoring Group Manager is notified if any discrepancies are encountered by the Sample Receiving Group. Prompt notification is essential since analyses could be delayed beyond the allowable holding times.

8.0 FIELD RECORDS AND DOCUMENTATION

Standard COC and FIFs are filled out for each sample during a sampling event and are used to establish and document COC, sampling conditions, field measurements, and sampler's names, (see Appendix C-3). The original forms are sent with the samples to the laboratory and copies are included in the Technical Report when the analysis is complete. All forms are completed using permanent markers only.

The Environmental Monitoring Group maintains the Technical Report, including copies of the COC and FIF for easy reference. Analytical data is also permanently maintained in the site files.

8.1 CHAIN-OF-CUSTODY FORM

In order to maintain and document sample integrity, strict COC procedures are necessary.

From the time the empty sample bottles leave the laboratory until the analytical results are issued, the sample and/or sample containers are in the custody of trained CWM or laboratory personnel. In order to maintain COC, the samples must be either:

- In sight of the assigned custodian;
- Locked in a tamper-proof location; or
- Sealed with a tamper-proof seal.

A written record of sample bottle possession and transfer is maintained and documented on the COC form.

The COC form is signed with the date and time for the following activities:

- Whenever the cooler is transferred to the responsibility of another person.
- When the cooler is finally sealed for transport to the laboratory.

If samples collected from one sample point are placed in more than one cooler, a COC is placed in each cooler.

Additional information on the COC includes the sample point ID, the source code, the sample date, and sample start time. Any problems with the cooler or its contents are also noted on the form.

Upon receipt of the cooler at the laboratory, the date and time the seal is broken, the condition of the samples, and the temperature, are recorded on the COC form.

8.2 FIELD INFORMATION FORM

The FIF contains information regarding site and well conditions, purging and sampling procedures used, and field measurements. The FIF is filled out for each sample point and is enclosed along with the COC in the cooler. FIFs are filled out for each sample point, even if no sample is collected (i.e. dry wells, etc.). Information to be documented is as follows:

Sample Point - The source code and sample point ID, which are contained on the COC, are also recorded on the FIF.

Purging Information - This section includes the date and time the well was purged, the elapsed time for purging, the volume of water in the casing (gallons), and the total volume purged (gallons).

Sampling Information - This section documents the type of equipment used for purging and sampling as well as their materials of construction. If a code number does not correspond to the actual material, then a written description is provided.

Field Measurements - This section includes groundwater elevation. Additional parameters, (i.e. temperature, pH, specific conductance at 25^{o}C, and sample appearance) may also be included. The units and values of these measurements are noted.

Field Comments

This section may include field observations such as:

- Condition of the well and dedicated equipment;
- Weather conditions and upwind activities;
- Sample appearance - odor, color, and turbidity;
- Reference point for water level measurements;
- Location where field blank, duplicate, or regulatory split sample is prepared; if any.
- Purge volume calculations and comments (e.g. well went dry after 1 casing volume), and temperature conversions;
- Duplicate field measurement results;
- Other conditions such as potential safety or health hazards (i.e. presence of flying, stinging insects, etc.).

NOTE: When samples are split with regulatory agencies, note the condition of the bottles, preservatives used, etc., by the agency on the field form.

Sampling Certification - On the bottom of the FIF, the sampler must certify that the sampling procedures used were in accordance with applicable USEPA, NYSDEC, and Corporate Policies and Procedures as outlined in the WMI Manual for Groundwater Sampling and this document. The person signing the sampling certification must be present during the sampling event.

9.0 LABORATORY HANDLING AND ANALYTICAL PROTOCOLS

The following information provides a brief description of how samples are analyzed. Additional details are provided in Test America Laboratories, Inc. Quality Assurance Manual, February 2013.

9.1 LABORATORY PROCESSING PROCEDURES

The laboratory receives, logs-in samples, and maintains the COC procedures until the analyses are completed and reported, as described in Section 7.7. TAL uses an unique sample identification tracking system, which is initiated as the samples are logged in and continues as the samples proceed through the laboratory.

9.2 LABORATORY METHODOLOGIES

For the routine groundwater monitoring at the site, samples are analyzed for site specific indicator parameters (27 VOCs)listed in Condition L of Exhibit F, Schedule 1 of Module I of the Sitewide Permit. Reference list provided in Table 5. USEPA Method 8260 (Reference 14A) is used for the VOC analysis.

For the analysis of samples outside the routine monitoring program, the methodology will be specified by the Environmental Monitoring Manager and will depend on the Data Quality Objectives.

9.3 QUALITY ASSURANCE

Each analytical laboratory used for the analysis of groundwater samples has NYSDOH ELAP certification and CWM approval. In addition, QA is provided by following the standard analytical methods found in Reference 14A. Technical Reports contain analytical results and methodologies, dates sampled and received, sample identification, COC, and FIFs.

9.4 QUALITY CONTROL

Quality control is provided in the field through the collection of duplicate samples, field blanks, trip blanks, and duplicate field measurements.

Duplicate - collected as directed by Environmental Monitoring Manager, (see Section 7.4).

Field Blank - collected as directed by Environmental Monitoring Manager, (see Section 7.5).

Trip Blank - collected as directed by Environmental Monitoring Manager, (see Section 7.5).

Numerous laboratory and field quality control checks are performed. The following list includes the various checks used and the frequency at which the checks are performed.

BLANKS

- Method Blank or Laboratory Blank - Daily
- Reagent Blank - Daily
- Trip Blank - Determined by field staff (daily with VOC analysis)
- Field Blank - Determined by field staff, once per every 20 samples.

DUPLICATES

- Field Duplicate - Determined by field staff, once per every 20 samples.
- Laboratory Duplicate - once every 20 samples or daily, whichever is more frequent
- Matrix Spike Duplicate - once every 20 samples or daily, whichever is more frequent

SPIKES

- Spiked Blank - once every 20 samples or daily, whichever is more frequent
- Surrogate Spike - every sample and QC sample, (organic analyses only)
- Matrix Spike - once every 20 samples or daily, whichever is more frequent

INDEPENDENT QC CHECKS

- Laboratory Control Standards - daily
- Blind QC - each analyte at least quarterly
- Check Sample - as requested by Quality Assurance Manager
- Internal Standard - as method requires
- Standards - daily
- Control Standards - as method requires
- Method of Standard Additions - every sample that demonstrates matrix interference

9.5 REPORTING FORMAT

Upon completing the initial analysis and calculations, the data is evaluated by TAL personnel. If all data passes, it is entered into a computer data base system. All data is subjected to electronic QA validation prior to Lab Manager review and approval.

After Lab Operations and Quality Programs review, data packages are assembled and sent to the site via hard copy and electronic media. Included in the data package are the Technical Report, the Quality Report, and copies of the COC and FIF forms, (see Appendix C-4).

10.0 GENERAL DATA EVALUATION PROCEDURES FOR DETECTION MONITORING

As discussed in Section 3.4, 27 VOCs are used as Site Specific indicator parameters for this monitoring program. USEPA analytical procedures for VOC analysis specify very low method detection limits. At these low levels, there is often uncertainty in the significance of the detection of a compound and the source of the actual compound. Consequently, a low level detection of a compound cannot be reliably used to indicate that the compound is actually present in the groundwater. Therefore, the following general statistical evaluation procedure is employed.

RCRA and 373-2 regulations require the evaluation of groundwater monitoring data using t-statistics. The Poisson distribution of VOC data is used to calculate the t-prediction interval as an alternative Student's t-test. Development of the t-prediction interval for detection groundwater monitoring at the Model City site is presented in Reference 1. The procedure for applying the Prediction Interval (PI) to groundwater monitoring data involves the comparison of the data to three response triggers.

{**NOTE:** For the purpose of these evaluation procedures, a “J-value” is defined as the detection of a compound ABOVE the lab’s MDL, AT or BELOW theirRL, in an undiluted sample. Although these “J-value” detections will be reported, they are NOT considered when evaluating data.}

This evaluation procedure is as follows:

1. The primary response trigger is the comparison of the summed total of the 27 Site Specific VOCs, (TVOC) from a single analysis to the PI. The PI for the Model City Facility, as derived from Field Blank data, has been calculated at 23 mg/l, excluding methylene chloride. If the TVOC is $\leq$ 23 mg/l, no further action is required and detection monitoring continues.

2. The second trigger evaluates the number of Site Specific VOC constituents observed in a single analysis and independent of summed total concentration. If the number of individual VOC constituents observed is ≤ 3, excluding methylene chloride, then no further action is required and detection monitoring continues.

3. The third trigger evaluates the current analysis with the two previous analyses. If there are no compounds detected in the current analysis that were reported in each of the previous two analyses, then no further action is required and detection monitoring continues. This trigger also excludes methylene chloride and is independent of concentration.

If the data fails under any one of the three triggers, an evaluation is performed to ascertain if the failure is the result of a release from a regulated unit. A schematic diagram of the groundwater evaluation procedure is shown on Figure 7.

10.1 DATA EVALUATION RESPONSE PROCEDURES

Evaluation of the detection groundwater monitoring well data is performed as a sequential review. The evaluation procedure includes several steps to collect and analyze data, as illustrated on Figure 7. Each step of the evaluation process is directed at defining if the data indicates leakage from the monitored unit. Each of the sequential steps is described in detail below.

Step 1 - This step is routine detection monitoring. Typically, it includes semiannual sampling for the Site Specific Indicator Parameters (27 VOCs), (see Table 5).

Step 2 - Within 7 days of receiving the detection monitoring results, the sum total of Site Specific VOCs, (TVOC), excluding methylene chloride, is calculated.

Step 3 - The results of the detection monitoring analyses are compared with the three response triggers outlined in Section 10.0. If the results pass each of the three triggers, then routine detection monitoring continues (Step 1).

If the results fail either of the first two triggers, the evaluation proceeds down the flow chart to evaluate the QA/QC data. If the results fail the third response trigger, then the evaluation proceeds down a separate branch of the flow chart (Steps 4a, 5a, 6a, and 7a).

Step 4 - If the data review indicates that the data is erroneous, the well returns to routine monitoring (Step 1) with a statement in the annual report that indicates the reasons for the erroneous data. If the data review indicates that the data is correct, the response proceeds down the chart.

Step 4a - If there is a failure of the third trigger, then the well is resampled within 14 days of receiving results.

Step 5 - Within 30 days of receiving the original detection monitoring results, the well must be resampled.

Step 5a - Within 30 days of receiving the results from the well resampling of Step 4a, CWM must meet with the NYSDEC to discuss the results.

Step 6 - Within 7 days of receiving the results from the resampling, the TVOC for the resampling must be calculated.

Step 6a - At the meeting with NYSDEC, a discussion will be held to determine if further action is required. If further action is not required, then the consecutive count (trigger three) will be reset to zero, and the well returns to routine monitoring (Step 1).

Step 7 - The results of the resampling are compared to the first and second data evaluation triggers. If there is no failure, the well returns to routine monitoring (Step 1) with a summary statement in the annual report. If the resampling data fails either of the first two triggers, the evaluation proceeds down the chart.

Step 7a - If further action is required from Step 6a, a source investigation plan must be submitted to NYSDEC within 30 days if required. From this step, the evaluation proceeds to Step 10 (evaluation of the source of detected compounds) on the main branch of the flow chart.

Step 8 - Within 7 days receiving the results of the resampling data, written notification of the failure of the response trigger(s) must be provided to NYSDEC. Within 30 days of receiving the results of the resampling, a plan must be submitted to NYSDEC to determine the source of the detected organic compounds. Within 90 days, or greater if agreed to by NYSDEC, of receiving the resampling data, a permit modification request must be submitted to NYSDEC.

Step 9 - Within 14 days of receiving the resampling results, the affected well and the adjacent wells that monitor the regulated/non-regulated unit must be sampled for NYSDEC Appendix 33 constituents. Adjacent wells are those wells immediately next to the well(s) with the detected compounds.
For example, if a shallow well is affected, the corresponding deep well and the shallow well on each side are the adjacent wells. For an affected deep well, the adjacent wells are the corresponding shallow well and the deep well on each side.

If compound(s) are detected in a well at which there is not a well or well pair on one side monitoring the same regulated/non-regulated unit, then the number of adjacent wells are reduced by one (or by one shallow well if compound(s) were detected in the saturated zone, and vice-versa for a deep well).

Step 10 - Upon approval of the source investigation plan from Step 8 by NYSDEC, an evaluation is made to determine the source of the detected compounds.

Step 11 - The purpose of evaluating the source of the detected compounds is to determine if the regulated/non-regulated unit is or is not the source. If the regulated/non-regulated unit is not the source of the detected compounds, CWM must submit a permit modification request to continue routine monitoring. If the source of the detected compounds is the regulated/non-regulated unit, CWM must submit a permit modification request to determine the maximum contaminant levels in order to determine the need for potential remedial action.

Step 12 - If the source of the compounds detected is not the regulated/non-regulated unit, an investigation is conducted to determine the source, rate and extent of the contamination, and what remedial action is required, if any.

10.2 WELL SPECIFIC DATA EVALUATION PROCEDURES

The data evaluation process for most wells follows the general procedures outlined in the preceding sections. However, there are exceptions to these general procedures. In general, the exception procedure is discussed below. The specific procedure for each exception well is presented in Table 2.

The following wells have Well Specific Data Evaluation Procedures due to the persistence of low level VOCs: W202S, W301S, W401S, W501S, P701S, P703S, W703S, W704S, W705S, W1002S, W1103S, W1104S, W1105S, W1106S, W1109S, W1207S, F5801S, TW01S, R105S, R106S, and R107S, R204S and R208S.

An investigation of the contamination found in each well has been performed. The conclusions of each investigation were previously reported to the Agencies.

The Well Specific Data Evaluation Procedure for evaluating any of the above-mentioned wells is similar to the general procedures previously outlined, however, the three response triggers have been modified slightly.

For each response trigger, the persistently occurring compounds are evaluated separately. For example, well W1103S has persistent levels of trichloroethene and 1,2-trans-dichloroethene, therefore, the TVOC to be compared with the 23 mg\L PI would not include these compounds (or methylene chloride). Rather, the concentration of each persistent compound is compared with an individual PI calculated from historical data from that particular well. A similar scenario is followed for the other two response triggers. Well specific PIs are presented on Table 2.

11.0 REPORTING

A Technical Report containing analytical results from all groundwater monitoring is submitted to NYSDEC and/or USEPA in Portable Document Format (PDF) within 90 days from the last day of the month during which sampling occurred. Included with the Technical Report is TAL's Quality Report. Copies of the COC and FIF forms are included in the Technical Report and are maintained on site. A sample of the report format is shown in Appendix C-4. In addition to the PDF format, NYSDEC has requested and receives all analytical data in Electronic Data Deliverable format within 30 days of receipt of the analytical results.

11.1 RECORDS

Records of all groundwater monitoring activities, including Technical Reports, Quality Reports, COCs, and FIFs are maintained at the Model City Facility. TAL also maintains a computer data base system which is backed-up daily for permanent storage.

REFERENCES

1. Golder Associates Inc., Revised Final Report, Groundwater Monitoring Program for New York State Part 373-2 Permit, Model City TSD Facility, Volumes I and II, April 1988.

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9. Golder Associates, Report on Residuals Management Unit One, Phase I, Groundwater Monitoring Program, Model City TSDR Facility, Model City, New York, November 1994.

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13. Wehran EMCON, Construction Documentation and Engineering Certification Report for the Process Area Interim Measures Second Phase, CWM Chemical Services, Inc., Model City, New York, March 1995.

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15. Golder Associates, 2012 Groundwater Level Interpretation Model City TSDR Facility, Model City, New York, February 2013.

16. Golder Associates, Addendum to Residuals Management Unit one, Groundwater Monitoring Program for Cells 5 and 6, March 1996.

17. Golder Associates, Addendum to Residuals Management Unit one, Groundwater Monitoring Program for Cells 7 and 8, July 1997.

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18. Golder Associates, Records Documentation and Construction Certification, Corrective Measures at the PCB Warehouse, Model City TSD Facility, August 1997.

19. Golder Associates, Lagoons Area Groundwater Interceptor Trench Design, Model City TSD Facility, June 1997.

20. Test America Laboratories, Inc. Quality Assurance Manual February 2013.

21. Golder Associates, Report on Well Installation Corrective Measures Implementation, CWM Chemical Services, LLC, Model City, NY, August 2001.

22. Golder Associates, Addendum No. 6 to Residual Management Unit One Groundwater Monitoring Program, Model City TSD Facility, Model City, NY Revision 1, March 2004.

23. Ensol, Inc., Construction Documentation and Engineering Certification Report for the Process Area III Groundwater Interceptor Trench and Storage Tank T-8010, CWM Chemical Services, LLC Model City, New York, October 2012

24. Golder Associates, Record Documentation and Construction Certification For Process Area IV Extraction Wells CWM Chemical Services, LLC Model City, New York, March 2013

25. Golder Associates, Residuals Management Unit Two, Phase I Groundwater Monitoring Program, Model City TSD Facility, Model City, New York, January 2010.

26. Golder Associates, Addendum No. 1 to Residuals Management Unit Two, Phase I Groundwater Monitoring Program, Model City TSD Facility, Model City, New York, May 2011

TABLE 1
SUMMARY OF STRATIGRAPHIC UNITS TYPICAL INDEX PROPERTIES AND HYDRAULIC CONDUCTIVITY VALUES
ANNUAL GROUNDWATER INTERPRETATION REPORT
MODEL CITY TSD FACILITY
MODEL CITY, NEW YORK

LITHOSTRATIGRAPHIC UNIT	NATURAL MOISTURE CONTENT Wn (%)	ATTERBERG LIMITS LIQUID LIMIT LL	ATTERBERG LIMITS PLASTIC LIMIT PL	ATTERBERG LIMITS PLASTICITY INDEX PI	HYDRAULIC CONDUCTIVITY K(CM/S) VERTICAL	HYDRAULIC CONDUCTIVITY K(CM/S) HORIZONTAL	HYDROSTRATIGRAPHIC UNIT
UPPER ALLUVIUM (UA) - Stiff to hard, gray, brown to yellow-brown, laminated fine SAND and/or SILT and/or SILTY CLAY (SM, ML, or CL). Stratified.	--	--	--	--	1x10-5	3x10-6	Aquitard
UPPER CLAY TILL (UCT) - Stiff to hard, brown to purple-brown CLAYEY SILT, some coarse to fine sand, little fine gravel (CL). Gravel as limestone and shale clasts. Non-stratified to faintly laminated. Contains occasional cobbles and discontinuous, wet sand and silt layers.	15	29	16	13	6x10-7 (See text Sections 6.1.7 and 7.4)	2x10-6 3x10-6* 3x10-6**	Aquitard
UPPER SILT TILL (UST) - Compact to very dense, brown to purple-brown SILT and coarse to fine SAND, little fine gravel (ML). Gravel as limestone and shall clasts. Contains occassional discontinuous, wet sand and silt layers.	12	NON-PLASTIC					
MIDDLE SILT TILL (MST) - Compact to very dense, gray to gray-brown, SILT and coarse to fine SAND, little fine gravel (ML). Gravel as limestone and shale clasts. Dilatant.	12	NON-PLASTIC			1x10-7	3x10-6	Aquitard
GLACIOLACUSTRINE CLAY (GC) - Very soft to firm, gray to gray-brown, CLAY to SILTY CLAY, some fine sand (CL). Occasional gravel sized dropstones throughout. Laminated. Occasional red-brown to gray silt and fine sand layers. Occasional vertical tubular voids (mollusk burrows).	28	35	19	16	2x10-8	5x10-8	Aquitard
GLACIOLACUSTRINE SILT/SAND (GSS) 1. Stratified coarse sand: Very dense, brown to multi-colored coarse to fine SAND, little silt, little fine gravel (SP-SM). Occasional coarse to fine SAND, and coarse to fine GRAVEL layers. Gravel as limestone clasts. Wet.	13	NON-PLASTIC			--	2x10-4 1x10-4*	Aquifer
2. Non-stratified silt and fine sand: Compact to very dense, brown, SILT and coarse to fine SAND, little fine gravel (ML). Gravel as limestone clasts. Wet. Poorly sorted (well graded).	11	NON-PLASTIC			--	3x10-5 7x10-6*	Aquifer
3. Stratified silt and fine sand: Compact, brown-gray to brown, SILT, some fine sand (ML) to fine SAND and SILT (SM). Dilatant. Wet. Well sorted (uniformly graded).	16	NON-PLASTIC			--	1x10-5 1x10-5*	3x10-5 1x10-5* 1.6x10-5*
4. Interlayered silt, sand, and clay: Soft, gray, SILTY CLAY (CL) laminated with ½-inch to 6-inch thick SILT (ML) or fine SAND, some SILT (SM) layers spaced 0.1 feet to 0.5 feet apart.	--	--	--	--	--	3x10-6 2x10-6*	Aquifer
BASAL RED TILL (BRT) - Very dense, red-brown, SILT and coarse to fine SAND, little fine gravel (ML). Gravel as limestone and red and green shale clasts. Dry. Indurated.	11	NON-PLASTIC			3x10-8	4x10-8	Aquitard

NOTES:
Values are for tests reported in the 1985 "Hydrogeologic Characterization" Report unless otherwise noted.
* Values shown for results obtained in 1988 "Hydrogeologic Characterization Update" Report.
** Values shown for results obtained in 1993 "Hydrogeologic Characterization Update" Report.

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
SLF 1	W101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W101D	Semiannually	VOA	23 ug/l
	W102S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
SLF 2	W201S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W201D	Semiannually	VOA	23 ug/l
	W202S	Semiannually	VOA	ALT 6
		Annually	RAD - see notes	
	W202UD	Semiannually	VOA	23 ug/l
	W202LD	Once per "ODD" Year	VOA	23 ug/l
SLF 3	W301S	Semiannually	VOA	ALT 2
		Annually	RAD - see notes	
	W301D	Semiannually	VOA	23 ug/l
	W303S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
SLF 4	W401S	Semiannually	VOA	ALT 10
	W401D	Semiannually	VOA	23 ug/l
	W402S	Semiannually	VOA	23 ug/l
SLF 5	W501S	Semiannually	VOA	ALT 6
	W501D	Semiannually	VOA	23 ug/l
	W502S	Semiannually	VOA	23 ug/l
SLF 6	W601S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W601D	Semiannually	VOA	23 ug/l
	W602S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W603S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
SLF 7	P701S	Semiannually	VOA	ALT 1
	P702S	Semiannually	Water Level Only	
	P703S	Semiannually	VOA	ALT 4
	W701S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W701D	Semiannually	VOA	23 ug/l
	W702S	Semiannually	VOA	23 ug/l
	W702D	Semiannually	VOA	23 ug/l
	W703S	Semiannually	VOA	ALT 3
	W703D	Semiannually	VOA	23 ug/l
	W704S	Semiannually	VOA	ALT 13
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W704D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W705S	Semiannually	VOA	ALT 9
	W705D	Semiannually	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
SLF 10	P1001S	Semiannually	Water Level Only	
	P1002S	Semiannually	Water Level Only	
	W1001S	Semiannually	VOA	23 ug/l
	W1001D	Semiannually	VOA	23 ug/l
	W1002S	Semiannually	VOA	ALT 5
	W1003S	Semiannually	VOA	23 ug/l
	W1003D	Semiannually	VOA	23 ug/l
	W1004S	Semiannually	VOA	23 ug/l
	W1004D	Semiannually	VOA	23 ug/l
SLF 11	P1102S	Semiannually	Water Level Only	
	P1103S	Semiannually	Water Level Only	
	P1104S	Semiannually	Water Level Only	
	P1105S	Semiannually	Water Level Only	
	W1101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W1101D	Semiannually	VOA	23 ug/l
	W1102S	Semiannually	VOA	23 ug/l
	W1102D	Semiannually	VOA	23 ug/l
	W1103S	Semiannually	VOA	ALT 1
	W1103D	Semiannually	VOA	23 ug/l
	W1104S	Semiannually	VOA	ALT 1
		Annually	RAD - see notes	
	W1104D	Semiannually	VOA	23 ug/l
	W1105S	Semiannually	VOA	ALT 1
	W1105D	Semiannually	VOA	23 ug/l
	W1106S	Semiannually	VOA	ALT 1
	W1106D	Semiannually	VOA	23 ug/l
	W1107S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W1107D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W1108S	Semiannually	VOA	23 ug/l
	W1108D	Semiannually	VOA	23 ug/l
	W1109S	Semiannually	VOA	ALT 13
	W1109D	Semiannually	VOA	23 ug/l
	GZR01S	Semiannually	VOA	23 ug/l
	GZR02S	Semiannually	VOA	23 ug/l
	GZR03S	Semiannually	VOA	23 ug/l
	GZR04S	Semiannually	VOA	23 ug/l
SLF 12	P1201S	Semiannually	Water Level Only	
	W1201S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W121UD	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W121LD	Once per "ODD" Year	VOA	23 ug/l
	W1202S	Semiannually	VOA	23 ug/l
	W122UD	Semiannually	VOA	23 ug/l
	W122LD	Once per "ODD" Year	VOA	23 ug/l
	W1203S	Semiannually	VOA	23 ug/l
	W123UD	Semiannually	VOA	23 ug/l
	W123LD	Once per "ODD" Year	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
SLF 12 (continued)	W1204S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W1204D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W1205S	Semiannually	VOA	23 ug/l
	W1205D	Semiannually	VOA	23 ug/l
	W1206S	Semiannually	VOA	23 ug/l
	W1206D	Semiannually	VOA	23 ug/l
	W1207S	Semiannually	VOA	ALT 8
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W1207D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2013)	RAD - see notes	
	W1208S	Semiannually	VOA	23 ug/l
	W128UD	Semiannually	VOA	23 ug/l
	W128LD	Once per "ODD" Year	VOA	23 ug/l
RMU-1	R1P01S	Semiannually	Water Level Only	
	R1P02S	Semiannually	Water Level Only	
	R1P03S	Semiannually	Water Level Only	
	R1P04S	Semiannually	Water Level Only	
	R1P05S	Semiannually	Water Level Only	
	R1P06S	Well removed in 2008.		
	R1P07S	Semiannually	Water Level Only	
	R1P08S	Semiannually	Water Level Only	
	R1P09S	Semiannually	Water Level Only	
	R1P10S	Semiannually	Water Level Only	
	R101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R101D	Semiannually	VOA	23 ug/l
	R102S	Semiannually	VOA	Report Only.
	R102SR	Semiannually	VOA	23 ug/l
	R102D	Semiannually	VOA	23 ug/l
	R103S	Semiannually	VOA	23 ug/l
	R103D	Semiannually	VOA	23 ug/l
	R104S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R104D	Semiannually	VOA	23 ug/l
	R105S	Semiannually	VOA	ALT 13
	R105D	Semiannually	VOA	23 ug/l
	R106S	Semiannually	VOA	ALT 11
	R106D	Semiannually	VOA	23 ug/l
	R107S	Semiannually	VOA	ALT 12
		Annually	RAD - see notes	
	R107D	Semiannually	VOA	23 ug/l
	R108S	Semiannually	VOA	Report Only.
	R1N08S	Semiannually	VOA	23 ug/l
	R108D	Semiannually	VOA	23 ug/l
	R109S	Semiannually	VOA	23 ug/l
	R109D	Semiannually	VOA	23 ug/l
	R110S	Semiannually	VOA	Report Only.
	R1N10S	Semiannually	VOA	23 ug/l
	R110D	Semiannually	VOA	23 ug/l
	R111S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R111D	Semiannually	VOA	23 ug/l
	R112S	Semiannually	VOA	23 ug/l
	R113S	Semiannually	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
RMU-1 (continued)	R114S	Semiannually	VOA	23 ug/l
	R114D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R115S	Semiannually	VOA	23 ug/l
	R116S	Semiannually	VOA	23 ug/l
	R116D	Semiannually	VOA	23 ug/l
	R117UD	Semiannually	Water Level Only	
	R117LD	Semiannually	Water Level Only	
	R118S	Semiannually	VOA	23 ug/l
	R118D	Semiannually	VOA	23 ug/l
	R119D	Semiannually	Water Level Only	
	R120D	Semiannually	Water Level Only	
	R121D	Semiannually	Water Level Only	
	R122D	Semiannually	Water Level Only	
	R123D	Well removed in 2008.		
	R124D	Well removed in 2008.		
	R125D	Semiannually	VOA	23 ug/l
	R126D	Semiannually	VOA	23 ug/l
	R127D	Semiannually	VOA	23 ug/l
	R128D	Semiannually	VOA	23 ug/l
	R129D	Semiannually	VOA	23 ug/l
	R130D	Semiannually	VOA	23 ug/l
	R131D	Semiannually	VOA	23 ug/l
	R132D	Semiannually	VOA	23 ug/l
	R133D	Semiannually	VOA	23 ug/l
	R134D	Semiannually	VOA	23 ug/l
	R135D	Semiannually	VOA	23 ug/l
BACKGROUND	BW01S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW01D	Semiannually	VOA	23 ug/l
	BW03S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW03D	Semiannually	VOA	23 ug/l
	BW04S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW04D	Semiannually	VOA	23 ug/l
	BW05S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW05D	Semiannually	VOA	23 ug/l
FAC PONDS 1 & 2	F101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F102S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F102D	Semiannually	VOA	23 ug/l
	F103S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
FAC POND 3	F301S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F302S	Semiannually	VOA	23 ug/l
	F302D	Semiannually	VOA	23 ug/l
FAC POND 8	F801S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F802S	Semiannually	VOA	23 ug/l
	F802UD	Semiannually	VOA	23 ug/l
	F802LD	Once per "ODD" Year	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
TANK 58	F5801S	Semiannually	VOA	ALT 7
		Annually	RAD - see notes	
	F5801D	Semiannually	VOA	23 ug/l
	F5802S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
EAST/WEST SALTS AREA	TW01S	Semiannually	VOA	ALT 6
		Annually	RAD - see notes	
	TW02S	Semiannually	VOA	23 ug/l
	TW03S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	TW03D	Semiannually	VOA	23 ug/l
	WS01S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	TP04S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
NORTH SALTS	TW12S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	TW13S	Semiannually	VOA	23 ug/l
	TW14S	Semiannually	VOA	23 ug/l
	TW15S	Semiannually	VOA	23 ug/l
	TW15D	Semiannually	VOA	23 ug/l
INVESTIGATION WELLS	GD01S	Annually	VOA	23 ug/l
	RR01S	Annually	VOA	23 ug/l
	TW21S	Semiannually	VOA	Report Only.
	TW24S	Semiannually	VOA	Report Only.
	TW27S	Semiannually	VOA	Report Only.
	TW29S	Semiannually	VOA	Report Only.
	W1209S	Annually	VOA + RAD - see notes	23 ug/l
GROUNDWATER EXTRACTION SYSTEMS				
WEST DRUM AREA				
GROUNDWATER WELLS	TW16S	Varies	Water Level + DNAPL Removal	
	TW17S	Varies	Water Level + DNAPL Removal	
	TW18S	Annually	Water Level	
	TW19S	Semiannually	VOA	Report Only.
	TW20S	Annually	RAD - see notes	
	WDA01S	Semiannually	VOA	23 ug/l
	WDA01D	Semiannually	VOA	23 ug/l
AQUEOUS SUMPS	AQ01	Quarterly	Water Level Only.	
	AQ02	Quarterly	Water Level Only.	
		2011, 2014, 2017, etc.	TCL	Report Only.
	AQ03	Quarterly	Water Level Only.	
	AQ04	Quarterly	Water Level Only.	
	AQ05	Quarterly	Water Level Only.	
		2010, 2013, 2016, etc.	TCL	Report Only.
	AQ06	Quarterly	Water Level Only.	
	AQ07	Quarterly	Water Level Only.	
		2009, 2012, 2015, etc.	TCL	Report Only.
DNAPL SUMPS	DS01	Quarterly	Water Level + DNAPL Check.	
	DS02	Quarterly	Water Level + DNAPL Check.	
	DS03	Quarterly	Water Level + DNAPL Check.	
	DS04	Quarterly	Water Level + DNAPL Check.	
	DS05	Quarterly	Water Level + DNAPL Check.	
	DS06	Quarterly	Water Level + DNAPL Check.	
	DS07	Quarterly	Water Level + DNAPL Check.	
	DS08	Quarterly	Water Level + DNAPL Check.	

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
DNAPL SUMPS (continued)	DS09	Quarterly	Water Level + DNAPL Check.	
	DS10	Quarterly	Water Level + DNAPL Check.	
	DS11	Quarterly	Water Level + DNAPL Check.	
	DS12	Quarterly	Water Level + DNAPL Check.	
	DS13	Quarterly	Water Level + DNAPL Check.	
	DS14	Quarterly	Water Level + DNAPL Check.	
	DS15	Quarterly	Water Level + DNAPL Check.	
	DS16	Quarterly	Water Level + DNAPL Check.	
	DS17	Quarterly	Water Level + DNAPL Check.	
	DS18	Quarterly	Water Level + DNAPL Check.	
	DS19	Quarterly	Water Level + DNAPL Check.	
PERFORMANCE PIEZOMETERS	PAN04	Quarterly	Water Level Only	
	PAN03	Quarterly	Water Level Only	
	PAN02	Quarterly	Water Level Only	
	PAN01	Quarterly	Water Level Only	
	PA	Quarterly	Water Level Only	
	PAS01	Quarterly	Water Level Only	
	PAS02	Quarterly	Water Level Only	
	PAS03	Quarterly	Water Level Only	
	PAS04	Quarterly	Water Level Only	
	PBN04	Quarterly	Water Level Only	
	PBN03	Quarterly	Water Level Only	
	PBN02	Quarterly	Water Level Only	
	PBN01	Quarterly	Water Level Only	
	PB	Quarterly	Water Level Only	
	PBS01	Quarterly	Water Level Only	
	PBS02	Quarterly	Water Level Only	
	PBS03	Quarterly	Water Level Only	
	PBS04	Quarterly	Water Level Only	
		LAGOONS/PROCESS AREAS		
GROUNDWATER WELLS	LMS01S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	LMS01D	Semiannually	VOA	Report Only.
	LMS02S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	LMS02D	Semiannually	VOA	Report Only.
	LMS03S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	LMS03D	Semiannually	VOA	Report Only.
	LMS04S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	TW11S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	TW30D	Semiannually	VOA	Report Only.
	R202S	Semiannually	VOA	Report Only.
AQUEOUS SUMPS	AQ08	Quarterly	Water Level Only	
	AQ09	Quarterly	Water Level Only	
		2009, 2012, 2015, etc.	TCL	Report Only.
	AQ10	Quarterly	Water Level Only	
	AQ11	Quarterly	Water Level Only	
	AQ12	Quarterly	Water Level Only	
		2010, 2013, 2016 etc.	TCL	Report Only.
	AQ13W	Quarterly	Water Level Only	
		Once per "ODD" Year	TCL	Report Only.
	AQ14E	Quarterly	Water Level Only	
		Once per "EVEN" Year	TCL	Report Only.
	AQ15	Quarterly	Water Level Only	

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
DNAPL SUMPS	DS20	Quarterly	Water Level + DNAPL Check.	
	DS21	Quarterly	Water Level + DNAPL Check.	
	DS22	Quarterly	Water Level + DNAPL Check.	
	DS23	Quarterly	Water Level + DNAPL Check.	
	DS26	Quarterly	Water Level + DNAPL Check.	
	DS27	Quarterly	Water Level + DNAPL Check.	
	DS28	Quarterly	Water Level + DNAPL Check.	
	DS29	Quarterly	Water Level + DNAPL Check.	
EXTRACTION WELLS	EW08	Quarterly	Water Level Only	
	EW09	Quarterly	Water Level Only	
	EW11	Quarterly	Water Level Only	
	EW12	Quarterly	Water Level Only	
		2011, 2014, 2017 etc.	TCL	Report Only.
	EW14	Quarterly	Water Level Only	
	EW17	Annually	Water Level Only	
	EW18	Annually	Water Level Only	
COMBINATION DNAPL SUMPS/ EXTRACTION WELLS	EW10/DS24	Quarterly	Water Level + DNAPL Removal.	
	EW13/DS25	Quarterly	Water Level + DNAPL Removal.	
PERFORMANCE PIEZOMETERS	PCN03	Quarterly	Water Level Only	
	PCN02	Quarterly	Water Level Only	
	PCN01	Quarterly	Water Level Only	
	PC	Quarterly	Water Level Only	
	PCS01	Quarterly	Water Level Only	
	PCS02	Quarterly	Water Level Only	
	PCS03	Quarterly	Water Level Only	
	PDN01	Quarterly	Water Level Only	
	PDN02	Quarterly	Water Level Only	
	PDN03	Quarterly	Water Level Only	
	PLM101	Quarterly	Water Level Only	
	PLM201	Quarterly	Water Level Only	
	PLM202	Quarterly	Water Level Only	
	PLM301	Quarterly	Water Level Only	
	PFN02	Quarterly	Water Level Only	
	PFN01	Quarterly	Water Level Only	
	PF	Quarterly	Water Level Only	
	PFS01	Quarterly	Water Level Only	
	PFS02	Quarterly	Water Level Only	
TANKS	T-8009	Annually	VOA	Report Only.
	T-8010	Semiannually	VOA	Report Only.
		AREA SOUTH OF SLF 3		
GROUNDWATER WELL	W302S	Quarterly	Water Level Only	
		Annually	TCL + RAD - see list	Report Only.
EXTRACTION WELLS	EW06	Quarterly	Water Level Only	
		Once per "EVEN" Year	TCL	Report Only.
	EW07	Quarterly	Water Level Only	
		Once per "ODD" Year	TCL	Report Only.
PERFORMANCE PIEZOMETERS	PEW701	Quarterly	Water Level Only	
	PEW702	Quarterly	Water Level Only	
	PEW703	Quarterly	Water Level Only	
	PEW704	Quarterly	Water Level Only	

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
		P1202S AREA		
GROUNDWATER WELLS	TW25S	Semiannually	Water Level Only	
	TW26S	Semiannually	VOA	Report Only.
	P1202S	Semiannually	Water Level Only	
PERFORMANCE PIEZOMETERS	P1203S	Semiannually	Water Level Only	
	P1204S	Semiannually	Water Level Only	
	P1205S	Semiannually	Water Level Only	
	P1206S	Semiannually	Water Level Only	
TANK	T-8006	Semiannually	VOA	Report Only.
		BW02S AREA		
GROUNDWATER WELLS	BW02S	Semiannually	Water Level Only	
	BW02D	Annually	VOA	Report Only.
PERFORMANCE PIEZOMETERS	BWP01S	Semiannually	Water Level Only	
	BWP02S	Semiannually	Water Level Only	
	BWP03S	Semiannually	Water Level Only	
	BWP04S	Semiannually	Water Level Only	
TANK	T-8005	Semiannually	VOA	Report Only.
		PCB WAREHOUSE AREA		
EXTRACTION WELLS	EW15	Semiannually	Water Level Only	
	EW16	Semiannually	Water Level Only	
PERFORMANCE PIEZOMETERS	PE01S	Semiannually	Water Level Only	
	PE02S	Semiannually	Water Level Only	
	PE03S	Semiannually	Water Level Only	
TANK	T-8007	Semiannually	VOA	Report Only.

NOTES:
1. VOA = Site Specific Priority Pollutant Volatile Organics, (see Table 5).
2. TCL = Superfund Target Compound List, (see Table 6).
3. DNAPL Check = a physical check to determine the presence of any Dense, Non-Aqueous Phase Liquids.
4. All groundwater wells have pH, Specific Conductance, Temperature, and Groundwater Elevation measurements made any time that they are sampled for routine analytical parameters.
5. Water Level collection frequencies for selected Groundwater Extraction System Sample Points are quarterly *during the operational period.* As these systems do not operate in the first quarter of a given year, no water levels are collected.
6. RAD - Annually = Isotopic-U, Isotopic-Th, Ra^{-226}, Ra^{-228}, and Gamma Spectroscopy Analysis.
7. RAD - Every 5 Years = Gross Alpha + Gross Beta on filtered and unfiltered samples.

TABLE 2

GROUNDWATER MONITORING PROGRAM

(Revised 08/ 09)

ROUTINE PREDICTION INTERVAL

23 μg/l = total VOCs excluding methylene chloride.

ALTERNATE PREDICTION INTERVALS

ALT 1 {P701S, W1103S, W1104S, W1105S, W1106S} - 85 μg/l for 1,2-trans-dichloroethene, 260 μg/l for trichloroethene, and 23 μg/l total VOCs excluding methylene chloride, 1,2-t-dichloroethene, and trichloroethene.

ALT 2 {W301S} – 23 μg/l for 1,1-dichloroethene, 570 μg/l for 1,2-t-dichloroethene, 1200 μg/l for trichloroethene, and 23 μg/l total VOCs excluding methylene chloride, 1,1-dichloroethene, 1,2-t-dichloroethene, and trichloroethene.

ALT 3 {W703S} - 510 μg/l for chloroform, 400 μg/l for carbon tetrachloride, and 23 μg/l total VOCs excluding methylene chloride, chloroform and carbon tetrachloride.

ALT 4 {P703S} - 23 μg/l for 1,1-dichloroethane, 120 μg/l for 1,2-dichloroethane, 190 μg/l for ethylbenzene, 27 μg/l for chlorobenzene, and 23 μg/l total VOCs excluding methylene chloride, 1,1-dichloroethane, 1,2-dichloroethane, ethylbenzene, and chlorobenzene.

ALT 5 {W1002S} - 23 μg/l for sum of 1,1,1-trichloroethane, 1,1-dichloroethane, tetrachloroethene, toluene, and vinyl chloride. Sum total concentration of all VOCs excluding methylene chloride < 3 mg/l.

ALT 6 {TW01S, W202S, W501S} - 340 μg/l total VOCs excluding methylene chloride.

ALT 7 {F5801S} - 23 μg/l chlorobenzene and 23 μg/l total VOCs excluding methylene chloride and chlorobenzene**.**

ALT 8 {W1207S} - 50 μg/l for chloroform, 23 μg/l for carbon tetrachloride, and 23 μg/l total VOCs excluding methylene chloride, chloroform, and carbon tetrachloride**.**

ALT 9 {W705S} - 23 μg/l for 1,1,1-trichloroethane, 23 μg/l for 1,1-dichloroethane, and 23 μg/l total VOCs excluding methylene chloride, 1,1-dichloroethane, and 1,1,1-trichloroethane.

ALT 10 {W401S} - 23 μg/l for sum of acetone, methyl ethyl ketone, methyl isobutyl ketone, and 2-hexanone. Sum total concentration of all VOCs excluding methylene chloride and vinyl chloride < 3 mg/l.

ALT 11 {R106S} - 23 μg/l for 1,1-dichloroethane, 23 μg/l for vinyl chloride, and 23 μg/l total VOCs excluding methylene chloride, vinyl chloride, and 1,1-dichloroethane.

ALT 12 {R107S} - 23 μg/l for 1,1-dichloroethane, 23 μg/l for Trichloroethene, 23 μg/l for 1,2-dichloroethane, and 23 μg/l total VOCs excluding methylene chloride, trichloroethene, 1,2-dichloroethane, and 1,1-dichloroethane.

ALT 13 {R105S, W704S, and W1109S} – 23 μg/l for 1,1-dichloroethane and 23 μg/l total VOCs excluding methylene chloride and 1,1-dichloroethane

TABLE 2

GROUNDWATER MONITORING PROGRAM

(Revised 12/13)

ROUTINE PREDICTION INTERVAL

23 μg/l = total VOCs excluding methylene chloride.

ALTERNATE PREDICTION INTERVALS

ALT 1 {P701S, W1103S, W1104S, W1105S, W1106S} - 85 μg/l for 1,2-trans-dichloroethene, 260 μg/l for trichloroethene, and 23 μg/l total VOCs excluding methylene chloride, 1,2-t-dichloroethene, and trichloroethene.

ALT 2 {W301S} – 23 μg/l for 1,1-dichloroethene, 570 μg/l for 1,2-t-dichloroethene, 1200 μg/l for trichloroethene, and 23 μg/l total VOCs excluding methylene chloride, 1,1-dichloroethene, 1,2-t-dichloroethene, and trichloroethene.

ALT 3 {W703S} - 510 μg/l for chloroform, 400 μg/l for carbon tetrachloride, and 23 μg/l total VOCs excluding methylene chloride, chloroform and carbon tetrachloride.

ALT 4 {P703S} - 23 μg/l for 1,1-dichloroethane, 120 μg/l for 1,2-dichloroethane, 190 μg/l for ethylbenzene, 27 μg/l for chlorobenzene, and 23 μg/l total VOCs excluding methylene chloride, 1,1-dichloroethane, 1,2-dichloroethane, ethylbenzene, and chlorobenzene.

ALT 5 {W1002S} - 23 μg/l for sum of 1,1,1-trichloroethane, 1,1-dichloroethane, tetrachloroethene, toluene, and vinyl chloride. Sum total concentration of all VOCs excluding methylene chloride < 3 mg/l.

ALT 6 {TW01S, W202S, W501S} - 340 μg/l total VOCs excluding methylene chloride.

ALT 7 {F5801S} - 23 μg/l chlorobenzene and 23 μg/l total VOCs excluding methylene chloride and chlorobenzene**.**

ALT 8 {W1207S} - 50 μg/l for chloroform, 23 μg/l for carbon tetrachloride, and 23 μg/l total VOCs excluding methylene chloride, chloroform, and carbon tetrachloride**.**

ALT 9 {W705S} - 23 μg/l for 1,1,1-trichloroethane, 23 μg/l for 1,1-dichloroethane, and 23 μg/l total VOCs excluding methylene chloride, 1,1-dichloroethane, and 1,1,1-trichloroethane.

ALT 10 {W401S} - 23 μg/l for sum of acetone, methyl ethyl ketone, methyl isobutyl ketone, and 2-hexanone. Sum total concentration of all VOCs excluding methylene chloride and vinyl chloride < 3 mg/l.

ALT 11 {R106S} - 23 μg/l for 1,1-dichloroethane, 23 μg/l for vinyl chloride, and 23 μg/l total VOCs excluding methylene chloride, vinyl chloride, and 1,1-dichloroethane.

ALT 12 {R107S} - 23 μg/l for 1,1-dichloroethane, 23 μg/l for Trichloroethene, 23 μg/l for 1,2-dichloroethane, and 23 μg/l total VOCs excluding methylene chloride, trichloroethene, 1,2-dichloroethane, and 1,1-dichloroethane.

ALT 13 {R105S, W704S, and W1109S} – 23 μg/l for 1,1-dichloroethane and 23 μg/l total VOCs excluding methylene chloride and 1,1-dichloroethane

ALT 14 {R204S} – 23 µg/l for 1,1-dichloroethane, 23 µg/l for 1,2-dichloroethane, 23 µg/l for trichloroethene and 23 µg/l total VOCs excluding methylene chloride and 1,1-dichloroethane, 1,2-dichloroethane, and trichloroethene

ALT 15 {R208S} – 23 µg/l for benzene, 23 µg/l for ethylbenzene, 23 µg/l for toluene and 23 µg/l total VOCs excluding methylene chloride and benzene, ethylbenzene, and toluene

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
SLF 1	W101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W101D	Semiannually	VOA	23 ug/l
	W102S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
SLF 2	W201S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W201D	Semiannually	VOA	23 ug/l
	W202S	Semiannually	VOA	ALT 6
		Annually	RAD - see notes	
	W202UD	Semiannually	VOA	23 ug/l
	W202LD	Once per "ODD" Year	VOA	23 ug/l
SLF 3	W301S	Semiannually	VOA	ALT 2
		Annually	RAD - see notes	
	W301D	Semiannually	VOA	23 ug/l
	W303S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
SLF 4	W401S	Semiannually	VOA	ALT 10
	W401D	Semiannually	VOA	23 ug/l
	W402S	Semiannually	VOA	23 ug/l
SLF 5	W501S	Semiannually	VOA	ALT 6
	W501D	Semiannually	VOA	23 ug/l
	W502S	Semiannually	VOA	23 ug/l
SLF 6	W601S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W601D	Semiannually	VOA	23 ug/l
	W602S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W603S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
SLF 7	P701S	Semiannually	VOA	ALT 1
	P702S	Semiannually	Water Level Only	
	P703S	Semiannually	VOA	ALT 4
	W701S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W701D	Semiannually	VOA	23 ug/l
	W702S	Semiannually	VOA	23 ug/l
	W702D	Semiannually	VOA	23 ug/l
	W703S	Semiannually	VOA	ALT 3
	W703D	Semiannually	VOA	23 ug/l
	W704S	Semiannually	VOA	ALT 13
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W704D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W705S	Semiannually	VOA	ALT 9
	W705D	Semiannually	VOA	23 ug/l
SLF 10	P1001S	Semiannually	Water Level Only	
	P1002S	Semiannually	Water Level Only	
	W1001S	Semiannually	VOA	23 ug/l
	W1001D	Semiannually	VOA	23 ug/l
	W1002S	Semiannually	VOA	ALT 5
	W1003S	Semiannually	VOA	23 ug/l
	W1003D	Semiannually	VOA	23 ug/l
	W1004S	Semiannually	VOA	23 ug/l
	W1004D	Semiannually	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
SLF 11	P1102S	Semiannually	Water Level Only	
	P1103S	Semiannually	Water Level Only	
	P1104S	Semiannually	Water Level Only	
	P1105S	Semiannually	Water Level Only	
	W1101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	W1101D	Semiannually	VOA	23 ug/l
	W1102S	Semiannually	VOA	23 ug/l
	W1102D	Semiannually	VOA	23 ug/l
	W1103S	Semiannually	VOA	ALT 1
	W1103D	Semiannually	VOA	23 ug/l
	W1104S	Semiannually	VOA	ALT 1
		Annually	RAD - see notes	
	W1104D	Semiannually	VOA	23 ug/l
	W1105S	Semiannually	VOA	ALT 1
	W1105D	Semiannually	VOA	23 ug/l
	W1106S	Semiannually	VOA	ALT 1
	W1106D	Semiannually	VOA	23 ug/l
	W1107S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W1107D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W1108S	Semiannually	VOA	23 ug/l
	W1108D	Semiannually	VOA	23 ug/l
	W1109S	Semiannually	VOA	ALT 13
	W1109D	Semiannually	VOA	23 ug/l
	GZR01S	Semiannually	VOA	23 ug/l
	GZR02S	Semiannually	VOA	23 ug/l
	GZR03S	Semiannually	VOA	23 ug/l
	GZR04S	Semiannually	VOA	23 ug/l
SLF 12	P1201S	Semiannually	Water Level Only	
	W1201S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W121UD	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W121LD	Once per "ODD" Year	VOA	23 ug/l
	W1202S	Semiannually	VOA	23 ug/l
	W122UD	Semiannually	VOA	23 ug/l
	W122LD	Once per "ODD" Year	VOA	23 ug/l
	W1203S	Semiannually	VOA	23 ug/l
	W123UD	Semiannually	VOA	23 ug/l
	W123LD	Once per "ODD" Year	VOA	23 ug/l
	W1204S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W1204D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W1205S	Semiannually	VOA	23 ug/l
	W1205D	Semiannually	VOA	23 ug/l
	W1206S	Semiannually	VOA	23 ug/l
	W1206D	Semiannually	VOA	23 ug/l
	W1207S	Semiannually	VOA	ALT 8
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
SLF 12 (continued)	W1207D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
		Every 5 years (2018)	RAD - see notes	
	W1208S	Semiannually	VOA	23 ug/l
	W128UD	Semiannually	VOA	23 ug/l
	W128LD	Once per "ODD" Year	VOA	23 ug/l
RMU-1	R1P01S	Semiannually	Water Level Only	
	R1P02S	Semiannually	Water Level Only	
	R1P03S	Semiannually	Water Level Only	
	R1P04S	Semiannually	Water Level Only	
	R1P05S	Semiannually	Water Level Only	
	R1P06S	Well removed in 2008.		
	R1P07S	Semiannually	Water Level Only	
	R1P08S	Semiannually	Water Level Only	
	R1P09S	Semiannually	Water Level Only	
	R1P10S	Semiannually	Water Level Only	
	R101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R101D	Semiannually	VOA	23 ug/l
	R102S	Semiannually	VOA	Report Only.
	R102SR	Semiannually	VOA	23 ug/l
	R102D	Semiannually	VOA	23 ug/l
	R103S	Semiannually	VOA	23 ug/l
	R103D	Semiannually	VOA	23 ug/l
	R104S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R104D	Semiannually	VOA	23 ug/l
	R105S	Semiannually	VOA	ALT 13
	R105D	Semiannually	VOA	23 ug/l
	R106S	Semiannually	VOA	ALT 11
	R106D	Semiannually	VOA	23 ug/l
	R107S	Semiannually	VOA	ALT 12
		Annually	RAD - see notes	
	R107D	Semiannually	VOA	23 ug/l
	R108S	Semiannually	VOA	Report Only.
	R1N08S	Semiannually	VOA	23 ug/l
	R108D	Semiannually	VOA	23 ug/l
	R109S	Semiannually	VOA	23 ug/l
	R109D	Semiannually	VOA	23 ug/l
	R110S	Semiannually	VOA	Report Only.
	R1N10S	Semiannually	VOA	23 ug/l
	R110D	Semiannually	VOA	23 ug/l
	R111S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R111D	Semiannually	VOA	23 ug/l
	R112S	Semiannually	VOA	23 ug/l
	R113S	Semiannually	VOA	23 ug/l
	R114S	Semiannually	VOA	23 ug/l
	R114D	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	R115S	Semiannually	VOA	23 ug/l
	R116S	Semiannually	VOA	23 ug/l
	R116D	Semiannually	VOA	23 ug/l
	R117UD	Semiannually	Water Level Only	
	R117LD	Semiannually	Water Level Only	
	R118S	Semiannually	VOA	23 ug/l
	R118D	Semiannually	VOA	23 ug/l
	R119D	Semiannually	Water Level Only	
	R120D	Semiannually	Water Level Only	
	R121D	Semiannually	Water Level Only	
	R122D	Semiannually	Water Level Only	
	R123D	Well removed in 2008.		

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
RMU-1 (continued)	R124D	Well removed in 2008.		
	R125D	Semiannually	VOA	23 ug/l
	R126D	Semiannually	VOA	23 ug/l
	R127D	Semiannually	VOA	23 ug/l
	R128D	Semiannually	VOA	23 ug/l
	R129D	Semiannually	VOA	23 ug/l
	R130D	Semiannually	VOA	23 ug/l
	R131D	Semiannually	VOA	23 ug/l
	R132D	Semiannually	VOA	23 ug/l
	R133D	Semiannually	VOA	23 ug/l
	R134D	Semiannually	VOA	23 ug/l
	R135D	Semiannually	VOA	23 ug/l
RMU-2	R2P01S	Semiannually	Water Level Only	
	R201SR	Semiannually	VOA	23 ug/l
	R201DR	Semiannually	VOA	23 ug/l
	R204S	Semiannually	VOA	ALT 14
	R204D	Semiannually	VOA	23 ug/l
	R205S	Semiannually	VOA	23 ug/l
	R205D	Semiannually	VOA	23 ug/l
	R206S	Semiannually	VOA	23 ug/l
	R206D	Semiannually	VOA	23 ug/l
	R207S	Semiannually	VOA	23 ug/l
	R207D	Semiannually	VOA	23 ug/l
	R208S	Semiannually	VOA	ALT 15
	R208D	Semiannually	VOA	23 ug/l
	R209S	Semiannually	VOA	23 ug/l
	R209D	Semiannually	VOA	23 ug/l
	R210S	Semiannually	VOA	23 ug/l
	R210D	Semiannually	VOA	23 ug/l
	R211S	Semiannually	VOA	23 ug/l
	R211D	Semiannually	VOA	23 ug/l
	R212S	Semiannually	VOA	23 ug/l
	R212UD	Semiannually	VOA	23 ug/l
	R212LD	Once per "ODD" Year	VOA	23 ug/l
	R213S	Semiannually	VOA	23 ug/l
	R213D	Semiannually	VOA	23 ug/l
	R214S	Semiannually	VOA	23 ug/l
	R214D	Semiannually	VOA	23 ug/l
	R215S	Semiannually	VOA	23 ug/l
	R215D	Semiannually	VOA	23 ug/l
	R216S	Semiannually	VOA	23 ug/l
	R216D	Semiannually	VOA	23 ug/l
BACKGROUND	BW01S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW01D	Semiannually	VOA	23 ug/l
	BW03S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW03D	Semiannually	VOA	23 ug/l
	BW04S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW04D	Semiannually	VOA	23 ug/l
	BW05S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	BW05D	Semiannually	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
FAC PONDS 1 & 2	F101S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F102S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F102D	Semiannually	VOA	23 ug/l
	F103S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
FAC POND 3	F301S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F302S	Semiannually	VOA	23 ug/l
	F302D	Semiannually	VOA	23 ug/l
FAC POND 8	F801S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	F802S	Semiannually	VOA	23 ug/l
	F802UD	Semiannually	VOA	23 ug/l
	F802LD	Once per "ODD" Year	VOA	23 ug/l
FAC POND 5	F501S	Semiannually	VOA	23 ug/l
	F501D	Semiannually	VOA	23 ug/l
	F502S	Semiannually	VOA	23 ug/l
TANK 58	F5801S	Semiannually	VOA	ALT 7
		Annually	RAD - see notes	
	F5801D	Semiannually	VOA	23 ug/l
	F5802S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
EAST/WEST SALTS AREA	TW01S	Semiannually	VOA	ALT 6
		Annually	RAD - see notes	
	TW02S	Semiannually	VOA	23 ug/l
	TW03S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	TW03D	Semiannually	VOA	23 ug/l
	WS01S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	TP04S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
NORTH SALTS	TW12S	Semiannually	VOA	23 ug/l
		Annually	RAD - see notes	
	TW13S	Semiannually	VOA	23 ug/l
	TW14S	Semiannually	VOA	23 ug/l
	TW15S	Semiannually	VOA	23 ug/l
	TW15D	Semiannually	VOA	23 ug/l
INVESTIGATION WELLS	GDA01S	Annually	VOA	23 ug/l
	RR01S	Annually	VOA	23 ug/l
	TW21S	Semiannually	VOA	Report Only.
	TW24S	Semiannually	VOA	Report Only.
	TW27S	Semiannually	VOA	Report Only.
	TW29S	Semiannually	VOA	Report Only.
	W1209S	Annually	VOA + RAD - see notes	23 ug/l
GROUNDWATER EXTRACTION SYSTEMS				
WEST DRUM AREA				
GROUNDWATER WELLS	TW16S	Varies	Water Level + DNAPL Removal	
	TW17S	Varies	Water Level + DNAPL Removal	
	TW18S	Annually	Water Level	
	TW19S	Semiannually	VOA	Report Only.
	TW20S	Annually	RAD - see notes	
	WDA01S	Semiannually	VOA	23 ug/l
	WDA01D	Semiannually	VOA	23 ug/l

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
AQUEOUS SUMPS	AQ01	Quarterly	Water Level Only.	
	AQ02	Quarterly	Water Level Only.	
		2015, 2018, 2021, etc.	TCL	Report Only.
	AQ03	Quarterly	Water Level Only.	
	AQ04	Quarterly	Water Level Only.	
	AQ05	Quarterly	Water Level Only.	
		2016, 2019, 2022, etc.	TCL	Report Only.
	AQ06	Quarterly	Water Level Only.	
	AQ07	Quarterly	Water Level Only.	
		2014, 2017, 2020 etc.	TCL	Report Only.
DNAPL SUMPS	DS01	Quarterly	Water Level + DNAPL Check.	
	DS02	Quarterly	Water Level + DNAPL Check.	
	DS03	Quarterly	Water Level + DNAPL Check.	
	DS04	Quarterly	Water Level + DNAPL Check.	
	DS05	Quarterly	Water Level + DNAPL Check.	
	DS06	Quarterly	Water Level + DNAPL Check.	
	DS07	Quarterly	Water Level + DNAPL Check.	
	DS08	Quarterly	Water Level + DNAPL Check.	
DNAPL SUMPS (continued)	DS09	Quarterly	Water Level + DNAPL Check.	
	DS10	Quarterly	Water Level + DNAPL Check.	
	DS11	Quarterly	Water Level + DNAPL Check.	
	DS12	Quarterly	Water Level + DNAPL Check.	
	DS13	Quarterly	Water Level + DNAPL Check.	
	DS14	Quarterly	Water Level + DNAPL Check.	
	DS15	Quarterly	Water Level + DNAPL Check.	
	DS16	Quarterly	Water Level + DNAPL Check.	
	DS17	Quarterly	Water Level + DNAPL Check.	
	DS18	Quarterly	Water Level + DNAPL Check.	
	DS19	Quarterly	Water Level + DNAPL Check.	
PERFORMANCE PIEZOMETERS	PAN04	Quarterly	Water Level Only	
	PAN03	Quarterly	Water Level Only	
	PAN02	Quarterly	Water Level Only	
	PAN01	Quarterly	Water Level Only	
	PA	Quarterly	Water Level Only	
PERFORMANCE PIEZOMETERS (continued)	PAS01	Quarterly	Water Level Only	
	PAS02	Quarterly	Water Level Only	
	PAS03	Quarterly	Water Level Only	
	PAS04	Quarterly	Water Level Only	
	PBN04	Quarterly	Water Level Only	
	PBN03	Quarterly	Water Level Only	
	PBN02	Quarterly	Water Level Only	
	PBN01	Quarterly	Water Level Only	
	PB	Quarterly	Water Level Only	
	PBS01	Quarterly	Water Level Only	
	PBS02	Quarterly	Water Level Only	
	PBS03	Quarterly	Water Level Only	
	PBS04	Quarterly	Water Level Only	
	LAGOONS/PROCESS AREAS			
GROUNDWATER WELLS	LMS01S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	LMS01D	Semiannually	VOA	Report Only.
	LMS02S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	LMS02D	Semiannually	VOA	Report Only.
	LMS03S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	LMS03D	Semiannually	VOA	Report Only.
	LMS04S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
		LAGOONS/PROCESS AREAS		
GROUNDWATER WELLS (continued)	TW11S	Quarterly	Water Level Only	
		Semiannually	VOA	Report Only.
	TW30D	Semiannually	VOA	Report Only.
	R202S	Semiannually	VOA	Report Only.
AQUEOUS SUMPS	AQ08	Quarterly	Water Level Only	
	AQ09	Quarterly	Water Level Only	
		2015, 2018, 2021 etc.	TCL	Report Only.
	AQ10	Quarterly	Water Level Only	
	AQ11	Quarterly	Water Level Only	
	AQ12	Quarterly	Water Level Only	
		2016, 2019, 2022 etc.	TCL	Report Only.
	AQ13W	Quarterly	Water Level Only	
		Once per "ODD" Year	TCL	Report Only.
	AQ14E	Quarterly	Water Level Only	
		Once per "EVEN" Year	TCL	Report Only.
	AQ15	Quarterly	Water Level Only	
DNAPL SUMPS	DS20	Quarterly	Water Level + DNAPL Check.	
	DS21	Quarterly	Water Level + DNAPL Check.	
	DS22	Quarterly	Water Level + DNAPL Check.	
	DS23	Quarterly	Water Level + DNAPL Check.	
	DS26	Quarterly	Water Level + DNAPL Check.	
	DS27	Quarterly	Water Level + DNAPL Check.	
	DS28	Quarterly	Water Level + DNAPL Check.	
	DS29	Quarterly	Water Level + DNAPL Check.	
EXTRACTION WELLS	EW08	Quarterly	Water Level Only	
	EW09	Quarterly	Water Level Only	
	EW11	Quarterly	Water Level Only	
	EW12	Quarterly	Water Level Only	
		2014, 2017, 2020 etc.	TCL	Report Only.
	EW14	Quarterly	Water Level Only	
	EW17	Annually	Water Level Only	
	EW18	Annually	Water Level Only	
COMBINATION DNAPL SUMPS/ EXTRACTION WELLS	EW10/DS24	Quarterly	Water Level + DNAPL Removal.	
	EW13/DS25	Quarterly	Water Level + DNAPL Removal.	
PERFORMANCE PIEZOMETERS	PCN03	Quarterly	Water Level Only	
	PCN02	Quarterly	Water Level Only	
	PCN01	Quarterly	Water Level Only	
	PC	Quarterly	Water Level Only	
	PCS01	Quarterly	Water Level Only	
	PCS02	Quarterly	Water Level Only	
	PCS03	Quarterly	Water Level Only	
PERFORMANCE PIEZOMETERS (continued)	PDN01	Quarterly	Water Level Only	
	PDN02	Quarterly	Water Level Only	
	PDN03	Quarterly	Water Level Only	
	PLM101	Quarterly	Water Level Only	
	PLM201	Quarterly	Water Level Only	
	PLM202	Quarterly	Water Level Only	
	PLM301	Quarterly	Water Level Only	
	PFN02	Quarterly	Water Level Only	
	PFN01	Quarterly	Water Level Only	
	PF	Quarterly	Water Level Only	
	PFS01	Quarterly	Water Level Only	
	PFS02	Quarterly	Water Level Only	

TABLE 2
GROUNDWATER MONITORING PROGRAM
(revised 12/18/13)

UNIT	WELL ID	FREQUENCY (or next scheduled event)	PARAMETERS	PREDICTION INTERVAL
TANKS	T-8009	Annually	VOA	Report Only.
	T-8010	Semiannually	VOA	Report Only.
		AREA SOUTH OF SLF 3		
GROUNDWATER WELL	W302S	Quarterly	Water Level Only	
		Annually	TCL + RAD - see list	Report Only.
EXTRACTION WELLS	EW06	Quarterly	Water Level Only	
		Once per "EVEN" Year	TCL	Report Only.
	EW07	Quarterly	Water Level Only	
		Once per "ODD" Year	TCL	Report Only.
PERFORMANCE PIEZOMETERS	PEW701	Quarterly	Water Level Only	
	PEW702	Quarterly	Water Level Only	
	PEW703	Quarterly	Water Level Only	
	PEW704	Quarterly	Water Level Only	
		P1202S AREA		
GROUNDWATER WELLS	TW25S	Semiannually	Water Level Only	
	TW26S	Semiannually	VOA	Report Only.
	P1202S	Semiannually	Water Level Only	
PERFORMANCE PIEZOMETERS	P1203S	Semiannually	Water Level Only	
	P1204S	Semiannually	Water Level Only	
	P1205S	Semiannually	Water Level Only	
	P1206S	Semiannually	Water Level Only	
TANK	T-8006	Semiannually	VOA	Report Only.
		BW02S AREA		
GROUNDWATER WELLS	BW02S	Semiannually	Water Level Only	
	BW02D	Annually	VOA	Report Only.
PERFORMANCE PIEZOMETERS	BWP01S	Semiannually	Water Level Only	
	BWP02S	Semiannually	Water Level Only	
	BWP03S	Semiannually	Water Level Only	
	BWP04S	Semiannually	Water Level Only	
TANK	T-8005	Semiannually	VOA	Report Only.
		PCB WAREHOUSE AREA		
EXTRACTION WELLS	EW15	Semiannually	Water Level Only	
	EW16	Semiannually	Water Level Only	
PERFORMANCE PIEZOMETERS	PE01S	Semiannually	Water Level Only	
	PE02S	Semiannually	Water Level Only	
	PE03S	Semiannually	Water Level Only	
TANK	T-8007	Semiannually	VOA	Report Only.

NOTES:
1. VOA = Site Specific Priority Pollutant Volatile Organics, (see Table 5).
2. TCL = Superfund Target Compound List, (see Table 6).
3. DNAPL Check = a physical check to determine the presence of any Dense, Non-Aqueous Phase Liquids.
4. All groundwater wells have Groundwater Elevation measurements made any time that they are sampled for routine analytical parameters.
5. Water Level collection frequencies for selected Groundwater Extraction System Sample Points are quarterly *during the operational period.* As these systems do not operate in the first quarter of a given year, no water levels are collected.
6. RAD - Annually = Isotopic-U, Isotopic-Th, Ra^{-226}, Ra^{-228}, and Gamma Spectroscopy Analysis.
7. RAD - Every 5 Years = Gross Alpha + Gross Beta on filtered and unfiltered samples.

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
AQ01	GWES	1	SS	None	10/9/1990	317.70	320.01	9213.60	8588.92	21.4	17.5	19.4	12.9	
AQ02	GWES	1	SS	Well Wiz	10/10/1990	317.30	319.59	9369.01	8584.92	20.5	16.9	18.8	12.2	
AQ03	GWES	1	SS	None	10/12/1990	316.10	318.51	9442.42	8668.23	19.7	16.3	18.2	13.6	
AQ04	GWES	1	SS	None	10/13/1990	316.00	318.55	9442.70	8812.08	19.3	16.0	17.9	14.3	
AQ05	GWES	1	SS	Well Wiz	10/14/1990	315.80	318.46	9439.27	8943.94	17.1	14.3	16.2	12.7	
AQ06	GWES	1	SS	None	10/15/1990	317.50	319.86	9620.15	8797.68	20.6	17.5	19.4	16.0	
AQ07	GWES	1	SS	Well Wiz	10/15/1990	316.70	319.38	9515.35	8802.41	18.9	16.5	18.4	14.4	
AQ08	GWES	1	SS	None	10/15/1992	321.30	323.65	9471.40	9663.17	21.8	19.5	21.5	16.3	1.0
AQ09	GWES	1	SS	Well Wiz	10/9/1992	319.90	322.99	9469.59	9809.42	27.0	24.3	25.9	21.0	3.3
AQ10	GWES	1	SS	None	10/13/1992	318.80	321.31	9469.69	9954.75	27.7	24.8	26.8	23.2	2.0
AQ11	GWES	1	SS	None	10/12/1994	321.16	323.59	9468.74	9421.24	17.0	10.9	15.0	10.4	3.6
AQ12	GWES	1	SS	Well Wiz	10/13/1994	321.23	323.40	9467.55	9370.55	17.0	11.1	16.1	10.2	3.5
AQ13W	GWES	1	HDPE	Well Wiz	11/1/1997	320.60	321.10	9685.00	8800.00	0.0	20.3	24.3	0.0	0.0
AQ14E	GWES	1	HDPE	Well Wiz	11/1/1997	319.30	321.38	9482.00	9980.00	25.5	20.6	25.1	0.0	0.0
AQ15	GWES	1	HDPE	Well Wiz	7/10/2012	320.23	323.95	9479.63	10201.04	15.3	10.0	15.0	0.0	0.0
B34A	Background	3	SS	None	1/16/1984	320.91	322.14	0.00	0.00	51.5	37.9	42.9	16.0	4.0
BW01D	Background	3	SS	Well Wiz	4/30/1986	319.23	321.13	7791.26	8049.69	39.7	36.0	38.6	6.1	4.0
BW01S	Background	1	SS	Bailer	4/30/1986	319.36	321.56	7793.39	8045.29	16.0	5.7	13.6	8.0	4.0
BW02D	Background	3	SS	Well Wiz	4/30/1986	320.77	322.55	7720.60	11220.67	43.0	36.1	41.0	8.4	4.2
BW02S	GWES	1	SS	Well Wiz	5/5/1986	320.60	322.09	7719.45	11225.75	16.0	6.4	14.3	10.2	4.3
BW03D	Background	3	SS	Well Wiz	5/5/1986	319.79	320.85	7874.97	12677.77	50.3	38.8	49.4	13.3	4.0
BW03S	Background	1	SS	Bailer	5/6/1986	319.35	322.77	7870.92	12674.59	12.0	4.4	10.0	6.5	2.5
BW04D	Background	3	SS	Well Wiz	11/20/1987	320.60	323.52	7854.50	10249.20	39.2	35.1	37.4	6.2	3.5
BW04S	Background	1	SS	Bailer	11/6/1987	320.50	323.49	7853.90	10253.50	15.0	7.1	14.7	8.2	4.6
BW05D	Background	3	SS	Well Wiz	11/16/1987	318.90	321.63	7708.30	11544.40	41.7	37.7	40.0	6.5	3.2
BW05S	Background	1	SS	Bailer	11/12/1987	318.80	321.08	7707.80	11540.50	16.0	8.0	15.3	9.7	3.1
BWP01S	GWES	1	PVC	None	8/11/1994	320.52	322.74	7753.66	11220.64	16.0	5.5	15.5	11.5	1.5
BWP02S	GWES	1	PVC	None	10/18/1994	320.84	323.01	7793.00	11208.50	15.0	9.5	14.5	6.0	3.0
BWP03S	GWES	1	PVC	None	10/19/1994	320.75	322.89	7798.50	11204.00	15.0	9.5	14.5	6.0	3.0
BWP04S	GWES	1	PVC	None	10/19/1994	321.10	323.24	7806.00	11197.00	15.0	9.5	14.5	6.0	3.0
DS01	GWES	1	SS	None	11/9/1990	317.20	318.74	9195.83	8588.35	24.8	21.8	24.5	16.6	
DS02	GWES	1	SS	None	11/5/1990	317.20	318.86	9227.33	8587.93	24.4	20.9	23.6	14.7	

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
DS03	GWES	1	SS	None	11/6/1990	317.10	318.75	9282.14	8586.69	23.3	19.1	21.3	12.7	
DS04	GWES	1	SS	None	11/6/1990	317.50	319.27	9322.53	8585.54	24.1	20.0	22.0	13.5	
DS05	GWES	1	SS	None	11/7/1990	317.50	318.55	9358.64	8584.74	23.8	19.5	21.9	13.4	
DS06	GWES	1	SS	None	11/7/1990	317.30	319.29	9400.80	8584.92	22.9	19.8	21.8	13.5	
DS07	GWES	1	SS	None	11/16/1990	317.40	318.84	9432.23	8585.20	27.2	24.4	26.3	20.0	
DS08	GWES	1	SS	None	11/13/1990	318.60	320.87	9443.49	8618.67	24.0	20.1	22.1	17.5	
DS09	GWES	1	SS	None	11/9/1990	316.50	318.24	9442.46	8652.98	23.1	19.2	21.2	16.0	
DS10	GWES	1	SS	None	11/9/1990	316.20	317.55	9442.67	8696.86	21.8	18.6	20.6	16.0	
DS11	GWES	1	SS	None	11/21/1990	316.30	317.91	9442.37	8772.47	23.2	20.7	22.7	18.3	
DS12	GWES	1	SS	None	11/21/1990	316.20	317.12	9442.10	8826.73	21.2	19.1	21.1	17.0	
DS13	GWES	1	SS	None	11/12/1990	316.10	317.64	9440.67	8859.42	22.3	18.4	20.4	15.8	
DS14	GWES	1	SS	None	11/15/1990	315.90	317.23	9438.89	8923.76	21.7	19.5	21.5	17.3	
DS15	GWES	1	SS	None	11/26/1990	316.10	318.13	9439.98	8959.16	21.3	19.0	21.0	17.1	
DS16	GWES	1	SS	None	11/26/1990	316.00	318.19	9441.23	8993.78	21.7	18.7	20.7	16.5	
DS17	GWES	1	SS	None	11/14/1990	317.20	318.96	9609.46	8797.84	22.9	20.0	22.0	16.0	
DS18	GWES	1	SS	None	11/19/1990	316.70	318.99	9530.16	8801.01	22.3	19.6	21.6	16.9	
DS19	GWES	1	SS	None	11/14/1990	316.70	318.54	9492.44	8802.94	20.9	18.1	20.1	13.4	
DS20	GWES	1	SS	None	10/16/1992	321.20	323.22	9470.47	9696.04	25.0	22.9	25.0	19.0	1.0
DS21	GWES	1	SS	None	10/16/1992	320.40	322.02	9470.78	9736.22	24.2	22.7	24.2	18.2	3.0
DS22	GWES	1	SS	None	10/16/1992	319.80	321.61	9469.24	9794.58	28.3	26.7	28.0	22.3	3.0
DS23	GWES	1	SS	None	10/16/1992	318.90	321.10	9469.06	9946.61	29.4	27.8	29.4	23.4	3.0
DS26	GWES	1	SS	None	10/13/1994	321.30	323.56	9467.85	9396.56	18.5	12.7	17.7	10.9	3.0
DS27	GWES	1	ss	None	12/4/1997	319.41	321.91	9495.63	9974.62	16.0	5.5	15.5	12.0	1.1
DS28	GWES	1	ss	None	12/11/1997	319.58	322.08	9605.19	9971.93	21.3	10.8	20.8	7.3	1.0
DS29	GWES	1	ss	None	12/11/1997	318.11	320.61	9845.82	9476.35	25.5	10.0	25.0	21.5	1.0
EW06	GWES	1	SS	Well Wiz	11/16/1990	319.30	320.19	8197.21	9353.70	17.1	9.1	16.1	9.9	5.0
EW07	GWES	1	SS	Well Wiz	11/15/1990	319.20	320.60	8189.23	9328.62	17.5	9.5	16.5	9.8	4.0
EW08	GWES	1	SS	None	9/21/1994	321.42	323.73	9499.22	9618.36	17.0	11.0	17.0	8.0	3.0
EW09	GWES	1	SS	None	9/23/1994	320.54	323.04	9499.90	9594.71	18.0	10.0	18.0	8.0	3.0
EW10	GWES	1	SS	None	9/22/1994	320.43	322.85	9498.27	9574.71	19.5	13.5	19.5	6.5	3.0
EW11	GWES	1	SS	None	9/20/1994	320.03	322.43	9498.37	9544.39	13.5	7.5	12.5	7.0	3.0
EW12	GWES	1	SS	Well Wiz	9/19/1994	319.86	322.17	9497.41	9515.15	16.0	10.5	15.5	7.0	3.0

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
EW13	GWES	1	SS	None	9/14/1994	319.49	321.95	9497.41	9484.48	18.5	11.5	18.5	7.0	3.0
EW14	GWES	1	SS	None	9/14/1994		321.76	9496.26	9466.18	17.0	12.0	17.0	7.0	3.0
EW15	GWES	1	ss	None	11/1/1996	319.07	321.47	10367.79	2681.24	18.8	13.1	18.1	12.1	3.0
EW16	GWES	1	ss	None	10/30/1997	319.07	321.49	10367.11	2660.87	20.0	14.3	19.3	13.3	3.0
EW17	GWES	1	SS	None	7/10/2012	319.50	319.50	9270.29	9896.06	15.0	4.0	14.0	14.5	0.5
EW18	GWES	1	SS	None	7/9/2012	319.25	319.25	9272.49	9939.25	15.0	4.0	14.0	14.5	0.5
F101S	Fac Pond 1&2	1	SS	Bailer	7/16/1986	320.42	322.63	8130.06	8739.83	24.0	7.6	23.0	17.4	4.0
F102D	Fac Pond 1&2	3	SS	Well Wiz	7/15/1986	318.96	320.02	8483.79	8569.43	40.7	30.2	35.8	11.0	1.7
F102S	Fac Pond 1&2	1	SS	Bailer	7/15/1986	319.26	320.55	8476.67	8568.92	20.0	8.6	19.5	13.4	4.0
F103S	Fac Pond 1&2	1	SS	Bailer	7/16/1986	316.84	319.06	9017.06	8718.12	18.0	7.7	18.3	12.3	3.7
F301S	Fac Pond3	1	SS	Bailer	7/14/1986	320.17	321.49	8115.55	10813.33	20.0	8.6	19.2	13.4	4.0
F302D	Fac Pond3	3	SS	Well Wiz	7/3/1986	319.48	321.30	9059.62	10805.35	50.0	31.1	49.3	20.5	4.5
F302S	Fac Pond3	1	SS	Bailer	6/27/1986	319.15	320.00	9058.00	10798.57	22.0	8.7	21.6	16.1	3.9
F501D	Fac Pond5	3	PVC	Well Wiz	11/30/2009	315.16	317.39	10929.99	10176.09	46.0	32.1	45.1	15.3	3.2
F501S	Fac Pond5	1	PVC	Bailer	11/24/2009	315.06	317.21	10929.41	10181.17	15.0	9.5	14.5	7.4	3.1
F502S	Fac Pond5	1	PVC	Bailer	11/3/2009	313.88	315.47	10135.26	10174.10	14.0	10.5	13.5	5.4	3.2
F5801D	TANK 58	3	SS	Well Wiz	7/11/1986	317.97	319.83	9343.04	9116.12	43.0	28.0	40.9	17.0	4.0
F5801S	TANK 58	1	SS	Bailer	7/2/1986	317.48	319.74	9342.70	9112.55	18.0	6.6	17.2	12.0	4.0
F5802S	TANK 58	1	SS	1" Bailer	7/15/1986	317.50	318.97	9215.98	9085.75	20.0	8.4	19.0	13.5	4.0
F801S	Fac Pond8	1	SS	Bailer	7/10/1986	319.22	321.89	8980.78	11208.39	18.0	7.2	17.8	12.3	4.2
F802LD	Fac Pond8	3	SS	Well Wiz	6/27/1986	321.57	323.65	9326.91	11520.16	55.3	40.8	53.7	15.4	4.7
F802S	Fac Pond8	1	SS	Bailer	6/19/1986	321.65	323.38	9327.53	11524.77	18.0	8.2	18.8	12.5	4.0
F802UD	Fac Pond8	3	SS	Well Wiz	7/1/1986	321.61	323.91	9325.22	11518.13	44.0	30.6	43.5	16.0	4.0
FP01D	Fire Pond	3	SS	Well Wiz	7/9/1986	318.44	320.87	9052.15	10066.45	52.0	32.5	50.7	21.0	4.0
FP01S	Fire Pond	1	SS	Bailer	6/30/1986	318.60	320.09	9052.37	10061.85	18.0	7.6	15.5	11.0	4.0
GDA01S	Investigation	1	PVC	Bailer	5/23/2001	318.00	320.37	9700.85	10077.82	20.0	7.8	18.0	10.2	3.0
GZR01S	SLF 11	1	SS	Bailer	9/26/1989	316.00	318.52	10815.26	11096.16	20.0	7.0	19.7	14.0	3.0
GZR02S	SLF 11	1	SS	Bailer	9/28/1989	316.00	318.65	11035.50	11481.38	18.0	7.4	17.8	11.5	3.0
GZR03S	SLF 11	1	SS	Bailer	9/29/1989	316.00	318.51	11030.44	11272.17	23.4	7.4	23.1	17.0	3.1
GZR04S	SLF 11	1	SS	Bailer	10/3/1989	318.00	319.67	11040.60	11754.05	18.3	7.2	17.6	11.9	3.1
LD91	GWES	1	PVC	Bailer		0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
LD92	GWES	1	PVC	Bailer		0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
LMS01D	LAGOONS	3	PVC	Well Wiz	11/25/1997	321.26	323.76	9824.59	9729.43	45.9	33.0	43.0	12.5	3.9
LMS01S	LAGOONS	1	PVC	Bailer	11/20/1997	321.25	323.25	9824.22	9733.97	20.0	8.5	18.5	10.5	3.2
LMS02D	LAGOONS	3	PVC	Well Wiz	12/10/1997	316.52	319.02	9885.12	9414.68	42.0	35.0	40.3	8.5	3.9
LMS02S	LAGOONS	1	PVC	Well Wiz	12/8/1998	316.49	319.49	9884.59	9422.10	28.0	10.0	25.0	18.3	3.1
LMS03D	LAGOONS	3	PVC	Well Wiz	12/3/1998	314.19	316.69	9884.85	9056.64	40.0	33.0	38.0	8.8	3.2
LMS03S	LAGOONS	1	PVC	Bailer	12/1/1998	314.35	316.85	9884.43	9059.99	22.0	9.0	19.0	15.5	3.0
LMS04S	LAGOONS	1	PVC	Bailer	12/12/1997	319.17	321.67	9680.75	8776.92	20.0	8.5	18.5	12.5	3.5
P1001S	SLF 10	1	SS	Bailer	5/13/1986	321.19	322.44	8214.09	11442.85	18.0	6.5	17.9	12.4	4.2
P1002S	SLF 10	1	SS	Bailer	5/12/1986	322.16	323.64	8221.40	11645.47	22.0	8.4	19.0	12.7	4.3
P1102S	SLF 11	1	PVC	Bailer	12/13/1985	318.60	320.97	10159.59	11764.56	14.0	5.3	13.5	8.7	4.8
P1103S	SLF 11	1	SS	None	5/2/1986	318.36	320.54	10169.46	12151.62	22.0	5.8	21.7	16.7	4.3
P1104S	SLF 11	1	SS	None	5/5/1986	318.75	320.94	10171.52	12352.03	26.0	7.8	23.7	19.0	5.4
P1105S	SLF 11	1	SS	Bailer	5/1/1986	317.36	320.16	10772.02	12555.27	18.0	5.2	15.8	11.2	3.8
P1201S	SLF 12	1	SS	Bailer	8/14/1986	312.10	313.46	10131.98	8988.83	14.0	6.4	11.8	7.5	4.0
P1202S	GWES	1	SS	Well Wiz	8/14/1986	315.30	317.54	10534.15	9932.35	19.0	7.6	18.0	13.0	4.0
P1203S	GWES	1	PVC	None	8/16/1994	315.85	318.58	10501.12	9934.05	16.1	5.5	15.5	12.1	1.0
P1204S	GWES	1	PVC	None	10/17/1994	316.27	318.57	10541.50	9932.50	15.0	9.5	14.5	6.5	3.0
P1205S	GWES	1	PVC	None	10/18/1994	315.96	318.50	10549.50	9932.00	15.0	9.5	14.5	6.5	3.0
P1206S	GWES	1	PVC	None	10/17/1994	316.26	318.89	10558.50	9932.00	15.0	9.5	14.5	6.5	3.0
P701S	SLF 7	1	PVC	1"Well Wiz	12/20/1985	317.41	320.28	10523.20	11108.59	26.0	7.8	24.0	18.0	7.0
P702S	SLF 7	1	SS	Bailer	5/8/1986	315.98	317.50	10292.46	10859.51	20.0	8.5	19.1	11.5	4.6
P703S	SLF 7	1	SS	Bailer	9/18/1986	318.71	320.82	10308.39	11116.29	24.0	7.8	23.6	16.6	4.0
PA	GWES	1	SS	None	11/21/1990	316.10	318.61	9442.37	8671.16	21.5	16.6	21.4	17.4	1.0
PAN01	GWES	1	SS	None	11/26/1990	316.20	318.65	9444.72	8671.32	20.8	14.9	19.7	7.5	3.0
PAN02	GWES	1	SS	None	11/26/1990	316.10	318.71	9447.35	8670.99	20.1	12.7	20.1	7.4	3.1
PAN03	GWES	1	SS	None	11/27/1990	316.30	318.84	9451.78	8671.28	20.3	15.4	20.2	7.2	3.3
PAN04	GWES	1	SS	None	11/27/1990	316.00	319.20	9467.39	8671.10	20.8	14.8	19.6	8.1	2.9
PAS01	GWES	1	SS	None	11/1/1990	316.10	318.64	9440.38	8671.17	20.1	14.8	19.6	6.7	3.0
PAS02	GWES	1	SS	None	11/2/1990	316.10	318.67	9437.66	8671.10	20.1	14.8	19.6	8.0	3.0
PAS03	GWES	1	SS	None	11/2/1990	316.10	318.76	9432.32	8670.90	20.1	14.8	19.6	6.8	3.0
PAS04	GWES	1	SS	None	11/1/1990	316.00	319.19	9417.08	8671.45	20.5	14.2	19.0	7.4	3.0
PB	GWES	1	SS	None	11/21/1990	315.90	318.42	9442.51	8745.29	20.6	15.8	20.6	16.2	1.0

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
PBN01	GWES	1	SS	None	11/27/1990	316.10	318.46	9545.61	8745.67	20.6	15.3	20.1	7.5	3.0
PBN02	GWES	1	SS	None	11/27/1990	316.10	318.53	9448.34	8746.14	20.6	15.3	20.1	7.5	3.0
PBN03	GWES	1	SS	None	11/28/1990	316.20	318.51	9452.58	8745.81	20.8	15.4	20.2	7.6	2.9
PBN04	GWES	1	SS	None	11/28/1990	316.30	318.77	9467.37	8746.43	20.9	15.5	20.3	7.3	3.2
PBS01	GWES	1	SS	None	10/31/1990	315.90	318.40	9439.15	8748.15	20.4	14.9	19.7	6.5	3.2
PBS02	GWES	1	SS	None	10/31/1990	316.00	319.45	9435.91	8745.17	20.5	14.7	19.5	6.6	3.0
PBS03	GWES	1	SS	None	10/31/1990	315.80	318.47	9432.30	8745.20	20.3	14.8	19.6	6.6	3.1
PBS04	GWES	1	SS	None	11/1/1990	315.30	318.95	9411.63	8745.40	20.3	14.1	18.9	6.9	3.0
PC	GWES	1	SS	None	10/8/1992	320.40	322.37	9471.64	9733.41	23.9	17.6	22.8	17.9	3.0
PCN01	GWES	1	SS	None	10/8/1992	320.70	322.17	9476.84	9733.54	24.0	18.1	23.3	8.2	3.1
PCN02	GWES	1	SS	None	10/8/1992	322.40	324.70	9481.59	9733.43	25.4	19.7	24.9	7.0	3.0
PCN03	GWES	1	SS	None	10/12/1992	322.50	325.21	9492.31	9733.49	25.0	19.3	24.5	7.5	3.0
PCS01	GWES	1	SS	None	10/13/1992	320.10	322.62	9465.90	9733.32	23.0	17.5	22.7	17.0	3.0
PCS02	GWES	1	SS	None	10/13/1992	320.10	322.64	9460.61	9733.17	23.2	17.5	22.7	7.3	3.0
PCS03	GWES	1	SS	None	10/12/1992	319.70	322.32	9451.01	9733.00	22.7	17.3	22.5	7.6	2.9
PDN01	GWES	1	SS	None	9/26/1994		323.81	9499.19	9601.56	18.0	7.5	11.5	7.5	3.0
PDN02	GWES	1	SS	None	9/27/1994	324.30	324.84	9511.40	9603.10	19.0	7.5	12.5	7.5	3.0
PDN03	GWES	1	SS	None	9/26/1994	326.10	326.30	9527.00	9603.00	22.0	7.5	12.5	7.5	3.0
PE01S	GWES	1	ss	None	10/25/1996	319.07	321.79	10368.13	2688.53	15.0	9.7	14.7	6.0	3.0
PE02S	GWES	1	ss	None	10/24/1996	319.07	321.59	10368.20	2696.11	15.0	9.7	14.7	6.0	3.1
PE03S	GWES	1	ss	None	10/24/1996	319.07	321.84	10368.47	2705.30	15.0	9.7	14.7	6.0	3.0
PEW701	GWES	1	SS	None	11/19/1990	319.30	321.47	8194.96	9354.28	16.5	11.2	16.0	7.5	3.0
PEW702	GWES	1	SS	None	11/19/1990	319.20	321.38	8192.52	9354.65	16.4	11.1	15.9	7.5	3.0
PEW703	GWES	1	SS	None	11/19/1990	318.90	321.05	8187.95	9355.70	16.1	10.8	15.6	7.5	3.0
PEW704	GWES	1	SS	None	11/20/1990	318.40	320.95	8172.45	9358.18	15.6	10.3	15.1	7.5	3.0
PF	GWES	1	PVC	None	8/21/2012	320.37	320.37	9477.42	10138.94	10.2	4.3	9.3	6.1	2.0
PFN01	GWES	1	PVC	None	8/21/2012	319.65	319.65	9487.21	10137.71	10.0	4.5	9.5	6.0	2.0
PFN02	GWES	1	PVC	None	8/21/2012	319.39	319.39	9497.72	10136.29	10.0	4.2	9.2	6.0	2.0
PFS01	GWES	1	PVC	None	8/21/2012	320.80	320.84	9467.20	10140.82	11.0	5.0	10.0	6.0	2.5
PFS02	GWES	1	PVC	None	8/21/2012	320.90	320.88	9457.72	10141.80	11.0	5.0	10.0	6.0	2.5
PLM101	GWES	1	PVC	None	11/20/1997	321.49	323.99	9808.58	9731.50	22.0	14.0	19.0	9.8	3.2
PLM201	GWES	1	PVC	None	12/5/1997	317.85	320.35	9869.98	9420.43	16.0	9.5	14.5	7.4	3.1

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
PLM202	GWES	1	PVC	None	12/4/1997	317.75	320.25	9859.18	9418.89	15.0	9.2	14.2	11.5	1.0
PLM301	GWES	1	PVC	None	11/26/1997	315.23	317.73	9868.54	9058.20	18.0	10.5	15.5	3.3	7.5
R101D	RMU-1	3	SS	Well Wiz	2/21/1992	320.00	321.98	9970.83	11231.91	44.0	36.5	41.8	8.0	3.0
R101DR	RMU-1	3												
R101S	RMU-1	1	SS	Bailer	2/15/1992	319.90	321.65	9975.70	11232.64	18.0	8.0	15.3	10.0	3.1
R101SR	RMU-1	1												
R102D	RMU-1	3	SS	Well Wiz	2/20/1992	318.90	319.69	10093.55	11325.56	40.9	36.0	40.3	6.9	3.0
R102S	RMU-1	1	SS	Bailer	2/15/1992	318.90	320.66	10094.60	11331.65	16.0	8.1	13.4	7.8	3.3
R102SR	RMU-1	1	SS	Well Wiz	12/11/1992	331.20	333.89	10052.59	11333.53	24.0	12.0	22.3	12.7	3.3
R103D	RMU-1	3	SS	Well Wiz	2/20/1992	318.30	319.50	10101.83	11466.22	44.5	38.2	43.5	9.1	2.8
R103S	RMU-1	1	SS	Bailer	2/15/1992	318.40	321.25	10102.71	11471.69	16.0	7.5	12.8	8.3	3.1
R104D	RMU-1	3	SS	Well Wiz	2/22/1992	317.20	320.50	10105.73	11605.55	46.5	33.5	45.8	15.1	3.2
R104S	RMU-1	1	SS	Bailer	2/14/1992	317.40	320.37	10104.99	11610.61	18.0	8.0	13.3	8.0	3.1
R105D	RMU-1	3	SS	Well Wiz	2/22/1992	317.10	320.27	10107.46	11745.62	42.0	35.7	41.0	8.3	3.3
R105S	RMU-1	1	SS	Bailer	2/14/1992	317.00	320.82	10107.83	11705.85	16.0	7.9	13.2	7.7	3.1
R106D	RMU-1	3	SS	Well Wiz	2/24/1992	318.30	321.79	10111.01	11885.74	41.5	36.5	40.8	7.4	3.6
R106S	RMU-1	1	SS	Bailer	2/14/1992	317.80	320.83	10111.62	11891.10	20.0	7.6	18.0	12.9	3.0
R107D	RMU-1	3	SS	Well Wiz	2/26/1992	318.20	320.50	10114.93	12025.44	40.3	33.8	39.1	9.3	3.4
R107S	RMU-1	1	SS	Bailer	2/14/1992	318.00	320.71	10115.13	12031.02	26.0	8.6	23.9	18.8	4.0
R108D	RMU-1	3	SS	Well Wiz	2/25/1992	318.60	321.66	10117.85	12165.87	40.4	32.1	39.4	10.3	3.1
R108S	RMU-1	1	SS	1" Bailer	2/13/1992	318.60	321.77	10118.09	12171.29	20.0	8.2	18.5	12.9	3.1
R109D	RMU-1	3	SS	Well Wiz	2/26/1992	317.90	320.88	10121.42	12304.96	43.4	30.6	42.6	16.0	3.3
R109S	RMU-1	1	SS	Bailer	2/13/1992	317.40	321.18	10121.23	12311.52	22.0	8.0	17.3	12.3	3.0
R110D	RMU-1	3	SS	Well Wiz	3/1/1992	318.30	321.35	10122.44	12445.46	40.5	29.8	40.1	12.3	3.8
R110S	RMU-1	1	SS	Bailer	2/13/1992	318.40	322.16	10122.25	12451.54	24.0	9.1	21.4	15.1	3.2
R111D	RMU-1	3	SS	Well Wiz	2/27/1992	319.00	321.95	10131.92	12581.46	44.5	30.0	44.3	16.8	3.0
R111S	RMU-1	1	SS	Bailer	2/12/1993	319.00	321.14	10131.93	12587.91	23.0	8.8	21.1	14.9	3.4
R112S	RMU-1	1	SS	Well Wiz	2/27/1992	335.90	337.61	8579.41	11823.12	34.0	16.5	30.4	18.0	3.4
R113S	RMU-1	1	SS	Well Wiz	3/4/1992	323.00	325.41	8580.08	11858.65	20.0	9.6	16.9	10.0	3.2
R114D	RMU-1	3	SS	Well Wiz	3/4/1992	322.60	324.91	8797.90	11857.83	45.2	32.2	42.5	13.8	3.1
R114S	RMU-1	1	SS	Well Wiz	3/24/1992	322.20	323.90	8802.70	11858.26	24.0	8.6	19.0	13.6	3.5
R115S	RMU-1	1	SS	Bailer	2/17/1992	333.00	335.71	8937.00	11821.15	30.0	15.1	25.4	13.5	3.5

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
R116D	RMU-1	3	SS	Well Wiz	3/2/1992	320.50	322.60	9207.12	11856.43	42.7	30.0	42.3	14.9	2.8
R116S	RMU-1	1	SS	Well Wiz	2/27/1992	320.50	322.24	9211.86	11856.51	18.0	10.2	15.5	8.3	3.0
R117LD	RMU-1	3	SS	Well Wiz	8/17/1994	320.50	323.09	9362.90	11363.99	54.5	42.2	54.2	15.0	2.0
R117UD	RMU-1	3	SS	Well Wiz	8/17/1994	320.19	322.99	9362.03	11358.18	43.5	30.2	42.2	15.6	2.9
R118D	RMU-1	3	SS	Well Wiz	8/31/1994	319.09	321.32	9609.49	11203.07	45.7	30.5	42.5	16.3	4.0
R118S	RMU-1	1	SS	Bailer	8/23/1994	318.91	321.81	9602.72	11202.93	22.0	8.0	20.3	15.0	3.0
R119D	RMU-1	3	SS	Well Wiz	6/19/1995	318.84	322.98	9354.40	11681.00	47.3	31.7	47.0	17.9	3.4
R120D	RMU-1	3	SS	Well Wiz	6/22/1995	324.00	323.50	8229.30	12001.00	45.9	38.7	44.0	9.2	3.5
R121D	RMU-1	3	SS	None	7/6/1995	319.90	322.11	8247.70	12143.90	45.7	40.0	45.0	7.4	3.2
R122D	RMU-1	3	SS	None	7/13/1995	320.00	322.97	8305.60	12282.60	43.3	40.5	42.5	3.6	3.2
R125D	RMU-1	3	PVC	Well Wiz	5/30/2003	321.70	0.00	10090.25	12710.80	44.0	33.2	43.2	15.5	3.5
R126D	RMU-1	3	PVC	Well Wiz	5/28/2003	321.80	0.00	9953.23	12723.38	48.0	26.7	46.7	24.0	2.5
R127D	RMU-1	3	PVC	Well Wiz	5/23/2003	322.40	0.00	9813.01	12747.01	49.0	27.2	47.2	24.0	3.0
R128D	RMU-1	3	PVC	Well Wiz	5/20/2003	321.80	0.00	9672.78	12748.88	44.0	27.2	42.2	19.0	3.0
R129D	RMU-1	3	PVC	Well Wiz	5/16/2003	321.20	0.00	9551.43	12737.87	46.0	28.7	43.7	19.8	3.0
R130D	RMU-1	3	PVC	Well Wiz	5/9/2003	321.30	0.00	9408.00	12741.38	42.0	25.7	40.7	19.5	5.0
R131D	RMU-1	3	PVC	Well Wiz	5/13/2003	321.20	0.00	9268.15	12742.09	42.0	26.2	41.2	18.0	3.0
R132D	RMU-1	3	PVC	Well Wiz	5/5/2003	321.50	0.00	9127.91	12746.81	44.0	27.2	42.2	19.0	3.5
R133D	RMU-1	3	PVC	Well Wiz	8/22/2003	321.20	0.00	8991.54	12748.29	42.2	31.0	41.0	13.5	2.7
R134D	RMU-1	3	PVC	Well Wiz	4/28/2003	321.30	0.00	8847.88	12751.91	43.0	31.9	41.9	13.2	2.8
R135D	RMU-1	3	PVC	Well Wiz	4/24/2003	322.00	0.00	8708.48	12751.24	42.0	39.2	41.2	5.0	3.0
R1N08S	RMU-1	1	SS	Well Wiz	1/22/1996	328.90	336.98	10095.24	12221.99	30.2	17.0	29.0	15.2	15.0
R1N10S	RMU-1	1	SS	Well Wiz	10/10/1997	330.09	331.29	10105.69	12431.24	24.2	11.3	23.3	15.0	9.5
R1P01S	RMU-1	1	SS	None	3/13/1992	321.00	323.78	9876.40	12725.26	20.0	8.2	17.5	11.8	3.0
R1P02S	RMU-1	1	SS	None	3/12/1992	324.20	322.63	9543.67	12739.56	18.0	9.7	15.0	8.3	3.0
R1P03S	RMU-1	1	SS	None	3/11/1992	320.10	322.04	9190.58	12746.93	18.0	10.7	16.0	8.3	3.4
R1P04S	RMU-1	1	SS	None	3/23/1992	320.60	321.76	8900.21	12750.82	24.0	8.7	19.0	13.3	3.0
R1P05S	RMU-1	1	SS	None	3/6/1992	319.80	321.30	8685.30	12751.92	16.0	8.7	14.0	8.0	3.0
R1P07S	RMU-1	1	SS	None	3/9/1992	320.50	322.60	8228.42	12009.33	20.0	8.7	17.0	11.3	3.0
R1P08S	RMU-1	1	SS	None	3/13/1992	320.90	323.13	8936.27	11858.08	22.0	8.7	19.0	13.3	3.0
R1P09S	RMU-1	1	SS	None	3/6/1992	321.20	322.77	9367.54	11721.52	18.0	9.7	15.0	8.3	3.0
R1P10S	RMU-1	1	SS	None	3/5/1992	320.70	321.31	9366.67	11445.90	24.0	9.2	19.5	12.8	3.7

Revised December 2013

Table 3
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Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
R202S	GWES	1	PVC	Bailer	11/9/2007	319.02	320.61	9516.60	10042.96	12.0	8.5	11.5	5.5	3.0
RR01S	Investigation	1	SS	Bailer	5/24/2001	320.00	322.15	9372.61	10535.58	14.0	7.8	13.0	5.2	3.0
TP04S	E/W SALTS	1	SS	Bailer	6/12/1986	320.26	321.53	9029.28	9668.65	22.0	8.7	21.6	16.0	4.0
TW01S	E/W SALTS	1	SS	Well Wiz	5/19/1986	318.84	320.21	8813.84	8999.13	18.0	8.6	16.5	10.0	4.0
TW02S	E/W SALTS	1	SS	Well Wiz	5/21/1986	327.55	329.31	8852.86	9822.52	28.0	8.3	26.5	20.0	4.0
TW03D	E/W SALTS	3	SS	Well Wiz	6/18/1986	319.54	321.97	9027.80	9361.75	39.2	36.5	39.1	4.2	3.9
TW03S	E/W SALTS	1	SS	Well Wiz	5/20/1986	319.30	321.65	9027.13	9357.17	24.0	7.8	23.7	18.0	4.0
TW11S	LAGOONS	1	SS	Well Wiz	7/9/1986	316.86	319.21	9606.15	9999.31	20.0	7.5	18.1	13.0	4.0
TW12S	N SALTS	1	SS	Bailer	6/25/1986	311.86	314.54	10021.55	9310.83	16.3	5.2	15.8	11.3	4.0
TW13S	N SALTS	1	SS	Bailer	7/9/1986	318.34	319.96	9903.50	9620.12	22.0	8.3	21.2	16.0	4.0
TW14S	N SALTS	1	SS	Bailer	6/25/1986	312.53	314.74	10023.85	9875.18	16.0	7.8	15.7	10.0	4.0
TW15D	N SALTS	3	SS	Well Wiz	6/30/1986	313.77	315.43	10171.75	9558.56	37.0	34.2	36.8	5.0	4.0
TW15S	N SALTS	1	SS	Well Wiz	6/16/1986	313.78	316.06	10171.02	9553.97	24.0	7.6	23.5	17.5	4.0
TW16S	WDA	1	SS	Well Wiz	9/19/1986	317.66	319.88	9330.76	8627.92	24.0	12.6	23.0	17.0	4.0
TW17S	WDA	1	SS	Well Wiz	9/19/1986	315.33	317.66	9404.24	8759.03	20.0	7.6	18.0	13.0	4.0
TW18S	WDA	1	SS	Well Wiz	9/22/1986	316.43	318.72	9398.74	8895.99	18.0	7.6	18.0	12.0	4.0
TW19S	WDA	1	PVC	Well Wiz	6/1/1988	316.43	319.02	9527.21	8506.20	25.0	7.2	23.4	19.0	4.0
TW20S	WDA	1	PVC	Bailer	6/2/1988	315.70	318.28	9803.32	8651.41	20.0	8.2	18.9	14.0	4.5
TW21S	Investigation	1	PVC	Bailer	9/27/1988	320.50	323.52	7815.79	11194.72	18.0	6.8	17.5	12.8	3.0
TW24S	Investigation	1	PVC	Well Wiz	10/3/1988	321.00	323.42	8411.00	11158.50	16.0	7.6	15.8	10.0	3.0
TW25S	GWES	1	PVC	Well Wiz	10/4/1988	313.90	316.01	10489.97	9954.05	32.0	8.1	31.5	26.0	3.0
TW26S	Investigation	1	PVC	Well Wiz	10/5/1988	313.40	316.01	10770.81	9951.59	34.3	7.4	34.0	28.1	3.0
TW27S	GWES	1	PVC	Bailer	9/29/1988	320.00	323.18	7787.07	11213.01	18.0	7.4	17.8	11.8	3.2
TW29S	Investigation	1	PVC	Bailer	10/6/1988	319.10	321.54	8331.40	11203.63	16.0	7.6	15.8	10.1	3.0
TW30D	LAGOONS	3	PVC	Well Wiz	10/19/1988	320.40	322.02	9780.97	9797.13	50.0	41.1	49.2	9.2	3.8
W1001D	SLF 10	3	SS	Well Wiz	6/16/1986	319.24	321.21	8584.11	11213.51	36.9	33.9	36.5	4.9	4.2
W1001S	SLF 10	1	SS	Bailer	6/20/1986	319.05	321.70	8579.71	11212.55	24.0	7.2	23.4	18.5	4.0
W1002S	SLF 10	1	SS	Well Wiz	6/20/1986	320.72	322.88	8411.21	11217.38	22.0	7.7	20.9	16.0	5.0
W1003D	SLF 10	3	PVC	Well Wiz	12/13/2007	336.45	336.45	8688.60	11443.01	50.5	42.0	50.0	10.1	1.9
W1003S	SLF 10	1	PVC	Well Wiz	12/10/2007	334.61	336.68	8689.08	11447.21	25.0	19.5	24.5	7.0	3.0
W1004D	SLF 10	3	PVC	Well Wiz	12/20/2007	334.88	336.73	8697.56	11616.92	50.4	44.9	49.9	7.0	3.1
W1004S	SLF 10	1	PVC	Well Wiz	12/18/2007	334.95	336.53	8698.03	11621.84	27.7	17.1	27.1	12.0	3.2

Revised December 2013

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Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
W101D	SLF 1-6	3	SS	Well Wiz	5/30/1986	319.53	322.63	8282.15	9017.19	48.1	36.9	47.5	14.0	4.3
W101S	SLF 1-6	1	SS	Bailer	5/14/1986	319.50	321.27	8277.05	9017.18	16.0	6.2	14.1	9.6	4.5
W102S	SLF 1-6	1	SS	Bailer	5/15/1986	320.26	321.63	8138.87	9168.11	24.0	6.5	22.4	17.8	4.7
W1101D	SLF 11	3	PVC	Well Wiz	11/18/1985	318.38	318.94	10692.45	11134.49	42.3	35.3	41.0	8.5	4.0
W1101S	SLF 11	1	PVC	Bailer	11/19/1985	317.09	319.11	10695.49	11134.37	25.0	7.8	24.0	18.0	5.0
W1102D	SLF 11	3	PVC	Well Wiz	12/17/1985	316.78	318.66	10834.02	11130.44	41.0	34.0	40.7	8.2	3.0
W1102S	SLF 11	1	PVC	Bailer	12/18/1985	317.77	319.37	10837.54	11130.27	24.0	11.2	22.0	16.0	7.0
W1103D	SLF 11	3	PVC	Well Wiz	11/13/1985	318.52	319.82	10956.65	11312.03	40.2	34.7	40.0	7.0	3.5
W1103S	SLF 11	1	PVC	Well Wiz	11/13/1985	316.01	318.97	10956.29	11306.25	28.0	9.8	26.0	19.0	7.0
W1104D	SLF 11	3	PVC	Well Wiz	12/12/1985	316.03	318.76	10956.84	11455.82	44.5	35.3	43.5	12.0	3.5
W1104S	SLF 11	1	PVC	Well Wiz	12/12/1985	316.40	320.37	10956.54	11452.00	22.0	11.0	21.8	12.0	10.0
W1105D	SLF 11	3	PVC	Well Wiz	12/4/1985	317.69	319.98	10966.60	11673.83	48.5	33.8	47.0	8.5	4.0
W1105S	SLF 11	1	PVC	Well Wiz	12/4/1985	317.32	319.08	10965.88	11670.05	18.0	7.8	16.0	10.3	7.0
W1106D	SLF 11	3	PVC	Well Wiz	11/8/1985	316.81	318.40	10968.66	11815.63	46.0	34.2	40.0	8.1	2.9
W1106S	SLF 11	1	PVC	Well Wiz	11/8/1985	317.63	320.04	10969.18	11818.98	26.0	7.3	23.5	18.5	5.5
W1107D	SLF 11	3	SS	Well Wiz	5/15/1986	317.16	318.66	10970.80	12020.11	44.5	38.4	43.3	7.6	4.4
W1107S	SLF 11	1	SS	Bailer	5/6/1986	317.33	319.78	10969.05	12028.70	18.5	5.5	18.4	13.5	3.0
W1108D	SLF 11	3	SS	Well Wiz	5/16/1986	317.43	318.93	10975.20	12164.61	43.5	38.2	41.0	6.6	5.5
W1108S	SLF 11	1	SS	Bailer	5/16/1986	317.02	319.18	10974.77	12168.46	24.1	7.8	23.7	17.1	6.0
W1109D	SLF 11	3	SS	Well Wiz	5/21/1986	317.16	318.92	10979.39	12304.16	44.0	38.2	43.8	7.8	4.2
W1109S	SLF 11	1	SS	Bailer	4/29/1986	316.77	319.47	10978.99	12309.01	18.0	7.4	17.9	12.0	5.0
W1201S	SLF 12	1	SS	Bailer	8/15/1986	314.40	315.83	10650.14	8595.35	16.0	6.1	13.9	10.0	4.0
W1202S	SLF 12	1	SS	Bailer	8/15/1986	314.50	315.82	10794.68	8592.08	17.0	6.5	14.3	10.0	3.5
W1203S	SLF 12	1	SS	Bailer	8/12/1986	313.70	315.01	10894.03	8692.77	24.0	6.5	22.3	17.6	4.6
W1204D	SLF 12	3	SS	Well Wiz	8/28/1986	313.80	317.48	10898.58	8875.05	54.0	40.1	52.9	15.0	4.1
W1204S	SLF 12	1	SS	Bailer	8/13/1986	314.60	316.38	10898.93	8880.33	26.0	8.1	23.9	18.2	4.2
W1205D	SLF 12	3	SS	Well Wiz	9/10/1986	314.30	315.88	10898.78	9074.06	58.3	43.3	56.1	16.0	4.0
W1205S	SLF 12	1	SS	Bailer	8/14/1986	314.60	315.91	10899.09	9077.48	16.5	7.6	15.4	9.7	4.0
W1206D	SLF 12	3	SS	Well Wiz	9/17/1986	314.00	316.08	10903.30	9265.13	54.6	37.8	53.6	17.1	4.0
W1206S	SLF 12	1	SS	Bailer	9/10/1986	314.30	315.53	10903.30	9269.68	22.0	8.6	19.0	14.0	4.0
W1207D	SLF 12	3	SS	Well Wiz	9/10/1986	313.80	315.42	10908.28	9451.28	52.5	45.9	51.6	7.5	4.0
W1207S	SLF 12	1	SS	Bailer	8/15/1986	313.50	315.10	10908.46	9455.38	22.0	8.4	18.8	13.4	4.0

Revised December 2013

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Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
W1208S	SLF 12	1	SS	Bailer	8/15/1986	312.90	314.66	10910.76	9648.43	20.0	5.8	18.9	14.9	3.1
W1209S	Investigation	1	PVC	Bailer	5/23/2001	314.00	316.11	10996.78	9952.36	14.0	7.8	12.9	6.8	3.0
W121LD	SLF 12	3	SS	Well Wiz	8/26/1986	314.40	316.11	10654.92	8595.11	57.0	43.1	55.9	15.1	4.9
W121UD	SLF 12	3	SS	Well Wiz	8/28/1986	314.10	316.19	10659.91	8595.43	45.0	36.1	43.9	9.6	4.1
W122LD	SLF 12	3	SS	Well Wiz	8/20/1986	314.70	315.89	10790.15	8592.61	63.5	49.6	62.4	15.0	4.5
W122UD	SLF 12	3	SS	Well Wiz	8/25/1986	314.70	315.47	10785.79	8592.48	50.8	39.0	49.4	11.5	4.1
W123LD	SLF 12	3	SS	Well Wiz	9/3/1986	314.10	316.50	10893.19	8686.93	64.2	50.4	63.2	15.2	4.2
W123UD	SLF 12	3	SS	Well Wiz	9/4/1986	314.10	316.97	10892.29	8682.94	50.5	37.1	50.2	14.4	3.8
W128LD	SLF 12	3	SS	Well Wiz	9/4/1986	312.80	315.28	10909.81	9643.78	48.6	45.4	47.8	3.3	4.5
W128UD	SLF 12	3	SS	Well Wiz	9/8/1986	313.20	314.36	10910.38	9639.59	44.0	33.7	41.5	10.0	4.0
W201D	SLF 1-6	3	SS	Well Wiz	6/12/1986	320.45	322.94	8475.58	9008.43	46.9	35.5	46.1	12.9	4.0
W201S	SLF 1-6	1	SS	Bailer	5/14/1986	320.78	322.75	8470.82	9009.52	20.0	8.0	18.6	12.1	4.0
W202LD	SLF 1-6	3	SS	Well Wiz	6/4/1986	334.21	335.40	8656.56	9176.53	63.2	51.4	62.0	13.0	4.0
W202S	SLF 1-6	1	SS	Well Wiz	5/27/1986	333.69	335.43	8655.93	9170.75	28.0	8.2	26.4	21.0	4.0
W202UD	SLF 1-6	3	SS	Well Wiz	6/6/1986	334.30	335.05	8657.54	9182.87	50.3	42.2	50.1	9.5	4.8
W301D	SLF 1-6	3	SS	Well Wiz	6/24/1986	334.61	336.68	8666.06	9371.06	64.5	47.8	63.7	18.0	4.0
W301S	SLF 1-6	1	SS	Well Wiz	6/13/1986	334.46	335.87	8666.49	9374.90	30.0	11.4	29.7	23.7	4.0
W302S	SLF 1-6	1	SS	Well Wiz	5/15/1986	319.52	320.92	8221.25	9374.06	18.0	8.6	16.5	10.0	4.0
W303S	SLF 1-6	1	SS	Bailer	9/13/1989	319.52	320.76	8137.15	9375.30	18.0	7.2	17.6	19.1	3.1
W401D	SLF 1-6	3	SS	Well Wiz	6/17/1986	333.58	334.86	8676.94	9653.13	66.6	48.6	64.5	20.0	4.0
W401S	SLF 1-6	1	SS	Well Wiz	6/11/1986	333.10	326.21	8676.62	9648.56	30.0	8.8	29.7	24.2	4.0
W402S	SLF 1-6	1	SS	Bailer	5/28/1996	319.94	321.60	8123.96	9664.84	22.0	6.9	17.5	12.7	4.0
W501D	SLF 1-6	3	SS	Well Wiz	5/20/1986	324.78	326.80	8740.29	9952.51	54.6	37.9	54.1	18.6	5.0
W501S	SLF 1-6	1	SS	Well Wiz	6/6/1986	325.24	327.65	8739.48	9958.07	24.0	7.5	23.4	17.9	4.0
W502S	SLF 1-6	1	SS	Bailer	5/16/1986	319.80	322.60	8115.91	9931.97	16.0	7.1	15.0	9.5	4.0
W601D	SLF 1-6	3	SS	Well Wiz	6/19/1986	322.74	325.76	8731.40	10223.77	43.0	36.9	42.5	7.5	4.0
W601S	SLF 1-6	1	SS	Bailer	6/2/1986	322.46	324.27	8732.63	10219.65	24.0	8.1	21.0	14.5	4.5
W602S	SLF 1-6	1	SS	Bailer	5/19/1986	321.88	324.16	8421.61	10448.86	24.0	7.6	23.5	17.6	4.4
W603S	SLF 1-6	1	SS	Bailer	6/4/1986	323.09	325.29	8130.51	10236.07	24.1	7.7	23.6	18.1	4.0
W701D	SLF 7	3	SS	Well Wiz	5/31/1986	313.91	316.11	10677.26	10381.04	38.5	27.8	38.1	12.4	4.1
W701S	SLF 7	1	SS	Bailer	5/8/1986	313.83	316.22	10672.90	10381.26	16.0	7.5	15.4	9.6	4.7
W702D	SLF 7	3	SS	Well Wiz	6/11/1986	314.55	317.23	10817.70	10378.65	39.5	33.2	38.8	8.0	4.5

Revised December 2013

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Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
W702S	SLF 7	1	SS	Bailer	5/9/1986	313.52	316.39	10813.38	10375.52	22.0	7.0	19.9	14.5	4.0
W703D	SLF 7	3	SS	Well Wiz	6/9/1986	315.24	316.60	10984.23	10487.19	42.5	39.5	42.1	5.4	4.0
W703S	SLF 7	1	SS	1"Well Wiz	5/8/1986	315.46	317.26	10984.19	10493.98	20.0	8.1	18.7	13.0	5.5
W704D	SLF 7	3	SS	Well Wiz	5/29/1986	315.41	317.67	10986.04	10629.00	44.0	40.8	43.4	4.8	4.1
W704S	SLF 7	1	SS	Bailer	5/7/1986	315.67	317.74	10986.34	10633.88	20.0	7.8	18.4	13.5	3.4
W705D	SLF 7	3	SS	Well Wiz	5/27/1986	316.42	318.21	10987.71	10772.87	40.0	29.1	39.7	14.1	3.9
W705S	SLF 7	1	SS	Bailer	5/6/1986	316.21	318.13	10987.77	10776.33	26.0	8.0	23.9	17.0	6.2
WDA01D	WDA	3	SS	Well Wiz	9/12/1991	316.20	318.58	9511.68	8746.39	40.6	29.4	40.1	12.7	6.8
WDA01S	WDA	1	PVC	Bailer	12/11/1997	316.19	318.69	9503.56	8748.69	28.0	10.2	25.2	17.3	2.9
WS01S	E/W SALTS	1	SS	Bailer	9/14/1989	320.00	319.91	9033.92	9117.13	20.0	8.6	19.0	13.0	3.3

Notes:

(1) Ground elevation at time of installation before concrete pad.
(2) Groundwater elevation is measured to the top of well casing
(3) Ground surface to bottom of boring
(4) Below ground surface
(5) Zone 1 -Upper Glacial Till; Zone 3- Glaciolacustrine Silt/Sand
(6) Well Wiz- Dedicated Well Wizard sampling bladder pump; Bailer- Dedicated stainless steel bailer
(7) Well Designations: S- Saturated zone (Shallow), D- Detection zone (Deep), UD- Upper detection zone, LD- Lower detection zone
(8) Elevation Vertical Site Datum

Revised December 2013

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Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
AQ01	GWES	1	SS	None	10/9/1990	317.70	320.01	9213.60	8588.92	21.4	17.5	19.4	12.9	
AQ02	GWES	1	SS	Well Wiz	10/10/1990	317.30	319.59	9369.01	8584.92	20.5	16.9	18.8	12.2	
AQ03	GWES	1	SS	None	10/12/1990	316.10	318.51	9442.42	8668.23	19.7	16.3	18.2	13.6	
AQ04	GWES	1	SS	None	10/13/1990	316.00	318.55	9442.70	8812.08	19.3	16.0	17.9	14.3	
AQ05	GWES	1	SS	Well Wiz	10/14/1990	315.80	318.46	9439.27	8943.94	17.1	14.3	16.2	12.7	
AQ06	GWES	1	SS	None	10/15/1990	317.50	319.86	9620.15	8797.68	20.6	17.5	19.4	16.0	
AQ07	GWES	1	SS	Well Wiz	10/15/1990	316.70	319.38	9515.35	8802.41	18.9	16.5	18.4	14.4	
AQ08	GWES	1	SS	None	10/15/1992	321.30	323.65	9471.40	9663.17	21.8	19.5	21.5	16.3	1.0
AQ09	GWES	1	SS	Well Wiz	10/9/1992	319.90	322.99	9469.59	9809.42	27.0	24.3	25.9	21.0	3.3
AQ10	GWES	1	SS	None	10/13/1992	318.80	321.31	9469.69	9954.75	27.7	24.8	26.8	23.2	2.0
AQ11	GWES	1	SS	None	10/12/1994	321.16	323.59	9468.74	9421.24	17.0	10.9	15.0	10.4	3.6
AQ12	GWES	1	SS	Well Wiz	10/13/1994	321.23	323.40	9467.55	9370.55	17.0	11.1	16.1	10.2	3.5
AQ13W	GWES	1	HDPE	Well Wiz	11/1/1997	320.60	321.10	9685.00	8800.00	0.0	20.3	24.3	0.0	0.0
AQ14E	GWES	1	HDPE	Well Wiz	11/1/1997	319.30	321.38	9482.00	9980.00	25.5	20.6	25.1	0.0	0.0
AQ15	GWES	1	HDPE	Well Wiz	7/10/2012	320.23	323.95	9479.63	10201.04	15.3	10.0	15.0	0.0	0.0
B34A	Background	3	SS	None	1/16/1984	320.91	322.14	0.00	0.00	51.5	37.9	42.9	16.0	4.0
BW01D	Background	3	SS	Well Wiz	4/30/1986	319.23	321.13	7791.26	8049.69	39.7	36.0	38.6	6.1	4.0
BW01S	Background	1	SS	Bailer	4/30/1986	319.36	321.56	7793.39	8045.29	16.0	5.7	13.6	8.0	4.0
BW02D	Background	3	SS	Well Wiz	4/30/1986	320.77	322.55	7720.60	11220.67	43.0	36.1	41.0	8.4	4.2
BW02S	GWES	1	SS	Well Wiz	5/5/1986	320.60	322.09	7719.45	11225.75	16.0	6.4	14.3	10.2	4.3
BW03D	Background	3	SS	Well Wiz	5/5/1986	319.79	320.85	7874.97	12677.77	50.3	38.8	49.4	13.3	4.0
BW03S	Background	1	SS	Bailer	5/6/1986	319.35	322.77	7870.92	12674.59	12.0	4.4	10.0	6.5	2.5
BW04D	Background	3	SS	Well Wiz	11/20/1987	320.60	323.52	7854.50	10249.20	39.2	35.1	37.4	6.2	3.5
BW04S	Background	1	SS	Bailer	11/6/1987	320.50	323.49	7853.90	10253.50	15.0	7.1	14.7	8.2	4.6
BW05D	Background	3	SS	Well Wiz	11/16/1987	318.90	321.63	7708.30	11544.40	41.7	37.7	40.0	6.5	3.2
BW05S	Background	1	SS	Bailer	11/12/1987	318.80	321.08	7707.80	11540.50	16.0	8.0	15.3	9.7	3.1
BWP01S	GWES	1	PVC	None	8/11/1994	320.52	322.74	7753.66	11220.64	16.0	5.5	15.5	11.5	1.5
BWP02S	GWES	1	PVC	None	10/18/1994	320.84	323.01	7793.00	11208.50	15.0	9.5	14.5	6.0	3.0
BWP03S	GWES	1	PVC	None	10/19/1994	320.75	322.89	7798.50	11204.00	15.0	9.5	14.5	6.0	3.0
BWP04S	GWES	1	PVC	None	10/19/1994	321.10	323.24	7806.00	11197.00	15.0	9.5	14.5	6.0	3.0
DS01	GWES	1	SS	None	11/9/1990	317.20	318.74	9195.83	8588.35	24.8	21.8	24.5	16.6	
DS02	GWES	1	SS	None	11/5/1990	317.20	318.86	9227.33	8587.93	24.4	20.9	23.6	14.7	

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
DS03	GWES	1	SS	None	11/6/1990	317.10	318.75	9282.14	8586.69	23.3	19.1	21.3	12.7	
DS04	GWES	1	SS	None	11/6/1990	317.50	319.27	9322.53	8585.54	24.1	20.0	22.0	13.5	
DS05	GWES	1	SS	None	11/7/1990	317.50	318.55	9358.64	8584.74	23.8	19.5	21.9	13.4	
DS06	GWES	1	SS	None	11/7/1990	317.30	319.29	9400.80	8584.92	22.9	19.8	21.8	13.5	
DS07	GWES	1	SS	None	11/16/1990	317.40	318.84	9432.23	8585.20	27.2	24.4	26.3	20.0	
DS08	GWES	1	SS	None	11/13/1990	318.60	320.87	9443.49	8618.67	24.0	20.1	22.1	17.5	
DS09	GWES	1	SS	None	11/9/1990	316.50	318.24	9442.46	8652.98	23.1	19.2	21.2	16.0	
DS10	GWES	1	SS	None	11/9/1990	316.20	317.55	9442.67	8696.86	21.8	18.6	20.6	16.0	
DS11	GWES	1	SS	None	11/21/1990	316.30	317.91	9442.37	8772.47	23.2	20.7	22.7	18.3	
DS12	GWES	1	SS	None	11/21/1990	316.20	317.12	9442.10	8826.73	21.2	19.1	21.1	17.0	
DS13	GWES	1	SS	None	11/12/1990	316.10	317.64	9440.67	8859.42	22.3	18.4	20.4	15.8	
DS14	GWES	1	SS	None	11/15/1990	315.90	317.23	9438.89	8923.76	21.7	19.5	21.5	17.3	
DS15	GWES	1	SS	None	11/26/1990	316.10	318.13	9439.98	8959.16	21.3	19.0	21.0	17.1	
DS16	GWES	1	SS	None	11/26/1990	316.00	318.19	9441.23	8993.78	21.7	18.7	20.7	16.5	
DS17	GWES	1	SS	None	11/14/1990	317.20	318.96	9609.46	8797.84	22.9	20.0	22.0	16.0	
DS18	GWES	1	SS	None	11/19/1990	316.70	318.99	9530.16	8801.01	22.3	19.6	21.6	16.9	
DS19	GWES	1	SS	None	11/14/1990	316.70	318.54	9492.44	8802.94	20.9	18.1	20.1	13.4	
DS20	GWES	1	SS	None	10/16/1992	321.20	323.22	9470.47	9696.04	25.0	22.9	25.0	19.0	1.0
DS21	GWES	1	SS	None	10/16/1992	320.40	322.02	9470.78	9736.22	24.2	22.7	24.2	18.2	3.0
DS22	GWES	1	SS	None	10/16/1992	319.80	321.61	9469.24	9794.58	28.3	26.7	28.0	22.3	3.0
DS23	GWES	1	SS	None	10/16/1992	318.90	321.10	9469.06	9946.61	29.4	27.8	29.4	23.4	3.0
DS26	GWES	1	SS	None	10/13/1994	321.30	323.56	9467.85	9396.56	18.5	12.7	17.7	10.9	3.0
DS27	GWES	1	ss	None	12/4/1997	319.41	321.91	9495.63	9974.62	16.0	5.5	15.5	12.0	1.1
DS28	GWES	1	ss	None	12/11/1997	319.58	322.08	9605.19	9971.93	21.3	10.8	20.8	7.3	1.0
DS29	GWES	1	ss	None	12/11/1997	318.11	320.61	9845.82	9476.35	25.5	10.0	25.0	21.5	1.0
EW06	GWES	1	SS	Well Wiz	11/16/1990	319.30	320.19	8197.21	9353.70	17.1	9.1	16.1	9.9	5.0
EW07	GWES	1	SS	Well Wiz	11/15/1990	319.20	320.60	8189.23	9328.62	17.5	9.5	16.5	9.8	4.0
EW08	GWES	1	SS	None	9/21/1994	321.42	323.73	9499.22	9618.36	17.0	11.0	17.0	8.0	3.0
EW09	GWES	1	SS	None	9/23/1994	320.54	323.04	9499.90	9594.71	18.0	10.0	18.0	8.0	3.0
EW10	GWES	1	SS	None	9/22/1994	320.43	322.85	9498.27	9574.71	19.5	13.5	19.5	6.5	3.0
EW11	GWES	1	SS	None	9/20/1994	320.03	322.43	9498.37	9544.39	13.5	7.5	12.5	7.0	3.0
EW12	GWES	1	SS	Well Wiz	9/19/1994	319.86	322.17	9497.41	9515.15	16.0	10.5	15.5	7.0	3.0

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
EW13	GWES	1	SS	None	9/14/1994	319.49	321.95	9497.41	9484.48	18.5	11.5	18.5	7.0	3.0
EW14	GWES	1	SS	None	9/14/1994		321.76	9496.26	9466.18	17.0	12.0	17.0	7.0	3.0
EW15	GWES	1	ss	None	11/1/1996	319.07	321.47	10367.79	2681.24	18.8	13.1	18.1	12.1	3.0
EW16	GWES	1	ss	None	10/30/1997	319.07	321.49	10367.11	2660.87	20.0	14.3	19.3	13.3	3.0
EW17	GWES	1	SS	None	7/10/2012	319.50	319.50	9270.29	9896.06	15.0	4.0	14.0	14.5	0.5
EW18	GWES	1	SS	None	7/9/2012	319.25	319.25	9272.49	9939.25	15.0	4.0	14.0	14.5	0.5
F101S	Fac Pond 1&2	1	SS	Bailer	7/16/1986	320.42	322.63	8130.06	8739.83	24.0	7.6	23.0	17.4	4.0
F102D	Fac Pond 1&2	3	SS	Well Wiz	7/15/1986	318.96	320.02	8483.79	8569.43	40.7	30.2	35.8	11.0	1.7
F102S	Fac Pond 1&2	1	SS	Bailer	7/15/1986	319.26	320.55	8476.67	8568.92	20.0	8.6	19.5	13.4	4.0
F103S	Fac Pond 1&2	1	SS	Bailer	7/16/1986	316.84	319.06	9017.06	8718.12	18.0	7.7	18.3	12.3	3.7
F301S	Fac Pond3	1	SS	Bailer	7/14/1986	320.17	321.49	8115.55	10813.33	20.0	8.6	19.2	13.4	4.0
F302D	Fac Pond3	3	SS	Well Wiz	7/3/1986	319.48	321.30	9059.62	10805.35	50.0	31.1	49.3	20.5	4.5
F302S	Fac Pond3	1	SS	Bailer	6/27/1986	319.15	320.00	9058.00	10798.57	22.0	8.7	21.6	16.1	3.9
F501D	Fac Pond5	3	PVC	Well Wiz	11/30/2009	315.16	317.39	10929.99	10176.09	46.0	32.1	45.1	15.3	3.2
F501S	Fac Pond5	1	PVC	Bailer	11/24/2009	315.06	317.21	10929.41	10181.17	15.0	9.5	14.5	7.4	3.1
F502S	Fac Pond5	1	PVC	Bailer	11/3/2009	313.88	315.47	10135.26	10174.10	14.0	10.5	13.5	5.4	3.2
F5801D	TANK 58	3	SS	Well Wiz	7/11/1986	317.97	319.83	9343.04	9116.12	43.0	28.0	40.9	17.0	4.0
F5801S	TANK 58	1	SS	Bailer	7/2/1986	317.48	319.74	9342.70	9112.55	18.0	6.6	17.2	12.0	4.0
F5802S	TANK 58	1	SS	1" Bailer	7/15/1986	317.50	318.97	9215.98	9085.75	20.0	8.4	19.0	13.5	4.0
F801S	Fac Pond8	1	SS	Bailer	7/10/1986	319.22	321.89	8980.78	11208.39	18.0	7.2	17.8	12.3	4.2
F802LD	Fac Pond8	3	SS	Well Wiz	6/27/1986	321.57	323.65	9326.91	11520.16	55.3	40.8	53.7	15.4	4.7
F802S	Fac Pond8	1	SS	Bailer	6/19/1986	321.65	323.38	9327.53	11524.77	18.0	8.2	18.8	12.5	4.0
F802UD	Fac Pond8	3	SS	Well Wiz	7/1/1986	321.61	323.91	9325.22	11518.13	44.0	30.6	43.5	16.0	4.0
FP01D	Fire Pond	3	SS	Well Wiz	7/9/1986	318.44	320.87	9052.15	10066.45	52.0	32.5	50.7	21.0	4.0
FP01S	Fire Pond	1	SS	Bailer	6/30/1986	318.60	320.09	9052.37	10061.85	18.0	7.6	15.5	11.0	4.0
GDA01S	Investigation	1	PVC	Bailer	5/23/2001	318.00	320.37	9700.85	10077.82	20.0	7.8	18.0	10.2	3.0
GZR01S	SLF 11	1	SS	Bailer	9/26/1989	316.00	318.52	10815.26	11096.16	20.0	7.0	19.7	14.0	3.0
GZR02S	SLF 11	1	SS	Bailer	9/28/1989	316.00	318.65	11035.50	11481.38	18.0	7.4	17.8	11.5	3.0
GZR03S	SLF 11	1	SS	Bailer	9/29/1989	316.00	318.51	11030.44	11272.17	23.4	7.4	23.1	17.0	3.1
GZR04S	SLF 11	1	SS	Bailer	10/3/1989	318.00	319.67	11040.60	11754.05	18.3	7.2	17.6	11.9	3.1
LD91	GWES	1	PVC	Bailer		0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0
LD92	GWES	1	PVC	Bailer		0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
LMS01D	LAGOONS	3	PVC	Well Wiz	11/25/1997	321.26	323.76	9824.59	9729.43	45.9	33.0	43.0	12.5	3.9
LMS01S	LAGOONS	1	PVC	Bailer	11/20/1997	321.25	323.25	9824.22	9733.97	20.0	8.5	18.5	10.5	3.2
LMS02D	LAGOONS	3	PVC	Well Wiz	12/10/1997	316.52	319.02	9885.12	9414.68	42.0	35.0	40.3	8.5	3.9
LMS02S	LAGOONS	1	PVC	Well Wiz	12/8/1998	316.49	319.49	9884.59	9422.10	28.0	10.0	25.0	18.3	3.1
LMS03D	LAGOONS	3	PVC	Well Wiz	12/3/1998	314.19	316.69	9884.85	9056.64	40.0	33.0	38.0	8.8	3.2
LMS03S	LAGOONS	1	PVC	Bailer	12/1/1998	314.35	316.85	9884.43	9059.99	22.0	9.0	19.0	15.5	3.0
LMS04S	LAGOONS	1	PVC	Bailer	12/12/1997	319.17	321.67	9680.75	8776.92	20.0	8.5	18.5	12.5	3.5
P1001S	SLF 10	1	SS	Bailer	5/13/1986	321.19	322.44	8214.09	11442.85	18.0	6.5	17.9	12.4	4.2
P1002S	SLF 10	1	SS	Bailer	5/12/1986	322.16	323.64	8221.40	11645.47	22.0	8.4	19.0	12.7	4.3
P1102S	SLF 11	1	PVC	Bailer	12/13/1985	318.60	320.97	10159.59	11764.56	14.0	5.3	13.5	8.7	4.8
P1103S	SLF 11	1	SS	None	5/2/1986	318.36	320.54	10169.46	12151.62	22.0	5.8	21.7	16.7	4.3
P1104S	SLF 11	1	SS	None	5/5/1986	318.75	320.94	10171.52	12352.03	26.0	7.8	23.7	19.0	5.4
P1105S	SLF 11	1	SS	Bailer	5/1/1986	317.36	320.16	10772.02	12555.27	18.0	5.2	15.8	11.2	3.8
P1201S	SLF 12	1	SS	Bailer	8/14/1986	312.10	313.46	10131.98	8988.83	14.0	6.4	11.8	7.5	4.0
P1202S	GWES	1	SS	Well Wiz	8/14/1986	315.30	317.54	10534.15	9932.35	19.0	7.6	18.0	13.0	4.0
P1203S	GWES	1	PVC	None	8/16/1994	315.85	318.58	10501.12	9934.05	16.1	5.5	15.5	12.1	1.0
P1204S	GWES	1	PVC	None	10/17/1994	316.27	318.57	10541.50	9932.50	15.0	9.5	14.5	6.5	3.0
P1205S	GWES	1	PVC	None	10/18/1994	315.96	318.50	10549.50	9932.00	15.0	9.5	14.5	6.5	3.0
P1206S	GWES	1	PVC	None	10/17/1994	316.26	318.89	10558.50	9932.00	15.0	9.5	14.5	6.5	3.0
P701S	SLF 7	1	PVC	1"Well Wiz	12/20/1985	317.41	320.28	10523.20	11108.59	26.0	7.8	24.0	18.0	7.0
P702S	SLF 7	1	SS	Bailer	5/8/1986	315.98	317.50	10292.46	10859.51	20.0	8.5	19.1	11.5	4.6
P703S	SLF 7	1	SS	Bailer	9/18/1986	318.71	320.82	10308.39	11116.29	24.0	7.8	23.6	16.6	4.0
PA	GWES	1	SS	None	11/21/1990	316.10	318.61	9442.37	8671.16	21.5	16.6	21.4	17.4	1.0
PAN01	GWES	1	SS	None	11/26/1990	316.20	318.65	9444.72	8671.32	20.8	14.9	19.7	7.5	3.0
PAN02	GWES	1	SS	None	11/26/1990	316.10	318.71	9447.35	8670.99	20.1	12.7	20.1	7.4	3.1
PAN03	GWES	1	SS	None	11/27/1990	316.30	318.84	9451.78	8671.28	20.3	15.4	20.2	7.2	3.3
PAN04	GWES	1	SS	None	11/27/1990	316.00	319.20	9467.39	8671.10	20.8	14.8	19.6	8.1	2.9
PAS01	GWES	1	SS	None	11/1/1990	316.10	318.64	9440.38	8671.17	20.1	14.8	19.6	6.7	3.0
PAS02	GWES	1	SS	None	11/2/1990	316.10	318.67	9437.66	8671.10	20.1	14.8	19.6	8.0	3.0
PAS03	GWES	1	SS	None	11/2/1990	316.10	318.76	9432.32	8670.90	20.1	14.8	19.6	6.8	3.0
PAS04	GWES	1	SS	None	11/1/1990	316.00	319.19	9417.08	8671.45	20.5	14.2	19.0	7.4	3.0
PB	GWES	1	SS	None	11/21/1990	315.90	318.42	9442.51	8745.29	20.6	15.8	20.6	16.2	1.0

Revised December 2013

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Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
PBN01	GWES	1	SS	None	11/27/1990	316.10	318.46	9545.61	8745.67	20.6	15.3	20.1	7.5	3.0
PBN02	GWES	1	SS	None	11/27/1990	316.10	318.53	9448.34	8746.14	20.6	15.3	20.1	7.5	3.0
PBN03	GWES	1	SS	None	11/28/1990	316.20	318.51	9452.58	8745.81	20.8	15.4	20.2	7.6	2.9
PBN04	GWES	1	SS	None	11/28/1990	316.30	318.77	9467.37	8746.43	20.9	15.5	20.3	7.3	3.2
PBS01	GWES	1	SS	None	10/31/1990	315.90	318.40	9439.15	8748.15	20.4	14.9	19.7	6.5	3.2
PBS02	GWES	1	SS	None	10/31/1990	316.00	319.45	9435.91	8745.17	20.5	14.7	19.5	6.6	3.0
PBS03	GWES	1	SS	None	10/31/1990	315.80	318.47	9432.30	8745.20	20.3	14.8	19.6	6.6	3.1
PBS04	GWES	1	SS	None	11/1/1990	315.30	318.95	9411.63	8745.40	20.3	14.1	18.9	6.9	3.0
PC	GWES	1	SS	None	10/8/1992	320.40	322.37	9471.64	9733.41	23.9	17.6	22.8	17.9	3.0
PCN01	GWES	1	SS	None	10/8/1992	320.70	322.17	9476.84	9733.54	24.0	18.1	23.3	8.2	3.1
PCN02	GWES	1	SS	None	10/8/1992	322.40	324.70	9481.59	9733.43	25.4	19.7	24.9	7.0	3.0
PCN03	GWES	1	SS	None	10/12/1992	322.50	325.21	9492.31	9733.49	25.0	19.3	24.5	7.5	3.0
PCS01	GWES	1	SS	None	10/13/1992	320.10	322.62	9465.90	9733.32	23.0	17.5	22.7	17.0	3.0
PCS02	GWES	1	SS	None	10/13/1992	320.10	322.64	9460.61	9733.17	23.2	17.5	22.7	7.3	3.0
PCS03	GWES	1	SS	None	10/12/1992	319.70	322.32	9451.01	9733.00	22.7	17.3	22.5	7.6	2.9
PDN01	GWES	1	SS	None	9/26/1994		323.81	9499.19	9601.56	18.0	7.5	11.5	7.5	3.0
PDN02	GWES	1	SS	None	9/27/1994	324.30	324.84	9511.40	9603.10	19.0	7.5	12.5	7.5	3.0
PDN03	GWES	1	SS	None	9/26/1994	326.10	326.30	9527.00	9603.00	22.0	7.5	12.5	7.5	3.0
PE01S	GWES	1	ss	None	10/25/1996	319.07	321.79	10368.13	2688.53	15.0	9.7	14.7	6.0	3.0
PE02S	GWES	1	ss	None	10/24/1996	319.07	321.59	10368.20	2696.11	15.0	9.7	14.7	6.0	3.1
PE03S	GWES	1	ss	None	10/24/1996	319.07	321.84	10368.47	2705.30	15.0	9.7	14.7	6.0	3.0
PEW701	GWES	1	SS	None	11/19/1990	319.30	321.47	8194.96	9354.28	16.5	11.2	16.0	7.5	3.0
PEW702	GWES	1	SS	None	11/19/1990	319.20	321.38	8192.52	9354.65	16.4	11.1	15.9	7.5	3.0
PEW703	GWES	1	SS	None	11/19/1990	318.90	321.05	8187.95	9355.70	16.1	10.8	15.6	7.5	3.0
PEW704	GWES	1	SS	None	11/20/1990	318.40	320.95	8172.45	9358.18	15.6	10.3	15.1	7.5	3.0
PF	GWES	1	PVC	None	8/21/2012	320.37	320.37	9477.42	10138.94	10.2	4.3	9.3	6.1	2.0
PFN01	GWES	1	PVC	None	8/21/2012	319.65	319.65	9487.21	10137.71	10.0	4.5	9.5	6.0	2.0
PFN02	GWES	1	PVC	None	8/21/2012	319.39	319.39	9497.72	10136.29	10.0	4.2	9.2	6.0	2.0
PFS01	GWES	1	PVC	None	8/21/2012	320.80	320.84	9467.20	10140.82	11.0	5.0	10.0	6.0	2.5
PFS02	GWES	1	PVC	None	8/21/2012	320.90	320.88	9457.72	10141.80	11.0	5.0	10.0	6.0	2.5
PLM101	GWES	1	PVC	None	11/20/1997	321.49	323.99	9808.58	9731.50	22.0	14.0	19.0	9.8	3.2
PLM201	GWES	1	PVC	None	12/5/1997	317.85	320.35	9869.98	9420.43	16.0	9.5	14.5	7.4	3.1

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
PLM202	GWES	1	PVC	None	12/4/1997	317.75	320.25	9859.18	9418.89	15.0	9.2	14.2	11.5	1.0
PLM301	GWES	1	PVC	None	11/26/1997	315.23	317.73	9868.54	9058.20	18.0	10.5	15.5	3.3	7.5
R101D	RMU-1	3	SS	Well Wiz	2/21/1992	320.00	321.98	9970.83	11231.91	44.0	36.5	41.8	8.0	3.0
R101S	RMU-1	1	SS	Bailer	2/15/1992	319.90	321.65	9975.70	11232.64	18.0	8.0	15.3	10.0	3.1
R102D	RMU-1	3	SS	Well Wiz	2/20/1992	318.90	319.69	10093.55	11325.56	40.9	36.0	40.3	6.9	3.0
R102S	RMU-1	1	SS	Bailer	2/15/1992	318.90	320.66	10094.60	11331.65	16.0	8.1	13.4	7.8	3.3
R102SR	RMU-1	1	SS	Well Wiz	12/11/1992	331.20	333.89	10052.59	11333.53	24.0	12.0	22.3	12.7	3.3
R103D	RMU-1	3	SS	Well Wiz	2/20/1992	318.30	319.50	10101.83	11466.22	44.5	38.2	43.5	9.1	2.8
R103S	RMU-1	1	SS	Bailer	2/15/1992	318.40	321.25	10102.71	11471.69	16.0	7.5	12.8	8.3	3.1
R104D	RMU-1	3	SS	Well Wiz	2/22/1992	317.20	320.50	10105.73	11605.55	46.5	33.5	45.8	15.1	3.2
R104S	RMU-1	1	SS	Bailer	2/14/1992	317.40	320.37	10104.99	11610.61	18.0	8.0	13.3	8.0	3.1
R105D	RMU-1	3	SS	Well Wiz	2/22/1992	317.10	320.27	10107.46	11745.62	42.0	35.7	41.0	8.3	3.3
R105S	RMU-1	1	SS	Bailer	2/14/1992	317.00	320.82	10107.83	11705.85	16.0	7.9	13.2	7.7	3.1
R106D	RMU-1	3	SS	Well Wiz	2/24/1992	318.30	321.79	10111.01	11885.74	41.5	36.5	40.8	7.4	3.6
R106S	RMU-1	1	SS	Bailer	2/14/1992	317.80	320.83	10111.62	11891.10	20.0	7.6	18.0	12.9	3.0
R107D	RMU-1	3	SS	Well Wiz	2/26/1992	318.20	320.50	10114.93	12025.44	40.3	33.8	39.1	9.3	3.4
R107S	RMU-1	1	SS	Bailer	2/14/1992	318.00	320.71	10115.13	12031.02	26.0	8.6	23.9	18.8	4.0
R108D	RMU-1	3	SS	Well Wiz	2/25/1992	318.60	321.66	10117.85	12165.87	40.4	32.1	39.4	10.3	3.1
R108S	RMU-1	1	SS	1" Bailer	2/13/1992	318.60	321.77	10118.09	12171.29	20.0	8.2	18.5	12.9	3.1
R109D	RMU-1	3	SS	Well Wiz	2/26/1992	317.90	320.88	10121.42	12304.96	43.4	30.6	42.6	16.0	3.3
R109S	RMU-1	1	SS	Bailer	2/13/1992	317.40	321.18	10121.23	12311.52	22.0	8.0	17.3	12.3	3.0
R110D	RMU-1	3	SS	Well Wiz	3/1/1992	318.30	321.35	10122.44	12445.46	40.5	29.8	40.1	12.3	3.8
R110S	RMU-1	1	SS	Bailer	2/13/1992	318.40	322.16	10122.25	12451.54	24.0	9.1	21.4	15.1	3.2
R111D	RMU-1	3	SS	Well Wiz	2/27/1992	319.00	321.95	10131.92	12581.46	44.5	30.0	44.3	16.8	3.0
R111S	RMU-1	1	SS	Bailer	2/12/1993	319.00	321.14	10131.93	12587.91	23.0	8.8	21.1	14.9	3.4
R112S	RMU-1	1	SS	Well Wiz	2/27/1992	335.90	337.61	8579.41	11823.12	34.0	16.5	30.4	18.0	3.4
R113S	RMU-1	1	SS	Well Wiz	3/4/1992	323.00	325.41	8580.08	11858.65	20.0	9.6	16.9	10.0	3.2
R114D	RMU-1	3	SS	Well Wiz	3/4/1992	322.60	324.91	8797.90	11857.83	45.2	32.2	42.5	13.8	3.1
R114S	RMU-1	1	SS	Well Wiz	3/24/1992	322.20	323.90	8802.70	11858.26	24.0	8.6	19.0	13.6	3.5
R115S	RMU-1	1	SS	Bailer	2/17/1992	333.00	335.71	8937.00	11821.15	30.0	15.1	25.4	13.5	3.5
R116D	RMU-1	3	SS	Well Wiz	3/2/1992	320.50	322.60	9207.12	11856.43	42.7	30.0	42.3	14.9	2.8
R116S	RMU-1	1	SS	Well Wiz	2/27/1992	320.50	322.24	9211.86	11856.51	18.0	10.2	15.5	8.3	3.0

Revised December 2013

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Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
R117LD	RMU-1	3	SS	Well Wiz	8/17/1994	320.50	323.09	9362.90	11363.99	54.5	42.2	54.2	15.0	2.0
R117UD	RMU-1	3	SS	Well Wiz	8/17/1994	320.19	322.99	9362.03	11358.18	43.5	30.2	42.2	15.6	2.9
R118D	RMU-1	3	SS	Well Wiz	8/31/1994	319.09	321.32	9609.49	11203.07	45.7	30.5	42.5	16.3	4.0
R118S	RMU-1	1	SS	Bailer	8/23/1994	318.91	321.81	9602.72	11202.93	22.0	8.0	20.3	15.0	3.0
R119D	RMU-1	3	SS	Well Wiz	6/19/1995	318.84	322.98	9354.40	11681.00	47.3	31.7	47.0	17.9	3.4
R120D	RMU-1	3	SS	Well Wiz	6/22/1995	324.00	323.50	8229.30	12001.00	45.9	38.7	44.0	9.2	3.5
R121D	RMU-1	3	SS	None	7/6/1995	319.90	322.11	8247.70	12143.90	45.7	40.0	45.0	7.4	3.2
R122D	RMU-1	3	SS	None	7/13/1995	320.00	322.97	8305.60	12282.60	43.3	40.5	42.5	3.6	3.2
R125D	RMU-1	3	PVC	Well Wiz	5/30/2003	321.70	0.00	10090.25	12710.80	44.0	33.2	43.2	15.5	3.5
R126D	RMU-1	3	PVC	Well Wiz	5/28/2003	321.80	0.00	9953.23	12723.38	48.0	26.7	46.7	24.0	2.5
R127D	RMU-1	3	PVC	Well Wiz	5/23/2003	322.40	0.00	9813.01	12747.01	49.0	27.2	47.2	24.0	3.0
R128D	RMU-1	3	PVC	Well Wiz	5/20/2003	321.80	0.00	9672.78	12748.88	44.0	27.2	42.2	19.0	3.0
R129D	RMU-1	3	PVC	Well Wiz	5/16/2003	321.20	0.00	9551.43	12737.87	46.0	28.7	43.7	19.8	3.0
R130D	RMU-1	3	PVC	Well Wiz	5/9/2003	321.30	0.00	9408.00	12741.38	42.0	25.7	40.7	19.5	5.0
R131D	RMU-1	3	PVC	Well Wiz	5/13/2003	321.20	0.00	9268.15	12742.09	42.0	26.2	41.2	18.0	3.0
R132D	RMU-1	3	PVC	Well Wiz	5/5/2003	321.50	0.00	9127.91	12746.81	44.0	27.2	42.2	19.0	3.5
R133D	RMU-1	3	PVC	Well Wiz	8/22/2003	321.20	0.00	8991.54	12748.29	42.2	31.0	41.0	13.5	2.7
R134D	RMU-1	3	PVC	Well Wiz	4/28/2003	321.30	0.00	8847.88	12751.91	43.0	31.9	41.9	13.2	2.8
R135D	RMU-1	3	PVC	Well Wiz	4/24/2003	322.00	0.00	8708.48	12751.24	42.0	39.2	41.2	5.0	3.0
R1N08S	RMU-1	1	SS	Well Wiz	1/22/1996	328.90	336.98	10095.24	12221.99	30.2	17.0	29.0	15.2	15.0
R1N10S	RMU-1	1	SS	Well Wiz	10/10/1997	330.09	331.29	10105.69	12431.24	24.2	11.3	23.3	15.0	9.5
R1P01S	RMU-1	1	SS	None	3/13/1992	321.00	323.78	9876.40	12725.26	20.0	8.2	17.5	11.8	3.0
R1P02S	RMU-1	1	SS	None	3/12/1992	324.20	322.63	9543.67	12739.56	18.0	9.7	15.0	8.3	3.0
R1P03S	RMU-1	1	SS	None	3/11/1992	320.10	322.04	9190.58	12746.93	18.0	10.7	16.0	8.3	3.4
R1P04S	RMU-1	1	SS	None	3/23/1992	320.60	321.76	8900.21	12750.82	24.0	8.7	19.0	13.3	3.0
R1P05S	RMU-1	1	SS	None	3/6/1992	319.80	321.30	8685.30	12751.92	16.0	8.7	14.0	8.0	3.0
R1P07S	RMU-1	1	SS	None	3/9/1992	320.50	322.60	8228.42	12009.33	20.0	8.7	17.0	11.3	3.0
R1P08S	RMU-1	1	SS	None	3/13/1992	320.90	323.13	8936.27	11858.08	22.0	8.7	19.0	13.3	3.0
R1P09S	RMU-1	1	SS	None	3/6/1992	321.20	322.77	9367.54	11721.52	18.0	9.7	15.0	8.3	3.0
R1P10S	RMU-1	1	SS	None	3/5/1992	320.70	321.31	9366.67	11445.90	24.0	9.2	19.5	12.8	3.7
R201D	RMU-2	3	PVC	Well Wiz	11/20/2007	319.97	322.54	9193.09	10037.77	38.5	33.0	38.0	6.9	5.4
R201DR	RMU-2	3	PVC	Well Wiz	11/23/2009	320.87	323.03	9138.16	10496.21	49.0	34.5	48.5	16.9	3.1

Revised December 2013

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R201S	RMU-2	1	PVC	Bailer	11/21/2007	319.99	322.05	9187.99	10037.76	15.5	10.0	15.0	7.5	3.5
R201SR	RMU-2	1	PVC	Bailer	11/20/2009	320.88	323.08	9143.40	10495.80	14.0	8.4	13.4	8.1	3.3
R202D	RMU-2	3	PVC	Well Wiz	11/13/2007	319.04	321.27	9510.93	10043.54	35.5	30.0	37.0	9.0	4.5
R202S	GWES	1	PVC	Bailer	11/9/2007	319.02	320.61	9516.60	10042.96	12.0	8.5	11.5	5.5	3.0
R203D	RMU-2	3	PVC	Well Wiz	11/13/2007	317.90	320.21	9681.14	10117.69	38.5	28.0	38.0	11.8	3.2
R203S	RMU-2	1	PVC	Bailer	11/8/2007	317.69	320.17	9685.89	10118.33	11.5	8.0	11.0	5.0	3.0
R204D	RMU-2	3	PVC	Well Wiz	11/1/2007	316.72	318.65	9970.04	10142.03	36.0	25.5	35.5	11.5	4.5
R204S	RMU-2	1	PVC	Bailer	10/30/2007	316.70	319.15	9975.71	10142.02	12.0	8.5	11.5	5.0	3.0
R205D	RMU-2	3	PVC	Well Wiz	11/29/2007	315.18	317.45	10007.43	10277.58	36.0	27.5	35.5	13.0	3.8
R205S	RMU-2	1	PVC	Bailer	11/26/2007	315.10	317.79	10006.78	10282.18	15.5	11.0	15.0	7.8	4.3
R206D	RMU-2	3	PVC	Well Wiz	10/29/2007	314.30	316.34	10009.04	10415.48	347.0	29.2	34.2	7.2	4.1
R206S	RMU-2	1	PVC	Bailer	10/24/2007	314.23	316.45	10010.05	10420.47	11.0	7.5	10.5	5.0	2.5
R207D	RMU-2	3	PVC	Well Wiz	10/23/2007	316.57	319.02	10010.61	10555.61	39.0	33.5	38.5	7.0	2.5
R207S	RMU-2	1	PVC	Bailer	10/23/2007	316.75	319.05	10010.62	10559.90	10.0	7.5	9.5	4.0	2.5
R208D	RMU-2	3	PVC	Well Wiz	11/7/2007	316.75	319.00	10010.33	10693.89	385.0	28.0	38.0	12.4	3.2
R208S	RMU-2	1	PVC	Bailer	11/2/2007	316.60	318.89	10010.21	10699.72	10.0	7.5	9.5	4.0	2.5
R209D	RMU-2	3	PVC	Well Wiz	11/14/2007	319.18	321.65	10010.74	10840.45	40.4	36.0	40.0	6.0	3.6
R209S	RMU-2	1	PVC	Bailer	11/13/2007	319.36	321.66	10011.33	10845.02	15.5	10.0	15.0	8.5	3.0
R210D	RMU-2	3	PVC	Well Wiz	11/23/2007	320.32	322.19	10005.19	10974.70	44.5	34.0	44.0	12.0	3.0
R210S	RMU-2	1	PVC	Bailer	11/19/2007	320.27	322.68	10005.51	10980.54	18.5	8.0	18.0	12.0	3.0
R211D	RMU-2	3	PVC	Well Wiz	12/7/2007	319.70	321.73	10011.29	11118.99	43.0	34.1	421.1	9.6	1.7
R211S	RMU-2	1	PVC	1" Well Wiz	12/3/2007	319.74	321.90	10011.40	11123.68	15.5	9.0	14.0	6.9	3.1
R212LD	RMU-2	3	PVC	Well Wiz	11/9/2009	334.55	336.46	9395.61	11280.01	69.1	56.4	68.4	15.1	3.0
R212S	RMU-2	1	PVC	Well Wiz	11/4/2009	334.51	336.39	9395.77	11285.02	34.0	23.5	33.5	12.6	4.3
R212UD	RMU-2	3	PVC	Well Wiz	11/12/2009	334.58	336.36	9395.28	11275.59	56.0	45.3	55.3	13.1	3.0
R213D	RMU-2	3	PVC	Well Wiz	12/12/2007	333.55	333.88	9398.64	11400.57	65.0	47.5	64.5	19.0	3.0
R213S	RMU-2	1	PVC	Well Wiz	12/6/2007	333.45	333.68	9398.81	11405.60	28.5	18.0	28.0	12.0	3.0
R214D	RMU-2	3	PVC	Well Wiz	12/5/2007	332.95	333.16	9398.78	11540.89	49.5	42.0	49.0	9.0	3.0
R214S	RMU-2	1	PVC	Well Wiz	11/30/2007	332.95	333.31	9399.30	11545.68	28.0	17.5	27.5	12.0	3.0
R215D	RMU-2	3	PVC	Well Wiz	11/29/2007	332.17	332.54	9400.23	11679.53	62.5	45.0	62.0	19.0	3.0
R215S	RMU-2	1	PVC	Well Wiz	11/26/2007	332.03	332.56	9399.56	11684.95	28.0	17.0	27.0	12.0	3.0
R216D	RMU-2	3	PVC	Well Wiz	11/17/2009	321.74	323.71	8856.61	10487.27	52.0	36.5	51.5	17.9	3.0

Revised December 2013

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R216S	RMU-2	1	PVC	Bailer	11/13/2009	321.88	323.58	8861.78	10486.59	18.0	9.5	17.5	10.9	3.0
R2P01S	RMU-2	1	PVC	None	11/18/2009	322.54	324.47	8503.05	10499.74	16.0	8.2	15.2	9.9	2.1
RR01S	Investigation	1	SS	Bailer	5/24/2001	320.00	322.15	9372.61	10535.58	14.0	7.8	13.0	5.2	3.0
TP04S	E/W SALTS	1	SS	Bailer	6/12/1986	320.26	321.53	9029.28	9668.65	22.0	8.7	21.6	16.0	4.0
TW01S	E/W SALTS	1	SS	Well Wiz	5/19/1986	318.84	320.21	8813.84	8999.13	18.0	8.6	16.5	10.0	4.0
TW02S	E/W SALTS	1	SS	Well Wiz	5/21/1986	327.55	329.31	8852.86	9822.52	28.0	8.3	26.5	20.0	4.0
TW03D	E/W SALTS	3	SS	Well Wiz	6/18/1986	319.54	321.97	9027.80	9361.75	39.2	36.5	39.1	4.2	3.9
TW03S	E/W SALTS	1	SS	Well Wiz	5/20/1986	319.30	321.65	9027.13	9357.17	24.0	7.8	23.7	18.0	4.0
TW11S	LAGOONS	1	SS	Well Wiz	7/9/1986	316.86	319.21	9606.15	9999.31	20.0	7.5	18.1	13.0	4.0
TW12S	N SALTS	1	SS	Bailer	6/25/1986	311.86	314.54	10021.55	9310.83	16.3	5.2	15.8	11.3	4.0
TW13S	N SALTS	1	SS	Bailer	7/9/1986	318.34	319.96	9903.50	9620.12	22.0	8.3	21.2	16.0	4.0
TW14S	N SALTS	1	SS	Bailer	6/25/1986	312.53	314.74	10023.85	9875.18	16.0	7.8	15.7	10.0	4.0
TW15D	N SALTS	3	SS	Well Wiz	6/30/1986	313.77	315.43	10171.75	9558.56	37.0	34.2	36.8	5.0	4.0
TW15S	N SALTS	1	SS	Well Wiz	6/16/1986	313.78	316.06	10171.02	9553.97	24.0	7.6	23.5	17.5	4.0
TW16S	WDA	1	SS	Well Wiz	9/19/1986	317.66	319.88	9330.76	8627.92	24.0	12.6	23.0	17.0	4.0
TW17S	WDA	1	SS	Well Wiz	9/19/1986	315.33	317.66	9404.24	8759.03	20.0	7.6	18.0	13.0	4.0
TW18S	WDA	1	SS	Well Wiz	9/22/1986	316.43	318.72	9398.74	8895.99	18.0	7.6	18.0	12.0	4.0
TW19S	WDA	1	PVC	Well Wiz	6/1/1988	316.43	319.02	9527.21	8506.20	25.0	7.2	23.4	19.0	4.0
TW20S	WDA	1	PVC	Bailer	6/2/1988	315.70	318.28	9803.32	8651.41	20.0	8.2	18.9	14.0	4.5
TW21S	Investigation	1	PVC	Bailer	9/27/1988	320.50	323.52	7815.79	11194.72	18.0	6.8	17.5	12.8	3.0
TW24S	Investigation	1	PVC	Well Wiz	10/3/1988	321.00	323.42	8411.00	11158.50	16.0	7.6	15.8	10.0	3.0
TW25S	GWES	1	PVC	Well Wiz	10/4/1988	313.90	316.01	10489.97	9954.05	32.0	8.1	31.5	26.0	3.0
TW26S	Investigation	1	PVC	Well Wiz	10/5/1988	313.40	316.01	10770.81	9951.59	34.3	7.4	34.0	28.1	3.0
TW27S	GWES	1	PVC	Bailer	9/29/1988	320.00	323.18	7787.07	11213.01	18.0	7.4	17.8	11.8	3.2
TW29S	Investigation	1	PVC	Bailer	10/6/1988	319.10	321.54	8331.40	11203.63	16.0	7.6	15.8	10.1	3.0
TW30D	LAGOONS	3	PVC	Well Wiz	10/19/1988	320.40	322.02	9780.97	9797.13	50.0	41.1	49.2	9.2	3.8
W1001D	SLF 10	3	SS	Well Wiz	6/16/1986	319.24	321.21	8584.11	11213.51	36.9	33.9	36.5	4.9	4.2
W1001S	SLF 10	1	SS	Bailer	6/20/1986	319.05	321.70	8579.71	11212.55	24.0	7.2	23.4	18.5	4.0
W1002S	SLF 10	1	SS	Well Wiz	6/20/1986	320.72	322.88	8411.21	11217.38	22.0	7.7	20.9	16.0	5.0
W1003D	SLF 10	3	PVC	Well Wiz	12/13/2007	336.45	336.45	8688.60	11443.01	50.5	42.0	50.0	10.1	1.9
W1003S	SLF 10	1	PVC	Well Wiz	12/10/2007	334.61	336.68	8689.08	11447.21	25.0	19.5	24.5	7.0	3.0
W1004D	SLF 10	3	PVC	Well Wiz	12/20/2007	334.88	336.73	8697.56	11616.92	50.4	44.9	49.9	7.0	3.1

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
W1004S	SLF 10	1	PVC	Well Wiz	12/18/2007	334.95	336.53	8698.03	11621.84	27.7	17.1	27.1	12.0	3.2
W101D	SLF 1-6	3	SS	Well Wiz	5/30/1986	319.53	322.63	8282.15	9017.19	48.1	36.9	47.5	14.0	4.3
W101S	SLF 1-6	1	SS	Bailer	5/14/1986	319.50	321.27	8277.05	9017.18	16.0	6.2	14.1	9.6	4.5
W102S	SLF 1-6	1	SS	Bailer	5/15/1986	320.26	321.63	8138.87	9168.11	24.0	6.5	22.4	17.8	4.7
W1101D	SLF 11	3	PVC	Well Wiz	11/18/1985	318.38	318.94	10692.45	11134.49	42.3	35.3	41.0	8.5	4.0
W1101S	SLF 11	1	PVC	Bailer	11/19/1985	317.09	319.11	10695.49	11134.37	25.0	7.8	24.0	18.0	5.0
W1102D	SLF 11	3	PVC	Well Wiz	12/17/1985	316.78	318.66	10834.02	11130.44	41.0	34.0	40.7	8.2	3.0
W1102S	SLF 11	1	PVC	Bailer	12/18/1985	317.77	319.37	10837.54	11130.27	24.0	11.2	22.0	16.0	7.0
W1103D	SLF 11	3	PVC	Well Wiz	11/13/1985	318.52	319.82	10956.65	11312.03	40.2	34.7	40.0	7.0	3.5
W1103S	SLF 11	1	PVC	Well Wiz	11/13/1985	316.01	318.97	10956.29	11306.25	28.0	9.8	26.0	19.0	7.0
W1104D	SLF 11	3	PVC	Well Wiz	12/12/1985	316.03	318.76	10956.84	11455.82	44.5	35.3	43.5	12.0	3.5
W1104S	SLF 11	1	PVC	Well Wiz	12/12/1985	316.40	320.37	10956.54	11452.00	22.0	11.0	21.8	12.0	10.0
W1105D	SLF 11	3	PVC	Well Wiz	12/4/1985	317.69	319.98	10966.60	11673.83	48.5	33.8	47.0	8.5	4.0
W1105S	SLF 11	1	PVC	Well Wiz	12/4/1985	317.32	319.08	10965.88	11670.05	18.0	7.8	16.0	10.3	7.0
W1106D	SLF 11	3	PVC	Well Wiz	11/8/1985	316.81	318.40	10968.66	11815.63	46.0	34.2	40.0	8.1	2.9
W1106S	SLF 11	1	PVC	Well Wiz	11/8/1985	317.63	320.04	10969.18	11818.98	26.0	7.3	23.5	18.5	5.5
W1107D	SLF 11	3	SS	Well Wiz	5/15/1986	317.16	318.66	10970.80	12020.11	44.5	38.4	43.3	7.6	4.4
W1107S	SLF 11	1	SS	Bailer	5/6/1986	317.33	319.78	10969.05	12028.70	18.5	5.5	18.4	13.5	3.0
W1108D	SLF 11	3	SS	Well Wiz	5/16/1986	317.43	318.93	10975.20	12164.61	43.5	38.2	41.0	6.6	5.5
W1108S	SLF 11	1	SS	Bailer	5/16/1986	317.02	319.18	10974.77	12168.46	24.1	7.8	23.7	17.1	6.0
W1109D	SLF 11	3	SS	Well Wiz	5/21/1986	317.16	318.92	10979.39	12304.16	44.0	38.2	43.8	7.8	4.2
W1109S	SLF 11	1	SS	Bailer	4/29/1986	316.77	319.47	10978.99	12309.01	18.0	7.4	17.9	12.0	5.0
W1201S	SLF 12	1	SS	Bailer	8/15/1986	314.40	315.83	10650.14	8595.35	16.0	6.1	13.9	10.0	4.0
W1202S	SLF 12	1	SS	Bailer	8/15/1986	314.50	315.82	10794.68	8592.08	17.0	6.5	14.3	10.0	3.5
W1203S	SLF 12	1	SS	Bailer	8/12/1986	313.70	315.01	10894.03	8692.77	24.0	6.5	22.3	17.6	4.6
W1204D	SLF 12	3	SS	Well Wiz	8/28/1986	313.80	317.48	10898.58	8875.05	54.0	40.1	52.9	15.0	4.1
W1204S	SLF 12	1	SS	Bailer	8/13/1986	314.60	316.38	10898.93	8880.33	26.0	8.1	23.9	18.2	4.2
W1205D	SLF 12	3	SS	Well Wiz	9/10/1986	314.30	315.88	10898.78	9074.06	58.3	43.3	56.1	16.0	4.0
W1205S	SLF 12	1	SS	Bailer	8/14/1986	314.60	315.91	10899.09	9077.48	16.5	7.6	15.4	9.7	4.0
W1206D	SLF 12	3	SS	Well Wiz	9/17/1986	314.00	316.08	10903.30	9265.13	54.6	37.8	53.6	17.1	4.0
W1206S	SLF 12	1	SS	Bailer	9/10/1986	314.30	315.53	10903.30	9269.68	22.0	8.6	19.0	14.0	4.0
W1207D	SLF 12	3	SS	Well Wiz	9/10/1986	313.80	315.42	10908.28	9451.28	52.5	45.9	51.6	7.5	4.0

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
W1207S	SLF 12	1	SS	Bailer	8/15/1986	313.50	315.10	10908.46	9455.38	22.0	8.4	18.8	13.4	4.0
W1208S	SLF 12	1	SS	Bailer	8/15/1986	312.90	314.66	10910.76	9648.43	20.0	5.8	18.9	14.9	3.1
W1209S	Investigation	1	PVC	Bailer	5/23/2001	314.00	316.11	10996.78	9952.36	14.0	7.8	12.9	6.8	3.0
W121LD	SLF 12	3	SS	Well Wiz	8/26/1986	314.40	316.11	10654.92	8595.11	57.0	43.1	55.9	15.1	4.9
W121UD	SLF 12	3	SS	Well Wiz	8/28/1986	314.10	316.19	10659.91	8595.43	45.0	36.1	43.9	9.6	4.1
W122LD	SLF 12	3	SS	Well Wiz	8/20/1986	314.70	315.89	10790.15	8592.61	63.5	49.6	62.4	15.0	4.5
W122UD	SLF 12	3	SS	Well Wiz	8/25/1986	314.70	315.47	10785.79	8592.48	50.8	39.0	49.4	11.5	4.1
W123LD	SLF 12	3	SS	Well Wiz	9/3/1986	314.10	316.50	10893.19	8686.93	64.2	50.4	63.2	15.2	4.2
W123UD	SLF 12	3	SS	Well Wiz	9/4/1986	314.10	316.97	10892.29	8682.94	50.5	37.1	50.2	14.4	3.8
W128LD	SLF 12	3	SS	Well Wiz	9/4/1986	312.80	315.28	10909.81	9643.78	48.6	45.4	47.8	3.3	4.5
W128UD	SLF 12	3	SS	Well Wiz	9/8/1986	313.20	314.36	10910.38	9639.59	44.0	33.7	41.5	10.0	4.0
W201D	SLF 1-6	3	SS	Well Wiz	6/12/1986	320.45	322.94	8475.58	9008.43	46.9	35.5	46.1	12.9	4.0
W201S	SLF 1-6	1	SS	Bailer	5/14/1986	320.78	322.75	8470.82	9009.52	20.0	8.0	18.6	12.1	4.0
W202LD	SLF 1-6	3	SS	Well Wiz	6/4/1986	334.21	335.40	8656.56	9176.53	63.2	51.4	62.0	13.0	4.0
W202S	SLF 1-6	1	SS	Well Wiz	5/27/1986	333.69	335.43	8655.93	9170.75	28.0	8.2	26.4	21.0	4.0
W202UD	SLF 1-6	3	SS	Well Wiz	6/6/1986	334.30	335.05	8657.54	9182.87	50.3	42.2	50.1	9.5	4.8
W301D	SLF 1-6	3	SS	Well Wiz	6/24/1986	334.61	336.68	8666.06	9371.06	64.5	47.8	63.7	18.0	4.0
W301S	SLF 1-6	1	SS	Well Wiz	6/13/1986	334.46	335.87	8666.49	9374.90	30.0	11.4	29.7	23.7	4.0
W302S	SLF 1-6	1	SS	Well Wiz	5/15/1986	319.52	320.92	8221.25	9374.06	18.0	8.6	16.5	10.0	4.0
W303S	SLF 1-6	1	SS	Bailer	9/13/1989	319.52	320.76	8137.15	9375.30	18.0	7.2	17.6	19.1	3.1
W401D	SLF 1-6	3	SS	Well Wiz	6/17/1986	333.58	334.86	8676.94	9653.13	66.6	48.6	64.5	20.0	4.0
W401S	SLF 1-6	1	SS	Well Wiz	6/11/1986	333.10	326.21	8676.62	9648.56	30.0	8.8	29.7	24.2	4.0
W402S	SLF 1-6	1	SS	Bailer	5/28/1996	319.94	321.60	8123.96	9664.84	22.0	6.9	17.5	12.7	4.0
W501D	SLF 1-6	3	SS	Well Wiz	5/20/1986	324.78	326.80	8740.29	9952.51	54.6	37.9	54.1	18.6	5.0
W501S	SLF 1-6	1	SS	Well Wiz	6/6/1986	325.24	327.65	8739.48	9958.07	24.0	7.5	23.4	17.9	4.0
W502S	SLF 1-6	1	SS	Bailer	5/16/1986	319.80	322.60	8115.91	9931.97	16.0	7.1	15.0	9.5	4.0
W601D	SLF 1-6	3	SS	Well Wiz	6/19/1986	322.74	325.76	8731.40	10223.77	43.0	36.9	42.5	7.5	4.0
W601S	SLF 1-6	1	SS	Bailer	6/2/1986	322.46	324.27	8732.63	10219.65	24.0	8.1	21.0	14.5	4.5
W602S	SLF 1-6	1	SS	Bailer	5/19/1986	321.88	324.16	8421.61	10448.86	24.0	7.6	23.5	17.6	4.4
W603S	SLF 1-6	1	SS	Bailer	6/4/1986	323.09	325.29	8130.51	10236.07	24.1	7.7	23.6	18.1	4.0
W701D	SLF 7	3	SS	Well Wiz	5/31/1986	313.91	316.11	10677.26	10381.04	38.5	27.8	38.1	12.4	4.1
W701S	SLF 7	1	SS	Bailer	5/8/1986	313.83	316.22	10672.90	10381.26	16.0	7.5	15.4	9.6	4.7

Revised December 2013

Table 3
Well Construction Summary

Well ID	Monitoring Unit	Zone (5)	Casing Material	Sampler Type (6)	Date Installed	Ground Elevation (1) (ft/msl)	Installed Elevation (2) (ft/msl)	Northing	Easting	Borehole Depth (3) (ft)	Top of Screen (4) (ft)	Bottom of Screen (4) (ft)	Sand Length (ft)	Seal Length
W702D	SLF 7	3	SS	Well Wiz	6/11/1986	314.55	317.23	10817.70	10378.65	39.5	33.2	38.8	8.0	4.5
W702S	SLF 7	1	SS	Bailer	5/9/1986	313.52	316.39	10813.38	10375.52	22.0	7.0	19.9	14.5	4.0
W703D	SLF 7	3	SS	Well Wiz	6/9/1986	315.24	316.60	10984.23	10487.19	42.5	39.5	42.1	5.4	4.0
W703S	SLF 7	1	SS	1"Well Wiz	5/8/1986	315.46	317.26	10984.19	10493.98	20.0	8.1	18.7	13.0	5.5
W704D	SLF 7	3	SS	Well Wiz	5/29/1986	315.41	317.67	10986.04	10629.00	44.0	40.8	43.4	4.8	4.1
W704S	SLF 7	1	SS	Bailer	5/7/1986	315.67	317.74	10986.34	10633.88	20.0	7.8	18.4	13.5	3.4
W705D	SLF 7	3	SS	Well Wiz	5/27/1986	316.42	318.21	10987.71	10772.87	40.0	29.1	39.7	14.1	3.9
W705S	SLF 7	1	SS	Bailer	5/6/1986	316.21	318.13	10987.77	10776.33	26.0	8.0	23.9	17.0	6.2
WDA01D	WDA	3	SS	Well Wiz	9/12/1991	316.20	318.58	9511.68	8746.39	40.6	29.4	40.1	12.7	6.8
WDA01S	WDA	1	PVC	Bailer	12/11/1997	316.19	318.69	9503.56	8748.69	28.0	10.2	25.2	17.3	2.9
WS01S	E/W SALTS	1	SS	Bailer	9/14/1989	320.00	319.91	9033.92	9117.13	20.0	8.6	19.0	13.0	3.3

Notes:

(1) Ground elevation at time of installation before concrete pad.
(2) Groundwater elevation is measured to the top of well casing
(3) Ground surface to bottom of boring
(4) Below ground surface
(5) Zone 1 -Upper Glacial Till; Zone 3- Glaciolacustrine Silt/Sand
(6) Well Wiz- Dedicated Well Wizard sampling bladder pump; Bailer- Dedicated stainless steel bailer
(7) Well Designations: S- Saturated zone (Shallow), D- Detection zone (Deep), UD- Upper detection zone, LD- Lower detection zone
(8) Elevation Vertical Site Datum

TABLE 4

OCTOBER 1989
REVISION 0

WELL DEVELOPMENT SUMMARY
(1 OF 4)

893-3840

WELL #	DEVELOPMENT PERIOD START DATE	FINISH DATE	METHOD (1)	VOLUME PURGED (GAL)	CLARITY (2)	pH	SPECIFIC CONDUCTANCE (uS/cm)	HYDRAULIC CONDUCTIVITY (cm/s)
BW-1S	86/5/1	86/6/12	AIR LIFT	14.6	CLEAR	7.4	1700	6.6E-06
BW-1D	86/4/30	86/6/12	AIR LIFT	62.6	CLEAR	7.1	2700	1.9E-06
BW-2S	86/5/7	86/6/11	AIR LIFT	15.2	CLEAR	7.3	1300	4.3E-07
BW-2D	86/4/30	86/6/11	AIR LIFT	53.7	CLEAR	7.4	2100	2.8E-05
BW-3S	86/5/7	86/6/10	AIR LIFT	7.8	CLEAR	7.2	2700	1.4E-06
BW-3D	86/5/7	86/6/10	AIR LIFT	49.3	CLEAR	7.6	3200	6.0E-06
BW-4S	87/11/20	88/2/2	GAS LIFT	8.8	CLEAR	-	2200	3.2E-06
BW-4D	87/11/20	88/2/2	GAS LIFT	29.3	CLEAR	-	1850	2.4E-05
BW-5S	87/11/21	88/2/2	GAS LIFT	13.5	CLEAR	-	3600	8.0E-06
BW-5D	87/11/21	88/2/2	GAS LIFT	29.5	SL CLOUDY	-	3100	1.4E-05
MW1-1S	86/5/14	86/7/30	AIR LIFT	11.2	SL CLOUDY	8.0	1600	1.5E-05
MW1-1D	86/6/9	86/7/23	AIR LIFT	66.8	CLEAR	7.7	1800	5.8E-05
MW1-2S	86/5/19	86/9/4	AIR LIFT	82.6	CLOUDY	7.6	2100	1.8E-06
MW2-1S	86/5/14	86/7/30	AIR LIFT	28.4	SL CLOUDY	8.0	2200	2.9E-05
MW2-1D	86/7/7	86/7/23	AIR LIFT	69.5	CLEAR	7.9	1500	5.6E-04
MW2-2S	86/6/11	86/8/30	BAILER	31.1	CLOUDY	7.3	3300	1.2E-07
MW2-2UD	86/6/9	86/7/25	AIR LIFT	17.1	CLEAR	8.0	870	3.6E-06
MW2-2LD	86/6/11	86/7/25	AIR LIFT	24.1	CLEAR	8.0	1400	1.7E-05
MW3-1S	86/7/9	86/7/30	AIR LIFT	3.8	CLEAR	7.4	2700	7.9E-07
MW3-1D	86/7/9	86/7/24	AIR LIFT	46.6	SL CLOUDY	7.8	860	5.4E-05
MW3-2S	86/5/19	86/7/30	AIR LIFT	43.7	SL CLOUDY	7.2	730	1.1E-05
MW3-3S	89/8/25	89/9/13	BAILER	39.0	-	7.1	1520	3.2E-06
MW4-1S	86/7/10	86/8/16	BAILER	12.6	CLEAR	7.0	1700	2.1E-07
MW4-1D	86/7/10	86/7/22	AIR LIFT	160.8	SL CLOUDY	7.8	1300	1.3E-04
MW4-2S	86/5/28	86/7/30	AIR LIFT	32.4	SL CLOUDY	7.5	2300	6.4E-06
MW5-1S	86/6/9	86/9/4	AIR LIFT	46.2	CLOUDY/S	7.3	2500	1.2E-05
MW5-1D	86/7/10	86/7/24	AIR LIFT	42.9	CLEAR	7.9	1200	6.4E-06
MW5-2S	86/5/22	86/7/25	AIR LIFT	21.1	CLEAR	7.8	1500	6.8E-05
MW6-1S	86/6/9	86/9/4	AIR LIFT	80.2	CLOUDY	7.9	1100	2.5E-06
MW6-1D	86/7/2	86/7/24	AIR LIFT	36.9	CLEAR	8.0	1300	2.8E-05
MW6-2S	86/5/22	86/7/25	AIR LIFT	37.0	CLOUDY	7.8	1200	1.1E-05
MW6-3S	86/6/9	86/7/25	AIR LIFT	18.0	CLOUDY	7.6	1300	2.8E-05
MW7-1S	86/5/14	86/7/2	AIR LIFT	16.5	CLEAR	7.7	1200	3.7E-06
MW7-1D	86/6/17	86/7/3	AIR LIFT	51.8	CLEAR	7.9	1300	2.1E-06
MW7-2S	86/5/14	86/7/2	AIR LIFT	16.3	CLEAR	7.6	1050	7.2E-07
MW7-2D	86/6/17	86/7/3	AIR LIFT	38.7	CLEAR	7.7	1100	3.0E-06
MW7-3S	86/5/14	86/7/11	AIR LIFT	32.6	CLOUDY	7.0	1600	1.9E-06
MW7-3D	86/6/16	86/7/11	AIR LIFT	63.4	SL CLOUDY	7.7	1000	7.0E-06
MW7-4S	86/5/14	86/7/2	AIR LIFT	28.8	CLEAR	7.7	1100	9.0E-07
MW7-4D	86/5/29	86/7/11	AIR LIFT	24.1	SL CLOUDY	7.3	950	5.0E-06

TABLE 4

OCTOBER 1989
REVISION 0

WELL DEVELOPMENT SUMMARY
(2 OF 4)

893-3840

WELL #	DEVELOPMENT PERIOD START DATE	FINISH DATE	METHOD (1)	VOLUME PURGED (GAL)	CLARITY (2)	pH	SPECIFIC CONDUCTANCE (uS/cm)	HYDRAULIC CONDUCTIVITY (cm/s)
MW7-5S	86/5/7	86/7/2	AIR LIFT	41.5	CLEAR	7.6	830	4.1E-06
MW7-5D	86/5/27	86/7/11	AIR LIFT	49.0	CLEAR	7.0	1000	6.1E-06
P7-1S	85/12/23	86/1/8	GAS LIFT	15.1	SL CLOUDY	-	1200	3.5E-05
P7-2S	86/5/14	86/7/11	AIR LIFT	29.0	SL CLOUDY	7.1	2250	8.2E-07
P7-3S	86/9/19	86/9/26	AIR LIFT	18.5	CLEAR	7.4	1500	2.0E-06
MW10-1S	86/6/23	86/7/3	AIR LIFT	19.4	CLEAR	7.1	1650	2.9E-06
MW10-1D	86/6/23	86/7/11	AIR LIFT	47.4	CLOUDY	7.6	1200	5.4E-05
MW10-2S	86/6/23	86/7/8	AIR LIFT	12.4	CLEAR	7.4	1450	4.8E-07
P10-1S	86/4/14	86/6/11	AIR LIFT	3.4	CLEAR	7.5	4000	4.7E-07
P10-2S	86/5/14	86/6/13	AIR LIFT	8.7	CLEAR	8.7	2300	2.2E-06
MW11-1S	85/11/19	86/1/8	GAS LIFT	18.6	CLOUDY	-	2100	4.3E-06
MW11-1D	85/11/18	86/1/8	GAS LIFT	28.0	SL CLOUDY	-	1600	4.0E-06
MW11-2S	85/12/19	86/1/8	GAS LIFT	11.0	CLOUDY	-	2000	4.2E-06
MW11-2D	85/12/19	86/1/8	GAS LIFT	22.0	SL CLOUDY	-	1100	1.3E-05
MW11-3S	85/11/14	86/1/8	GAS LIFT	21.1	CLEAR	7.9	2000	1.6E-06
MW11-3D	85/11/13	86/1/8	GAS LIFT	35.3	CLEAR	-	1000	7.4E-06
MW11-4S	85/12/19	86/1/8	GAS LIFT	8.9	CLEAR	-	1300	4.5E-05
MW11-4D	85/12/19	86/1/8	GAS LIFT	23.9	SL CLOUDY	-	815	7.8E-06
MW11-5S	85/12/5	86/1/8	GAS LIFT	5.3	CLEAR	-	-	1.9E-06
MW11-5D	85/12/4	86/1/8	GAS LIFT	27.9	SL CLOUDY	7.4	2200	2.3E-05
MW11-6S	85/11/14	86/1/8	GAS LIFT	25.2	CLEAR	7.4	1300	5.2E-06
MW11-6D	85/11/14	86/1/8	GAS LIFT	84.9	CLEAR	7.5	1500	3.6E-06
MW11-7S	86/5/7	86/6/10	AIR LIFT	15.4	CLEAR	7.4	1200	8.3E-07
MW11-7D	86/5/15	86/6/10	AIR LIFT	54.7	CLEAR	7.5	1200	1.6E-06
MW11-8S	86/5/2	86/6/10	AIR LIFT	26.4	CLEAR	7.2	2000	8.0E-06
MW11-8D	86/5/16	86/6/10	AIR LIFT	51.0	CLEAR	7.8	1200	2.0E-06
MW11-9S	86/4/30	86/6/10	AIR LIFT	26.3	CLEAR	7.6	1700	5.8E-066
MW11-9D	86/5/22	86/6/10	AIR LIFT	43.5	CLEAR	7.4	1400	2.2E-06
P11-1S	85/11/1	85/11/1	GAS LIFT	1.4	SL CLOUDY	7.5	5900	3.8E-08
P11-2S	85/12/5	85/12/20	GAS LIFT	1.2	CLOUDY	7.6	1200	5.3E-07
P11-3S	86/5/2	86/6/10	AIR LIFT	41.9	CLEAR	7.4	990	4.8E-06
P11-4S	86/5/7	86/6/10	AIR LIFT	56.3	SL CLOUDY	7.2	1200	5.2E-06
P11-5S	86/5/2	86/6/10	AIR LIFT	30.8	CLEAR	7.4	1900	6.7E-06
MW12-1S	86/9/4	86/9/24	BAILER	14.5	CLEAR	7.5	760	6.9E-07
MW12-1UD	86/9/8	86/9/25	AIR LIFT	28.8	CLOUDY	8.5	580	2.0E-06
MW12-1LD	86/9/8	86/9/16	AIR LIFT	46.0	SL CLOUDY	7.3	460	4.0E-05
MW12-2S	86/9/4	86/9/24	BAILER	13.3	CLEAR	7.2	1400	3.9E-07
MW12-2UD	86/9/4	86/9/16	AIR LIFT	231.0	CLEAR	7.6	1900	6.6E-04
MW12-2LD	86/9/4	86/9/16	AIR LIFT	128.0	CLEAR	7.5	1900	1.2E-04
MW12-3S	86/9/4	86/9/25	BAILER	29.0	CLOUDY	8.5	600	5.8E-07

TABLE 4

OCTOBER 1989 — WELL DEVELOPMENT SUMMARY — 893-3840
REVISION 0 — (3 OF 4)

WELL #	DEVELOPMENT PERIOD START DATE	DEVELOPMENT PERIOD FINISH DATE	METHOD (1)	VOLUME PURGED (GAL)	CLARITY (2)	pH	SPECIFIC CONDUCTANCE (uS/cm)	HYDRAULIC CONDUCTIVITY (cm/s)
MW12-3UD	86/9/11	86/9/16	AIR LIFT	170.0	SL CLOUDY	8.0	1400	4.1E-04
MW12-3LD	86/9/8	86/9/16	AIR LIFT	148.8	CLEAR	7.4	1500	1.4E-04
MW12-4S	86/8/26	86/9/24	AIR LIFT	25.4	CLEAR	7.8	680	2.8E-07
MW12-4D	86/9/15	86/9/24	AIR LIFT	33.5	CLEAR	7.8	1600	8.8E-06
MW12-5S	86/8/26	86/9/25	BAILER	3.7	CLEAR	7.8	630	4.2E-08
MW12-5D	86/9/16	86/9/24	AIR LIFT	28.0	CLEAR	7.4	1800	2.5E-06
MW12-6S				DRY				
MW12-6D	86/9/18	86/9/25	AIR LIFT	26.9	CLEAR	8.0	1000	3.4E-06
MW12-7S	86/8/26	86/9/25	BAILER	24.3	CLEAR	7.9	410	4.7E-05
MW12-7D	86/9/15	86/9/25	AIR LIFT	26.6	CLEAR	8.2	1100	5.5E-06
MW12-8S	86/8/26	86/9/25	BAILER	15.2	SL CLOUDY	7.4	950	7.1E-05
MW12-8UD	86/9/10	86/9/25	AIR LIFT	33.9	CLEAR	8.2	1450	8.1E-06
MW12-8LD	86/9/10	86/9/16	AIR LIFT	150.0	CLEAR	6.8	2100	5.8E-04
P12-1S	86/9/16	86/9/24	BAILER	5.5	CLEAR	7.8	690	3.8E-07
P12-2S	86/9/16	86/9/25	BAILER	30.7	CLEAR	7.6	1500	2.3E-06
F1&2-1S	86/7/25	86/9/2	AIR LIFT	51.0	CLEAR	7.8	1800	6.7E-06
F1&2-2S	86/7/25	86/9/2	AIR LIFT	37.9	CLEAR	7.3	10000	7.7E-06
F1&2-2D	86/7/25	86/9/2	AIR LIFT	33.3	CLEAR	8.1	1100	6.6E-06
F1&2-3S	86/7/25	86/9/2	AIR LIFT	34.6	CLEAR	7.6	4300	1.2E-05
FP-1S	86/7/25	86/7/30	AIR LIFT	5.0	CLEAR	8.1	1300	3.9E-06
FP-1D	86/7/25	86/7/27	AIR LIFT	45.0	CLEAR	7.8	1300	1.1E-04
F3-1S	86/7/25	86/8/15	AIR LIFT	19.6	CLEAR	7.5	3500	6.4E-06
F3-2S	86/7/25	86/7/30	AIR LIFT	10.6	CLEAR	7.7	3200	1.1E-06
F3-2D	86/7/25	86/7/27	AIR LIFT	42.0	CLEAR	8.1	1000	2.9E-05
F8-1S	86/7/18	86/7/30	AIR LIFT	22.1	CLEAR	7.5	2800	6.2E-06
F8-2S	86/7/14	86/8/1	AIR LIFT	6.1	SL CLOUDY	7.5	1700	6.0E-05
F8-2UD	86/7/14	86/7/17	AIR LIFT	175.0	CLEAR	8.0	1100	2.8E-04
F8-2LD	86/7/14	86/7/18	AIR LIFT	130.0	CLEAR	7.8	1600	1.8E-04
F9-1S	86/7/14	86/7/30	AIR LIFT	11.5	CLEAR	8.1	1200	5.4E-06
F9-1D	86/7/14	86/8/1	AIR LIFT	42.1	CLEAR	7.6	1500	1.7E-05
F9-2S	86/7/18	86/7/30	AIR LIFT	14.6	CLEAR	8.0	720	4.5E-06
F9-3S	86/7/18	86/8/1	AIR LIFT	37.5	CLEAR	7.6	1500	2.9E-05
F58-1S	86/7/25	86/7/30	AIR LIFT	5.3	CLEAR	7.9	2400	2.6E-05
F58-1D	86/7/25	86/8/1	AIR LIFT	31.1	SL CLOUDY	7.8	1900	3.4E-06
F58-2S	86/7/25	86/7/30	AIR LIFT	9.2	CLEAR	7.8	3700	1.3E-06
TMW-1S	86/5/22	86/7/24	AIR LIFT	20.8	CLEAR	7.4	6200	5.1E-06
TMW-2S	86/5/22	86/8/12	BAILER	10.8	CLEAR	7.5	1150	1.8E-06
TMW-3S	86/5/22	86/5/30	AIR LIFT	16.9	CLEAR	7.6	1900	7.8E-07
TMW-3D	86/7/10	86/7/30	AIR LIFT	17.4	CLEAR	8.0	2300	1.5E-06
WS-1S	89/8/28	89/9/13	BAILER	28.0	-	7.2	1300	8.8E-07

TABLE 4

OCTOBER 1989 WELL DEVELOPMENT SUMMARY 893-3840
REVISION 0 (4 OF 4)

WELL #	DEVELOPMENT PERIOD START DATE	FINISH DATE	METHOD (1)	VOLUME PURGED (GAL)	CLARITY (2)	pH	SPECIFIC CONDUCTANCE (uS/cm)	HYDRAULIC CONDUCTIVITY (cm/s)
TP-4S	86/7/10	86/7/30	AIR LIFT	15.2	CLEAR	7.5	3200	1.5E-07
TMW-5S	86/8/14	86/9/3	AIR LIFT	42.6	CLEAR/S	7.1	5300	1.4E-06
TMW-7S	86/8/14	86/9/3	AIR LIFT	27.4	SL CLOUDY	7.3	3300	8.9E-07
TMW-8S	86/8/14	86/9/2	AIR LIFT	26.5	CLOUDY/S/O	7.1	6900	1.9E-05
TMW-8D	86/8/14	86/9/2	AIR LIFT	38.6	CLEAR	8.1	1100	1.8E-06
TMW-9S	86/8/14	86/9/2	AIR LIFT	15.2	CLOUDY/O	6.7	8700	1.1E-04
TMW-9D	88/5/9	88/6/4	AIR LIFT	56.0	CLEAR	7.6	1090	2.9E-05
TMW-10S	86/8/14	86/9/2	AIR LIFT	22.7	CLEAR	6.9	1700	1.3E-05
TMW-10D	88/5/16	88/6/4	AIR LIFT	42.0	CLEAR	7.8	550	2.4E-06
TMW-11S	86/8/14	86/9/3	BAILER	6.2	CLEAR	7.2	710	9.4E-08
TMW-12S	86/8/14	86/9/3	AIR LIFT	8.9	CLEAR	8.1	960	1.8E-07
TMW-13S	86/8/14	86/9/3	AIR LIFT	23.9	SL CLOUDY/O	7.9	1300	1.6E-06
TMW-14S	86/8/14	86/9/3	AIR LIFT	5.5	CLEAR	8.1	560	9.6E-07
TMW-15S	86/8/14	86/9/2	AIR LIFT	16.6	CLEAR	7.5	710	4.7E-06
TMW-15D	86/8/14	86/9/2	AIR LIFT	39.1	SL CLOUDY	7.3	950	1.5E-06
TMW-16S	86/10/1	86/10/1	BAILER	20.8	CLEAR/O	6.7	3160	-
TMW-17S	86/11/25	86/11/25	BAILER	16.2	CLEAR/O	6.3	5970	-
TMW-18S	86/9/23	86/9/26	AIR LIFT	9.7	CLEAR	7.4	4900	3.3E-06
TMW-19S	88/6/7	-	BAILER	-	-	-	-	-
TMW-20S	88/6/7	-	BAILER	-	-	-	-	-
TMW-21S	88/10/4	88/10/24	BAILER	-	-	-	-	2.2E-07
TMW-24S	88/10/15	88/10/24	BAILER	-	-	-	-	5.1E-06
TMW-25S	88/10/5	88/10/13	BAILER	-	-	-	-	1.8E-06
TMW-26S	88/10/6	88/10/25	BAILER	-	-	-	-	2.1E-06
TMW-27S	88/10/4	88/10/10	BAILER	-	-	-	-	1.1E-06
TMW-29S	88/10/15	88/10/24	BAILER	-	-	-	-	7.2E-07
TMW-30D	88/10/21	88/10/25	AIR LIFT	40.0	SL CLOUDY	8.1	1000	1.4E-06
GZR-1S	89/10/3	89/10/7	BAILER	15.0	SL CLOUDY	6.9	1200	1.5E-05
GZR-2S	89/10/3	89/10/7	BAILER	20.0	SL CLOUDY	6.8	3450	2.0E-06
GZR-3S	89/10/3	89/10/11	BAILER	16.0	SL CLOUDY	7.5	740	6.3E-07
GZR-4S	89/10/5	89/10/10	BAILER	4.5	SL CLOUDY	7.1	2200	1.1E-06

NOTES: (1) PURGING PERFORMED BY: BAILER - REPEATED EVACUATION OF BAILER;
AIR LIFT - COMPRESSED AIR LIFT USING AN OILLERS COMPRESSOR
GAS LIFT - COMPRESSED GAS LIFT USING BOTTLED NITROGEN GAS
(2) CLARITY LEGEND: SL CLOUDY - SLIGHTLY CLOUDY; /S - SUDSY; /O - ODOR

TABLE 5

GROUNDWATER MONITORING PROGRAM

Site Specific Indicator Parameters (27 VOCs)

Volatile Organic Compounds

Benzene
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
1,2-Dichlorobenzene
Chloroform
Dichlorobromomethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
1,2-Dichloropropane
trans-1,3-Dichloropropylene
Ethylbenzene
Methyl Bromide
Methyl Chloride
Methylene Chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
trans-1,2-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Vinyl Chloride
cis-1,3-Dichloropropylene

TABLE 6

CWM CHEMICAL SERVICES, L.L.C.

MODEL CITY, NEW YORK

GENERAL FACILITY SITE INSPECTION REPORT

FREQUENCY: Semi-Annually

DATE AND TIME OF INSPECTION: _____/_____/_____/_____
MON DAY YEAR TIME

EQUIPMENT/PROCESS UNIT NAME: Groundwater Monitoring Program

INSPECTION CHECKLIST

INSPECTION ITEM	INSPECTION	Y/N	COMMENTS (Include MWO or EWO numbers)
WELL WIZARD SAMPLERS	Were all samplers used during month operational and functional?		
BAILERS	Are bailer body, cable, crimps, and check balls in acceptable condition for wells sampled during the month?		
WELL CASING	Were all wells sampled during the month free from any visual damage or heaving?		
PROTECTIVE CASING	Are casings on all active wells free of visual damage and cracks?		
	Is there a secured lock present on every active well?		
	Is there a Well ID tag present on every active well?		
PROTECTIVE BARRIERS	Are the guard posts at all active wells in acceptable condition?		
CONCRETE PADS	Are pads at all active wells in acceptable condition with minimal cracking ?		
DRAINAGE	Is the drainage such that standing water does not accumulate adjacent to any active well?		

NAME/TITLE:_____

SIGNATURE:_____

Revised December 2013

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
BACKGROUND WELLS		
BW01S	☐ Y ☐ N	
BW01D	☐ Y ☐ N	
BW02D	☐ Y ☐ N	
BW03S	☐ Y ☐ N	
BW03D	☐ Y ☐ N	
BW04S	☐ Y ☐ N	
BW04D	☐ Y ☐ N	
BW05S	☐ Y ☐ N	
BW05D	☐ Y ☐ N	
SLF 1-6 WELLS		
W101S	☐ Y ☐ N	
W101D	☐ Y ☐ N	
W102S	☐ Y ☐ N	
W201S	☐ Y ☐ N	
W201D	☐ Y ☐ N	
W202S	☐ Y ☐ N	
W202UD	☐ Y ☐ N	
W202LD	☐ Y ☐ N	
W301S	☐ Y ☐ N	
W301D	☐ Y ☐ N	
W302S	☐ Y ☐ N	
W303S	☐ Y ☐ N	
W401S	☐ Y ☐ N	
W401D	☐ Y ☐ N	
W402S	☐ Y ☐ N	
W501S	☐ Y ☐ N	
W501D	☐ Y ☐ N	
W502S	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
SLF 1-6 WELLS		
W601S	☐ Y ☐ N	
W601D	☐ Y ☐ N	
W602S	☐ Y ☐ N	
W603S	☐ Y ☐ N	
SLF 7 WELLS & PIEZOMETERS		
P701S	☐ Y ☐ N	
P702S	☐ Y ☐ N	
P703S	☐ Y ☐ N	
W701S	☐ Y ☐ N	
W701D	☐ Y ☐ N	
W702S	☐ Y ☐ N	
W702D	☐ Y ☐ N	
W703S	☐ Y ☐ N	
W703D	☐ Y ☐ N	
W704S	☐ Y ☐ N	
W704D	☐ Y ☐ N	
W705S	☐ Y ☐ N	
W705D	☐ Y ☐ N	
SLF 10 WELLS & PIEZOMETERS		
P1001S	☐ Y ☐ N	
P1002S	☐ Y ☐ N	
W1001S	☐ Y ☐ N	
W1001D	☐ Y ☐ N	
W1002S	☐ Y ☐ N	
W1003S	☐ Y ☐ N	
W1003D	☐ Y ☐ N	
W1004S	☐ Y ☐ N	
W1004D	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
SLF 11 WELLS & PIEZOMETERS		
P1102S	☐ Y ☐ N	
P1103S	☐ Y ☐ N	
P1104S	☐ Y ☐ N	
P1105S	☐ Y ☐ N	
W1101S	☐ Y ☐ N	
W1101D	☐ Y ☐ N	
W1102S	☐ Y ☐ N	
W1102D	☐ Y ☐ N	
W1103S	☐ Y ☐ N	
W1103D	☐ Y ☐ N	
W1104S	☐ Y ☐ N	
W1104D	☐ Y ☐ N	
W1105S	☐ Y ☐ N	
W1105D	☐ Y ☐ N	
W1106S	☐ Y ☐ N	
W1106D	☐ Y ☐ N	
W1107S	☐ Y ☐ N	
W1107D	☐ Y ☐ N	
W1108S	☐ Y ☐ N	
W1108D	☐ Y ☐ N	
W1109S	☐ Y ☐ N	
W1109D	☐ Y ☐ N	
GZR01S	☐ Y ☐ N	
GZR02S	☐ Y ☐ N	
GZR03S	☐ Y ☐ N	
GZR04S	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
SLF 12 WELLS & PIEZOMETERS		
P1201S	☐ Y ☐ N	
W1201S	☐ Y ☐ N	
W121UD	☑ Y ☐ N	
W121LD	☐ Y ☐ N	
W1202S	☐ Y ☐ N	
W122UD	☐ Y ☐ N	
W122LD	☐ Y ☐ N	
W1203S	☐ Y ☐ N	
W123UD	☐ Y ☐ N	
W123LD	☐ Y ☐ N	
W1204S	☐ Y ☐ N	
W1204D	☐ Y ☐ N	
W1205S	☐ Y ☐ N	
W1205D	☐ Y ☐ N	
W1206S	☐ Y ☐ N	
W1206D	☐ Y ☐ N	
W1207S	☐ Y ☐ N	
W1207D	☐ Y ☐ N	
W1208S	☐ Y ☐ N	
W128UD	☐ Y ☐ N	
W128LD	☐ Y ☐ N	
FAC POND 1 & 2 WELLS		
F101S	☐ Y ☐ N	
F102S	☐ Y ☐ N	
F102D	☐ Y ☐ N	
F103S	☐ Y ☐ N	
FAC POND 3 WELLS		
F301S	☐ Y ☐ N	
F302S	☐ Y ☐ N	
F302D	☐ Y ☐ N	

TABLE 6 Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
FAC POND 5 WELLS		
F501S	☐ Y ☐ N	
F501D	☐ Y ☐ N	
F502S	☐ Y ☐ N	
FAC POND 8 WELLS		
F801S	☐ Y ☐ N	
F802S	☐ Y ☐ N	
F802LD	☐ Y ☐ N	
F802UD	☐ Y ☐ N	
TANK 58 WELLS		
F5801S	☐ Y ☐ N	
F5801D	☐ Y ☐ N	
F5802S	☐ Y ☐ N	
EAST\WEST SALTS AREA WELLS		
TW01S	☐ Y ☐ N	
TW02S	☐ Y ☐ N	
TW03S	☐ Y ☐ N	
TW03D	☐ Y ☐ N	
TP04S	☐ Y ☐ N	
WS01S	☐ Y ☐ N	
LAGOONS & GROUNDWATER INTERCEPTOR TRENCH WELLS		
LMS01S	☐ Y ☐ N	
LMS01D	☐ Y ☐ N	
LMS02S	☐ Y ☐ N	
LMS02D	☐ Y ☐ N	
LMS03S	☐ Y ☐ N	
LMS03D	☐ Y ☐ N	
LMS04S	☐ Y ☐ N	
TW11S	☐ Y ☐ N	
TW30D		
R202S	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
NORTH SALTS AREA WELLS		
TW12S	☐ Y ☐ N	
TW13S	☐ Y ☐ N	
TW14S	☐ Y ☐ N	
TW15S	☐ Y ☐ N	
TW15D	☐ Y ☐ N	
WEST DRUM AREA WELLS		
TW16S	☐ Y ☐ N	
TW17S	☐ Y ☐ N	
TW19S	☐ Y ☐ N	
TW20S	☐ Y ☐ N	
WDA01S	☐ Y ☐ N	
WDA01D	☐ Y ☐ N	
MISCELLANEOUS INVESTIGATION AREA WELLS		
GDA01S	☐ Y ☐ N	
RR01S	☐ Y ☐ N	
W1209S	☐ Y ☐ N	
TW21S	☐ Y ☐ N	
TW24S	☐ Y ☐ N	
TW26S	☐ Y ☐ N	
TW29S	☐ Y ☐ N	
RMU-1 WELLS & PIEZOMETERS		
R1P01S	☐ Y ☐ N	
R1P02S	☐ Y ☐ N	
R1P03S	☐ Y ☐ N	
R1P04S	☐ Y ☐ N	
R1P05S	☐ Y ☐ N	
R1P07S	☐ Y ☐ N	
R1P08S	☐ Y ☐ N	
R1P09S	☐ Y ☐ N	
R1P10S	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
RMU-1 WELLS & PIEZOMETERS		
R101S	☐ Y ☐ N	
R101D	☐ Y ☐ N	
R102S	☐ Y ☐ N	
R102SR	☐ Y ☐ N	
R102D	☐ Y ☐ N	
R103S	☐ Y ☐ N	
R103D	☐ Y ☐ N	
R104S	☐ Y ☐ N	
R104D	☐ Y ☐ N	
R105S	☐ Y ☐ N	
R105D	☐ Y ☐ N	
R106S	☐ Y ☐ N	
R106D	☐ Y ☐ N	
R107S	☐ Y ☐ N	
R107D	☐ Y ☐ N	
R108S	☐ Y ☐ N	
R1N08S	☐ Y ☐ N	
R108D	☐ Y ☐ N	
R109S	☐ Y ☐ N	
R109D	☐ Y ☐ N	
R110S	☐ Y ☐ N	
R1N10S	☐ Y ☐ N	
R110D	☐ Y ☐ N	
R111S	☐ Y ☐ N	
R111D	☐ Y ☐ N	
R112S	☐ Y ☐ N	
R113S	☐ Y ☐ N	
R114S	☐ Y ☐ N	
R114D	☐ Y ☐ N	
R115S	☐ Y ☐ N	
R116S	☐ Y ☐ N	
R116D	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
RMU-1 WELLS & PIEZOMETERS (continued)		
R117UD	☐ Y ☐ N	
R117LD	☐ Y ☐ N	
R118S	☐ Y ☐ N	
R118D	☐ Y ☐ N	
R119D	☐ Y ☐ N	
R120D	☐ Y ☐ N	
R121D	☐ Y ☐ N	
R122D	☐ Y ☐ N	
R125D	☐ Y ☐ N	
R126D	☐ Y ☐ N	
R127D	☐ Y ☐ N	
R128D	☐ Y ☐ N	
R129D	☐ Y ☐ N	
R130D	☐ Y ☐ N	
R131D	☐ Y ☐ N	
R132D	☐ Y ☐ N	
R133D	☐ Y ☐ N	
R134D	☐ Y ☐ N	
R135D	☐ Y ☐ N	
RMU-2 WELLS & PIEZOMETERS		
R2P01S	☐ Y ☐ N	
R201SR	☐ Y ☐ N	
R201DR	☐ Y ☐ N	
R204S	☐ Y ☐ N	
R204D	☐ Y ☐ N	
R205S	☐ Y ☐ N	
R205D	☐ Y ☐ N	
R206S	☐ Y ☐ N	
R206D	☐ Y ☐ N	
R207S	☐ Y ☐ N	
R207D	☐ Y ☐ N	

TABLE 6

Revised December 18, 2013

ACTIVE MONITORING WELLS

WELL ID	IS THE WELL IN ACCEPTABLE CONDITION? (Y OR N)	COMMENTS
RMU-2 WELLS & PIEZOMETERS (continued)		
R208S	☐ Y ☐ N	
R208D	☐ Y ☐ N	
R209S	☐ Y ☐ N	
R209D	☐ Y ☐ N	
R210S	☐ Y ☐ N	
R210D	☐ Y ☐ N	
R211S	☐ Y ☐ N	
R211D	☐ Y ☐ N	
R212S	☐ Y ☐ N	
R212LD	☐ Y ☐ N	
R212UD	☐ Y ☐ N	
R213S	☐ Y ☐ N	
R213D	☐ Y ☐ N	
R214S	☐ Y ☐ N	
R214D	☐ Y ☐ N	
R215S	☐ Y ☐ N	
R215D	☐ Y ☐ N	
R216S	☐ Y ☐ N	
R216D	☐ Y ☐ N	

REFERENCES

1.) BASE MAP COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED MAY 31, 2001 BY AIR SURVEY CORP., DULLES, VIRGINIA.

200 0 200 400
SCALE FEET

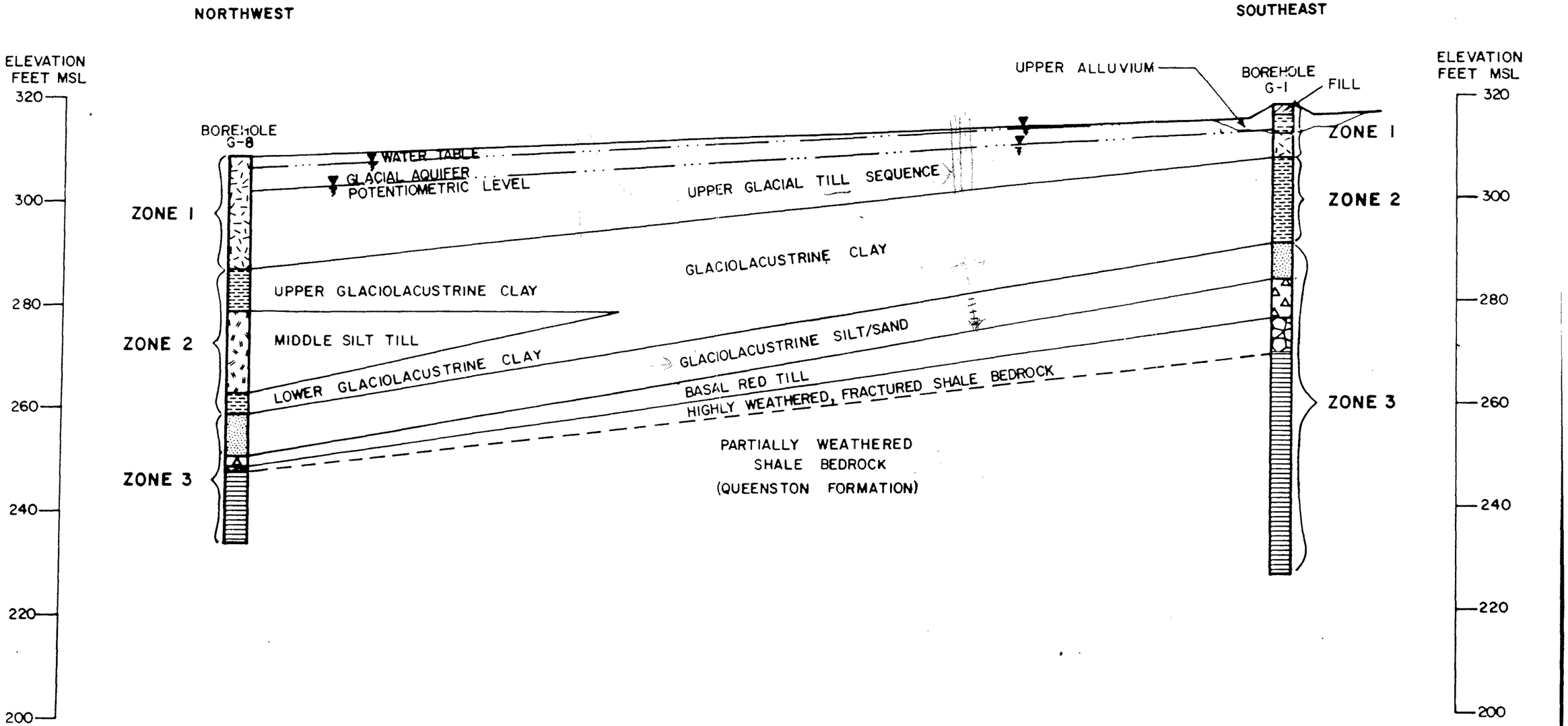
REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT
CWM CHEMICAL SERVICES, L.L.C.
2012 GROUNDWATER INTERPRETATION
MODEL CITY, NEW YORK

TITLE
SITE LAYOUT

Golder Associates
Buffalo, New York

PROJECT No. 073-89048.13			FILE No.	073890481 3A405	
DESIGN	JPR	1/16/07	SCALE AS SHOWN	REV.	0
CADD	AJN	11/5/12			
CHECK	AJN	2/27/13	**FIGURE 2**		
REVIEW	DCW	2/27/13			

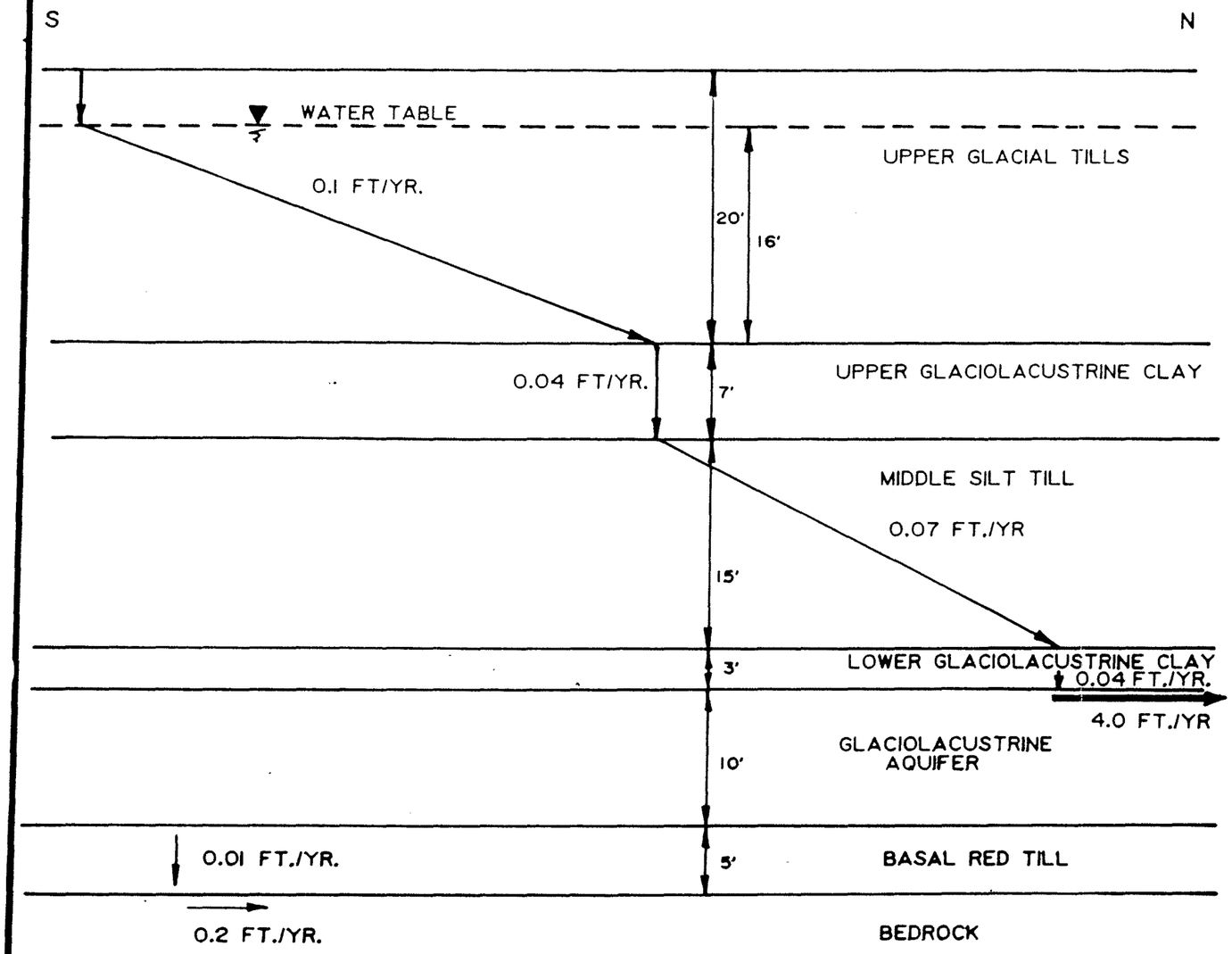


NOTE:

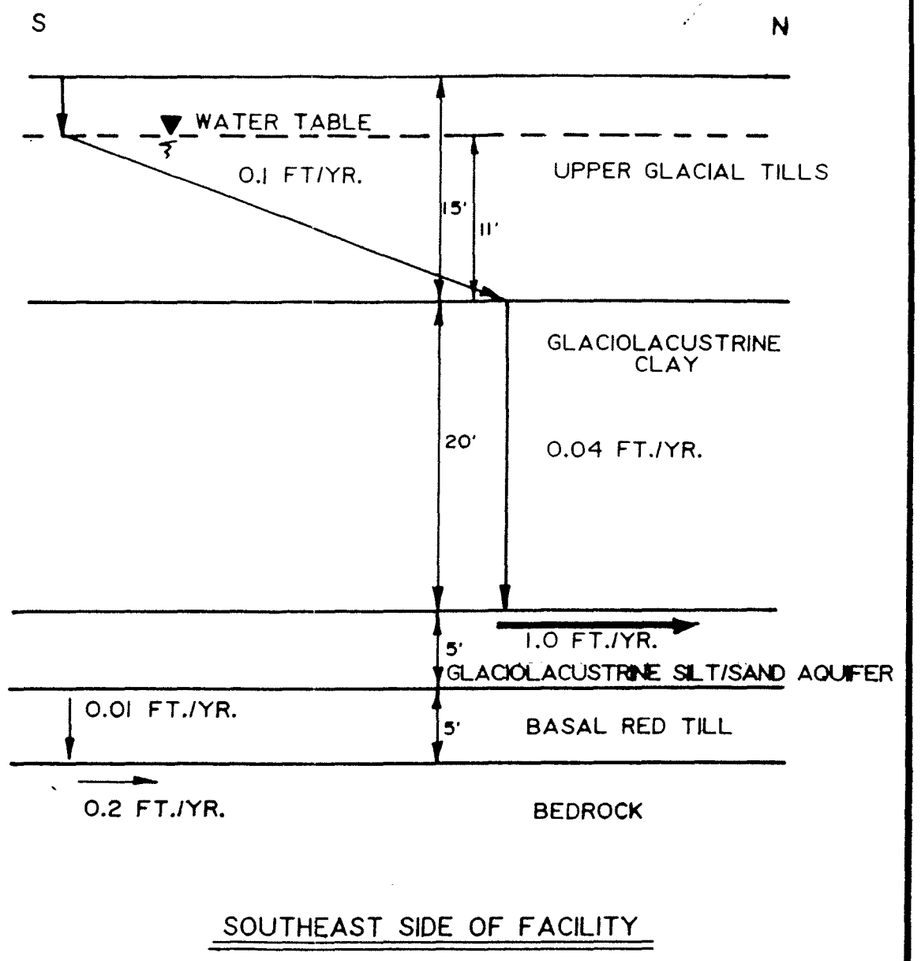
This figure is a schematic representation of the geologic stratigraphy made by straight line interpolation between boreholes G-1 and G-8. Some of the strata shown are discontinuous.

P.N. 853-3055	SCALE AS SHOWN	GENERAL SITE STRATIGRAPHY	
DRAWN SKB	DATE 3/2/85		
CHECKED DJM	DWG NO. 19		
Golder Associates		CHEMICAL WASTE MANAGEMENT, INC.	FIGURE 3

FILE NUMBER 853-3047



NORTHWEST SIDE OF FACILTY



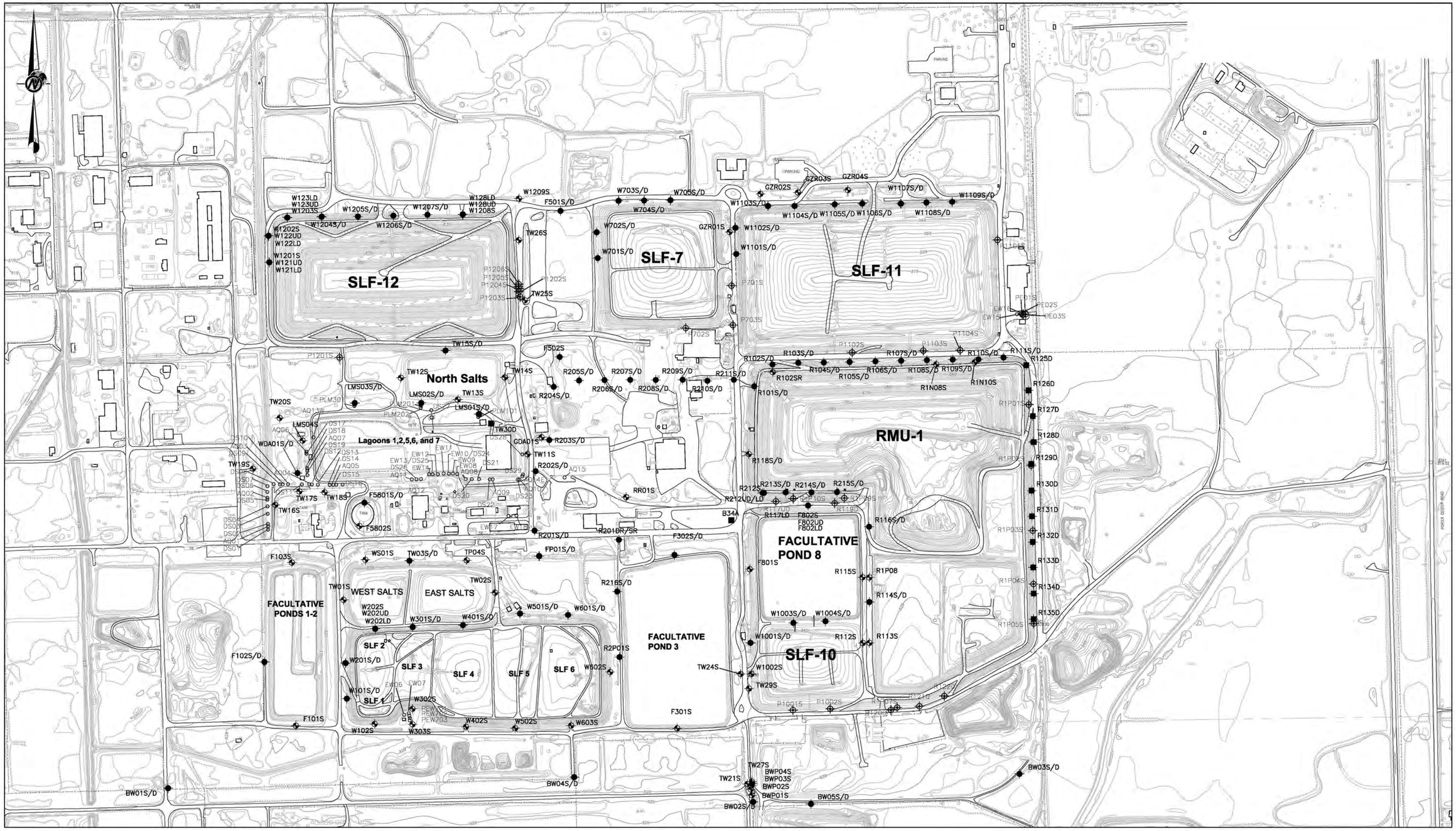
SOUTHEAST SIDE OF FACILITY

NOTE:

1. RESULTANT VELOCITIES ARE CALCULATED FROM THE COMPONENT VELOCITIES IN TABLE 13 AND AQUIFER BASED ON HORIZONTAL GRADIENT OF 0.0006.
2. THE SOUTHEAST FLOW SYSTEM IS THE PREDOMINANT FLOW SYSTEM BENEATH MOST REGULATED UNITS EXCEPT FOR PROPOSED SLF 12 AREA.,

FILE NUMBER 853-3047

JOB NO. 853-3051.5	SCALE 1"=10'	SCHEMATIC FLOW SYSTEMS FOR NORTHWEST AND SOUTHEAST SIDES OF THE FACILTY	
DRAWN SKB	DATE 10/1/87		
CHECKED DJM	DWG. NO. 175 (REV.)		
Golder Associates		CHEMICAL WASTE MANAGEMENT, INC.	FIGURE 4



LEGEND

- UPPER TILLS UNIT (SHALLOW) MONITORING WELL
- UPPER TILL UNIT (SHALLOW) AND GLACIOLACUSTRINE SILT/SAND UNIT (DEEP) MONITORING WELL PAIR OR TRIPLET
- GLACIOLACUSTRINE SILT/SAND UNIT (DEEP) MONITORING WELL OR DEEP PAIR
- PIEZOMETER
- GROUND WATER EXTRACTION AQUEOUS SUMP, DNAPL SUMP OR EXTRACTION WELL

NOTES

1.) WELL AND PIEZOMETER LOCATIONS ARE APPROXIMATE.

REFERENCES

1.) BASE MAP COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED MAY 31, 2001 BY AIR SURVEY CORP., DULLES, VIRGINIA.

200 0 200 400
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW
7	5/16/13	AJN	Added 2012 Extraction Wells EW17 and EW18 and Aqueous Sump AQ15.	AJN	DCW	BCS
6	1/12/10	AJN	Added RMU-2 Footprint Relocation wells: F501S/D, F502S; R201DR/SR; R216D/S; R2P01S; R213S/D/LD.	AJN	DCW	BCS
5	10/9/08	AJN	Added RMU-2 wells; west-central portion of figure. Removed wells R1P08S, R123D and R124D (removed for construction of truck ramp).	AJN	DCW	BCS
4	2/21/05	AJN	Changed name of F58025 to F5802S.	AJN	JPR	JPR
3	9/23/04	JPR	Changed R118S/D from piezometers back to monitoring wells.	JPR	JPR	BCS
2	2/11/04	AJN	Removed compliance boundaries; changed R118S/D, R117LD/UD, R116D-R124D to piezometers.	AJN	JPR	BCS
1	10/29/03	JPR	Added new wells east of RMU-1 and compliance boundaries.	JPR	JPR	BCS

PROJECT

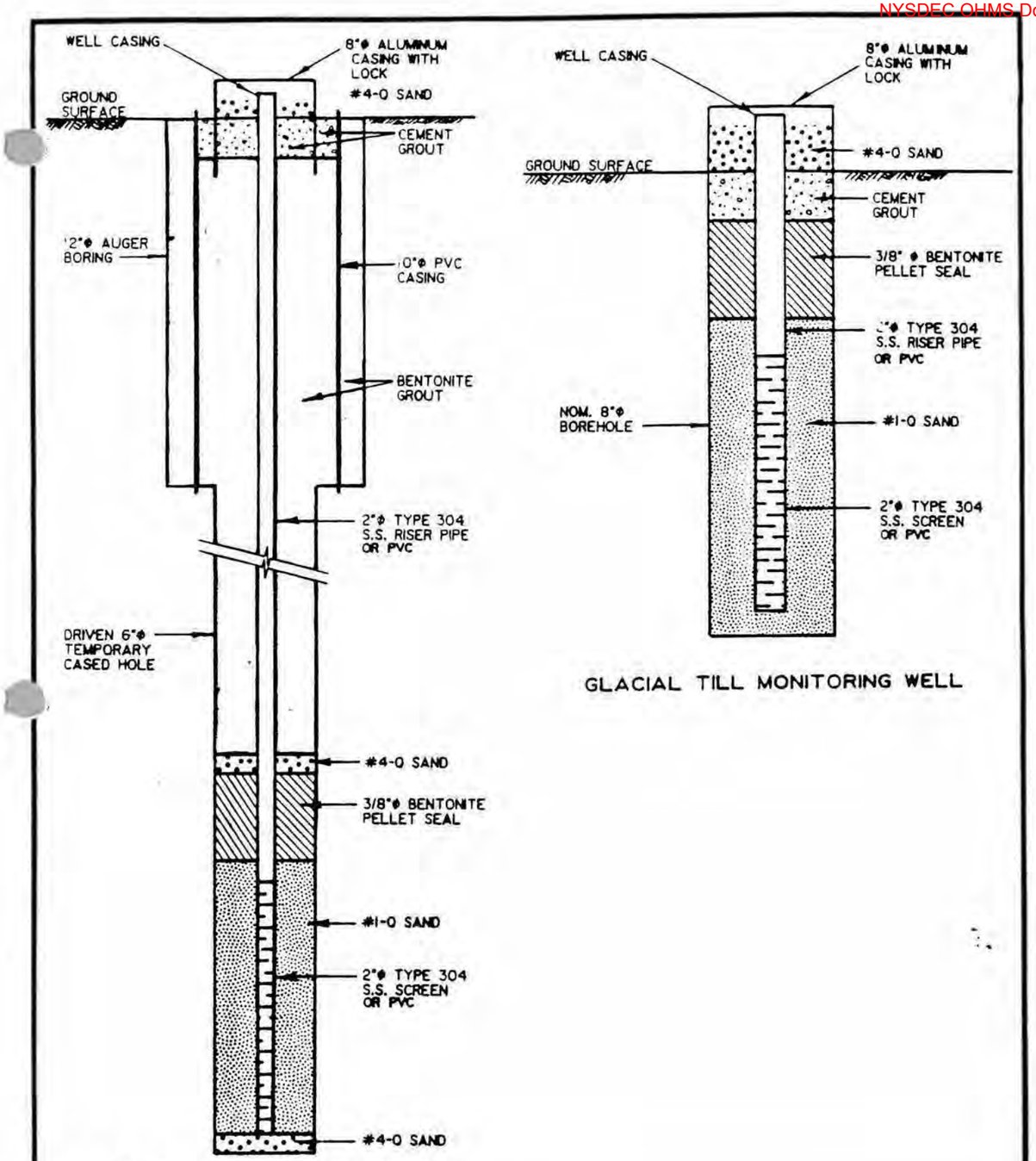
CWM CHEMICAL SERVICES, L.L.C.
MODEL CITY, NEW YORK

TITLE

FACILITY WELLS

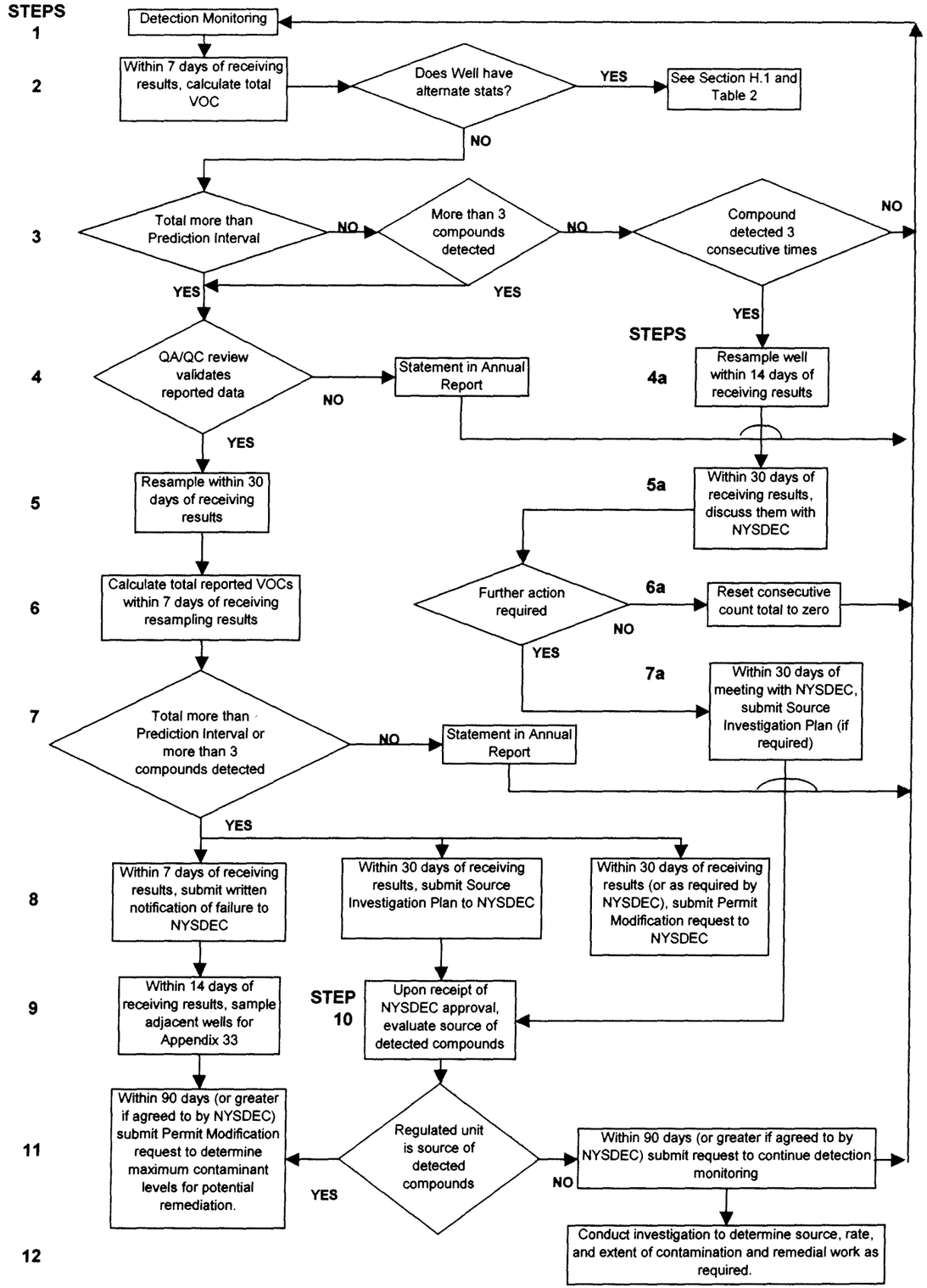
Golder Associates
Buffalo, NY

PROJECT No.		023-9312	FILE No. 0239312D172
DESIGN	JPR	02/04/02	SCALE AS SHOWN REV. 1
CADD	AJN	5/16/13	FIGURE 1
CHECK	DCW	5/16/13	
REVIEW	DCW	5/16/13	



JOB NO. 853-3051.5	SCALE N.T.S.	TYPICAL MONITORING WELLS
DRAWN SKB	DATE 12/10/86	
CHECKED	DWG NO 155 / REV. 1	
Golder Associates	CHEMICAL WASTE MANAGEMENT, INC.	FIGURE 6

FIGURE 7
DATA EVALUATION FLOW CHART



APPENDIX A

GROUNDWATER SAMPLING AND ANALYSIS PLAN
PERMIT CONDITIONS

PUROLATOR

CWM Chemical Services [illegible]

Model City Facility
P.O. Box 200
1550 Balmer Road
Model City, NY [illegible]
716/754-8231

August 07, 1989

Mr. John F. Clerici, P.E.
Associate
Golder Associates, Inc.
3730 Chamblee Tucker Road
Atlanta, GA 30341

RE: Request for Proposals
Sampling & Analysis Plan:
Response Action Plan

Dear John:

Please find enclosed for your review the applicable site 373-2 permit conditions regarding the requirements for a Groundwater Monitoring Sampling and Analysis Plan (SAP)and the landfill secondary leachate collection system Response Action Plan (RAP). CWM requests a proposal for each of these plans to be prepared for submittal to the Agencies prior to September 29, 1989 for the SAP and October 29, 1989 for the RAP. The generic RAP prepared by EMCON is also enclosed to provide the basic format for this plan.

If you need any additional information, please call me at 716/754-8231, Extension 246.

Sincerely,

CWM CHEMICAL SERVICES, INC.

Brian C. Senefelder

Brian C. Senefelder, CHMM
Manager
Environmental, Health & Safety
Model City Facility

BCS/gbg

Enclosure

cc: Greg Zayatz - W/O Enclosure
Joe Pizzuto - W/O Enclosure

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

6NYCRR PART 373

DRAFT PERMIT

SECURE LANDBURIAL FACILITY NO. 12

CWM CHEMICAL SERVICES, INC.

MODEL CITY

Module VI. Condition III.P. Sampling and Analysis. In order to assure consistency in the groundwater monitoring program, the Permittee shall within sixty (60) days after issuance of this Permit develop a Groundwater Monitoring Plan that contains the information described in Appendix A.

Appendix A

SAMPLING PLAN

In order to assure consistency in the sampling program, the Permittee shall follow a NYSDEC approved Sampling Plan. That plan must be kept at the facility, and regularly updated with current groundwater quality data. The Permittee shall insure that all appropriate site personnel and outside contractors have been properly trained in the application of the Sampling Plan, and that the Plan is followed whenever samples are obtained at the site.

The following information must be contained within the plan.

1. Presampling procedures that describe:

   A. Procurement, inspection, and calibration of equipment
   B. Procurement and preparation of sample bottles
   C. Storage and handling of sampling gear between uses
   D. Personal protective equipment needed for sampling
   E. Well purging techniques
   F. Water level measuring techniques
   G. Laboratory notification/verification

2. Sampling procedures that describe:

   A. Use of sampling equipment
   B. Field measurements and calibration techniques
   C. Sampling parameters/sampling handling techniques
   D. Sampling parameters/sample containers to be used
   E. Sampling parameters/sample preservation techniques
   F. Sampling parameters/sample filtration techniques
   G. Sampling parameters/order of sample collection
   H. Sampling parameters/sample labels
   I. Sampling parameters/sample storage
   J. Field QA/QC...cleaning, blanks, duplicate measurements
   K. Sample shipping and chain of custody procedures
   L. Health and safety/personal protection measures

3. Laboratory Handling and analytical protocols

   A. Documentation of laboratory processing steps
   B. Analytical methodologies for each parameter of interest
   C. QA/QC protocols
   D. Reporting format

4. Background information for each monitoring well/piezometer:

   A. Well log
   B. Water level recovery rate of wells
      Measurement of water levels at 1, 2, 4, 10 and 24 hours after evacuation of the well; or similar data which pertain to the recharge characteristics of the well.

C. Measuring point elevation
D. Normal purge volume of the well
E. Background values - water quality
F. Development/redevelopment procedure and history of the well

5. A detailed demonstration of how the statistical evaluation method will be applied to groundwater quality data. (including mathematical formulas, and statistical tables that will be used to evaluate the data.)

6. A well record for each well/piezometer. That record must be updated after each sampling event. The well record must contain the following information:

A. Well I.D. number
B. Up/Down gradient
C. Depth of well as installed
D. Depth of well as measured
E. M.P. Elevation
F. Depth to water
G. Water level elevation
H. Purge volume
I. Purge time (start/stop)
J. Recharge time
K. Sampling time
L. Water level at sample time
M. Temperature pH S.C.
N. Physical condition of well
O. Important field observations regarding purge/sample water or conditions related to sample integrity
P. Name of samplers
Q. Weather conditions
R. Purge/sample date
S. Concentration of indicator parameters
T. Concentration of any other hazardous waste constituents identified in sample
U. Pertinent laboratory information (name of laboratory performing analysis, run dates of the samples, QA/QC problems, etc.)
V. Pertinent health and safety concerns

Appendix A SAMPLING PLAN

In order to assure consistency in the sampling program, the rmittee shall follow a NYSDEC approved Sampling Plan. That plan must kept at the facility, and regularly updated with current groundwater ality data. The permittee shall insure that all appropriate site rsonnel and outside contractors have been properly trained in the plication of the Sampling Plan, and that the Plan is followed enever samples are obtained at the site.

e following information must be contained within the plan.

Presampling Procedures that describe:
- Procurement, inspection, and calibration of equipment
- Procurement and preparation of sample bottles
- Storage and handling of sampling gear between uses.
- Personal Protective Equipment needed for sampling
- Well Purging Techniques
- Water Level Measuring Techniques
- Laboratory notification/verification

Sampling Procedures that Describe:
- Use of sampling equipment
- Field measurements and calibration techniques
- Sampling Parameters/Sample Handling Techniques
  - sample containers to be used
  - sample preservation techniques
  - sample filtration techniques
  - order of sample collection
  - sample labels
  - sample storage
- Field QA/QC ...cleaning, blanks, duplicate measurements
- Sample shipping and Chain of custody procedures
- Health and Safety/Personal Protection Measures

Laboratory Handling and Analytical Protocols
- Documentation of laboratory processing steps
- Analytical methodologies for each parameter of interest
- QA/QC protocols
- Reporting Format

ackground information for each monitoring well/piezometer:

A. Well Log
B. Water Level Recovery Rate of Wells
   Measurement of water levels at 1, 2, 4, 10, and 24 hours after evacuation of the well; or similar data which pertain to the recharge characteristics of the well.
C. Measuring Point Elevation
D. Normal Purge Volume of the Well
E. Background Values - Water Quality
F. Development/Redevelopment Procedure and History of the Well

detailed demonstration of how the statistical evaluation method be applied to groundwater quality data. (Including mathematical ulas, and statistical tables that will be used to evaluate the .)

Well Record for each well/piezometer. That record must be updated r each sampling event. The well record must contain the following rmation:

Well ID # | Up/Dn Gradient | Depth of Well As Installed | Depth of Well As Measured

M.P. Elevation | Depth to Water | Water Level Elevation

Purge Volume | Purge Time(Start/Stop) | Recharge Time

Sampling Time | Water Level at Sample Time | Temperature | pH | S.C.

Physical Condition of Well | Important Field Observations regarding purge/sample water or conditions related to sample integrity

Name of Samplers | Weather Conditions | Purge/Sample Date

Concentration of Indicator Parameters

Concentration of any Other Hazardous Waste Constituents Identified in Sample.

Pertinent Laboratory Information (Name of Laboratory performing ysis, Run dates of the samples, QA/QC Problems etc.)

Pertinent Health and Safety concerns.