Attachment 3 – Ground Water Monitoring

3.4.1 Ground Water

The PCSMF will comply with all aspects of the required ground water monitoring requirements as referenced in R315-308. The Ground Water Monitoring Plan includes sampling and analysis plans and frequency of sampling indicated to meet the regulatory requirements for the monitoring of ground water at the PCSMF. Monitor wells will be installed in the second quarter of 2021 and the Ground Water Monitoring Plan finalized to show the locations of wells. Appendix E includes a draft Ground Water Monitoring Plan.

APPENDIX E

Ground Water Monitoring Plan

Groundwater Monitoring Plan

DRAFT

Prepared for:

Park City Municipal Corporation

Prepared by:

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DATE:

Contents

Acronyms and Abbreviations

^{o}C	Degree(s) Celsius
amsl	Above Mean Sea Level
bgs	Below Ground Surface
DSHW	Utah Department of Environmental Quality—Division of Solid and Hazardous Waste
EPA	U.S. Environmental Protection Agency
H_2SO_4	Sulfuric Acid
HCl	Hydrochloric Acid
HDPE	High-density Polyethylene
HNO_3	Nitric Acid
ID	Identification
kV	Kilovolt(s)
LDL	Laboratory Detection Limit
mg/L	Milligram(s) per Liter
mL/min	Milliliter(s) per Minute
N/A	Not Available
PVC	Polyvinyl Chloride
SCH	Schedule
QA	Quality Assurance
QC	Quality Control
UAC	Utah Administrative Code

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1.0 Introduction

This document presents an updated groundwater monitoring plan for the Park City Soil Management Facility (PCSMF), which is owned and operated by Park City Municipal Corporation located in Park City, Utah. The monitoring plan was developed in accordance with regulatory requirements established in Utah Administrative Code (UAC) R315–308.

This monitoring plan provides (1) a site background and a conceptual site model of the hydrogeology underlying the facility; (2) the proposed groundwater monitoring networks; (3) groundwater sampling processes and techniques; (4) groundwater sample analytical methods; (5) a quality assurance/quality control (QA/QC) plan; (6) data validation, analysis, and reporting procedures; and (7) a groundwater sampling health and safety plan.

1.1 Site Background

Presented in Part I, Part II, and Part III of the PCSMF permit application.

1.2 Conceptual Site Model

1.2.1 Regional Geology

Presented in Appendix H.

1.2.2 Regional Hydrogeology

Presented in Appendix H.

1.2.3 Site Hydrogeology

Presented in Appendix H.

2.0 Groundwater Monitoring Network

The PCSMF consists of a lined cell as discussed in Section 1.0. The groundwater monitoring network for the lined cell includes three monitoring wells.

2.1 Upgradient Wells

INSERT

2.2 Downgradient Wells

INSERT

2.3 Well Construction and Completion

Boring logs and monitoring well construction details for all of the exploration points performed at the site are provided in Appendices A.

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3.0 Sampling Operations and Procedure

The following subsections detail specific sampling techniques and methodology to be used during all groundwater monitoring to provide consistent quality groundwater data. Groundwater samples are collected as detailed in R315-308.

3.1 Groundwater Sampling Procedures

3.1.1 General

Sampling equipment is prepared and calibrated before each sampling event. Observations and measurements obtained in the field are recorded on a Groundwater Monitoring Data Sheet, similar to the one presented in Appendix B.

Samples will be collected using a dedicated bladder pump system and low-flow sampling techniques. Monitoring wells are equipped with dedicated bladder pumps suspended on Teflon-lined tubing for air supply and sample recovery. The pump intakes are positioned at a distance of approximately equal to one-third of the saturated screened length from the bottom of the screen. Monitoring wells are sampled when two criteria are met: (1) drawdown stabilization and (2) stabilization of water quality parameters. The following sections describe this process in detail.

The groundwater monitoring wells at the Landfill are sampled in the order of upgradient wells first, then proceeding to the downgradient wells. Upon arrival at a well, the condition of each of the monitoring wells is observed and noted on the field data sheet (i.e., that the wells are secured with a lock, the apron is intact, and the outer casing is in good repair). Any required repairs are noted on the field sampling sheets.

Groundwater sampling is performed by personnel who are trained in proper sampling techniques and health and safety procedures. This includes training in techniques of well purging, sample collection and preservation, decontamination, and QA/QC. The sampler wears a new pair of latex gloves at each well for handling sampling equipment and containers.

3.1.2 Water Level Measurements

A special cap is installed on the protective casing of each well for installation of the dedicated bladder pump. Water levels are taken through the access hole in the cap and depth to groundwater measured from the top of the cap. The elevations of the caps have been determined by a licensed surveyor and reported to the nearest 0.01 foot. Before purging and sampling, water level readings are obtained using a conductivity-based water level indicator or equivalent instrument capable of obtaining measurements to the nearest 0.01 foot. The probe is decontaminated between use at each well by washing with a non-phosphate detergent and rinsing three times with deionized or distilled water. The probe is then lowered into the well casing until the level indicator alarm sounds or light goes on. The depth to water is read from the top of the cap to the nearest 0.01 foot. This measurement is repeated until two consecutive readings agree to the

nearest 0.01 foot. The depth to groundwater is recorded immediately on the Groundwater Monitoring Data Sheet (Appendix B) to the nearest 0.01 foot. The water level is also taken during sampling to determine if pumping has created excessive drawdown. This process is detailed in Section 3.1.3.

3.1.3 Well Micropurging

The monitoring wells at the Landfill are sampled using a low-flow sampling technique. During low-flow sampling, groundwater is slowly purged from the monitoring well using a bladder pump in order to collect a groundwater sample from the water-bearing zone adjacent to the pump intake. The pumps are located within the screened section of the wells for this technique.

Before sampling, the wells are purged using a micropurging technique. The minimum purge volume necessary to purge the monitoring well is two times the amount of water in the pump and tubing. Before purging, the pump controller is attached to the pump air supply line. The oil-less compressor is located downwind and away from the well, to minimize potential for sample contamination from exhaust gases. The pump discharge line is then connected to a flow-through water quality sensor (e.g., QED Purge Saver) for continuous monitoring of specific conductance, dissolved oxygen, temperature, and pH. These data are recorded on the field data sheets and data logger at no less than 3-minute intervals. Collection of water quality parameters is detailed in Section 3.1.4.

Purge water is disposed of on the ground surface no closer than 20 feet from any well. If a well produces water with constituents exceeding primary drinking water quality standards (determined from most recent sampling event), the purge water from that well is containerized and disposed of appropriately.

3.1.4 Water Quality Measurements

Monitoring wells are ready for sampling when the required purge volumes (two times the tubing and pump volumes) have been removed and water quality measurements for temperature, pH, specific conductivity, dissolved oxygen, and oxidation-reduction potential meet the following criteria for the last three consecutive readings:

- Specific conductivity ±10 percent
- pH ±0.2 units
- Temperature ±1 degree Celsius
- Dissolved oxygen ±0.2 milligram per liter

If these conditions are not met, purging will continue until a maximum of two additional pump and tubing volumes are removed.

These water quality measurements are measured using a flow-through water quality sensor (e.g., QED Purge Saver). The readings are recorded no less than 3 minutes apart for low-flow sampling and at-time intervals equal to or greater than the required time to purge half of the borehole volume for standard sampling. After the parameters stabilize, the water quality sensor is disconnected and the groundwater sample collected. Groundwater samples are not to be collected after passing through the water quality sensor. Water quality readings, along with date, time, well identification, purge volume,

and pre- and post-sampling water levels, are recorded on the Groundwater Monitoring Data Sheet.

The instruments used to perform field measurements are calibrated in accordance with manufacturers' recommendations at the beginning of each day, at a minimum.

3.1.5 Sample Collection and Preservation

After the field parameters have stabilized, the water quality sensor is disconnected and samples are collected directly from the pump discharge line. The pump discharge rate is adjusted to a flow rate of either 100 milliliters per minute (mL/min) or the same flow rate at which the well was purged, whichever is slower, to minimize the potential for bottle overtopping. At a minimum, monitoring wells are sampled at a flow rate that generates enough volume to fill a 40-milliliter sample vial in a single cycle (approximately 50 mL/min).

The groundwater sampler wears a new pair of disposable gloves to handle sampling equipment and sample containers at each well. Samples are collected in laboratory-supplied bottles. Table 3-1 summarizes the types of containers and associated preservatives that are used for the sample storage and transport. Any required preservatives are added to the containers in advance by the laboratory.

Care is taken to maintain lids on the container until the time to fill the container with the sample. Once filled, the containers are immediately capped to minimize contact with dust and ambient air and to avoid volatilization of the sample. Samples are labeled and immediately stored on ice in a cooler until delivered to the laboratory for analysis under chain of custody.

Trip blank and duplicate samples are prepared as part of the QA/QC plan outlined in Section 5.0.

3.1.6 Decontamination

The water level indicator is decontaminated between wells with a non-phosphate detergent then triple rinsed with distilled (or deionized) water.

3.1.7 Sample Handling

Once collected, each sample is immediately labeled, recorded on the Groundwater Monitoring Data Sheet, and placed in a sample cooler with ice for transport to the laboratory. Samples are hand-delivered to the laboratory within 24 hours of collection. The laboratory is certified by the State of Utah for the analytical methods specified in Section 4.0. The samples are delivered to the laboratory within a sufficient timeframe to ensure that method-specific hold times are not exceeded by the laboratory for the specified analytes. Each sample is accompanied by a chain-of-custody form filled out at the time of sample collection.

3.1.8 Documentation

An essential part of the sample collection activity is the documentation of the site measurements and ensuring the integrity of the sample from collection to data reporting. The following records and actions are taken:

- **Sample labels.** Samples are labeled with the sample identification, name of the sampler, date and time of collection, and type of preservative (if required). The sample label is filled out completely and attached to each sample bottle or container at the time of collection.
- **Chain of custody.** A chain-of-custody form accompanies the samples from the time of collection to completion of laboratory analysis. The chain-of-custody record establishes the documentation necessary to trace sample possession from the time of collection through receipt by the analytical laboratory. The original form accompanies the samples to the laboratory, and copies go into the project file. Original forms are returned with the analytical results from the laboratory. If samples must be shipped to a laboratory by overnight air delivery, the air bill will serve as proof of custody by the courier service.
- **Sampling record.** Pertinent field measurements and observations noted during sampling are recorded by the field technician on the Groundwater Monitoring Data Sheet (one for each well) and in their field notes.

3.2 Sample Identification

Each sample is given a unique identification consisting of the monitoring well identification. For example, groundwater sampled from monitoring well MW-3 is labeled "MW-3." The field duplicate sample is labeled "MW-20," and field notes verify from which monitoring well it was obtained.

4.0 Sample Analysis

4.1 Detection Monitoring Analytes

Groundwater samples are analyzed by a State of Utah-certified laboratory for constituents listed in UAC R315-308-4 (or list of constituents determined by the DSWRC Director) using the recommended U.S. Environmental Protection Agency (EPA) method. The laboratory follows the procedures as described and identified and adjusts for potential interferences. Laboratory personnel provide information on the precision and accuracy of the testing and include results of QA/QC laboratory samples. Laboratory detection limits must be below maximum contaminant levels/drinking water quality standards.

Utah Administrative Code R315-308-2(5)(d) states that analysis will be performed for the required constituents on unfiltered samples. Samples for metal analysis are collected without filtering in the field, and the laboratory is instructed to analyze unfiltered samples.

INSERT TABLE 4.1

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5.0 Quality Assurance/Quality Control

A detailed QA/QC plan has been developed for sampling and analysis of the groundwater. The objective of the monitoring plan is to obtain high-quality, consistent data that may be used to establish background concentrations and track long-term variations and trends in the groundwater at the site. Specific QA/QC procedures have been developed to accomplish this objective and to identify sampling and laboratory analytical errors that may occur.

5.1 Accuracy

Accuracy is the nearness of the measurement or set of measurements to the true value. It is evaluated by means of a matrix spike sample analysis, where a known quantity of analyte is added to sample matrix. A sample identified as a field blank may not be used for the analysis. Spike recovery is calculated using the following equation.

$$\%R = \frac{(SSR - SR)}{SA} \times 100$$

where:

R	=	Spike Recovery
SSR	=	Spike Sample Result
SR	=	Sample Result
SA	=	Spike Added

Target recoveries of 80 to 120 percent are acceptable for most analytes (70 to 130 percent for arsenic, lead, selenium, and thallium). Some organic constituents have acceptable ranges of 60 percent to about 140 percent. If the spike recovery falls outside the specified range, the data will be qualified as "acceptable," "estimated," or "rejected."

5.2 Precision

Precision is an assessment of the agreement between a set of replicate measurements without assumption or knowledge of the true value. Precision is evaluated by means of duplicate sample analysis.

Precision is determined using the following formula:

$$RPD = \frac{(S - D)}{(S - D)/2} \times 100$$

where:

RPD	=	Relative Percent Difference
S	=	Sample Result
D	=	Duplicate Sample Result

Duplicate samples will have a control limit of ±20 percent for the relative percent difference for sample values greater than five times the laboratory detection limit (LDL). If the sample values are less than five times the LDL, a control limit of ± the LDL will be used.

If the field duplicate analysis results for a particular analyte fall outside the control limit of ±20 percent or ±LDL, whichever is appropriate, the results for that analyte in all other samples associated with that laboratory set may be flagged as estimated.

5.3 QA/QC Samples

5.3.1 Field Duplicates

A field duplicate sample is collected and submitted for analysis from one monitoring well during each sampling round to assess data precision. It is labeled in such a way so its identity as a duplicate sample is not known by the analytical laboratory.

5.3.2 Laboratory QA/QC Samples

The laboratory is required to provide results for two types of QA/QC samples: method blanks and matrix spike/matrix spike duplicates. Method blank results are required for each analyte listed in Table 4-1. Matrix spike/matrix spike duplicates are required for each metal and inorganic analyte and for a representative number of organic analytes.

Method blanks provide verification that an analyte has not been introduced into the sample during laboratory handling and analysis. Matrix spike/matrix spike duplicates provide an indication of the laboratory accuracy and precision.

5.3.3 Trip Blanks

A trip blank is prepared and sealed by the analytical laboratory before the sampling event. Trip blanks are intended to be aqueous solutions that are as free of analytes as possible.

The trip blank is transported to the sampling site and back to the laboratory without being opened, accompanying the sample bottles the entire time. It serves as a check on sample contamination originating from sample transport, shipping, and site conditions.

The trip blank will be analyzed, if deemed necessary, to check for contamination originating from a source other than the site groundwater. If, for example, an unexpected contaminant is encountered in a groundwater sample from the site, the trip blank may be analyzed to rule out contamination originating from another source.

5.4 Detection Limits

The laboratory is required to meet the established detection limits given in Table 4-1 for each analyte. The detection limits are designed to be below the drinking water quality criteria. If the laboratory is unable to meet the required limit for an analyte or group of analytes due to characteristics of the sample, the laboratory is required to contact the Landfill or their sampling representative immediately. If changes in the sampling

protocol or established reporting limit are necessary, the Utah Department of Environmental Quality—Division of Waste Management and Radiation Control (DWMRC) will be immediately notified.

5.5 Laboratory Internal Quality Control

5.5.1 Calibration Procedures and Frequency

Laboratories subcontracted to perform chemical analyses are certified by the State of Utah for environmental analysis. As such, they follow the calibration procedures according to and at the minimum frequency required by the State.

5.5.2 Internal Quality Control Checks

The laboratory will conduct internal QC checks according to its own QA plan that is a part of State certification requirements. The laboratory will summarize the results of these QC checks and submit them with the analytical results. The QC checks and the laboratory performance and system audits will include the following:

- Method blanks
- Laboratory control samples
- Calibration check samples
- Replicate samples
- Matrix-spiked samples
- "Blind" QC samples
- Control charts
- Surrogate samples
- Zero and span gases
- Reagent QC checks

5.5.3 Preventative Maintenance Procedures and Schedules

Preventative maintenance procedures and schedules are followed according to specifications outlined in the requirements for laboratory certification by the State.

5.5.4 Corrective Action for Laboratory Problems

Corrective action will be initiated if analysis results are not within the precision, accuracy, and completeness specified in the groundwater monitoring plan. Sufficient quantities of samples are retained by the lab so that parameters could be reanalyzed if results are unacceptable and hold times have not been exceeded. In the event that hold times are exceeded, the QA Officer will decide whether re-sampling and re-analysis are required.

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6.0 Data Analysis Plan

6.1 Data Validation

When the laboratory data is received, it is reviewed to assess data validity. The data package is checked to ensure the following:

- Sample identifications match chain of custody and field notes and can be matched to sample location, date, and time.
- Samples were analyzed by requested methods.
- Requested limits of detection were met.
- Samples were analyzed within holding times.
- Analysis reporting limits are acceptable.
- Laboratory method blank requests are included and acceptable.
- Laboratory matrix/matrix spike duplicate results for representative analytes are included and acceptable.
- Field duplicate sample results are included and acceptable.

If potential problems or discrepancies are encountered, the laboratory will be notified and requested to help resolve the question. If the cause of the problem cannot be located, the affected data will be qualified or the affected wells will be re-sampled, depending on the severity of the problem. The person who validates the data will use professional judgment along with the general guidelines established under the EPA Contract Laboratory Program (EPA, 2007) to assign qualifiers to data that do not meet the required data quality objectives. If the data appear usable and can be combined with the historical data with no reservations, then no qualifier will be attached.

If the data appear to accurately represent the presence or absence of an analyte, but the quantification of the analyte is in question, then a "J" will be assigned to the reported concentration to indicate it is an estimated quantity. An example of this might be a case where arsenic is reported in the sample, but arsenic recoveries in the matrix spike/matrix spike duplicate are very low (such as 50 percent). The person validating the data may judge that the reported arsenic value is useful information even if the result is probably too low. In this case, a "J" would appear next to the reported result in subsequent tabulations of the data for that well.

If the data for an analyte appear compromised to the point where the reported result is not useful (such as the appearance of methylene chloride in the method blank and in a sample at similar concentrations), the data will receive an "R" qualifier, indicating it is rejected. The reported result will continue to be shown in subsequent tabulations, but

the "R" qualifier will alert the user not to include the result in statistical compilations, and so forth.

In all cases where data receive qualifiers, an explanation of the validator's judgment will be given in the report of the sampling round where the qualified data are first reported.

6.2 Data Analysis

The data are analyzed by the following:

- Looking for the presence of unnaturally occurring compounds in the sample (such as volatile organic compounds)
- Plotting the concentrations of naturally occurring constituents (metals and minerals) in each well on control charts for that well

If unnaturally occurring compounds are reported by the laboratory, the validity of the results will be assessed by reviewing method blank results, raw laboratory data, the compound's potential status as a common laboratory contaminant, and the reported concentration relative to the method detection limit. If the positive results appear potentially valid, the affected well will be re-sampled to verify the result.

The relative concentrations of naturally occurring constituents will be analyzed to assess whether the water is impacted. Inter-well comparisons of water quality data, between upgradient and downgradient wells, are at times complicated by natural variations within the wells. This may be the situation at the Landfill. Intra-well comparisons may be more useful in determining groundwater quality at the site.

Background water quality are established by reviewing a minimum of eight independent sampling event results from each upgradient well and a minimum of four independent sampling event results from each downgradient well.

Once the background levels are established for the site wells, an appropriate statistical method will be selected to evaluate the sampling data from each succeeding sample event. The statistical method will satisfy the requirements of UAC R315-308-2(8) and will be reviewed and approved by the DSHW before implementation.

6.3 Data Reporting

Following each sampling event, a groundwater monitoring report is prepared, which includes the following information:

- Description of sampling activities
- Discussion of data validity
- Discussion of laboratory QA/QC

- Presentation of water elevation measurements, groundwater flow direction, and hydraulic gradient
- Presentation of field and laboratory data

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7.0 Site Safety

In accordance with UAC R315-308-2(4)(g), the health and safety procedures presented in this section are to be followed to address employee health and safety during well installation and groundwater monitoring at the site.

7.1 Well Installation

The following practices and controls are to be implemented by the party in control of well installation operations:

- Only authorized or licensed personnel, based on state, territory, or country requirements, are permitted to operate drill rigs. Drilling subcontractors will ensure that each drill rig operator is qualified to safely operate the specific equipment through appropriate training and experience.
- Workers should use at least Level D personal protective equipment consisting of the following:
  - Coveralls and long-sleeve shirt
  - Safety boots or shoes
  - Safety glasses or goggles
  - Hard hat
  - Work gloves
- Stay clear of areas surrounding drill rigs during every startup.
- Stay clear of the rotating augers and other rotating components of drill rigs.
- Stay as clear as possible of all hoisting operations. Loads will not be hoisted overhead of personnel.
- Do not wear loose-fitting clothing or other items such as rings or watches that could get caught in moving parts. Long hair should be restrained.
- If equipment becomes electrically energized, personnel will be instructed not to touch any part of the equipment or attempt to touch any person who may be in contact with the electrical current. The utility company or appropriate party will be contacted to have the line de-energized before approaching the equipment.
- Smoking around drilling operations is prohibited.
- A daily safety briefing/meeting should be conducted with all drilling personnel to discuss the work planned for the day and the health and safety requirements to be followed.
- The drill rig and associated equipment will be inspected each day before use to ensure safe operational condition. This inspection should include, at a minimum, the

"kill" switch, cathead, ropes, hoses, pressurized lines, operator controls, and drilling tools.

- The location of underground utilities, installations, and structures will be identified before drilling is permitted. Utility companies and installation owners will be contacted for exact locations of their equipment. When the exact location cannot be determined, detection equipment or other acceptable means of locating the underground installations will be used before drilling.
- Safe clearance distances will be maintained between overhead power lines and any part of the drill rig unless the power lines have been de-energized and grounded or where insulating barriers have been installed to prevent physical contact. To avoid physical contact and potential arcing from the power line to the drill rig, rigs will remain at least 10 feet from overhead power lines for voltage of 50 kilovolts (kV) or less and 10 feet plus ½ inch for every 1 kV over 50 kV in the U.S.
- When it is difficult for the drill rig operator to maintain the safe clearance distance, a person will be designated to observe the clearance and warn the operator.
- Drilling pad preparation is recommended, particularly on steep slopes or areas that are covered with dry, dead grass and weeds. Clean fill or gravel can be brought in to cover areas with surface contamination and to construct a relatively level work surface. Care should be taken in constructing pads if extensive cutting into existing slopes or surfaces is required to level the area. Areas in which extensive fill is required should be avoided. Compaction is recommended if significant amounts of fill are needed.
- The drill rig should be leveled and stabilized with jacks and adequate cribbing before raising the mast and during drilling operations. Cribbing materials should be made from materials that are capable of supporting the weight of the rig. Care should be taken in muddy, soggy soils, or partially frozen areas. In addition to cribbing, guy wires should be used to improve stability if the rig is located on wet, partially frozen ground, in areas with loose, caving soil, or in an area subject to frequent gusty winds.

7.2 Groundwater Monitoring

The following practices and controls are to be implemented by those who perform groundwater monitoring procedures:

- Groundwater sampling will be performed by personnel who have had 40-hour Hazardous Waste Operations and Emergency Response training in accordance with U.S. Occupational Safety and Health Administration requirements set forth in 29 *Code of Federal Regulations* 1910.
- Become familiar with the site and potential hazards before the work is performed by talking with the Landfill manager.

- Wear the appropriate personal protective equipment when sampling, including safety glasses, latex gloves, and steel-toed boots. It is recommended that workers use Level D personal protection consisting of the following:
  - Coveralls and long-sleeve shirt
  - Safety boots or shoes
  - Safety glasses or goggles
  - Latex gloves
- Use caution when opening well lids. Wells may contain venomous spiders and hornet or wasp nests.
- Use the appropriate lifting procedures when unloading equipment and sampling at each well.
- Avoid sharp edges on well casings.
- If dermal contact is made with the groundwater or acid used in sample preservation, wash exposed skin thoroughly with soap and water.
- Avoid eating and drinking onsite and during sampling.
- Use ear plugs during sampling if sampling involves a generator.
- As stated in Section 3.1.3, purge water containing constituents exceeding primary drinking water quality standards will be containerized and transported to the appropriate disposal area.
- Be aware of potential biological hazards including snakes, bees, ticks, other stinging insects, poison ivy, and poison oak.
- Monitor headspace of wells before sampling to minimize any vapor inhalation or flammability/explosion hazards. Be aware of the potential for flammable gasses to be present in the well casing and inside the aboveground or flush-mount protective casing. If such conditions are suspected or have been confirmed through testing with a flame ionization detector, ventilate the well for at least 20 minutes, and keep potential ignition sources a minimum of 50 feet away from the well during sampling. Tools or equipment lowered into the well casing (e.g., a water level meter or direct-reading instrument) or used near the wellhead must be intrinsically safe. Maintain site control to prevent the public or other nearby workers from inadvertently introducing an ignition source (e.g., a lit cigarette).

8.0 References

APPENDIX A

Monitoring Well Logs

APPENDIX B

Monitoring Well Forms