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2007 GROUNDWATER SAMPLING REPORT for IOWA ARMY AMMUNITION PLANT MIDDLETOWN, IOWA

Prepared For:

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APPENDICES

Appendix A June 2007 Groundwater Sampling Field Documentation
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ACRONYMS AND ABBREVIATIONS

Accutest Accutest Laboratories
AO American Ordnance
btoc below top of casing

CLP Contract Laboratory Program

COC chain-of-custody DO dissolved oxygen

DNX hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine

E&E Ecology and Environment, Inc.

Eberline Eberline Services

EPA (U.S.) Environmental Protection Agency

FFA Federal Facility Agreement

Freon 113 1,1,2-trichloro-1,2,2-trifluoroethane

FS Feasibility Study HAL Health Advisory Level

HAL Health Advisory Level HGL HydroGeoLogic, Inc.

HMX cyclotetramethylenetetranitramine
IAAAP Iowa Army Ammunition Plant
IDW investigation derived waste
LCS laboratory control sample
MCL Maximum Contaminant Level

μg/L micrograms per liter mL/min. milliliters per minute

MNX hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine

MS/MSD matrix spike/matrix spike duplicate

NA natural attenuation
NPL National Priorities List
ORP oxidation reduction potential

OU operable unit

PARCC precision, accuracy, representativeness, completeness, and comparability

pCi/L picoCuries per liter

PPE personal protective equipment PRG Preliminary Remediation Goal

QA Quality Assurance QC Quality Control

QAPP Quality Assurance Project Plan

RCRA Resource Conservation and Recovery Act

RDX cyclotrimethylenetrinitramine
RI Remedial Investigation
RPD relative percent difference
SDG sample delivery group

SOP standard operating procedure SVOC semivolatile organic compound

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TNT trinitrotoluene

TNX hexahydro-1,3,5-trinitroso-1,3,5-triazine

toc top of casing

VOC volatile organic compound

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1.0 INTRODUCTION

This document presents the results of the June 2007 installation-wide groundwater and surface water sampling events at the Iowa Army Ammunition Plant (IAAAP), in Middletown, Iowa. Sampling activities were conducted between June 5, 2007, and June 12, 2007. A summary of the sampling status of the IAAAP sites including the sites sampled in June 2007 is presented in Table 1-1, which also includes the Army Environmental Data Base – Restoration number for each site. The locations of IAAAP sites discussed in this report are shown on Figure 1-1. Note that groundwater sampling at some IAAAP sites is being conducted under other programs.

Surface water sampling was conducted at three locations along Spring Creek and the data are reported herein. The results of previous surface water sampling associated with the Comprehensive Watersheds Evaluation are discussed in an appendix to the Operable Unit (OU) -3 Feasibility Study (FS) (Tetra Tech, 2007a).

1.1 PROJECT AUTHORITY

The IAAAP facility signed a Federal Facility Agreement (FFA) (dated September 20, 1990) with the United States Environmental Protection Agency (EPA) Region 7 (EPA, 1990). The data collected during the June 2007 sampling event will be used to augment data collected over several years and to summarize and evaluate available groundwater and surface water environmental data at IAAAP. Groundwater and surface water sampling was performed in accordance with the requirements of Contract W911S0-04-F-0026.

1.2 GROUNDWATER MONITORING PURPOSE AND SCOPE

The primary purpose of groundwater sampling at IAAAP is to provide additional groundwater and surface water data for sites that have not been the subject of remediation work at the time of sampling. The June 2007 sampling event and previous periodic monitoring events were meant to represent interim sampling events until remedial solutions can be evaluated and implemented under an approved FS. Therefore, these sampling events are not considered long-term monitoring.

1.3 FACILITY DESCRIPTION

IAAAP is a government facility, owned by the United States Army and operated by a private contractor, American Ordnance, LLC (AO). The IAAAP is located in the southeastern part of Iowa, near the town of Middletown, Des Moines County, approximately 10 miles west of the Mississippi River. The IAAAP is a secured facility covering approximately 19,000 acres in a rural setting. Approximately 7,751 acres are currently leased for agricultural use, 7,500 acres are forested land, and the remaining area is used for administrative and industrial operations. The principal mission of IAAAP has been loading, assembling, and packing operations associated with the production of a variety of conventional ammunition and fusing systems.



IAAAP is bordered by U.S. Highway 34 to the north, upland agricultural farms to the east and west, and the Skunk River Valley to the south. Surface topography is characterized by flat to gently rolling uplands dissected by entrenched streams and rivers. Approximately one-fifth of the IAAAP property is occupied by active or formerly active production or storage facilities. Sites include surface impoundments, production lines, landfills, disposal areas, burn areas, demolition areas, and a fire training area. The facility map (Figure 1-1) shows site locations, creeks, and other features of interest. The offsite area consists of the Brush Creek watershed south of the facility and the Skunk River floodplain surrounding Brush Creek near Highway 61. Land use in the offsite area is predominantly agricultural.

IAAAP was initially developed in 1941 for the production of munitions for World War II and operated from September 1941 until August 1945. Production resumed in 1949 and has continued to the present. From 1947 through mid-1975, the former Atomic Energy Commission operated facilities on the site, which then reverted to Army control in 1975 (E&E, 1987).

1.4 GROUNDWATER SAMPLING HISTORY

Pursuant to the Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Amendments of 1984, the EPA completed an assessment of the facility in 1987 and reported that releases had occurred (E&E, 1987). The IAAAP was subsequently proposed for the National Priorities List (NPL), and in August 1990 the facility was placed on the NPL.

Prior to 1999, groundwater was sampled during site-specific and installation-wide investigations, including the installation-wide Remedial Investigation (RI). In Fall 1999, routine sampling of monitoring wells and various surface water locations was implemented by the U. S. Army Corps of Engineers. Subsequent sampling events took place in Spring 2000, Fall 2000, Spring 2001, Spring 2002, Spring 2003, Fall 2003, Spring 2004, Fall 2004, Fall 2005, Spring 2006, and Fall 2006. Typically during the fall events (with the exception of Fall 1999), a smaller set of wells were sampled. Results have been reported in annual monitoring reports [Harza, 2000; URS, 2002b; HGL, 2003, 2004a, 2004b, 2005; and Tetra Tech, 2005, 2007b].

1.5 ENVIRONMENTAL SETTING

The fundamental geologic and hydrogeologic features, along with the prominent surface water bodies, are described in the following sections.

1.5.1 Geology

1.5.1.1 Onsite Area

The IAAAP is located in the Dissected Till Plain section of the Central Lowland Province of the Southern Iowa Drift Plain Region. IAAAP is reported to be underlain by a sequence of unconsolidated glacial deposits of Pleistocene age overlying sedimentary bedrock units (IGS, 1980). The glacial tills consist primarily of silty clay and clayey silt with thin sand seams and lenses and are assigned to the Kellersville Till Member (Illinoian Age) of the Glasford Formation



of southeastern Iowa. The tills extend to depths in excess of 100 feet in portions of the north half of IAAAP, but are thin or absent locally in deeper stream valleys in the northeast and in the south around Mathes Lake.

The bedrock underlying IAAAP consists of a sequence of limestone interbedded with varying thicknesses of shales and sandstones ranging in age from Cambrian to Mississippian. Harris and Parker (1964) report that the uppermost bedrock unit beneath the site is the Mississippian Osage Series of southeastern Iowa, composed predominantly of cherty limestone interbedded with minor amounts of shale. The Osage series is divided into three members, as follows (in descending order): the Warsaw Formation, Keokuk Limestone, and Burlington Limestone. The Warsaw Formation consists primarily of blue-gray calcareous shales; fragmental, fossiliferous, dolomitic limestone; and calcarenites. The Keokuk Limestone is predominantly composed of gray or brownish-gray cherty, argillaceous limestone and dolomites (Harris and Parker, 1964). The Burlington Limestone has been separated into three distinct members. The predominant lithology of the uppermost Cedar Creek Member is coarsely crystalline crinoidal limestone. The middle Haight Creek Member is characterized by abundant chert and the dominance of dolomite over limestone. The cherts are typically off-white to light gray, and the dolomites are brownish-gray, finely crystalline and friable (Harris and Parker, 1964). The lowermost Dolbee Creek Member mostly consists of very dense, coarsely crystalline, crinoidal limestone (Harris and Parker, 1964). Regionally, the general slope of the Mississippian Osage Series bedrock is toward the southwest.

1.5.1.2 Offsite Area

Three different geologic profiles have been defined for the offsite area: an upland profile, a transition zone profile and a lowland profile (URS, 2002a). The upland area is underlain with a dissected glacial till plain as described above in Section 1.5.1.1. The transition zone geologic profile extends from the upland bluff south to approximately Highway 61. In general, this geologic profile consists of (in descending order): colluvium, alluvial clay, alluvial sands and gravels, and a clay-rich glacial till. The alluvial clay and gray sands and gravels pinch out laterally against the brown alluvial sands of the lowland profile. The lowland profile extends from approximately Old Highway 61 to the south side of the Skunk River. Geology in the lowland profile consists of alluvial sand and silt floodplain deposits of the Skunk River overlying the clay-rich glacial till unit that also underlies the transition zone profile. The glacial till is underlain by glacial outwash sands in both the transition zone and lowland profiles. Bedrock likely underlies the glacial outwash sands (URS, 2002a).

1.5.2 Hydrogeology

1.5.2.1 Onsite Area

In Des Moines County, Iowa, there are four principal aquifers: the surficial soils aquifer and the bedrock aquifers of Mississippian, Devonian, and Cambro-Ordovician units (IGS, 1980). Of the bedrock aquifers, only the Mississippian is of primary interest in regards to environmental impacts.

The shallow surficial soil aquifer at IAAAP occupies the upland till plain and is predominantly in clay-rich glacial tills that exhibit low hydraulic conductivities and yield only small quantities of groundwater to wells. For the purposes of investigation and interpretation, the surficial soils aquifer

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is described using the following terminology: shallow till (typically containing the water table surface), intermediate till, and basal till. Within the tills, there are reportedly some occurrences of buried-channel sands that are laterally discontinuous across the facility. Depth to the water table surface in the shallow till is generally less than 10 to 15 feet. Shallow groundwater flow typically mimics surface topography. The low permeability of the clay till matrix limits lateral and vertical flow of groundwater. However, lateral and vertical flow may be less restricted (or more pronounced) in the tills that have well-developed fracture networks. Groundwater also discharges to the more deeply incised surface drainages (e.g., creeks) through seeps at the glacial till and bedrock outcrops.

Information on hydrogeologic conditions in the bedrock aquifers underlying the deeper till is sparse. Generally, groundwater in the limestone is considered to occur primarily within open bedding planes and/or joints. Therefore, the occurrence and orientation of these features may, in part, control groundwater flow. It is common for much of the groundwater in these bedrock units to be found in the more fractured and weathered upper sequence just under the basal till. Where this is the case, the basal till and the uppermost Mississippian bedrock, defined in previous investigations (Harza, 1997) as the uppermost 20 feet of bedrock underlying the till, may comprise a single hydraulic system. Facility-wide groundwater levels suggest that overall flow direction in the bedrock is to the south and east toward the Skunk and Mississippi Rivers, when not intercepted by incised surface drainages.

1.5.2.2 Offsite Area

The principal aquifer in the offsite area is within the alluvial sands (and gravels where present) of the transition zone and lowland hydrogeologic profiles. A deeper aquifer is found in the underlying deep glacial outwash sands. Groundwater flow in the transition zone and lowland profiles is toward the south except near Brush Creek and the Skunk River. Groundwater flow near these surface water bodies is heavily influenced by their water levels. On the south side of the Skunk River, flow is to the north towards the Skunk River.

1.5.3 Surface Water

The major drainage basins, creeks, and surface water bodies at IAAAP are shown on Figure 1-1. Little Flint Creek drains a small area in the north portion of the facility. The remainder of the IAAAP property and surrounding areas is drained by, from west to east, the Skunk River, Long Creek, Brush Creek, and Spring Creek. Brush Creek and Long Creek are tributaries of the Skunk River, which flows to the Mississippi River. Spring Creek is a tributary of the Mississippi River. Flow in the offsite reaches of Brush Creek is influenced by the water levels of both the creek and the Skunk River. Historically Brush Creek has transitioned from a losing stream to a gaining stream near its confluence with the Skunk River. This transition does not occur when water levels are high within the aquifer and surface water bodies.

1.6 GROUNDWATER MONITORING REPORT ORGANIZATION

This groundwater monitoring report is organized as follows:

• **Section 1.0-** – **Introduction** summarizes project authority, purpose, and scope; facility description; previous investigations; and environmental setting.



- Section 2.0 Field Activities summarizes field activities completed, including water level measurements, collection of field water quality parameters, groundwater sampling, and surface water sampling.
- Section 3.0 Data Quality Review and Validation describes the process and results associated with data quality assurance.
- Section 4.0 Nature and Extent of Contamination presents and interprets chemical data. This section begins with an overall summary of detected constituents and then contains summaries for each site sampled.
- Section 5.0 Recommended Monitoring Well Maintenance presents observations and recommendations for monitoring well maintenance.
- **Section 6.0 References** provides references used to develop this report.

1.7 SCOPE OF WORK REFINEMENT

The status of other activities and investigations at IAAAP, as well as the results of earlier sampling events, have been reviewed to establish a refined scope of work for the June 2007 facility-wide sampling event. The work plan for June 2007 activities was finalized and transmitted to EPA in a letter dated August 28, 2007.

Table 1-1 provides a list of IAAAP sites included in the June 2007 facility-wide monitoring program as well as other IAAAP sites. Note that four onsite sites (Line 2, Line 800, West Burn Pads, and the Fire Training Area) and the offsite plume have recently been subjected to treatability studies to enhance the bioremediation process. The results of treatability activities for these areas and future plans for remediation and monitoring are included in separate reports, including Appendix H of the Draft OU-3 FS (Tetra Tech 2007a), a September 2007 technical memorandum (Tetra Tech, 2007c), and a remedial design report for the offsite area (Tetra, 2006). Full-scale injections have taken place at three of the onsite areas including Line 2, Line 800, and West Burn Pads Area (Tetra Tech, 2007c) and offsite. Work at the Fire Training Area is focused on determining whether enhancements to the microbial community to expedite constituents of concern are possible. Future monitoring needs for these four onsite areas and the offsite plume will be evaluated as part of reports associated with the treatability studies program.

Prior to the June 2007 sampling event, selected sites and wells were removed from the sampling program because previous results had not exhibited recent concentrations above screening criteria. The only wells that remain in the program are those that have had an exceedance of groundwater screening criteria on at least one occasion in the past three sampling events.

In addition to area- and well-specific changes to the sampling program, several general changes to the groundwater sampling program were made in an August 28, 2007 letter regarding the 2007 groundwater sampling plan. The refinements were implemented beginning with the June 2007



sampling events and will also apply to future sampling events unless otherwise noted in a separate groundwater sampling plan. The changes were:

- Groundwater sampling will occur on an annual, rather than semi-annual, basis for three reasons. First, there is no apparent seasonality in groundwater concentrations. Evaluation of semi-annual data over a number of years has not revealed any discernable or predictable correlation between rainfall or melt volume and contaminant concentrations. Since precipitation and melt volume are higher during the spring months, annual sampling will be conducted in the spring to reduce the likelihood of encountering dry wells. Second, the evaluation of historical data indicates that time/concentration trends (which are typically slowly decreasing or stable) can be sufficiently monitored in the future using an annual sampling frequency. Third, groundwater seepage velocity at IAAAP is generally slow, based on measured gradients and hydraulic conductivities, contributing to contaminant concentrations remaining stable over time. For instance, the work plan for installation of an additional well at Trench 5 references a groundwater seepage velocity of only 8.2 feet per year in the shallow till.
- Water level gauging will occur on an annual, rather than semi-annual, basis because of the well-established understanding of groundwater flow direction and lack of processes (such as high-volume pumping from or injection into groundwater wells) that would cause a significant alteration of flow direction and/or gradients.
- The collection of natural attenuation (NA) parameter measurements will continue at sampled wells but will be limited to field parameters (e.g., dissolved oxygen, pH, temperature, turbidity, and oxidation-reduction potential). Previous detailed evaluation of NA data and processes has demonstrated that natural attenuation is occurring at many of the sites.
- As conducted during some of the previous sampling events, samples that are to be analyzed
 for metals will be filtered prior to analysis. This will minimize the potential effect of
 turbidity on sample results and will allow for the comparison of dissolved metals
 concentration to the appropriate screening criteria.

During the June 2007 sampling event, necessary deviations from the sampling plan occurred due to insufficient water at the Pesticide Pit sump and JAW-18 at Line 3A. Also, offsite well MW-516 was not sampled because it was inaccessible due to the presence of crops in the field.

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2.0 FIELD ACTIVITIES

This section summarizes the field activities completed during the June 2007 groundwater sampling event. Field activities included:

- Measuring groundwater levels at selected monitoring wells.
- Measuring water quality parameters during monitoring well purging [e.g., dissolved oxygen (DO), oxidation reduction potential (ORP), pH, temperature, specific conductance, and turbidity].
- Collecting and analyzing groundwater samples from 54 monitoring wells from ten sites within the IAAAP facility and from the offsite area.
- Collecting and analyzing surface water samples from two onsite locations along Spring Creek, and from one location along a tributary to Spring Creek near West Burn Pads Area.
- Collecting and analyzing quality assurance (QA) samples including field blanks, field duplicates and matrix spike (MS)/matrix spike duplicate (MSD) samples.
- Disposing of investigation derived waste (IDW) and personal protective equipment (PPE).
- Documenting all field activities.

All field activities were completed in accordance with the standard operating procedures (SOPs) provided in the Draft Final Facility-Wide Work Plan (URS, 2002a).

2.1 GROUNDWATER LEVEL MEASUREMENTS

During the June 2007 sampling event, groundwater levels were gauged at wells to be sampled and at other selected locations in the vicinity of the wells that were sampled. Measurements were collected to provide information for well purging and to provide information for any future evaluation of water level trends that might be necessary.

Water levels were measured from the surveyed reference point found on the top of casing (toc) using an electronic water level meter. The water level meter was decontaminated between measurements at each monitoring well with Liquinox® and deionized water. All measurements were recorded in the field logbooks and sampling sheets maintained by the sampling teams. Table 2-1 presents the groundwater level measurements collected in June 2007.

2.2 WELL PURGING AND MEASUREMENT OF WATER QUALITY PARAMETERS

The purpose of well purging is to obtain representative, aquifer-quality water from the geologic unit being sampled, while minimizing disturbance to the collected samples. Field water quality parameters (i.e., specific conductance, pH, temperature, ORP, and DO) were measured to monitor



the progress of purging and to verify that representative groundwater samples were collected. Previous detailed evaluation of additional NA parameters has demonstrated that natural attenuation is taking place at many of the sites (Tetra Tech, 2005, 2007b).

Low-flow techniques were attempted in each well to minimize turbidity and purge water volumes. The goal of low-flow purging is to maintain less than 0.3 feet of drawdown at a pumping rate not to exceed 500 milliliters per minute (mL/min). Groundwater purging was conducted in the following manner:

- Before sampling, the air quality in the well casing and the breathing zone was monitored with a RAE Systems MiniRae photoionization detector equipped with a 10.6 electron volt lamp. Air quality measurements were recorded in the field logbooks and sample collection field sheets.
- The depth to groundwater was measured, and the volume of water to be purged was calculated in the event that drawdown exceeded 0.3 feet.
- Many of the sampled wells were equipped with Well Wizards® (dedicated bladder pumps), which were used when purging and sampling. Where no dedicated sampling pumps were available, or they were not functioning, a portable Geopump® peristaltic sampling pump with new disposable tubing was used. In wells with no dedicated pump and where groundwater depths were greater than 30 feet below top of casing (btoc), a Monsoon pump by Proactive® or an equivalent pump was used.
- The depth to groundwater was monitored during purging to determine drawdown.
- Specific conductance, pH, temperature, ORP, and DO were measured using the YSI 556 probe fitted with a flow-through cell. Turbidity was measured using a Lamotte 2020 turbidity meter.
- The field instruments were calibrated to the manufacturers' specifications prior to shipment to the field. Verification of field instrument calibrations (and recalibration, as necessary) was completed daily during the field event.
- All water quality measurements were recorded on the water sample collection field sheets (included in Appendix A).

Well purging was completed in accordance with the SOPs included in the Draft Final Facility-Wide Work Plan (URS, 2002a). Sample collection field sheets, provided in Appendix A, include the details of purging at each well. Field water quality measurements recorded during the June 2007 sampling event are provided in Table 2-2.

2.3 GROUNDWATER SAMPLING AT MONITORING WELLS

A summary of the June 2007 groundwater sampling program, including IAAAP sites, well numbers, and analytical parameters is presented in Table 2-3. Section 4.0 provides a discussion of the analytical results. The groundwater sampling effort was completed in accordance with the



SOPs provided in the Draft Final Facility-Wide Work Plan (URS, 2002a). All groundwater samples were collected in approved laboratory-supplied sample containers, preserved, and labeled appropriately. Samples, including quality control (QC) samples, were packed in coolers with wet ice to 4 degrees Celsius (°C), and shipped to the laboratory via Federal Express for analysis. Accutest Laboratories (Accutest) of Orlando, Florida, performed the laboratory analyses.

The June 2007 groundwater sampling event included sampling 54 monitoring wells (located within ten onsite areas plus the offsite area) between June 5 and June 12, 2007. Areas, well numbers, analytical parameters, and sampling variances are presented in Table 2-3. QC samples including field blanks, duplicate samples, and MS/MSDs were also collected, as described in additional detail in Section 3.0.

2.4 SURFACE WATER SAMPLING

The June 2007 groundwater monitoring event included the collection of three surface water samples at IAAAP. Two samples were collected along Spring Creek and one sample from a tributary to Spring Creek. These locations are situated in the upstream reaches of Spring Creek adjacent to impacted groundwater associated with the West Burn Pads Area (IAAP-032). The surface water sampling effort was completed in accordance with the SOPs provided in the Draft Final Facility-Wide Work Plan (URS, 2002a). Surface water sampling locations and analytical parameters for the June 2007 monitoring event are presented in Table 2-4. All of the surface water samples were collected on June 7, 2007.

Surface water samples were retrieved using an extendable pole with the sample bottle firmly attached to the end. Samples were appropriately preserved, labeled, packed in coolers with wet ice to 4°C, and shipped to Accutest via Federal Express for analysis.



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3.0 DATA QUALITY REVIEW AND VALIDATION

The data review process for the June 2007 monitoring event consisted of data generation, a laboratory review, and a review by the Tetra Tech chemist. Level IV data validation was performed on selected sampling data that represented 10 percent of the total samples collected during the 2007 sampling activities. The laboratory parameters and methods for which the samples were analyzed are identified in Table 3-1.

3.1 LABORATORY DATA REVIEW AND VALIDATION

The first level of chemical data review was conducted by the analytical laboratories: Accutest for chemical data and Eberline Services (Eberline) for radiological data. The laboratories had the initial responsibility for the correctness and completeness of the data. Section 4.0, Quality Control Project Plan (QAPP) in the IAAAP Facility-Wide Work Plan (URS, 2002a) describes the laboratory review and validation processes.

3.1.1 Data Review

The second level of chemical data review was completed by the Tetra Tech project chemist. All analytical data were subjected to this review. The QC parameters examined included the following:

- Completeness of data package,
- Review of laboratory case narrative,
- Compliance with required holding times and sample preservation,
- Presence or absence of compounds in laboratory and field blanks,
- Surrogate spike recovery in samples,
- Results of blank spike or laboratory control sample (LCS),
- Results of MS/MSD samples,
- Field and laboratory duplicate samples, and
- Method-specific laboratory QC parameters.

3.1.2 Data Validation

DataChek validated ten percent of the analytical data as defined in the project QAPP. The data validation was completed following the procedures described in EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Data Review, (EPA, 2002), and EPA CLP National Functional Guidelines for Organic Data Review, (EPA, 1999). For those analytical methods not addressed by the CLP guidelines, the validation was based on the method requirements and technical judgment, following the logic of the CLP validation guidelines. The full validation of analytical data included reviewing all the parameters identified above and the additional parameters listed below:

- Initial calibration,
- Continuing calibration,
- Chromatogram review,
- Standard preparation log review,

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- Sample preparation log review,
- Run log review,
- Sample result recalculation using the raw data,
- Instrument tuning, and
- Internal standards.

3.2 TETRA TECH REVIEW AND VALIDATION RESULTS

The data review process was implemented to assess the quality of data resulting from the field sampling program. The process determined whether the data meet the QA/QC objectives established for the monitoring project. Data assessment involved a consideration of data use, the decision type, identification of data that were qualified or did not meet project QA/QC requirements, and limitations on data use. The data review was based on the laboratory data summary reports and raw data. The qualifiers used during validation are described in Table 3-2.

3.2.1 Laboratory Sample Delivery Groups

Accutest Laboratories sample delivery groups (SDGs) reviewed were F50081, F50113, F50180, F50211, F50212, F50232, F50272, and F50306. Samples validated were found in F50113, F50180, and F50232. Eberline SDGs reviewed and validated were 070-06066 and 07-06083.

3.2.1.1 Data Package Completeness

The data packages were reviewed to verify that each SDG contained the data contractually required in the deliverable and that all samples listed on the chain-of-custody (COC) forms were analyzed for the requested parameters. The review indicated that all data packages were complete.

3.2.1.2 Holding Times and Sample Preservation

The validity of the analytical results can be based partially on the holding time and preservation of the sample from the time of collection to the time of analysis. The samples were received in good condition with preservation criteria met. The samples were analyzed within the acceptable holding time. No qualification was necessary.

3.2.2 Blank Samples

The purpose of laboratory blank analysis is to determine the existence and magnitude of contamination resulting from laboratory activities. If problems with a blank exist, all associated data must be evaluated to determine whether there is inherent variability in the data, or if the problem is an isolated occurrence.

Methylene chloride was detected in blanks associated with S07-JAW-31-GW-REG, S07-L9-MW11-GW-REG and S07-JAW-30-GW-REG. Methylene chloride detections in these samples may be attributed to laboratory contamination. Arsenic was detected at 4.1 micrograms per liter (μg/L) in a bracketing calibration blank of S07-EBP-MW2-GW-REG. The concentration in the sample may be estimated. No contamination was found in the blanks of any validated samples.

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3.2.3 Surrogate Compound Percent Recoveries

Surrogate standards or system monitoring compounds are defined as non-target compounds added to blanks, laboratory QC samples, and field samples prior to extraction or purging. They are used in organic analyses to monitor the percent recovery efficiencies or accuracy of the sample preparation and analytical procedures. Phenol-d5 recovery in S07-JAW-31-GW-MSD was above the acceptable limit at 45 percent. Due to dilution, 3,4-Dinitrophenol was not detected in S07-JAW-54-GW-REG and S07-JAW-54-GW-FD. Surrogate recoveries for all validated samples were within evaluation criteria. Data did not require qualification.

3.2.4 Laboratory Control Samples

Data for LCSs are generated to provide information on the accuracy of the analytical method and on the laboratory performance. One LCS was analyzed with each analytical batch. Methyl bromide recovery was high in several LCSs. The compound was not detected in the samples, so data are unaffected. All LCS recoveries were within the QC limits for the validated samples.

3.2.5 Field Duplicate Analysis

The data generated from the analysis of field duplicate samples are used to evaluate the precision of the sample collection and analysis procedures. High relative percent difference (RPD) between an original sample and its field duplicate may indicate a difference in sample matrix or sample collection rather than problems with precision of sample analysis. When estimated "J" or nondetected "U" results are reported, there is a potential for increased variability between the primary and duplicate sample results. Three groundwater primary and field duplicate sample pairs were collected during the 2007 sampling and submitted to the laboratory for analysis. No anomalies were found during review or validation. No data qualification was required.

3.2.6 Matrix Spike/Matrix Spike Duplicate Analysis

Data for MS/MSD samples are generated to determine precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. During the 2007 sampling event three groundwater samples were collected and submitted to the laboratory to be spiked and analyzed with their respective SDGs (Table 3-3). The laboratory also ran batch QC samples, analyzing an MS/MSD pair with every analytical batch. The sample from JAW-31 was used for the SVOC MS/MSD in F50081. All MS/MSD recoveries for related samples were within the QC limits. The batch MS/MSD for volatiles in F50113, using an unrelated sample, had several compounds outside of acceptable limits. No qualifiers were required.

3.3 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPLETENESS, AND COMPARABILITY (PARCC) PARAMETERS

3.3.1 Precision and Accuracy

Precision is a measure of the agreement between duplicate sample measurements of the same quantity and is reflected in the RPD between spikes and the RPD for the field duplicate analysis.



The recovery of a predetermined amount of a spike within control limits indicates satisfactory accuracy with respect to the method on the individual sample and general matrix. Precision for the IAAAP 2007 validated data was measured at 98.8 percent.

Accuracy is measured by the results from the recovery of known amounts of compounds or elements from LCS, MS, and surrogate recoveries. The overall measure of accuracy for IAAAP samples was calculated by comparing the number of spike recoveries that were within the laboratory limits by the total number of LCS, MS, and surrogate spikes. For 2007 data the overall validated accuracy was measured at 98.1 percent.

3.3.2 Representativeness

Representativeness is a qualitative parameter that expresses the degree to which the data and sampling design accurately and precisely represent a characteristic of a media, population, or environmental condition within a given area at a specific time. Representativeness is dependant upon the proper design of a sampling program and laboratory QC program. It is controlled through the use of approved SOPs for sample collection, handling and transport by field staff, and by the use of proper analytical procedures, appropriate methods, and meeting holding times by the contract laboratory. The collection, analysis, and evaluation of field duplicates were performed as a metric to evaluate representativeness. Representativeness is also assessed by the evaluation of laboratory and field blank results to determine whether analytes detected in environmental samples are truly representative of the concentrations in that matrix, or if they are artifacts of the sampling, shipping, storage, or analytical processes. Designated analytical protocols were followed. Holding times were met for all analyses. Overall, no major problems were identified for the 2007 sampling event. The samples are representative.

3.3.3 Comparability

Comparability is a qualitative parameter that expresses the confidence with which one data set can be compared to another. Comparability is dependent upon the design of the sampling plans and execution of activities consistent with the QAPP. This goal is achieved through the use of standard techniques to collect representative samples, consistent application of analytical method protocols, and reporting analytical results with appropriate units. Comparability is evaluated through the use of QC samples. RPD is a common metric to evaluate the comparability between duplicate samples. Appropriate procedures for sampling and shipping were implemented as specified in the IAAAP Facility-Wide Work Plan (URS, 2002a). Results from the 2007 sampling event are comparable to previous sampling results.

3.3.4 Completeness

Completeness is calculated by comparing the number of samples actually collected in the field to the number of samples planned to be collected by the scope-specific work plans. Sixty samples were collected out of sixty-three planned. Sample collection completeness is 95 percent.

Acceptable data completeness is defined as the percentage of usable data versus the total amount of data generated. Acceptable data are generated following a review of the data using the analytical method criteria. Acceptable data are all data that have completed the review or

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validation process and have not been rejected. No data reviewed were unusable. Out of the total data points validated in 2007 samples, no data points were rejected, resulting in a completeness of 100 percent.



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4.0 SAMPLING RESULTS

4.1 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Following is a summary of the constituents detected in groundwater during the June 2007 sampling event. A detailed summary of results, organized by area, is contained in Section 4.2.

4.1.1 Explosive Compounds Detected in Groundwater

Explosive compounds were analyzed in samples from seven of the 11 areas sampled including Line 1, Line 3, Line 3A, Line 5A/5B, East Burn Pads Area, North Burn Pads Area and Offsite Area. The explosive compounds detected in groundwater samples collected at IAAAP included cyclotrimethylenetrinitramine (RDX) and the RDX degradation products hexahydro-1,3,5-trinitroso-1,3,5-triazine (TNX) and hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine (MNX).

4.1.2 Metals Detected in Groundwater

Metals were analyzed in samples from a total of five of the eleven sites sampled during June 2007. Samples were collected for the analysis of chromium, arsenic and uranium in June 2007 and each of these metals was detected. Arsenic was analyzed in samples from Line 1, Line 2, and East Burn Pads Area. Chromium was analyzed in a sample from the Pesticide Pit. Uranium was analyzed in samples from the Firing Site.

4.1.3 Volatile Organic Compounds Detected in Groundwater

Volatile organic compounds (VOCs) were analyzed in samples collected at only one site, Line 9, during sampling conducted in June 2007. VOCs detected included the following four compounds: 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113), 1,1-Dichloroethene, 2-butanone, and methylene chloride.

4.1.4 Semivolatile Organic Compounds Detected in Groundwater

Semivolatile Organic Compounds (SVOCs) were sampled at one well, JAW-31, at Line 9 during June 2007 sampling. No SVOCs were detected in the groundwater sample collected from JAW-31.

4.1.5 Radiochemistry Detected in Groundwater

Gross alpha and gross beta were measured in 2 samples from the Firing Site. Each constituents was detected at both of the locations sample.

4.2 SITE-SPECIFIC GROUNDWATER SAMPLING RESULTS

This section describes the nature and extent of chemicals exceeding groundwater screening criteria at each site for the June 2007 groundwater sampling event. The sampling locations and parameters for periodic monitoring are based on an ongoing review of groundwater data, resulting in a sampling program that is periodically modified to meet the sampling goal. The goal of sampling is to collect only the data that will be used to evaluate exceedances of screening



criteria. Therefore, the wells remaining in the program include only those wells that have had an exceedance of screening criteria within the past three sampling events.

The groundwater screening criteria used for comparison at IAAAP are, in order of descending priority, the Maximum Contaminant Levels (MCLs) (EPA, 2004a), Health Advisory Levels (HALs) (EPA, 2004a), and EPA Region IX tap water Preliminary Remediation Goals (PRGs) (EPA 2004b). The available groundwater screening criteria for those analytes detected during the June 2007 sampling event are presented in Table 4-1.

During the June 2007 facility-wide sampling event, groundwater samples were collected at the following eleven sites: Line 1, Line 2, Line 3, Line 3A, Line 5A/5B, Line 9, Pesticide Pit, Firing Site, East Burn Pads, North Burn Pads, and Offsite Area (Table 2-3).

Tables 4-2 through 4-13 summarize the constituents detected in groundwater and surface water samples collected during the June 2007 sampling event. The list of constituents for each table is a site-specific list, which includes only those constituents that were detected in at least one well at the site during the June 2007 sampling event. For selected wells and parameters, the historical concentration trends are presented in Appendix B.

4.2.1 Line 1

In June 2007, samples were collected from shallow wells JAW-40, JAW-50, and GZ-2A and from the deep well JAW-602 (Table 2-3). JAW-40, JAW-50, and GZ-2A were analyzed for RDX. JAW-602 was analyzed for arsenic. June 2007 data are summarized on Table 4-2 and the results are presented graphically on Figure 4-1.

4.2.1.1 Shallow Groundwater/Water Table – Shallow Glacial Till

In June 2007, RDX was detected above the groundwater screening criteria of 2 μ g/L in shallow wells JAW-50 (27 μ g/L) and GZ-2A (22.9 μ g/L). RDX was not detected in shallow well JAW-40. RDX has been detected on only one occasion (Fall 2006) in JAW-40.

Following an anomalously high RDX concentration in GZ-2A in 2004, subsequent sampling events have indicated that RDX concentrations were back down to historic levels, yet they still remain above screening criteria.

4.2.1.2 Deep Groundwater

In June 2007, dissolved arsenic was detected in JAW-602 at a concentration of 9.2 μ g/L, which is below the screening criteria of 10 μ g/L. Concentrations of arsenic in JAW-602 have shown an historic downward trend (Appendix B) and concentrations during two of the last three sampling events have been below the screening criteria of 10 μ g/L.

4.2.2 Line 2

In June 2007, groundwater samples were collected from intermediate wells 12-C, 12-F, and L2-MW5 (Table 2-3). All wells were analyzed only for dissolved arsenic. June 2007 data are summarized on Table 4-3 and the results are presented graphically on Figure 4-2.



In June 2007, arsenic was detected in each of the three wells sampled, although only the concentration in 12-C (33.1 μ g/L) was above the 10 μ g/L screening criteria for arsenic. Concentrations in 12-F have been below the screening criteria for the past three sampling events (Appendix B).

4.2.3 Line 3

In June 2007 a groundwater sample was collected from shallow well JAW-54 (Table 2-3) and analyzed for RDX. Data are summarized on Table 4-4 and the results are presented graphically on Figure 4-3.

RDX concentrations in JAW-54 have shown a decreasing trend since sampling began in 1993, although concentrations remain above the screening criteria (Appendix B). In June 2007, RDX was detected in JAW-54 at a concentration of 295 μ g/L, compared to the screening criteria of 2 μ g/L.

4.2.4 Line 3A

In June 2007, samples were collected from shallow wells JAW-15, JAW-17, JAW-20, and JAW-22 and from intermediate well JAW-21. Sample collection was proposed for JAW-18 but the well was dry. All collected samples were analyzed for RDX (Table 2-3). June 2007 data are summarized on Table 4-5 and the results are presented graphically on Figure 4-4.

4.2.4.1 Shallow Groundwater/Water Table – Shallow Glacial Till

In June 2007, RDX was detected above the groundwater screening criteria (2 μ g/L) in samples from each of the four shallow wells that were sampled. Concentrations ranged from 2.5 μ g/L (JAW-20) to 13.5 μ g/L (JAW-22).

4.2.4.2 Intermediate Groundwater – Intermediate Glacial Till

In June 2007, RDX was detected in the sample from JAW-21 at a concentration of 2.4 μ g/L, which is slightly above the groundwater screening criteria of 2 μ g/L.

4.2.4.3 Deep Groundwater – Basal Till and/or Upper Bedrock

JAW-18 was not sampled in June 2007 because the well was dry.

4.2.5 Lines 5A and 5B

In June 2007, samples were collected from shallow wells 5A-MW1, 5A-MW2, and 5B-MW1, (Table 2-3). All wells were sampled for RDX. Samples from wells 5A-MW1 and 5A-MW2 were also analyzed for 2,4,6-trinitrotoluene (TNT). Data are summarized on Table 4-6 and the results are presented graphically on Figure 4-5.

RDX was detected at concentrations exceeding the screening criteria in each of the wells sampled. RDX concentrations ranged from 2.1 μ g/L (5A-MW1) to 80.3 μ g/L (5B-MW1), compared to the screening criteria of 2 μ g/L. RDX concentrations in 5A-MW1 have been slightly above the screening criteria for the past two sampling events. TNT was detected in



5A-MW2 at a concentration of $2.4 \mu g/L$, which exceeds the $2 \mu g/L$ screening criteria. TNT was detected below the screening criteria in well 5A-MW1.

4.2.6 Line 9

In June 2007, samples were collected at shallow wells JAW-29, JAW-30, JAW-31, and L9-MW11. Samples from all wells were analyzed for VOCs and the sample collected from JAW-31 was also analyzed for SVOCs (Table 2-3). Data are summarized on Table 4-7 and the results are presented graphically on Figure 4-6.

Freon 113 was detected in each of the four wells sampled. Concentrations exceeding the $59,000~\mu g/L$ screening criteria were detected in JAW-29 (808,000E $\mu g/L$), JAW-30 (77,200 $\mu g/L$), and L9-MW11 (312,000 $\mu g/L$). Freon 113 was detected in JAW-31 at a concentration of 39,900 $\mu g/L$, which is below the screening criteria. The Freon 113 concentration in JAW-31 has shown a decreasing trend between June 2002 and June 2007 (Appendix B).

1,1-dichloroethene was detected at only one location, (L9-MW11), and the concentration (535 μ g/L) exceeded the 7 μ g/L screening criteria. Methylene chloride was detected at all four locations and concentrations, ranging from 149JB μ g/L to 7,060JB μ g/L, exceeded the screening criteria of 5 μ g/L. At a single location (L9-MW11) 2-butanone was detected at a concentration below the screening criteria.

No SVOCs, which include pentachlorophenol, were detected in JAW-31.

4.2.7 Pesticide Pit

In June 2007, a sample was collected from shallow well JAW-617 and the sample was analyzed for total chromium (Table 2-3). The sample was not filtered. An attempt was made to sample the pesticide pit sump in June 2007, but no sample was collected because the sump was dry. June 2007 data are summarized on Table 4-8 and the results are presented graphically on Figure 4-7.

In June 2007, total chromium was detected in well JAW-617 at a concentration of 76.1 μ g/L, which is below the 100 μ g/L screening criteria. It is common for filtered metals samples to have a lower metals concentration than the total concentration due to the presence of metals on fine-grained suspended material. Therefore, if the sample collected from JAW-617 had been filtered, it is likely that the filtered concentration would be similar to, or lower than, the unfiltered concentration depending on the degree and effect of sample turbidity. Prior to the June 2007 sampling, the most recently-collected samples (Spring and Fall 2006) had concentrations of dissolved chromium that exceeded the screening criteria.

4.2.8 Firing Site

In June 2007, groundwater samples were collected from shallow wells JAW-32 and JAW-34 and analyzed for uranium, gross alpha and gross beta (Table 2-3). June 2007 data are summarized on Table 4-9 and the results are presented graphically on Figure 4-8.

In June 2007 samples collected from JAW-32, the uranium concentration was 345 μ g/L, the gross alpha concentration was 141 picocuries per liter (pCi/L), and the gross beta concentration



was 56 pCi/L. These concentrations all exceed the screening criteria, which are 30 μ g/L, 15 pCi/L, and 4 pCi/L, respectively. Gross beta was detected at 38 pCi/L in JAW-34, compared to the screening criteria of 4 pCi/L. Gross alpha and uranium concentrations in JAW-34 were below the screening criteria in June 2007. Gross alpha and uranium have been below the screening criteria for the past three sampling events.

4.2.9 East Burn Pads

In June 2007 samples were collected from shallow wells EDA-2, EDA-3, EDA-4, EBP-MW3, EBP-MW4, and EBP-MW5, and from the deep well EBP-MW2 (Table 2-3). All wells were sampled for RDX only, with the exception of EBP-MW2, which was analyzed for dissolved arsenic only. June 2007 data are summarized on Table 4-10 and the results are presented graphically on Figure 4-9.

4.2.9.1 Shallow Groundwater/Water Table

In June 2007 RDX was detected above the 2 μ g/L screening criteria in all six of the shallow wells for which RDX was analyzed. RDX concentrations ranged from 4 μ g/L (EDA-4) to 66 μ g/L (EDA-2). Similar concentrations were detected previously at the same locations (Appendix B).

4.2.9.2 Deep Groundwater

In June 2007, dissolved arsenic was detected in EBP-MW2 at a concentration of 13 μ g/L, which exceeds the groundwater screening criteria of 10 μ g/L.

4.2.10 North Burn Pads Area

In June 2007 a groundwater sample was collected from deep well JAW-627 and analyzed for RDX (Table 2-3). June 2007 data are summarized on Table 4-11 and the results are presented graphically on Figure 4-10.

The RDX concentration in the sample from JAW-627 was 10.7 μ g/L, which exceeds the groundwater screening criterion of 2 μ g/L and represents the maximum concentration of RDX detected at JAW-627 (Appendix B).

4.2.11 Offsite Area

The offsite RDX plume area is located south of the southeast facility boundary and generally west of Brush Creek and north of the Skunk River (Figure 1-1). Some of the offsite wells are located south of the Skunk River. Treatability study injections began in MW-117 after the Spring 2006 sampling event. Offsite groundwater sampling is being conducted specifically for the treatability study. In addition, periodic groundwater monitoring was conducted in June 2007 as described in this report. Note that the June 2007 sampling results may be affected by the injections occurring in the area of MW-117.

In June 2007, 23 wells were sampled and each well was analyzed for RDX, MNX, TNX, and hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine (DNX) (Table 2-3). A total of 21 shallow wells



(MW-117, MW-117S, MW-121, MW-123, MW-125, MW-136, MW-303, MW-304, MW-307, MW-309, MW-407, MW-408, MW-409, MW-501, MW-509, MW-510, MW-511, MW-513, MW-514, MW-515, and MW-517) were sampled. Two deep wells (MW-117D and MW-509D) were sampled. Shallow well MW-516 was not sampled because the well was not accessible because of the presence of crops in the fields. June 2007 data are summarized on Table 4-12 and the results are presented graphically on Figure 4-11.

4.2.11.1 Shallow Groundwater- Alluvium

In June 2007, RDX was detected in 13 of the 21 shallow wells sampled. Concentrations in 11 of the wells were above the 2 μ g/L screening criteria and exceedances ranged in concentration from 5.2 μ g/L (MW-408) to 128 μ g/L (MW-309).

MNX was detected in samples from eight shallow wells and the maximum MNX concentration (0.55 $\mu g/L$) was detected in MW-117. TNX was detected in samples from four shallow wells and the maximum TNX concentration (0.34 $\mu g/L$) was detected in MW-303. No screening criteria are available for MNX and TNX. DNX was not detected in any well.

4.2.11.2 Deep Groundwater - Glacial Outwash

During the sampling conducted in June 2007, no explosives were detected in either of the two deep wells sampled.

As the offsite groundwater remediation progresses, monitoring results will be presented and evaluated in future status reports.

4.3 SURFACE WATER

In June 2007 two surface water samples (SC2 and SC5) were collected from locations along Spring Creek and one sample (SCT2) was collected along a tributary to Spring Creek. All three of these sampling locations are in the Explosives Disposal Area near the West Burn Pads Area. The three surface water samples were analyzed for explosives and VOCs (Table 2-4). June 2007 data are summarized on Table 4-13, and the results are presented graphically on Figure 4-10.

In June 2007 explosives and VOC concentrations were higher at location SCT2 than at the other two locations. RDX was detected at location SCT2 at a concentration of 5.1 μ g/L, which exceeds the 2 μ g/L groundwater screening criteria. RDX was also detected at location SC2, but at a concentration below the screening criteria. Cyclotetramethylenetetranitramine (HMX) was detected at SCT2 at a concentration below the screening criteria, and HMX was not detected at either SC2 or SC5. No other explosives were detected at any of the three locations.

Freon 113 was detected at all three surface water locations and concentrations ranged from $9.3 \,\mu\text{g/L}$ (SC5) to $87.8 \,\mu\text{g/L}$ (SCT2). All of the Freon 113 concentrations were below the $59,000 \,\mu\text{g/L}$ screening criteria. Acetone was detected at estimated concentrations of $5.4J \,\mu\text{g/L}$ (SC2) and $5.9J \,\mu\text{g/L}$ (SCT2) compared to the acetone groundwater screening criteria of $5,500 \,\mu\text{g/L}$.

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The concentrations of all constituents analyzed in samples collected from SC5 have been below the screening criteria during all sampling events at SC5. VOC concentrations at SC2 have been below the screening criteria during every sampling event at SC2.



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5.0 OBSERVATIONS ON WELL CONDITION AND POTENTIAL WELL MAINTENANCE

During the June 2007 sampling event, well conditions and potential maintenance requirements for sampled and gauged wells were noted and are summarized below.

- Locks were missing at 12C (Line 2) and G-29 (East Burn Pad) and the lock at G-16 (Pesticide Pit) was noted as being too tight.
- A broken hinge was noted at JAW-603 (Line 1) and EDA-02 (East Burn Pad). A broken lid was noted at EDA-01 (East Burn Pad).
- The presence of vegetation made access to wells difficult at the following five wells at the Firing Site: JAW-32, JAW-33, JAW-34, JAW-618, and JAW-619. High grass made access difficult at JAW-42 (Line 1).
- JAW-601 (Line 1) had standing water inside the protective casing of the well and the polyvinyl chloride pipe of the well was covered with dark residue.

The wells above include wells that were sampled for chemical analysis and also wells that were gauged only to obtain water elevation data and were not sampled. The 2008 Groundwater and Surface Water Sampling Work Plan will describe which wells will continue to be sampled in 2008. For wells where sampling will be conducted in the future, appropriate corrective action is proposed, beginning with a more detailed pre-maintenance inspection. For wells that will no longer be sampled or gauged, well abandonment is proposed to be conducted according to recommendations and priorities to be described in a facility-wide plan for maintenance and abandonment, which is currently being prepared.



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6.0 REFERENCES

- E&E (Ecology and Environment, Inc.), 1987. RCRA Facility Assessment, Final Report for the Iowa Army Ammunition Plant, Middletown, IA. June.
- EPA (U.S. Environmental Protection Agency), 1990. Federal Facility Agreement under CERCLA Section 120, in the Matter of the U.S. Department of the Army, Middletown, IA, Administrative Docket No. VII-F-90-0029. September.
- EPA, 1999. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. Office of Solid Waste and Emergency Response. EPA 540/R-99-008. October.
- EPA, 2002. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Review. Office of Solid Waste and Emergency Response. EPA540/R-04-008. July.
- EPA, 2004a. Office of Water. Drinking Water Standards and Health Advisories. EPA 822-B-00-001. Winter.
- EPA, 2004b. Region IX Preliminary Remediation Goals. September.
- Harris, E. and M.D. Parker. 1964. Stratigraphy of the Osage Series in Southeastern Iowa, Report of Investigation No. 1, Iowa Geological Survey, Iowa City, Iowa.
- Harza (Harza Engineering Company, Inc.), 1997. Supplemental Groundwater RI Report, Iowa Army Ammunition Plant, Middletown, Iowa. December.
- Harza, 2000. Long-Term Monitoring Report–Fall 1999, Iowa Army Ammunition Plant, Middletown, Iowa. June.
- HGL (HydroGeoLogic, Inc.) 2003. Draft Final 2002 Groundwater Monitoring Report, Iowa Army Ammunition Plant, Middletown, Iowa. August.
- HGL, 2004a. Draft Final 2003 Groundwater Monitoring Report, Iowa Army Ammunition Plant, Middletown, Iowa.
- HGL, 2004b. Draft 2004 Groundwater Monitoring Report, Iowa Army Ammunition Plant, Middletown, Iowa. October.
- HGL, 2005. 2004 Annual Report Semi-Annual Groundwater Monitoring Ash Disposal Cell, Trench 5 Inert Disposal Area, February.
- IGS (Iowa Geological Survey, 1980). Survey of Groundwater Resources, Des Moines County, Open File Report 29-80 WRDP.
- Tetra Tech, 2005. 2004-2005 Draft Groundwater Sampling Report, December.



- Tetra Tech, 2006. Remedial Design for In-Situ Biodegradation of RDX in Offsite Groundwater, August .
- Tetra Tech, 2007a. Remedial Investigation Report and Feasibility Study for OU-3 Sitewide Groundwater, April 2007.
- Tetra Tech, 2007b. Draft 2006 Groundwater Sampling Report, July.
- Tetra Tech, 2007c. Draft Technical Memorandum, Full-Scale Treatability Study for In Situ Biodegradation of On-Post Groundwater. September.
- URS, 2002a. Draft Final Facility-Wide Work Plan, Iowa Army Ammunition Plant, Middletown, Iowa. February.
- URS, 2002b. Draft Offsite Groundwater Remedial Investigation Report, Iowa Army Ammunition Plant, Middletown, Iowa. December.



TABLES

Table 1-1
Iowa Army Ammuntion Plant Sites

Site by Watershed	Groundwater Program	Last Periodic Monitoring						
	Skunk River Watershed							
Deactivation Furnace	Non-ER,A	NA						
Demolition Area	Non-ER,A	September 2007						
Line 3A Pond	OU-3 RI/FS	NA						
Line 3A Sewage Treatment Plant	Non-ER,A	NA						
	Long Creek Watershed							
Building 600-86 Septic	OU-3 RI/FS	August 1997						
Construction Debris Landfill	OU-3 RI/FS	October 2005						
Contaminated Clothing Laundry	Non-ER,A	NA						
Firing Site	OU-3 RI/FS, Periodic Monitoring	June 2007						
Fly Ash Disposal Area	NA	NA						
Fly Ash Landfill	Non-ER,A	September 2007						
Inert Disposal Area	OU-3 RI/FS, Trench 5 (RCRA)	Fall 2006						
Line 3A	OU-3 RI/FS, Periodic Monitoring	June 2007						
Line 4B	OU-3 RI/FS	June 2003						
Line 5B	OU-3 RI/FS, Periodic Monitoring	June 2007						
Line 8	NA	NA						
Possible Demolition Site	OU-3 RI/FS	NA						
Brush Creek Watershed								
Central Test Area	OU-3 RI/FS	NA						
Line 1	OU-3 RI/FS, Periodic Monitoring	June 2007						
Line 2	OU-3 RI/FS, Periodic Monitoring	June 2007						
Line 3	OU-3 RI/FS, Periodic Monitoring	June 2007						
Line 4A	OU-3 RI/FS							
Line 5A	OU-3 RI/FS, Periodic Monitoring	June 2007						
Line 6	OU-3 RI/FS	Spring 2006						
Line 800	OU-3 RI/FS, Treatability Studies	Fall 2006						
Line 9	OU-3 RI/FS, Periodic Monitoring	June 2007						
Off-Site	OU-3, Periodic Monitoring, In Remediation	June 2007						
Old Fly Ash Waste Pile	OU-3 RI/FS	NA						
Pesticide Pit	OU-3, Periodic Monitoring	June 2007						
Sewage Treatment Plant	Non-ER,A	NA						
	Spring Creek Watershed							
Ammunition Box Chipper Disposal	OU-3 RI/FS	Spring 2002						
Burn Cages	OU-3 RI/FS, part of West Burn Pad	NA						
Contaminated Waste Processor	Non-ER,A	NA						
East Burn Pad	OU-3 RI/FS, Periodic Monitoring	June 2007						
Explosive Waste Incinerator	OU-3 RI/FS	April 2007						
Fire Training Pit	OU-3 RI/FS, Treatability Studies	April 2007						
Incendiary Disposal Area	OU-3 RI/FS	NA						
North Burn Pad	OU-3 RI/FS, Periodic Monitoring	June 2007						
West Burn Pad	OU-3 RI/FS, Treatability Studies	Fall 2006						

NA - Not applicable since there is no permanent well in the site

Treatability Studies - The sites are part of the treatablity studies program

Non-ER,A - Sites that are not included in Army's Environmental Restoration program, and not part of OU-3.

OU-3 - Operable Unit 3, all sites with permanent groundwater wells are included in OU-3, however, not all OU-3 sites are monitored periodically.

RI/FS - Remedial Investigation / Feasibility Study (Tetra Tech, 2007), no groundwater sampling had been done specifically for OU-3 RI/FS.

Table 2-1 Water Level Data, June 2007 Groundwater Monitoring

	ı	1	,			
Well	Ground Elevation (ft AMSL)	Well TOC Elevation (ft AMSL)	Screened Unit	2007 Depth to Water (ft. btoc)	Groundwater Elevation (ft AMSL)	Comment from Water Table Log Sheet
		Li	ne 1 and Line 1 Impo	undment		
GZ-2A	671.6	674.06	Shallow till	6.15	667.91	
JAW-39	692.4	695.22	Shallow till	6.28	688.94	
JAW-40	693.0	695.84	Shallow till	5.28	690.56	
JAW-42	686.9	689.82	Shallow till	6.33	683.49	High grass
JAW-50	714.3	716.85	Shallow till	10.05	706.80	
JAW-51	714.7	717.89	Shallow till	7.9	709.99	
JAW-601 (B)	678.7	681.41	Upper bedrock	NM	NM	Water at top of casing, PVC covered with dark residue
JAW-602 (B)	711.2	713.91	Upper bedrock	20.23	693.68	
JAW-603 (B)	714.8	717.42	Upper bedrock	20.59	696.83	Broken hinge
			Line 2			
12-C	689.2	691.27	Intermediate till	8.7	682.57	No lock
12-F	688.3	690.22	Intermediate till	7.16	683.06	
L2-MW4	681.5	683.76	intermediate	4.65	679.11	
L2-MW5	678.4	680.71	intermediate	12.25	668.46	
L2-MW7	NA	680.85	intermediate	7.77	673.08	
			Line 3			
JAW-54	695.8	697.67	Shallow till	4.65	693.02	
			Line 3A			
JAW-15	710.7	712.88	Shallow till	7.31	705.57	
JAW-17	709.3	711.83	Shallow till	6.69	705.14	
JAW-18 (B)	709.2	711.74	Upper bedrock	NM	NM	Dry
JAW-19	713.2	715.77	Shallow till	NM	NM	-
JAW-20 (B)	711.9	713.82	Upper bedrock	28.95	684.87	
JAW-21	711.88	714.66	Intermediate	7.16	707.50	
JAW-22	711.4	713.57	Shallow till	8	705.57	
			Line 5A and 5B			
5A-MW1	723.8	726.14	Shallow till	4.25	721.89	
JAW-606	720.3	722.29	Shallow till	5.73	716.56	
JAW-607	727.8	730.11	Shallow till 7.09 723.02			
JAW-608	727.7	729.84	Shallow till	6.49	723.35	
5A-MW2	724.70	726.82	Shallow	5.72	721.10	
5B-MW1	727.09	729.58	Shallow	7.65	721.93	

Table 2-1 Water Level Data, June 2007 Groundwater Monitoring

Well	Ground Elevation (ft AMSL)	Well TOC Elevation (ft AMSL)	Screened Unit	2007 Depth to Water (ft. btoc)	Groundwater Elevation (ft AMSL)	Comment from Water Table Log Sheet
	,	() /	Line 9		()	
JAW-29	711.2	713.35	Shallow till	10.54	702.81	
JAW-29 JAW-30	711.2	713.33	Shallow till	8.31	702.81	
JAW-30 JAW-31	711.37	712.85	Shallow till	10.57	702.28	
JAW-610	711.0	711.94	Shallow till	11.14	702.28	
JAW-611	710.1	712.62	Shallow till	7.64	704.98	
JAW-612	708.0	709.56	Shallow till	6.06	704.58	
L9-MW11	708.0	710.36	shallow	9.71	700.65	
L3-WI W 11	708.0	/10.30	East Burn Pads	7./1	700.03	
FD 4 04					40.7.00	
EDA-01	692.5	694.11	Shallow till	8.22	685.89	Lid broken
EDA-02 (B)	671.6	672.66	Upper bedrock	20.11	652.55	Hinge broken
EDA-03 (B)	674.3	675.96	Upper bedrock	22.1	653.86	
EDA-04	683.4	684.6	Shallow till	7.21	677.39	
G-29	681.9	683.85	Shallow till	7.9	675.95	No lock
JAW-04 (B)	658.0	660.51	Upper bedrock	NM	NM	
JAW-05	684.3	686.31	Shallow till	8.3	678.01	
JAW-06	675.4	677.55	Shallow till	6.27	671.28	
JAW-07	687.0	689.19	Shallow till	12	677.19	
JAW-64	684.1	686.12	Shallow till	6.88	679.24	
EBP-MW1 (B)	668.3	670.27	Bedrock	33.57	636.70	
EBP-MW2	682.2	684.22	Basal till	45.32	638.90	
EBP-MW3	688.0	690.09	Shallow till	6.34	683.75	
EBP-MW4	NA	679.79	shallow	36.19	643.60	
EBP-MW5	NA	665.33	shallow	31.64	633.69	
EBP-MW6	NA	664.91	shallow	23.66	641.25	
			Pesticide Pit			
Sump	NA	NA	NA	NM	NM	Dry
JAW-617	691.6	693.83	Shallow till	6.81	687.02	-
G-16	693.5	696.11	Shallow till	7.1	689.01	Lock was very tight

Table 2-1 Water Level Data, June 2007 Groundwater Monitoring

Water Devel Data, June 2007 Groundwater Monitoring									
Well	Ground Elevation (ft AMSL)	Well TOC Elevation (ft AMSL)	Screened Unit	2007 Depth to Water (ft. btoc)	Groundwater Elevation (ft AMSL)	Comment from Water Table Log Sheet			
			Inert Disposal Ar	ea					
C-00-2	NA	696.43	Shallow till	12.76	683.67				
CAMU-99-1D (B) ²	689.0	694.11	Upper bedrock	NM	NM				
CAMU-99-2D (B) ²	701.5	706.67	Upper bedrock	NM	NM				
CAMU-99-2S ²	701.6	706.51	Shallow till	NM	NM				
CAMU-99-3S ²	706.0	711.40	Shallow till	NM	NM				
G-4	706.0	707.96	Shallow till	NM	NM				
G-5	689.1	692.23	Intermediate till	NM	NM				
IDA-MW2 (B)	701.4	703.03	Bedrock	NM	NM				
JAW-26	701.7	703.43	Shallow till	NM	NM				
T-6 (B)	711.2	712.63	Upper bedrock	NM	NM				
			Firing Site						
JAW-32	688.5	690.73	Shallow till	12.27	678.46	Waist high bush			
JAW-33	682.4	684.88	Shallow till	NM	NM	Dry, Waist high weeds, thorny bushes, wasp nest			
JAW-34 (B)	682.2	684.74	Upper bedrock	18.7	666.04	Waist high weeds, thorny bushes			
JAW-35 (B)	640.0	642.74	Upper bedrock		642.74				
JAW-618 (B)	690.5	692.92	Upper bedrock	50.38	642.54	Waist high bush			
JAW-619 (B)	682.4	684.56	Upper bedrock	42.25	642.31	Waist high weeds, thorny			
			North Burn Pads	3					
JAW-13 (B)	667.2	669.61	Upper bedrock/Till	15.61	654.00				
JAW-627 (B)	680.6	683.10	Upper bedrock	33.53	649.57				
			Offsite Area						
MW-117	551.81	551.96	Shallow	27.17	524.79				
MW-117S	551.98	551.46	Shallow	26.83	524.63				
MW-117D	551.99	551.81	Deep	27.77	524.04				
MW-121	548.40	545.96	Shallow	22	523.96				
MW-123	546.35	545.96	Shallow	20.49	525.47				
MW-125	546.52	546.19	Shallow	20.94	525.25				
MW-136	526.95	529.42	Shallow	5.99	523.43				
MW-303	539.20	541.72	Shallow	17.21	524.51				
MW-304	531.40	533.98	Shallow	9.8	524.18				
MW-307	551.66	551.41	Shallow	27.34	524.07				
MW-309	547.67	547.24	Shallow	22.52	524.72				

Table 2-1 Water Level Data, June 2007 Groundwater Monitoring

Well	Ground Elevation (ft AMSL)	Well TOC Elevation (ft AMSL)	Screened Unit	2007 Depth to Water (ft. btoc)	Groundwater Elevation (ft AMSL)	Comment from Water Table Log Sheet
			Offsite Area (contin	ued)		
MW-407	527.56	529.97	Shallow	6.1	523.87	
MW-408	525.17	527.34	Shallow	5.58	521.76	
MW-409	542.85	545.37	Shallow	20.42	524.95	
MW-501	540.62	542.67	Shallow	18.49	524.18	
MW-509	526.85	529.09	Shallow	5.25	523.84	
MW-509D	526.8	529.06	Deep	5.23	523.83	
MW-510	528.26	530.66	Shallow	8.45	522.21	
MW-511	526.07	528.50	Shallow	6	522.50	
MW-513	523.69	526.47	Shallow	6.51	519.96	
MW-514	522.81	525.28	Shallow	5.65	519.63	
MW-515	522.33	524.52	Intermediate	5.46	519.06	
MW-516	522.38	524.97	Shallow	NM	NM	
MW-517	528.8	531.15	Shallow	10.08	521.07	

(B) = Upper bedrock or bedrock well.

(D) = Deep well

TOC/btoc = Top of casing/Below top of casing.

ft = feet

in = inches

AMSL = Above mean sea level.

NM = Not measured.

NA = Data not available.

Table 2-2 Water Quality Parameters, June 2007

					Para	meter		
		Sampling			Dissolved	Specific		
Area	Well I.D.	Zone	pН	Temperature	Oxygen	Conductivity	Turbidity	ORP
		Zone	AT.			nits		4114
			SU	Celsius	mg/L	μS/cm	NTU	millivolts
	EBP-MW2	Deep	7.14	13.39	0.05	932	>1000A	-145.5
	EBP-MW3	Shallow	6.78	12.08	1.36	529	0	-48.6
	EBP-MW4	Shallow	7.10	14.40	3.17	836	160	-5.8
East Burn Pads	EBP-MW5	Shallow	7.04	14.83	1.62	657	2.65	-69.5
	EDA-02	Shallow	7.15	17.09	IF	885	0.7	15.0
	EDA-03	Shallow	7.20	13.85	1.33	588	0	-61.1
	EDA-04	Shallow	7.18	16.17	0.17	874	0	-128.0
Firing Site	JAW-32	Shallow	7.24	21.27	5.30	553	0.2	9.0
	JAW-34	Shallow	6.92	19.91	1.26	1335	0	12.5
	GZ-2A	Shallow	7.03	15.43	0.19	789	4.94	-66.2
Line 1	JAW-40	Shallow	7.17	16.44	1.50	677	0.5	0.6
	JAW-50	Shallow	6.97	15.29	0.41	761	0.06	5.5
	JAW-602	Deep	7.38	13.43	0.07	697	0.01	-90.4
	12-C	Intermediate	7.35	16.18	0.87	854	3.3	-140.8
Line 2	12-F	Intermediate	7.45	15.64	0.65	843	2.5	-146.7
	L2-MW5	Intermediate	7.51	13.57	0.72	599	0.4	-120.8
Line 3	JAW-54	Shallow	7.30	14.25	2.34	407	0.5	-26.2
	JAW-15	Shallow	6.99	17.27	4.14	684	1.2	54.6
	JAW-17	Shallow	7.07	13.32	10.45	661	0.95	97.0
Line 3A	JAW-18	Deep	NS	NS	NS	NS	NS	NS
Line SA	JAW-20	Shallow	7.04	19.33	4.37	693	1.9	46.5
	JAW-21	Intermediate	6.97	13.47	3.79	420	2	44.5
	JAW-22	Shallow	6.86	22.11	1.24	1317	0.95	62.7
	5A-MW1	Shallow	6.82	13.21	IF	560	2.6	78.9
Line 5A/5B	5A-MW2	Shallow	6.86	12.67	1.09	391	2.3	82.7
	5B-MW1	Shallow	7.05	12.71	IF	549	0.65	54.9
	JAW-29	Shallow	7.36	25.62	1.16	618	2.38	-26.8
Line 9	JAW-30	Shallow	7.26	14.45	0.18	610	0.24	-38.4
Line 9	JAW-31	Shallow	7.08	16.06	1.42	634	0.97	-25.4
	L9-MW11	Shallow	6.64	14.35	0.14	1090	0	-87.0
North Burn Pads	JAW-627	Shallow	7.13	13.65	IF	868	0	60.5
	MW-117	Shallow	7.36	16.27	1.22	498	0	-101.6
	MW-117D	Deep	7.56	15.66	0.07	473	6.5	-125.2
	MW-117S	Shallow	7.00	15.73	2.70	421	0	-38.1
	MW-121	Shallow	6.94	14.38	0.63	723	10.44	-50.9
	MW-123	Shallow	6.96	14.90	0.28	705	0.08	-53.7
Offsite Area	MW-125	Shallow	6.72	14.91	2.09	826	1.47	-8.3
	MW-136	Shallow	7.55	15.28	2.38	665	0.24	-118.9
	MW-303	Shallow	7.89	15.87	4.72	444	0.1	-68.5
	MW-304	Shallow	7.45	14.34	2.04	514	4.05	-64.1
	MW-307	Shallow	7.39	13.89	5.34	529	0	-8.4
	MW-309	Shallow	7.52	14.68	5.25	496	0	-53.1

Table 2-2 Water Quality Parameters, June 2007

					Para	meter				
		Sampling			Dissolved	Specific				
Area	Well I.D.	Zone	pН	Temperature	Oxygen	Conductivity	Turbidity	ORP		
				Units						
			SU	Celsius	mg/L	μS/cm	NTU	millivolts		
	MW-407	Shallow	7.42	13.41	0.29	578	0.3	-38		
	MW-408	Shallow	7.30	15.09	0.71	756	0.7	-145.4		
	MW-409	Shallow	7.49	15.11	0.06	643	0.7	-72.1		
	MW-501	Shallow	7.27	15.44	4.35	645	1.3	14.5		
	MW-509	Shallow	7.33	13.02	4.91	360	4.4	76.7		
	MW-509D	Deep	7.45	13.43	0.39	530	1.11	14.0		
Offsite Area	MW-510	Shallow	7.46	13.28	0.07	576	0.6	-57.6		
	MW-511	Shallow	7.49	14.23	0.64	529	5.2	-57.0		
	MW-513	Shallow	7.47	13.91	0.40	494	0	-4.0		
	MW-514	Shallow	7.21	14.90	0.73	658	4.5	-129.0		
	MW-515	Shallow	7.47	14.14	0.23	585	1.6	-143.3		
	MW-516	Shallow		N	ot Sampled	- Inaccessible				
	MW-517	Shallow	7.35	13.6	0.65	590	3.9	-100.9		
Pesticide Pit	JAW-617	Shallow	6.98	14.01	IF	567	1.4	42.2		
1 csuciue I it	SUMP	NA		N	Not Sample	d - Sump Dry				

 $A = Turbidity \ exceeds \ instrument \ maximum \ measurement \ capacity.$

 $IF = Instrument \ Failure, \ dissolved \ oxygen \ probe.$

mg/L = milligrams per Liter

 $\mu S/cm = micro \; Siemens \; per \; centimeter \;$

NS = not sampled

NTU = Nephelometric Turbidity Units ORP = Oxidation Reduction Potential

SU = Standard Unit

Table 2-3 Groundwater Sampling Matrix, June 2007

	I	0.0411		Sampi	_			•				
				A	nalytical	Parame	ters					
Site	Well Number	Sampling Zone	Explosives (Method 8330)	Metals (Method 6010B & 7470)	VOCs (Method 8260)	SVOCs (Method 8270)	Uranium (Method 6020)	Gross a/β (Method 900/9310)	Notes on Chemical Analyzed			
	JAW-40	Shallow	X						RDX only			
	JAW-50	Shallow	X						RDX only			
Line 1	JAW-602	Deep		X					arsenic only			
	GZ-2A	Shallow	X						RDX only			
	12-C	Intermediate		X					arsenic only			
Line 2	12-F	Intermediate		X					arsenic only			
	L2-MW5	Intermediate		X					arsenic only			
Line 3	JAW-54	Shallow	X						RDX only			
	JAW-15	Shallow	X						RDX only			
	JAW-17	Shallow	X						RDX only			
Line 3A	JAW-18	Deep	NS						Well was dry			
Line 3A	JAW-20	Shallow	X						RDX only			
	JAW-21	Intermediate	X						RDX only			
	JAW-22	Shallow	X						RDX only			
	5A - MW1	Shallow	X						RDX and TNT			
Line 5A/5B	5A - MW2	Shallow	X						RDX and TNT			
	5B - MW1	Shallow	X						RDX only			
	JAW-29	Shallow			X				VOCs only			
Line 9	JAW-30	Shallow			X				VOCs only			
Line	JAW-31	Shallow			X	X			VOCs and SVOCs (including PAHs)			
	L9-MW11	Shallow			X				VOCs only			
Pesticide Pit	JAW-617	Shallow		X					chromium only			
r esticiue r it	Sump	NA		NS					Sump was dry			
Firing Site	JAW-32	Shallow					X	X	Gross α/β and Uranium			
Firing Site	JAW-34	Shallow					X	X	Gross α/β and Uranium			
	EDA-02	Shallow	X						RDX only			
	EDA-03	Shallow	X						RDX only			
	EDA-04	Shallow	X						RDX only			
East Burn Pad	EBP-MW2	Deep		X					arsenic only			
	EBP-MW3	Shallow	X						RDX only			
	EBP-MW4	Shallow	X						RDX only			
	EBP-MW5	Shallow	X						RDX only			

Table 2-3 Groundwater Sampling Matrix, June 2007

				Aı	nalytical	Parame	ters		
Site	Well Number	Sampling Zone	Explosives (Method 8330)	Metals (Method 6010B & 7470)	VOCs (Method 8260)	SVOCs (Method 8270)	Uranium (Method 6020)	Gross α/β (Method 900/9310)	Notes on Chemical Analyzed
North Burn Pad	JAW-627	Deep	X						RDX only
	MW-117	Shallow	X						RDX, MNX, TNX and DNX
	MW-117S	Shallow	X						RDX, MNX, TNX and DNX
	MW-117D	Deep	X						RDX, MNX, TNX and DNX
	MW-121	Shallow	X						RDX, MNX, TNX and DNX
Offsite	MW-123	Shallow	X						RDX, MNX, TNX and DNX
	MW-125	Shallow	X						RDX, MNX, TNX and DNX
	MW-136	Shallow	X						RDX, MNX, TNX and DNX
	MW-303	Shallow	X						RDX, MNX, TNX and DNX
	MW-304	Shallow	X						RDX, MNX, TNX and DNX
	MW-307	Shallow	X						RDX, MNX, TNX and DNX
	MW-309	Shallow	X						RDX, MNX, TNX and DNX
	MW-407	Shallow	X						RDX, MNX, TNX and DNX
	MW-408	Shallow	X						RDX, MNX, TNX and DNX
	MW-409	Shallow	X						RDX, MNX, TNX and DNX
	MW-501	Shallow	X						RDX, MNX, TNX and DNX
	MW-509	Shallow	X						RDX, MNX, TNX and DNX
Off Site (continued)	MW-509D	Deep	X						RDX, MNX, TNX and DNX
	MW-510	Shallow	X						RDX, MNX, TNX and DNX
	MW-511	Shallow	X						RDX, MNX, TNX and DNX
	MW-513	Shallow	X						RDX, MNX, TNX and DNX
	MW-514	Shallow	X						RDX, MNX, TNX and DNX
	MW-515	Shallow	X						RDX, MNX, TNX and DNX
	MW-516	Shallow	NS						was not accessible
	MW-517	Shallow	X						RDX, MNX, TNX and DNX

NA - Not applicable

Metals samples are collected for dissoleved metals ONLY

 $NS-Well\ was\ included\ in\ sampling\ plan\ but\ was\ not\ sampled.\ See\ "Notes\ on\ Chemical\ Analyzed"\ column\ for\ explanation.$

Table 2-4 Surface Water Sampling Matrix, June 2007

				Analytical Parameters						
Sample Location	Sampling Location	Location Description	Rationale	Explosives	Metals	SOOA	SVOCs	$\mathbf{Uranium}^1$	Gross α/β	
Spring Creek	SC2	Downstream of West Burn Pads Area	To monitor migration of contaminants into Spring Creek	X		X				
Spring Creek	SC5	Upstream of West Burn Pads Area	To establish baseline concentrations upstream of the site	X		X				
Spring Creek Tributary	SCT2	Spring Creek tributary north of West Burn Pads Area	To monitor migration of contaminants into Spring Creek	X		X				

Table 3-1
Sampling Parameters and Methods
Groundwater and Surface Water Sampling, June 2007

Parameters Analyzed	Method
Explosives (and degradants)	SW846 8330
Metals	SW846 6010B
Semivolatile Organics (SVOC)	SW846 8270C
Volatile Organics (VOC)	SW846 8260B
Radiological Chemistry	
Gross Alpha/Gross Beta	EPA 900.0
Uranium	ASTM D5174 Modified

Table 3-2 Data Qualifier Definitions Groundwater and Surface Water Sampling, June 2007

Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit or the reported analyte value was not detected above 5x or 10x the level reported in laboratory or field blanks.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
В	The analyte was detected at a concentration below the reporting limit, and above the methods detection limit.
E	The analyte was detected at a concentration exceeding the calibration limit.

Table 3-3 Matrix Spike and Matrix Spike Duplicates Groundwater and Surface Water Sampling, June 2007

Sampling Location	Analytes
JAW-17	RDX
L2-MW5	Arsenic
MW-409	RDX

Table 4-1 Summary of Screening Criteria for Groundwater

Chemical	IAAAP Comparison Criteria	Source ¹
Explosives (µg/l		
1,3,5-Trinitrobenzene (1,3,5-TNB)	1,100	Region 9 PRG
1,3-Dinitrobenzene (1,3-DNB)	1	HAL
2,4,6-Trinitrotoluene (2,4,6-TNT)	2	HAL
2,4-Dinitrotoluene (2,4-DNT)	1	Proposed
2,6-Dinitrotoluene (2,6-DNT)	1	Proposed
2-Amino-4,6-dinitrotoluene	NA	NA
2-Nitrotoluene (2-NT)	0.05	Region 9 PRG
3-Nitrotoluene (3-NT)	122	Region 9 PRG
4-Amino-2,6-dinitrotoluene	NA	NA
4-Nitrotoluene (4-NT)	61	Region 9 PRG
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	2	HAL
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	400	HAL
Mono-nitroso-RDX (MNX)	NA	NA
Nitrobenzene (NB)	3.4	Region 9 PRG
Nitrotoluene (NT)	61	Region 9 PRG
Pentaerythritol tetranitrate / PETN	NA	NA
Tetryl	NA	NA
Metals (μg/L)		
Aluminum	36499	Region 9 PRG
Antimony	6	MCL/HAL
Arsenic	10	MCL
Barium	2,000	MCL/HAL
Boron	600	HAL
Cadmium	5	MCL
Chromium (total)	100	MCL
Hexavalent Chromium	109	Region 9 PRG
Copper	1300	Action level
Iron	6000	RDA
Lead	15	Action level
Magnesium	NA	NA
Manganese	1700	Region 9 PRG
Mercury	2	MCL/ HAL
Nickel	100	HAL
Selenium	50	MCL/HAL
Silver	100	HAL
Vanadium	36.5	Region 9 PRG
Zinc	2000	HAL
Volatile Organic Compou		
1,1,1,2-Tetrachloroethane	70	HAL
1,1,2,2-Tetrachloroethane	0.3	HAL
1,1,1-Trichloroethane (1,1,1-TCA)	200	MCL
1,1,2-Trichloroethane	5	MCL
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	59000	Region 9 PRG
1,1-Dichloroethane (1,1-DCA)	810	Region 9 PRG
1,1-Dichloroethene (1,1-DCE)	7	MCL
1,2-Dichloroethane (1,2-DCA)	5	MCL
1,2-Dichloroethenes (Total)	NA	NA
1,2-Dichloropropane	5	MCL

Table 4-1 Summary of Screening Criteria for Groundwater

Chemical	IAAAP Comparison Criteria	Source ¹
Volatile Organic Compou		
1,2-Dimethylbenzene (o-Xylene)	NA	NA
1,3-Dichloropropane	122	Region 9 PRG
2-Butanone (Methyl ethyl ketone)	1900	Region 9 PRG
2-Hexanone	NA	NA
Acetone	610	Region 9 PRG
Benzene	5	MCL
Bromochloromethane	90	HAL
Bromodichloromethane	80	MCL
Carbon Disulfide	1000	Region 9 PRG
Carbon tetrachloride	5	MCL
Chloroethane	4.6	Region 9 PRG
Chlorofluromethane	NA	NA
Chlorotrifluoromethane	NA	NA
Chloroform	80	MCL
Chloromethane	30	HAL
cis-1,2-Dichloroethene	70	MCL
cis-1,3-Dichloropropene	NA	NA
Dibromochloromethane / Chlorodibromomethane	60	HAL
Dibromomethane	NA	NA
Dichlorodifluoromethane	1000	HAL
Ethylbenzene	700	MCL
Methylene Chloride (Dichloromethane)	5	MCL
Methyl isobutyl ketone (4-Methly-2-pentone)	160	Region 9 PRG
Styrene	100	MCL
Tetrachloroethylene	5	MCL
Toluene	1000	MCL
Trans-1,2-Dichloroethene	100	MCL
Trans-1,3-Dichloropropene	0.4	Region 9 PRG
Trichloroethylene (TCE)	5	MCL
Vinyl chloride	2	MCL
m,p-Xylene	NA	NA
o-Xylene	NA	NA
Xylenes (Total)	10000	MCL
Semivolatile Organic Comp	ounds (µg/L)	
1,2,3-Trichlorobenzene	NA	NA
1,2,4-Trichlorobenzene	70	MCL
1,2-Dichlorobenzene	600	MCL
1,3-Dichlorobenzene	600	HAL
1,4-Dichlorobenzene	75	MCL
2,4,5-Trichlorophenol	3600	Region 9 PRG
2,4,6-Trichlorophenol	3.6	Region 9 PRG
2,4-Dichlorophenol	20	HAL
2,4-Dimethylphenol	730	Region 9 PRG
2,4-Dinitrophenol	73	Region 9 PRG
2,4-Dinitrotoluene	1	Proposed
2,6-Dinitrotoluene	1	Proposed
2-Chloronaphthalene	490	Region 9 PRG
2-Chlorophenol	40	HAL

Table 4-1 Summary of Screening Criteria for Groundwater

Chemical	IAAAP Comparison Criteria	Source ¹
Semivolatile Organic (
2-Methyl-4,6-dinitrophenol	NA	NA
2-Methylnaphthalene	NA NA	NA NA
2-Methylphenol	1800	Region 9 PRG
2-Nitroaniline	1	Region 9 PRG
	NA	NA
2-Nitrophenol 3,3'-Dichlorobenzidine	0.15	Region 9 PRG
,		
3-Methyl-4-chlorophenol	NA NA	NA NA
3-Nitroaniline	NA NA	NA NA
4-Bromophenyl-phenyl ether	NA 150	NA D : 0 DD C
4-Chloroaniline	150	Region 9 PRG
4-Chlorophenyl-phenyl ether	NA 100	NA
4-Methylphenol	180	Region 9 PRG
4-Nitroaniline	NA	NA
4-Nitrophenol	60	HAL
Acenaphthene	370	Region 9 PRG
Acenaphthylene	NA	NA
Aniline	12	Region 9 PRG
Anthracene	1800	Region 9 PRG
Benzo[a]anthracene	0.092	Region 9 PRG
Benzo[a]pyrene	0.0092	Region 9 PRG
Benzo[b]fluoranthene	0.092	Region 9 PRG
Benzo[g,h,i]perylene	NA	NA
Benzo[k]fluoranthene	0.092	Region 9 PRG
Benzoic Acid	150000	Region 9 PRG
Benzyl alcohol	11000	Region 9 PRG
Bis(2-chloroethoxy)methane	NA	NA
Bis(2-chloroethyl)ether	0.0098	Region 9 PRG
Bis(2-chloroisopropyl)ether	300	HAL
Bis(2-ethylhexyl)phthalate	6	MCL
Butylbenzyl phthalate	7300	Region 9 PRG
Carbazole	3.4	Region 9 PRG
Chlorobenzene	106	Region 9 PRG
Chrysene	9.2	Region 9 PRG
Di-n-butyl phthalate	3600	Region 9 PRG
Di-n-octyl phthalate	1500	Region 9 PRG
Dibenz[a,h]anthracene	0.0092	Region 9 PRG
Dibenzofuran	24	Region 9 PRG
Diethyl phthalate	29000	Region 9 PRG
Dimethyl phthalate	360000	Region 9 PRG
Fluoranthene	1500	Region 9 PRG
Fluorene	240	Region 9 PRG
Hexachlorobenzene	1	MCL
Hexachlorobutadiene	1	HAL
Hexachlorocyclopentadiene	50	MCL
Hexachloroethane	1	HAL
Indeno[1,2,3-c,d]pyrene	0.092	Region 9 PRG
Isophorone	100	HAL
Cumene / Isopropylbenzene	NA	NA

Table 4-1
Summary of Screening Criteria for Groundwater

Chemical	IAAAP Comparison Criteria	Source ¹			
Semivolatile Organic Compo	unds (µg/L)				
Isopropyltoluene	NA	NA			
2-Methylphenol / 2-Cresol / o-Cresol	1825	Region 9 PRG			
N-Nitrosodi-n-propylamine	0.0096	Region 9 PRG			
N-Nitrosodiphenylamine	0.0096	Region 9 PRG			
Naphthalene	100	HAL			
Nitrobenzene	3.4	Region 9 PRG			
Pentachlorophenol	1	MCL			
Phenanthrene	NA	NA			
Phenol	4000	HAL			
Pyrene	180	Region 9 PRG			
1,2,4-Trimethylbenzene	12.3	Region 9 PRG			
1,3,5-Trimethylbenzene	12.3	Region 9 PRG			
Inorganics (μg/l	<u>.</u>)				
Nitrate	10,000	MCL			
Nitrite	1000	MCL			
Nitrate/Nitrite	10,000	MCL			
Potassium	NA	NA			
Orthophosphate	NA	NA			
Total Phosphates	NA	NA			
Pesticides (µg/L)					
(2,4,5-Trichlorophenoxy) acetic acid / 245T / Weedone	70	HAL			
Bromacil	90	HAL			
Dalapon / alpha,alpha-Dichloropropionic acid	200	HAL/MCL			

 $\mu g/L = Micrograms \ Per \ Liter$

HAL = Health Advisory Level--Lifetime Risk (Winter 2004)

IAAAP = Iowa Army Ammunition Plant

MCL = Maximum Contaminant Level (Winter 2004)

NA = Not Available

PRG = Preliminary Remediation Goal

Proposed = DNT Mixture Screening Level negotiated with USEPA Region 7

RDA - recommended daily allowance

¹ The Regulatory Standards used were USEPA MCLs or Lifetime HALs. If MCLs or HALs were not available, USEPA Region 9 PRGs for tap water were used.

Table 4-2 Chemicals Detected at Line 1 Groundwater Monitoring, June 2007

	Sai	nple Location	JAW-40	JAW-50	JAW-602	GZ-2A
Sample Type			REG	REG	REG	REG
Sampling Date			06/05/2007	06/05/2007	06/06/2007	06/05/2007
Sampling Zone		Shallow	Shallow	Deep	Shallow	
Analyte	Analyte Analyte Screening					
Group Name Criteria ¹		ug/L	ug/L	ug/L	ug/L	
EXPLOSIVES	RDX	2	0.19 U	27		22.9
METALS - DISS	Arsenic	10			9.3 J	

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed.

- J The analyte concentration estimated.
- U Not detected
- DISS Dissolved metal (filtrate)
- REG Regular sample. Not a quality assurance sample.

Table 4-3 Chemicals Detected at Line 2 Groundwater Monitoring, June 2007

Sample Location			12-C	12-F	L2-MW5
Sample Type			REG	REG	REG
Sampling Date		06/05/2007	06/05/2007	06/05/2007	
		Sampling Zone	Intermediate	Intermediate	Intermediate
Analyte	Analyte	Screening			
Group	Name	Criteria ¹	ug/L	ug/L	ug/L
METALS-DISS	Arsenic	10	33.1	9.7 B	5.3 B

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed.

B - Analyte concentration detected above the method detection limit but below the reporting limit.

DISS - Dissolved metal (filtrate)

Table 4-4 Chemicals Detected at Line 3 Groundwater Monitoring, June 2007

		Sample Location	JAW-54	JAW-54
		REG	FD	
		Sampling Date	06/05/2007	06/05/2007
		Sampling Zone	Shallow	Shallow
Analyte	Analyte	Screening		
Group	Name	Criteria ¹	ug/L	ug/L
EXPLOSIVES	RDX	2	295	257

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

REG - Regular sample. Not a quality assurance sample.

FD - Field Duplicate

Table 4-5 Chemicals Detected at Line 3A Groundwater Monitoring, June 2007

		Sample Location	JAW-15	JAW-17	JAW-20	JAW-21	JAW-22
		Sample Type	REG	REG	REG	REG	REG
		Sampling Date	06/07/2007	06/08/2007	06/08/2007	06/08/2007	06/07/2007
		Sampling Zone	Shallow	Shallow	Shallow	Intermediate	Shallow
Analyte	Analyte	Screening					
Group	Name	Criteria ¹	ug/L	ug/L	ug/L	ug/L	ug/L
EXPLOSIVES	RDX	2	11.2	12.8	2.5	2.4	13.5

- (1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.
- (2) Site-specific Preliminary Remediation Goal established in the OU-3 Feasibility Study. Shaded, bold, and underlined cell indicates concentration exceeds the screening criteria.

Blank results field indicates the constituent was not analyzed.

Table 4-6 Chemicals Detected at Line 5A/5B Groundwater Monitoring, June 2007

		Sample Location	5A-MW1	5A-MW2	5B-MW1
		REG	REG	REG	
		Sampling Date	06/05/2007	06/06/2007	06/06/2007
		Sampling Zone	Shallow	Shallow	Shallow
Analyte	Analyte	Screening			
Group	Name	Criteria ¹	ug/L	ug/L	ug/L
EXPLOSIVES	RDX	2	2.1	7.1	80.3
EXPLOSIVES	2,4,6-Trinitrotoluene	2	0.92	2.4	

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed.

Table 4-7 Chemicals Detected at Line 9 Groundwater Monitoring, June 2007

	Sample Location			JAW-30	JAW-31	L9-MW11
		Sample Type	REG	REG	REG	REG
Sampling Date			06/06/2007	06/07/2007	06/06/2007	06/07/2007
Sampling Zone			Shallow	Shallow	Shallow	Shallow
Analyte	Analyte					
Group	Name Criteria ¹		ug/L	ug/L	ug/L	ug/L
	1,1,2-Trichloro-1,2,2-trifluoroethane					
VOLATILES	LES (Freon 113) 59000		808000 E	77200	39900	312000
VOLATILES	1,1-Dichloroethene	7	5000 U	1000 U	1000 U	535
VOLATILES	2-Butanone / Methyl Ethyl Ketone 4000		25000 U	5000 U	5000 U	252 J
VOLATILES	Methylene chloride	5	7060 JB	1450 JB	1360 Ј	149 JB

- (1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.
- B Analyte concentration detected above the method detection limit but below the reporting limit.
- U Not detected at or above detection limit
- E The value is an estimate
- J The value is an estimate

Table 4-8 Chemicals detected at Pesticide Pit Groundwater Monitoring, June 2007

	Sample Location					
		Sample Type	REG			
	Sampling Date					
		Sampling Zone	Shallow			
Analyte	Analyte	Screening				
Group	Name	Criteria ¹	ug/L			
METALS	Chromium	100	76.1			

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed. REG - Regular sample. Not a quality assurance sample.

Table 4-9 Chemicals Detected at Firing Site Groundwater Monitoring, June 2007

	S	ample Location	JAW-32	JAW-32	JAW-34
		Sample Type	REG	FD	REG
		Sampling Date	06/12/2007	06/12/2007	06/12/2007
		Sampling Zone	Shallow	Shallow	Shallow
Analyte	Analyte	Screening			
Group	Name	Criteria ¹	ug/L (pCi/L)	ug/L (pCi/L)	ug/L (pCi/L)
METALS	Uranium	30	344.68	338.64	17.23
RADIOCHEMISTRY	Alpha gross (pCi/L)	15	141.49	164.07	14.72
RADIOCHEMISTRY	Beta gross (pCi/L)	4	55.59	61.32	38.26

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

REG - Regular sample. Not a quality assurance sample.

FD - Field duplicate

Table 4-10 Chemicals Detected at East Burn Pad Groundwater Monitoring, June 2007

Sample Location		EBP-MW2	EBP-MW3	EBP-MW3	EBP-MW4	EBP-MW5	EDA-2	EDA-3	EDA-4	
Sample Type		REG	REG	FD	REG	REG	REG	REG	REG	
Sampling Date		06/07/2007	06/08/2007	06/08/2007	06/08/2007	06/08/2007	06/06/2007	06/07/2007	06/07/2007	
	Sampling Zone		Deep	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Analyte	Analyte	Screening								
Group	Name	Criteria 1	ug/L	ug/L						
EXPLOSIVES	RDX	2		24.3	23.1	4.9	40.5	66	15	3.7
METALS-DISS	Arsenic	10	12.6							

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed.

DISS - Dissolved metal (filtrate)

REG - Regular sample. Not a quality assurance sample.

FD - Field Duplicate

Table 4-11 Chemicals Detected at North Burn Pads Groundwater Monitoring, June 2007

	,	Sample Location	JAW-627
		Sample Type	REG
		Sampling Date	06/07/2007
		Sampling Zone	Deep
Analyte	Analyte	Screening	
Group	Name	Criteria ¹	ug/L
EXPLOSIVES	RDX	2	10.7

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed.

B - Analyte concentration detected above the method detection limit but below the reporting limit.

Table 4-12 Chemicals Detected at Off Site Area Groundwater Monitoring, June 2007

	So	mple Location	MW-117	MW-117D	MW-117S	MW-121	MW-123	MW-125	MW-136	MW-303	MW-304
1											
		Sample Type	REG								
	i	Sampling Date	06/12/2007	06/12/2007	06/12/2007	06/10/2007	06/11/2007	06/11/2007	06/11/2007	06/12/2007	06/12/2007
		Sampling Zone	Shallow	Deep	Shallow						
Analyte	Analyte	Screening									
Group	Name	Criteria ¹	ug/L								
	1-Nitroso-3,5-dinitro-1,3,5-										
EXPLOSIVES	triazacyclohexane/ MNX	NL	0.55	0.19 U	0.19 U	0.19 U	0.099 J	0.19 U	0.19 U	0.19 U	0.2
	Hexahydro-1,3,5-trinitroso-										
EXPLOSIVES	1,3,5-triazine/ TNX	NL	0.26	0.19 U	0.34	0.1 J					
EXPLOSIVES	RDX	2	90.4	0.19 U	0.19 U	0.19 U	4.7	0.39	0.19 U	57.3	33.5

Blank results field indicates the constituent was not analyzed.

REG - Regular sample. Not a quality assurance sample.

FD - Field Duplicate

- B Analyte concentration detected above the method detection limit but below the reporting limit.
- J The analyte concentration estimated.
- U Not detected

⁽¹⁾ Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Table 4-12 Chemicals Detected at Off Site Area Groundwater Monitoring, June 2007

					Ο,						
Sample Location			MW-304	MW-307	MW-309	MW-407	MW-408	MW-409	MW-501	MW-509	MW-509D
		Sample Type	FD	REG							
		Sampling Date	06/12/2007	06/10/2007	06/10/2007	06/10/2007	06/11/2007	06/12/2007	06/11/2007	06/10/2007	06/10/2007
	\$	Sampling Zone	Shallow	Deep							
Analyte	Analyte	Screening									
Group	Name	Criteria ¹	ug/L								
	1-Nitroso-3,5-dinitro-1,3,5-										
EXPLOSIVES	triazacyclohexane/ MNX	NL	0.21	0.19 U	0.14 J	0.25	0.19 U	0.18 J	0.19 U	0.2 U	0.2 U
	Hexahydro-1,3,5-trinitroso-										
EXPLOSIVES	1,3,5-triazine/ TNX	NL	0.11 J	0.19 U	0.32	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U	0.2 U
EXPLOSIVES	RDX	2	34	0.19 U	128	19.3	5.2	10.6	0.074 J	0.2 U	0.2 U

Blank results field indicates the constituent was not analyzed.

REG - Regular sample. Not a quality assurance sample.

FD - Field Duplicate

- B Analyte concentration detected above the method detection
- J The analyte concentration estimated.
- U Not detected

⁽¹⁾ Groundwater screening criteria includes, in order of descendi tap water Preliminary Remediation Goals. Shaded and bold c dissolved results.

Table 4-12 Chemicals Detected at Off Site Area Groundwater Monitoring, June 2007

				θ,				
	Sa	MW-510	MW-511	MW-513	MW-514	MW-515	MW-517	
	REG	REG	REG	REG	REG	REG		
	:	Sampling Date	06/10/2007	06/11/2007	06/12/2007	06/11/2007	06/12/2007	06/11/2007
	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow		
Analyte	Analyte	Screening						
Group	Name	Criteria ¹	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
EXPLOSIVES	1-Nitroso-3,5-dinitro-1,3,5- triazacyclohexane/ MNX	NL	0.22	0.18 J	0.19 U	0.2 U	0.19 U	0.19 U
EIII E SOI VES	Hexahydro-1,3,5-trinitroso-		0.22	0.10	0.17	3.2 6	0.19	3.17 6
EXPLOSIVES	1,3,5-triazine/ TNX	NL	0.19 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
EXPLOSIVES	RDX	2	19.1	16	7.8	0.2 U	0.19 U	0.19 U

Blank results field indicates the constituent was not analyzed.

REG - Regular sample. Not a quality assurance sample.

FD - Field Duplicate

B - Analyte concentration detected above the method detection

J - The analyte concentration estimated.

U - Not detected

⁽¹⁾ Groundwater screening criteria includes, in order of descendi tap water Preliminary Remediation Goals. Shaded and bold c dissolved results.

Table 4-13 Chemicals Detected at Spring Creek and Tributary June 2007

	S	SC2	SC5	SCT2	
		REG	REG	REG	
		06/07/2007	06/07/2007	06/07/2007	
Analyte	Analyte	Screening			
Group	Name	Criteria ¹	ug/L	ug/L	ug/L
EXPLOSIVES	HMX	400	0.19 U	0.19 U	2.6
EXPLOSIVES	RDX	2	0.093 J	0.19 U	5.1
	1,1,2-Trichloro-1,2,2-				
VOLATILES	trifluoroethane (Freon 113)	59000	57.5	9.3	87.8
VOLATILES	1,1-Dichloroethene	7	1 U	1 U	1 U
	2-Butanone / Methyl Ethyl				
VOLATILES	Ketone	4000	5 U	5 U	5 U
VOLATILES	Acetone	5500	5.4 J	25 U	5.9 J
VOLATILES	Methylene chloride	5	5 U	5 U	5 U

(1) Groundwater screening criteria includes, in order of descending priority, the Maximum Contaminant Level, Health Advisory Levels, and USEPA Region IX tap water Preliminary Remediation Goals. Shaded and bold cell indicates concentration exceeds the screening criteria. For metals analysis, screening was conducted only for dissolved results.

Blank results field indicates the constituent was not analyzed.

REG - Regular sample. Not a quality assurance sample.

FD - Field Duplicate

B - Analyte concentration detected above the method detection limit but below the reporting limit.

U - Not detected

J - The analyte concentration estimated.



FIGURES



APPENDIX A

GROUNDWATER SAMPLING FIELD DOCUMENTATION

Sample Collection Field Sheets



Sample Collection Sheets are included in the electronic version only





Purged (liters) (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft) L Δ Δ Δ 7.48 L Δ σ Δ G Δ - 3 Δ Δ 1 4 L 40 6.76 3 L 5 3 C 7.14 L 7 1 6 G 7 6 - 4 5 M L 5 3 L 3 Δ 4.5 Μ 3 L 5 3 C 7.16 H 6 L G 7 5 - 7 5 M L 5 3 G 7 L L 5 3 G 7 L L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3 L 5 3	
Sample Method: Peristaltic Pump Sample Media: groundwater Sample QA Split: Split Sample No. Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Depth to Water (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well Background Purge Rate (literSpinin) Breathing Zone Level of Drawdown (ft BTOC) Well Head Amount Preservative Amount Purged (liters) FIELD MEASUREMENTS Time Amount PH Temperature Conductivity ORP DO Turbidity Water Preservative Prese	
Sample QA Split: Split Sample No. Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846-8330) WELL PURGING DATA Date Well Depth (fi BTOC) Time Started Depth to Water (ti BTOC) Time Completed Water Column Length Purge Rate (liters/min) Breathing Zone Level of Drawdown (fi BTOC) Well Depth (fi BTOC) Purge Rate (liters/min) Breathing Zone Level of Drawdown (fi BTOC) FIELD MEASUREMENTS Time Amount pH Temperature Conductivity ORP (mg/L) (NTU) Elevation (fi) Sample QC Duplicate: Duplicate Sample No. Sample QC Duplicate: Duplicate Sample No.	
Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846-8330) WELL PURGING DATA Date Explosives (SW-846-8330) Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length Volume of Water in Well Background Breathing Zone Level of Drawdown (ft BTOC) Well Head Amount Purge Rate (liters/min) ETELD MEASUREMENTS Time Amount PH Temperature Conductivity ORP (mg/L) (NTU) (mg/L) (NTU) (mg/L) (NTU) (mg/L) (NTU) (mg/L) (NTU) (mg/L) (ntr)	
MS/MSD Requested:	
Sample Container	
Sample Container	
Sample Container	
WELL PURGING DATA	
Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Water Column Length Volume of Water in Well Background Purge Rate (liters/min) Evel of Drawdown (ft BTOC) Water Column Length Purged (liters) Evel of Drawdown (ft BTOC) Well Head Amount Purged (liters) Purged (liters) Well Purged (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft) (Iters) (I	
Date Well Depth (ft BTOC)	
Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Water Column Length Volume of Water in Well Background Purge Rate (liters/min) Evel of Drawdown (ft BTOC) Water Column Length Purged (liters) Evel of Drawdown (ft BTOC) Well Head Amount Purged (liters) Purged (liters) Well Purged (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft) (Iters) (I	
Depth to Water (ft BTOC) S	
Time Completed Water Column Length PID Measurements Volume of Water in Well Purge Rate (liters/min) Evel of Drawdown (ft BTOC) Amount Purged (liters)	
Time Completed Water Column Length PID Measurements Volume of Water in Well Purge Rate (liters/min) Eevel of Drawdown (ft BTOC) Amount Purged (liters) FIELD MEASUREMENTS Time Amount PH Temperature Conductivity ORP (mg/L) (NTU) Elevation (ft) (liters) (ft) (mg/L) (NTU) Elevation (ft) (ft)	
Background Breathing Zone Level of Drawdown (ft BTOC)	
Breathing Zone Level of Drawdown (ft BTOC)	
Breathing Zone Level of Drawdown (ft BTOC)	
Well Head Amount Purged (liters)	
Time	
Purged (liters) (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft) LDD6 7.345 LDe51 GG -32.4 λ-19 L40 6.76 3 LDD6 7.24 L276 GG -15.4 L53 L32 4.54 3 LDD6 7.24 L276 GG -15.4 L53 L32 4.54 3 LDD6 7.16 L5.55 GG GG -14.6 0.70 10.02 1 LDD7 7.16 L5.73 GG -3.2 L59 0.70 10.76 1 LDD7 1.56 B/5.94 GG -3.7 L.59 0.66 11.78 1 LDD7 1.56 B/5.94 GG -3.7 L69 0.63 R.77 1 LDD7 1.57 L69 -3.0 L.59 0.58 L273 1 LBD5 7.17 L69 -3.0 L99 0.59	
Purged (liters) (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft) L Δ Δ δ 7 Δ β 1 Δ δ β 6 6 7 7 7 4 1	ater Purge
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	vation Rate
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1620 7.18 16.56 677 -1.8 1.53 0.58 13.59 7.	44 75
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FIELD EQUIPMENT AND CALIBRATION	
·	~ · · · · · · · · · · · · · · · · · · ·
Water Quality Meter YSI Model 556 with FT Cell Twice Daily Calibration Verification also Calibrated Week	Cambrated Weekly
GENERAL COMMENTS	
Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through C	Flow Through Cell
Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =	
Turbidity of Sample = Notes:	



Project Name				74								
Location:	<u>.</u>			Project No.				***************************************				
Date/Time Co	_31a	7 K/4-7		Well No.	-J. J. J	40 1	lene /					
Sampling Met		WS/07		Personnei	All lates	AL						
				Sample Media								
Sample QA S	=			Split Sample No.			***************************************	***************************************				
Sample QC D	-	<u>L</u>		Duplicate Sample No.								
MS/MSD Req	-			MS/MSD Sample No.								
		S, PRESE	ERVATIVES, A	ANALYSIS	***************************************							
Sample Cont			reservative		Analysis /	Requested						
						****	-		•			
<u> </u>												
												
WELL PURO	JING DATA	k										
Date Time Started				Well Depth (ft BTOC		-		***************************************				
Time Started	البيدة.		1655	Depth to Water (ft BT								
PID Measuren	.CU manfe	I	1675	Water Column Length				-				
Background				Volume of Water in W				***************************************				
Breathing Z		***************************************		Purge Rate (liters/min)								
Well Head	One	****		Level of Drawdown (f Amount Purged (liters)		***************************************						
FIELD MEAS	CHDEMEN'	TO		Amount rurged (more	<u>.) </u>							
Time	Amount	pH	Temperature	T Can de ativity	- aao T		T - 1:15					
1 131100	Amount Purged	(SU)	(°C)		ORP	DO (ma/L)	Turbidity		Purge			
İ 1	(liters)	1 (30)	(6)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate			
(630	(1,100,10)	7.18	16.82	47.4	1 - 1/2	2 1.54 0.58 B.26 75						
1635		7,17	16.44	677	17/6	13.0 0.5 13.96 75						
3 80 00			130-11		+***-	£ 4 3 5 mm	1212	1-12-14				
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FIELD EQUI	PMENT AN				<u> </u>							
		Mod			<u>Calibration</u>	<u>.</u>						
Water Level Pr		-	pe Indicator		Checked Ag	gainst Calibra						
Water Quality			I Model 556 wit					n also Calibrate	ed Weekly			
GENERAL C			****									
Ferrous Iron =		Y	. SI 556 Multi-P	Parameter Probe Unit #		Field Param	ieters Measu	ired in Flow Th	hrough Cell			
Pump Placemer				Well Diameter (in.) =		Screen Inter	rval (ft BTOC	C) =				
Turbidity of Sa	mple =		7	Notes:					,			



Sample QC Duplicate: MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Water Column Length
Sampling Method: Well Wizard Sample Media: groundwater Sample QA Split: Split Sample No. Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
Sample QA Split: Split Sample No. Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Started Water Column Length PID Measurements Volume of Water in Well
Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
Sample Container Preservative Analysis Requested (2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
(2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330) WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
WELL PURGING DATA Date Well Depth (ft BTOC) Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
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Time Started Depth to Water (ft BTOC) Time Completed Water Column Length PID Measurements Volume of Water in Well
Time Completed Water Column Length PID Measurements Volume of Water in Well
PID Measurements Volume of Water in Well
Background Purge Rate (liters/min)
Breathing Zone Level of Drawdown (ft BTOC)
Well Head Amount Purged (liters)
FIELD MEASUREMENTS
Time Amount pH Temperature Conductivity ORP DO Turbidity Water Purgater (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft)
1241 13.51 752 -46.7 3.26 1.60 400
1246 7.00 12.84 560 -1.2 1.24 1.18 12.83 201
1251 630 13.99 259 -6.7 1.43 0.45 15.11 250
1236 6A5 1535 760 +16 172 0.32 13109 25
1301 6.85 1213 764 721 ,20 0.25 12.84 100
1506 6.85 (5.94 768 + 6.7 0.24 13.00 100
130 697 652 763 + 69 60 ON 1294 75
$oldsymbol{\Gamma} = oldsymbol{\Gamma} = oldsymbol{\Gamma$
1331 68 17.79 763 +30 655 0.11 13.73 100 1332 843 8 15 773 +413 50 005 3.63 50
1321 689 17.79 763 +30 155 0.11 12.72 100 1326 243 8 25 773 +413 50 005 2.63 50
1321 6AP 17.79 763 +3.0 ,55 0.11 12.72 100 1326 640 13.25 763 +412 ,50 0.05 12.62 50 1331 648 1414 769 +3.5 ,54 0.11 12.48 50
1321 6AP 17.79 763 +3.0 ,55 0.11 12.72 100 1326 640 13.25 763 +412 ,50 0.05 12.62 50 1331 648 1414 769 +3.5 ,54 0.11 12.48 50
1324
1321 689 17.79 763 +3.0 ,56 0.11 12.72 100 1326 643 19.14 169 +3.5 ,50 0.05 12.62 50 1331 643 19.14 169 +3.5 ,54 0.11 12.14 50 1376 649 11.24 775 75.7 ,61 0.16 12.69 100
13 6 6 17 7 76 43 55 0 1 13 7 10 13 16 13 16 13 16 13 16 13 16 13 16 13 16 16
13 6 6 7 7 76 76 73 85 0 1 13 7 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 13
13 6 6 7 7 76 76 73 55 0 1 13 7 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 10 13 13
13 14 17 16 18 18 18 18 18 18 18
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13 14 17 16 16 16 16 16 16 16
13 14 17 16 18 18 18 18 18 18 18
13 14 17 16 16 16 16 16 16 16



2 of 2

Project Name	5:			Project No.							
Location:				Well No.	7/1/	~ <i>50</i>	Tom. I				
Date/Time C		15407		Personnel	MY5/AC						
Sampling Me	ethod:			Sample Media							
Sample QA S	Split:] s	plit Sample No.							
Sample QC I	Duplicate:] r	Suplicate Sample No.				,			
MS/MSD Re	quested:]	AS/MSD Sample No.	-						
SAMPLE C	ONTAINER	S, PRESE	RVATIVES, A	NALYSIS							
Sample Con	tainer	Pr	eservative		Analysis I	Requested					
	······································										
									<u> </u>		
WELL PUR	GING DATA	7					··········				
Date				Well Depth (ft BTO							
Time Started	_			Depth to Water (ft B'							
Time Comple				Water Column Lengt							
PID Measure				Volume of Water in \							
Backgroun				Purge Rate (liters/mir							
Breathing 2				Level of Drawdown (
Well Head				Amount Purged (liter	8)						
FIELD MEA	SUREMEN	TS									
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge		
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate		
	(liters)	, , , , , , , , , , , , , , , , , , ,						(ft)			
1246		10.96	15.39	760	5.9	147	1).06	13.12	100		
1551	2/4/-	1997	75,79	761	5.5	5 141 0.06 12.46 180					
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FIELD EQU	IPMENT AN	D CALIB	RATION			*	<u> </u>				
		Mo	del		Calibration						
Water Level P	Probe	Slo	pe Indicator		Checked A	gainst Calibi	rated Length				
Water Quality	Meter		Model 556 wi	th FT Cell				n also Calibra	ated Weekly		
GENERAL C					4rW1		+ ++++++++++++++++++++++++++++++++	· miov velitjië	eve ffvaly		
Ferrous Iron =			'SI 556 Multi-P	arameter Probe Unit #	į	Field Paran	retere Meser	red in Flow	Through Cell		
Pump Placeme				Well Diameter (in.) =			rval (ft BTO		i mongh celi		
Turbidity of S				Notes:		-vivon mic	· • • • • • • • • • • • • • • • • • • •	~			
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Date/Time Collected: 6/6/57 Personnel: MM/4 C Sampling Method: Hurricane-Mysosa Sample Media: groundwater Sample QA Split: Split Sample No. Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	Project Name: IAAAP Project No. 114622-2703									
Sample QA Split: Split Sample No.	Location:Middletown, Iowa	Well No.	JAW-602 (Line 1)							
Sample QA Split:	Dute, into conceed, by 2/2/1									
Sample QC Duplicate:	Sampling Method: Hurricane	Mercedon Sample Media:	groundwater							
MS/MSD Requested: MS/MSD Sample No.	Sample QA Split:	Split Sample No.								
SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative Metals-Diss (Lab will filter and preserve)	Sample QC Duplicate:	Duplicate Sample No.								
None, Cool to 4°C Metals-Diss (Lab will filter and preserve)	MS/MSD Requested:	MS/MSD Sample No.								
WELL PURGING DATA Date Tuning Started Depth (if BTOC) Depth to Water (if BTOC) Depth to Water (if BTOC) Water Column Length Volume of Water in Well Depth (if BTOC) Water Column Length Depth (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC) Water (if BTOC)	SAMPLE CONTAINERS, PRESER	VATIVES, ANALYSIS								
WELL PURGING DATA Date Tank O Well Depth (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water (ft BTOC) Depth to Water			Analysis Requested							
Date	(1) 500 ml Poly None	, Cool to 4°C	Metals-Diss (Lab will filter and preserve)							
Date										
Date										
Date										
Date										
Date										
Date										
Date	WELL PURGING DATA									
Time Completed Time Completed Water Column Length Water Column Length Purge Rate (liters/min) Breathing Zone Well Head FIELD MEASUREMENTS Time Amount Purged (liters) Time Amount Purged (l		Well Depth (ft BTOC)							
Time Completed Water Column Length Volume of Water in Well										
PID Measurements Background Purge Rate (liters/min) Elevel of Drawdown (ft BTOC) Turbidity Water Purge Conductivity ORP DO Turbidity Rate Purge (liters) Turbidity Rate Purge Rate Pur										
Background Breathing Zone Level of Drawdown (ft BTOC) Amount Purged (liters) Amount P										
Level of Drawdown (ft BTOC) Amount Purged (liters) 1.76 Section Purged Rate Purged (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) (ft) Rate Rate (liters) 1.72 (3.33) (5.84 6.84 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6.94 6			***************************************							
Well Head										
FIELD MEASUREMENTS			1 3/4 5 2 4							
Time Amount pH Temperature Conductivity ORP DO Turbidity Water Purge Rate (SU) ((Iliers) 1.2 (1.5) (Iliers) 1.2 (Iliers) 1.		Amount Purged (mers) राष्ट्रिक विकास							
Purged (SU) (°C) (µS/cm) (mV) (mg/L) (NTU) Elevation (ft) (ft) (liters) 1.2 (°C) (µS/cm) (mV) (mg/L) (NTU) Elevation (ft) (ft) (mMN) (mg/L) (liters) 1.2 (mV) (mg/L) (my/L) (mg/L) (m			Do T LUE Notes Doros							
(liters) 1.1 1.1 1.2 1.3 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4 1.4										
Color	Purged (SU)		(mV) (mg/L) (N1U) Elevation M Rate							
13			(1)							
1	941. 1 7.36									
C C C C C C C C C C										
1002	$\begin{bmatrix} a_{52} & 1 & 17.321 \end{bmatrix}$	13,33 687	-68,6 0.41 0.54 EOA1 500							
1007	967 30 7.33	13.36 689								
10 2	1002 1 7.34		1-81.6 617 0,20 20,46 450							
10 2			1-83.1 0.25 1/17 20AB 450							
1			-83.0 013 0.21 WA9 500							
10 2			-075 0·12 0.23 2050 500							
FIELD EQUIPMENT AND CALIBRATION Water Level Probe Water Quality Meter Water Quality Meter Slope Indicator Water Quality Meter Water COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =			-878 O.11 0,20 2052 500							
FIELD EQUIPMENT AND CALIBRATION Water Level Probe Water Quality Meter Water Quality Meter Slope Indicator Water Quality Meter Water COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =		12.70 690	-90.0 0.11 0.00 20.54 500							
FIELD EQUIPMENT AND CALIBRATION Model Water Level Probe Water Quality Meter Water Quality Meter Slope Indicator Water Quality Meter YSI Model 556 with FT Cell Twice Daily Calibration Verification also Calibrated Weekly GENERAL COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =		12 4 3 1.80								
FIELD EQUIPMENT AND CALIBRATION Model Water Level Probe Water Quality Meter Water Quality Meter Slope Indicator Water Quality Meter Water Quality Meter YSI Model 556 with FT Cell Twice Daily Calibration Verification also Calibrated Weekly GENERAL COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =										
FIELD EQUIPMENT AND CALIBRATION Model Calibration										
Model Calibration Water Level Probe Slope Indicator Checked Against Calibrated Length Water Quality Meter YSI Model 556 with FT Cell Twice Daily Calibration Verification also Calibrated Weekly GENERAL COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =		DATION								
Water Level Probe Water Quality Meter Water Quality Meter Slope Indicator YSI Model 556 with FT Cell Twice Daily Calibration Verification also Calibrated Weekly GENERAL COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =			Calibratian							
Water Quality Meter YSI Model 556 with FT Cell Twice Daily Calibration Verification also Calibrated Weekly GENERAL COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =										
GENERAL COMMENTS Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =	1									
Ferrous Iron = YSI 556 Multi-Parameter Probe Unit # Field Parameters Measured in Flow Through Cell Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =		Model 556 with FT Cell	Twice Daily Calibration Verification also Calibrated weekly							
Pump Placement Depth= Well Diameter (in.) = Screen Interval (ft BTOC) =										
Tump I meesses Depar-										
Turbidity of Sample = Notes:	Pump Placement Depth=	Well Diameter (in.) =	Screen Interval (ft BTOC) =							
	Turbidity of Sample =	Notes:								
	I .									





Project Nam				Project No.	T14622-2	703			
Location:Mi			· · · · · · · · · · · · · · · · · · ·	Well No.		(Line 1)			
Date/Time C		<u> </u>		Personnel:	MILES /	AW/E	/		
Sampling Mo	ethod:	PE(2)	KST AUC	Sample Media:	groundwat	er			
Sample QA 5	Split:] :	Split Sample No.		:			
Sample QC I	Ouplicate:] .	Ouplicate Sample No.					
MS/MSD Re	quested:] .	MS/MSD Sample No.					
SAMPLE C	ONTAINER	S. PRESE	ERVATIVES,	ANALYSIS					
Sample Con	tainer		eservative		Analysis I	Remnested			
(2) I Liter Aı	mber Glass	No	one, Cool to 4°0	7		(SW-846 83	330)		

VELL PUR	GING DAT		-						
Date		_あす	une 07.	Well Depth (ft BTO	C)				
Time Started		Ling		Depth to Water (ft BT		Æ	15 H	3 ⁵	
ime Comple	ted			Water Column Length			! (<i>9 //</i>	<u>*</u> *	
ID Measure				Volume of Water in V				***************************************	
Backgroun				Purge Rate (liters/min			****		
Breathing 2				Level of Drawdown (1					
Well Head	Some			`					
IELD MEA	SUDEMEN	TS	- /	Amount Purged (liters	3)				
Time	Amount	pH	Temperature	Candinativa	Tonn		Las rein		
	Purged	(SU)		Conductivity	ORP	DO	Turbidity	Water	Purge
	(liters)	(30)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
4/14	(nters)	e7 //	1217		 	7.5.2		(ft)	
9/4		44	17:10	728		g	5/4	6.63	10 F 1 2 2
		47	13.37	7/3	1267	.47	2.96	7.05	
44.		2/1/6	13.62	<i>予例</i>	26.0	10.153	5.62	2.55	100
424		Torke	GARRI NEI	- WAET 10-6	151M/16	Les Alla	MUP ZOIT		
425		11/10	14.45	703	-13,9	I/3	$\mathcal{M} \rightarrow \mathcal{N}$	57,19	100
430		7,03	13.74	747	-13.5	1/53	4:10	7.37	120
435		7.02	13,30	753	-17,3	,47		7,51	120
	6.70	Wex	9470 - 1110	rd low to b	1/6	CORP. 109	With the	5 MM	
102		17./75	15.43	739	1-20.6	2.63	7.6.2	7.47	1.780
1026		7.03	14,13	7.69	-54.3	1.75	491	7,63	100
1031		7,02	14.47	745	-65.0	,40	5,25	7.71	75
036		7.03	15.06	742	41.6		4.99	7,79	50
1041		7.03	15,40	734	-65.9	.46 .30	4.00	7,46	30
IELD EQUI	PMENT AN		BRATION	* Z Z	1 10 71 0	x JU	J 16/7	61 20	مرا تب
•		Mod			Calibration				
ater Level P	robe		e Indicator			gainst Calibr	ated Laneth		
ater Quality			Model 556 wi	th FT Cell				n also Calibra	stad Washler
ENERAL C		3		ura i sali	1 MICC Dall	y Cambranor	v chincation	n aiso Canbra	ieu weekiy
errous Iron =			SI 556 Maria B	arameter Probe Unit #		Eksta n	atana 3 4 : ::		Ph
ımp Placeme	nt Denth-	1	G. JJO MIGHT		*****			red in Flow T	nrough Cell
urbidity of Sa				Well Diameter (in.) =		Screen Inter	vai (II BTO	し) =	
morning (3) Of	mpr =	·····		Notes:					
			-						
			-						





Project Name	,• !•				2-202							
Location:				Well No.	62-14	(lake	.()					
Date/Time Co		5/67	1046	Personnel	MARCY PAIN							
Sampling Me	thod:	~		Sample Media	. (73							
Sample QA S	_]	Split Sample No.	*							
Sample QC D	uplicate:] r	Duplicate Sample No.								
MS/MSD Red	quested:		Ĭ 1	MS/MSD Sample No.								
SAMPLE CO	INTAINER	PRESE	RVATIVES, A	•		-						
Sample Cont			eservative	WALISIS	A 8							
Sample Com	AIHCI	ER	SELANTIAE		Analysis R	<u>equested</u>	-					
	wit		···········									
	**************************************) 					<u> </u>					
					***		*******		****			

WELL PUR	GING DATA	k.										
Date Time Started				Well Depth (ft BTOC								
Time Started	ted			Depth to Water (ft BT Water Column Length								
PID Measurer			****	Volume of Water in W	ı Vell				жжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжж			
Background				Purge Rate (liters/min								
Breathing 2				Level of Drawdown (f			*.*	*****				
Well Head			***************************************	Amount Purged (liters				***************************************				
FIELD MEA	SUREMEN	rs			<u> </u>			******				
Time	Amount	pН	Temperature		ORP	DO	Turbidity	Water	Purge			
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate			
2 star 1 to 12	(liters)				1 ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>		(ft)	ML/Mn			
1046	(p	7,09	15,43	733	1-66/2	19 4.94 7.94 50						
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FIELD EQUI	TO SEES OF A SE							<u> </u>				
FIELD EQUI	PMENI AN				47% EME							
Water Level P	rohe	<u>Moc</u>	<u>uei</u> pe Indicator		Calibration	i Caliba						
Water Quality		-	pe indicator I Model 556 wi	al et can	Checked Ag			- 3 A -15	* **** *			
GENERAL C			MORICI JJU WI	M F I CEII	I WICE Daily	' Calibranon	i Venncanor	n also Calibra	ited Weekly			
Ferrous Iron =			'SI 556 Multi-I	Parameter Probe Unit #		Ciald Daram	atom Magen	d in Flour	Through Cell			
Pump Placeme			M	Well Diameter (in.) =			rval (ft BTO		i nrough Cen			
Turbidity of Sa				Notes:		DVIVVII ALIEWA	Variation.	<u>-)</u>				

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7.35 7.37 3.91 851 6.00 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.3	C) TOC) th Well n) ft BTOC) s) ORP (mV)	CLine 2) Vater Requested Diss (Lab w DO (mg/L)	I rill filter and	O.063	Purge
Sampling Method:	C) TOC) th Well n) ft BTOC) s) ORP (mV)	Requested Diss (Lab w	I rill filter and	O.063	Purse
Sample QA Split: Split Sample No. Sample QC Duplicate: Duplicate Sample No. MS/MSD Requested: MS/MSD Sample No. SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative 1) 500 ml Poly None, Cool to 4°C Well Depth to Water (ft BT October 10 Masurements Background Breathing Zone Well Measurements Breathing Zone Well Measurements Breathing Zone Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth to Water (ft BT October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Depth (ft BTOC October 10 Masurements) Well Dept	C) TOC) th Well n) ft BTOC) s) ORP (mV)	Bequested Diss (Lab w	I rill filter and	O.063	Purse
Sample QC Duplicate: Duplicate Sample No.	C) TOC) th Well n) ft BTOC) s) ORP (mV)	Bequested Diss (Lab w	26 Turbidity	O.063	Purse
Sample QC Duplicate: Duplicate Sample No.	C) TOC) th Well n) ft BTOC) s) ORP (mV)	DO (mg/L)	26 Turbidity	O.063	Purse
MS/MSD Requested: MS/MSD Sample No. Mell Depth (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Mell Depth (ft BTOC Depth to Water (ft BTOC Depth to Water (ft BTOC Mell Depth (ft BTOC Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (iters/min) Level of Drawdown (f Amount Purged (liters) Furge Rate (liters/min) Level of Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Mell Depth to Water (ft BTOC Me	C) TOC) th Well n) ft BTOC) s) ORP (mV)	DO (mg/L)	26 Turbidity	O.063	Purse
MS/MSD Requested: MS/MSD Sample No. Mel Depth (ft BTOC Depth to Water (ft BT Water Column Length Volume of Water in W Purge Rate (liters/min) Level of Drawdown (f Amount Purged (liters) (ILL by Mary Level of Drawdown (f Amount Purged (liters) (ILL by Mary Level of Drawdown (f Amount Purged (liters) (ILL by Mary Level of Drawdown (f Mell Depth (ft BTOC Depth to Water Column Length Volume of Water in W Purge Rate (liters/min) Level of Drawdown (f Amount Purged (liters) (ILL by Mary Level of Drawdown (f Mell Depth (value of No. Well Depth (ft BTOC Depth to Water Column Length Water Column Length Note: Column Length Water Column Length Note: Column Length Well Depth (value of No. Well Depth	C) TOC) th Well n) ft BTOC) s) ORP (mV)	DO (mg/L)	26 Turbidity	O.063	Purse
SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container Preservative	C) TOC) th Well n) ft BTOC) s) ORP (mV)	DO (mg/L)	26 Turbidity	O.063	Purse
SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS Sample Container 1) 500 ml Poly None, Cool to 4°C WELL PURGING DATA Date Time Started Time Started Time Completed PD Measurements Background Breathing Zone Well Head TELD MEASUREMENTS Time Amount Purged (liters) Time Amount Purged (su) (liters) Time Amount Purged (su) (su) (su) (su) (su) (su) (su) (su)	C) TOC) th Well n) ft BTOC) s) ORP (mV)	DO (mg/L)	26 Turbidity	O.063	Purse
None, Cool to 4°C	Metals-D C) TOC) th Well n) ft BTOC) s) ORP (mV) -41.1 -149.3	DO (mg/L)	26 Turbidity	O.063	Purse
None, Cool to 4°C	Metals-D C) TOC) th Well n) ft BTOC) s) ORP (mV) -41.1 -149.3	DO (mg/L)	26 Turbidity	O.063	Purse
Vell Purging Data Vell Depth (ft BTOC Depth to Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water Column Length Volume of Water in Water in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water Column Length Volume of Water in Water Column Length Volume of Water in Water (ft BTOC Depth in Water Column Length Volume of Water in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water Column Length Volume of Water in Water (ft BTOC Depth in Water Column Length Volume of Water in Water (ft BTOC Depth in Water Column Length Volume of Water in Water Column Length Volume of Water in Water Column Length Volume of Water in Water Column Length Volume of Water in Water Column Length Volume of Water in Water Column Length Volume of Water in Water Column Length Volume of Water in Water Column Length Volume of Water in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in Water (ft BTOC Depth in	Metals-D C) TOC) th Well n) ft BTOC) s) ORP (mV) -41.1 -149.3	DO (mg/L)	26 Turbidity	O.063	Purse
WELL PURGING DATA Date Continue Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started Started	C) TOC) th Well n) ft BTOC) s) ORP (mV) -4/.1 -/40.3	DO (mg/L)	26 30 +0	O.063	Purse
Date 45/47 Well Depth (ft BTOC) Cime Started 70 5 Depth to Water (ft BT) Dime Completed 16 15 Water Column Length Volume of Water in Water (liters/min) Purge Rate (liters/min) Breathing Zone Level of Drawdown (ft Amount Purged (liters) Well Head Amount Purged (liters) Time Amount Purged (SU) (°C) Purged (liters) (SU) (°C) Purged (liters) 7.39 13.96 834 Purged (liters) 7.29 13.37 874 Purged (liters) 7.29 13.37 870 Purged (liters) 9.25 2.74 884 Purged (liters) 9.26 2.74 884 Purged (liters) 9.26 2.74 884 Purged (liters) 9.26 2.74 884 <tr< td=""><td>ORP (mV)</td><td>DO (mg/L)</td><td>30 +0</td><td>Water</td><td>Purse</td></tr<>	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Date 6/5/47 Well Depth (ft BTOC) Time Started 10 / 5 Depth to Water (ft BT) Time Completed 10 / 5 Water Column Length ID Measurements Volume of Water in W Background Purge Rate (liters/min) Breathing Zone Level of Drawdown (f Well Head Amount Purged (liters) IELD MEASUREMENTS Conductivity Time Amount Purged (SU) (°C) (liters) 7.39 / 3.96 3.49 29.15 7.39 / 3.96 3.49 29.15 7.29 / 3.37 3.70 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.52 29.25 7.32 / 4.23 3.52 29.25 7.35 / 5.26 84.7 29.25 7.35 / 6.05 84.7 29.25 7.35 / 6.05	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Date 6/5/47 Well Depth (ft BTOC) Time Started 10 / 5 Depth to Water (ft BT) Time Completed 10 / 5 Water Column Length ID Measurements Volume of Water in W Background Purge Rate (liters/min) Breathing Zone Level of Drawdown (f Well Head Amount Purged (liters) IELD MEASUREMENTS Conductivity Time Amount Purged (SU) (°C) (liters) 7.39 / 3.96 3.49 29.15 7.39 / 3.96 3.49 29.15 7.29 / 3.37 3.70 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.52 29.25 7.32 / 4.23 3.52 29.25 7.35 / 5.26 84.7 29.25 7.35 / 6.05 84.7 29.25 7.35 / 6.05	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Date 45/47 Well Depth (ft BTOC) Cime Started 70 5 Depth to Water (ft BT) Dime Completed 16 15 Water Column Length Volume of Water in Water (liters/min) Purge Rate (liters/min) Breathing Zone Level of Drawdown (ft Amount Purged (liters) Well Head Amount Purged (liters) Time Amount Purged (SU) (°C) Purged (liters) (SU) (°C) Purged (liters) 7.39 13.96 834 Purged (liters) 7.29 13.37 874 Purged (liters) 7.29 13.37 870 Purged (liters) 9.25 2.74 884 Purged (liters) 9.26 2.74 884 Purged (liters) 9.26 2.74 884 Purged (liters) 9.26 2.74 884 <tr< td=""><td>ORP (mV)</td><td>DO (mg/L)</td><td>30 +0</td><td>Water</td><td>Purse</td></tr<>	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Date 45/47 Well Depth (ft BTOC) Cime Started 70 5 Depth to Water (ft BT) Dime Completed 16 15 Water Column Length Volume of Water in Water (liters/min) Purge Rate (liters/min) Breathing Zone Level of Drawdown (ft Amount Purged (liters) Well Head Amount Purged (liters) Time Amount Purged (SU) (°C) Purged (liters) (SU) (°C) Purged (liters) 7.39 13.96 834 Purged (liters) 7.29 13.37 874 Purged (liters) 7.29 13.37 870 Purged (liters) 9.25 2.74 884 Purged (liters) 9.26 2.74 884 Purged (liters) 9.26 2.74 884 Purged (liters) 9.26 2.74 884 <tr< td=""><td>ORP (mV)</td><td>DO (mg/L)</td><td>30 +0</td><td>Water</td><td>Purse</td></tr<>	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Date 6/5/47 Well Depth (ft BTOC) Time Started 10 / 5 Depth to Water (ft BT) Time Completed 10 / 5 Water Column Length ID Measurements Volume of Water in W Background Purge Rate (liters/min) Breathing Zone Level of Drawdown (f Well Head Amount Purged (liters) IELD MEASUREMENTS Conductivity Time Amount Purged (SU) (°C) (liters) 7.39 / 3.96 3.49 29.15 7.39 / 3.96 3.49 29.15 7.29 / 3.37 3.70 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.52 29.25 7.32 / 4.23 3.52 29.25 7.35 / 5.26 84.7 29.25 7.35 / 6.05 84.7 29.25 7.35 / 6.05	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Date 6/5/47 Well Depth (ft BTOC) Time Started 10 / 5 Depth to Water (ft BT) Time Completed 10 / 5 Water Column Length ID Measurements Volume of Water in W Background Purge Rate (liters/min) Breathing Zone Level of Drawdown (f Well Head Amount Purged (liters) IELD MEASUREMENTS Conductivity Time Amount Purged (SU) (°C) (liters) 7.39 / 3.96 3.49 29.15 7.39 / 3.96 3.49 29.15 7.29 / 3.37 3.70 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.12 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.59 29.25 7.30 / 4.52 3.52 29.25 7.32 / 4.23 3.52 29.25 7.35 / 5.26 84.7 29.25 7.35 / 6.05 84.7 29.25 7.35 / 6.05	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Time Started Time Completed Time Completed Time Completed Time Background Breathing Zone Well Head Time Amount Purged (SU) (Iters) Time Amount Purged (Iters) (Iters/min) Level of Drawdown (from Manual Purged (Iters/min) (Iters/min) Level of Drawdown (from Manual Purged (Iters/min) Level of Drawdown (from Manual Purged (Iters/min) (Iters/min) (Iters/min) (Iters/min) Level of Drawdown (from Manual Purged (Iters/min) (Iters/min) (Iters/min) Water Column Length Purge Rate (liters/min) Level of Drawdown (from Water in Water (Iters/min) House of Water in Water (Iters/min) Water Column Length Yolume of Water in Water Column Length Purge Rate (liters/min) Level of Drawdown (from Water in Water Column Length Yolume of Water in Water Column Length Purge Rate (liters/min) Level of Drawdown (from Water in Water Column Length Yolume of Water in Water Column Level of Drawdown (from Water In Water Column Length Yolume of Water in Water Column Length Yolume of Water in Water Column Length Yolume of Water In Water Column Length Yolume of Water In Water Column Length Yolume of Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In Water In	ORP (mV)	DO (mg/L)	30 +0	Water	Purse
Time Completed 16 i	h Well (n) ft BTOC) s) ORP (mV)	DO (mg/L)	30 +0	Water	Purse
D Measurements	Well n) ft BTOC) s) ORP (mV) -41.1 -150.	DO (mg/L)	Turbidity	Water	Purse
Background Breathing Zone Well Head Field MEASUREMENTS Time	ORP (mV)	DO (mg/L)	Turbidity	Water	Purse
Background Breathing Zone Level of Drawdown (f Well Head Amount Purged (liters)	ORP (mV)	DO (mg/L)	Turbidity	Water	Purse
Breathing Zone Level of Drawdown (f Well Head Amount Purged (liters IELD MEASUREMENTS	ORP (mV)	DO (mg/L)	Turbidity	Water	Purge
Meli Head Amount Purged (liters IELD MEASUREMENTS Time	ORP (mV)	(mg/L)	1 .		Purge
Time Amount Purged (SU) (C) (uS/cm) (uS/cm) (liters) (SU) (C) (uS/cm)	ORP (mV)	(mg/L)	1 .		Purse
Time Amount PH Temperature (SU) (μS/cm) (μS/c	(mV) -41.1 -149.3 -150.	(mg/L)	1 .		Purge
Purged (liters) Purged (liters) 7.37 13.96 23 834 29.10 7.29 13.37 270 29.20 7.30 13.40 261 29.25 7.30 14.12 259 29.35 7.30 14.52 259 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 258 29.40 7.32 14.28 252 29.50 7.33 14.44 252 29.50 7.35 15.26 247 20.05 7.35 16.05 249 ELD EQUIPMENT AND CALIBRATION Model	(mV) -41.1 -149.3 -150.	(mg/L)	1 .		Ригее
(liters) 19.05 7.39 7.39 7.29 7.29 7.29 7.29 7.30 7.30 7.30 7.31 7.30 7.31 7.32 7.30 7.32 7.30 7.32 7.32 7.30 7.31 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.32 7.33 7.33 7.33 7.34 852 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35 7.35	-41.1 -149.3 -150.7		(NITTI)	1 :	
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2910 7 29 12,74 884 2915 9,29 13,37 870 2920 9,30 13,40 861 2925 7,30 14.12 859 2930 7,31 13.54 865 2935 7,30 14.58 858 2940 7,32 14.28 858 2945 7,32 14.28 852 2950 7,33 14.44 852 2955 7,34 13.71 851 2005 7,35 15.26 847 2005 7,35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model	-150,			(ft)	11410
7 28 12,74 884 27.5 7.29 13,37 870 29.20 7.30 13,40 861 29.25 7.30 14.12 859 29.35 7.30 14.58 858 29.40 7.32 14.23 852 29.55 7.32 14.23 852 29.55 7.34 13.71 851 20.55 7.35 15.26 847 20.5 7.35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model	-150,	1.75	7.5	9.26	200 1000
297.5	-150,	****			200 MLS/
29720 9,30 13,40 861 29725 7,30 14.12 859 3930 7,31 13.54 865 2935 7,30 14.58 858 2940 7,32 14.07 8.64 2945 7,32 14.28 852 2950 7,33 14.44 852 2955 7,34 13.91 851 200 7,35 15.26 847 205 7,35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model	-145	// T.		10,6	300 /
2925 7,30 /4. /2 259 2930 7.31 /3. 54 865 2935 7.30 /4. 52 858 2940 7.32 /4. 07 8.64 2945 7. 32 /4. 23 852 2950 7. 33 /4. 44 852 2955 7. 34 /3. 91 851 200 7. 35 /5. 26 847 205 7. 35 /6. 05 849 ELD EQUIPMENT AND CALIBRATION Model		1.30		11.71	175
2930 7.31 13.54 865 2935 7.30 14.58 858 2940 7.32 14.07 8.64 2945 7.32 14.23 852 2955 7.33 14.44 852 2955 7.35 15.26 847 2005 7.35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model				12,52	200
7.30 14.58 858 7.30 14.58 858 7.32 14.07 9.64 7.32 14.28 852 7.50 7.33 14.44 852 7.50 7.34 13.71 851 7.00 7.35 15.26 847 7.00 7.35 16.05 849 ELD EQUIPMENT AND CALIBRATION	-142,2	11/6	0,30	113.15	
7.32 14.07 9.64 2945 7.32 14.23 852 250 7.33 14.44 852 2955 7.34 13.71 851 2005 7.35 15.26 847 2005 7.35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model	-148	1.24	0.30	13,60	175
9945 7,32 14.23 852 950 7.33 14.44 852 9955 7.34 13.71 851 7.35 15.26 847 1005 7.35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model	148.4	11.13	0.75	14 25	175
7, 32 /4.28 852 950 7.33 /4.44 852 9955 7.34 /3.91 851 900 7.35 /5.26 847 905 7.35 /6.05 849 ELD EQUIPMENT AND CALIBRATION Model	755.6	1,70	1.3	14.28	150
29 55 7.34 13.71 851 200 7.35 15.26 847 200 7.35 16.05 849 ELD EQUIPMENT AND CALIBRATION Model	-150.8	1.18	3.0		4
139 13.91 851 851 852 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 853 85	-144.3		1/3	15.16 15.57	100
100 7.35 15.26 847 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 1				12.57	100
ELD EQUIPMENT AND CALIBRATION Model	-142.3		1.4	16.14	100
ELD EQUIPMENT AND CALIBRATION Model	-142,9		1.2	16.35	75
Model Control Puri	-7377	0.74	11.7	16.56	6 5
Store Land David					
RULLCYCI FIUNC Siona Indicator	<u>Calibration</u>				
ope maseum	Checked A	gainst Calil	orated Length	1	
ther Quarity Meter YSI Model 556 with FT Cell	Twice Daily	v Calibratic	n Verificatio	n also Calibra	ated Weekly
CNERAL COMMENTS				arso Cantilli	ALL WEEKIY
Tous Iron = YSI 556 Multi-Parameter Probe Unit #	1/11]			read in Fig.	m
mp Placement Depth= Well Diameter (in.) =		Field Doros		ired in Flow	inrough Cell
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roidity of Sample = Notes;		Field Parar Screen Inte	erval (ft BTO	C) =	
		Field Parar Screen Inte	erval (ft BTO	<u>C) = </u>	
		Field Parar Screen Inte	erval (ft BTO	C) =	



GROUNDWATER FIELD SAMPLING DATA SHEET 547 2/2

Project Nam	ne:)AAH A	D		Project No. 7146	1-77-27	n a					
Location:		11		Well No. 12 C	HAE						
Date/Time C	Collected:	15/07 1	10 15	Personnel O1	DEIRCE						
Sampling M	iethod: PEI	ASTALT	72 Pump		DOJACE		-				
Sample QA S				Split Sample No.	D	AJ NJ					
Sample QC I	Duplicate:			Duplicate Sample No.							
MS/MSD Re				MS/MSD Sample No.	****						
SAMPLE C	ONTAINER	S, PRESF	ERVATIVES, A	ANALYSIS							
Sample Cont	ntainer		reservative	The same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa	Analysis R	Dannested					
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I	RGING DATA		1								
Date		6/00		Well Depth (ft BTO							
Time Started		-/90		Depth to Water (ft B							
Time Comple		101		Water Column Lengt							
PID Measurer				Volume of Water in V							
Background				Purge Rate (liters/mir							
Breathing Z				Level of Drawdown ((ft BTOC)						
Well Head				Amount Purged (liter	rs)			***************************************			
	ASUREMENT										
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation	Purge Rate		
1110	(111010)	17.35	7.35 16,12 253 -135,7 0,90 1.9 16,177 65								
1015_	11	7.35	16.18								
/ 			18,10	6,18 854 -140,8 0.87 3,13 17.00 68							
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THE PAIR	<u></u>					<u> </u>		ı <u> </u>			
FIELD EQUI	IPMENT AN								,		
and and t	··· •	Mod Slam			Calibration						
Water Level Pr			pe Indicator		Checked Age						
Water Quality		<u> </u>	I Model 556 with	n FT Cell	Twice Daily	/ Calibration	Verification	n also Calibrate	.ed Weekly		
GENERAL C			TO THEE SUI BE	=					A		
Ferrous Iron =		ΥΥ		arameter Probe Unit #		Field Param	eters Measur	red in Flow Th	nrough Cell		
Pump Placeme				Well Diameter (in.) =	<i>-</i>	Screen Inter	rval (ft BTOC	J) ==			
Turbidity of Sa	ample ==		<u></u>	Notes:							
			••••								



1002

Project Name				Project No.	T14622-2	2703			
Location:Mic		owa		Well No.	······	Line 2)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Date/Time C	ollected:	[6]5]	ها	Personnel:	005/RC			,,,,	
Sampling Me	ethod: ME	2/67/10	TIC FUMP	Sample Media:	groundwa	***************************************		, , , , , , , , , , , , , , , , , , ,	
Sample QA S	Split:		J ´	Split Sample No.					
Sample QC [Ouplicate:]	Duplicate Sample No.			···		
MS/MSD Re	quested:]	MS/MSD Sample No.					
SAMPLE CO	ONTAINE	RS, PRESE	ERVATIVES,	ANALYSIS				<u> </u>	
Sample Cont	tainer		reservative		Analysis	Requested			
(1) 500 ml Pc	oly	No	one, Cool to 4°	C	Metals-Di	ss (Lab will	filter and pr	reserve)	
	···				***************************************	(Tittor tare pr	C3CI VC)	
									<u></u>
WELL PURO	GING DAT.	1 1 - 1	/						
Date		6/05/0	77	Well Depth (ft BTO	OC)				
Γime Started		1/50	*	Depth to Water (ft B		7.7	· \$		
Time Complet		131	<i>-</i>	Water Column Leng	th		- L	· · · · · · · · · · · · · · · · · · ·	
PID Measurer	ments			Volume of Water in					
Background				Purge Rate (liters/mi		- 100	,		
Breathing Z						0.40	to o	075	
Well Head	CORE			Level of Drawdown	(ft BTOC)				
	CEUDIN (VII)			Amount Purged (lite	rs)	18			
IELD MEA	T		·						
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
	(liters)			, , , , ,	()	(g. 2)	(1110)	1 1	Rate
1150		7.46	14 42	892	-1/8.9	1.62	2.8	(ft)	
1201		9 2 3	13.80		1/2/2			7.65	200 MIL/MI
1206		1231	14,75	765	199.2	0,69	1,4	8.88	150
12.11		1100		472	-151.9	0.63	1.6	9.64	110
		7,36	15/04	9-79	-155,0	0.59	1,5	10.35	
1216		7.37	15.10	98/	-158/	0,59	3,4	11.02	100
1221		7.36	15,63	973	-155.4	0,68	20	11.67	100
12-26		7.42	12,75	929	-1567	0,65	3.6	1430	500
1231		7.47	12.34	894	-164.7	· · · · · · · · · · · · · · · · · · ·	9.9	17 42	300
1236		7,47	12.56	881	-158 9	0,72	5,5	72 72	
1241	14	7.43	13.94	251	F 150 1/3	0111		20.35	500
1246		7 -1			123,4	0,74	3,4	21.70	400
1251		4.30	12,69	826	-137.1	0,68	2,2	24/31	4 <i>00</i>
1251 1256		1.46	13,0/	650	-/34,2		2.4	25,06	160
1636		7,47	14.75	826	-132,4	0,70	2,4	25,46	100
IELD EQUI	PMENT AN	D CALIB	RÁTION				7		
		Mod	<u>del</u>		<u>Calibration</u>				
/ater Level Pr	robe	Slor	oe Indicator		Checked Ag	rainet Colike	stad Lanoth		
ater Quality			Model 556 wi	th FT Cell	Tuina Dalla	Coliberation	World and	alas C 19	. (337)
ENERAL C		```		maa a Con	i wice Dally	Canoranon	vermeation	ı also Calibra	ted Weekly
errous Iron =	TO STRUCK BULL T. E. S.		ST 556 Made 5	tomorodon D. S. Y. S.		D	_		
	nt Dard	Y	or ode Multi-P	arameter Probe Unit #				red in Flow T	hrough Cell
ump Placemer				Well Diameter (in.) =	- 2 "	Screen Inter	val (ft BTO	<u> </u>	
urbidity of Sa	ımple =	·····		Notes:					
									
									······
			···						



2052

Project Name	e: IAAAP			Project No.	/_/T14622-2	7022			
Location:	Middletow	n. Iowa		Well No. Bre 10/	MW-309		<i>= 2 () = 1</i>	= UNE	<u></u>
	ollected: 6/		13/4	Personnel LOS		"	777	- UNC	<u> </u>
Sampling Me				Sample Media	groundwat	er			
				The second second second	<u> </u>	CI			
Sample QA S	Split:]	Split Sample No.					
Sample QC I	Ouplicate:	<u> </u>] 1	Ouplicate Sample No.					
MS/MSD Re	quested:] ,	MS/MSD Sample No.					
SAMPLE C	ONTAINER		RVATIVES, A	NALYSIS					
Sample Cont			eservative		Analysis R				
(2) 1 Liter At	mber Glass	No	ne, Cool to 4°		Explosives	(SW-846 83	330)		
						****		***************************************	
WELL PUR	GING DATA	6/05	5/07	Well Depth (ft BTO					
Time Started	4 · ما	17/5	<u> </u>	Depth to Water (ft B'		7,21	****		
Time Comple PID Measure			16	Water Column Lengt				V. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	
				Volume of Water in					
Backgroun				Purge Rate (liters/min					
Breathing 2	Zone			Level of Drawdown (
Well Head				Amount Purged (liter	s)				
FIELD MEA									
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
1301		7.47	16.07	837	-128.6	0,61	2.9	25.86	75 MOL/MN
1306		7,48	16,26	840	-178,0	0,57	2.6	26:22	75
_(3/)		7,46	15.40	85/	-1431	0166	2.4	26,63	75
1316	4	7 45	15,64	843	-1437	0.65	7 5	27.11	75
	TOTAL	18L	~~~	.f.					
	1 DING	100	PURLE.						

DIET D EOLU	(DATENER AN	D CLEAN							
FIELD EQUI	CENTENT AN				G 22				
Water Level P	roha	Mod Stor			Calibration	1 07 115			
			e Indicator	a transci si	Checked Ag				
Water Quality GENERAL C		191	Model 556 wi	in FT Cell	Twice Daily	Calibration	Verification	also Calibrate	ed Weekly
General C Gerrous Iron =			CI 554 Maile: r			Er LLE			
Pump Placeme		Y	21 220 Miniti-F	arameter Probe Unit #	·····			red in Flow Th	irough Cell
Turbidity of Sa				Well Diameter (in.) =	2 //	Screen Inter	val (ft BTOC	<u> </u>	
Caronally Of De	a.1112/16 —			Notes:					



Project Name		···		Project No.	T14622-2	703			
Location:Mic				Well No.	L2-MW5	(Line 2)			
Date/Time Co			1125	Personnel: RA					
Sampling Me	thod:	Peristalti	c Pump	Sample Media:	groundwa	ter			
Sample QA S	plit:			Split Sample No.					
Sample QC E	Ouplicate:]	Duplicate Sample No.					·····
MS/MSD Rec	quested:	X		MS/MSD Sample No.	121	VINS	LINE	2)	
SAMPLE CO	ONTAINEI	S. PRESE	ERVATIVES,	ANAT VCIC					
Sample Cont	ainer		eservative	WILLY FORD	Analysis I	hatzannaC			
(1) 500 ml Po			one, Cool to 4°	C			filter and pr	reserve)	
						30 (******	micraid p.	Cocive	

	·····								
WELL PURG	GING DAT	A	-/-				***************************************		
Date		6/03	5/07	Well Depth (ft BTOC		***************************************			
Time Started	-	110	<u> 70 </u>	Depth to Water (ft BT		12.	26		
Time Comple		113	23	Water Column Length					
PID Measurer				Volume of Water in V					
Background				Purge Rate (liters/min		<u>). 272 5</u>			
Breathing 2	Cone			Level of Drawdown (f					
Well Head				Amount Purged (liters	s)	<i>i 1</i>			
FIELD MEA	SUREMEN	TS							
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Élevation	Purge Rate
1050	X/	7.57	13,99	568	-10.3	2,72	0,00	(ft) 12,42	150 MIL/MIN
1055		7,55	13.97	589	-31.0	1,96		12.45	225
1100		7,53	13.71	598	-99,4	1,00	36,000		728
		7,52	12.44	600	- 45, 8		7,5	12,48	
1110		7,51	13,44	399		0.78		12,49	225
11.75		7,52			-100,0	0,75	2,4	12,50	225
1120		7.51	* *	<u>600</u> 598	-112,9	0.76	2.0	12.51	225
1125	116	7,51			-118.7	0.74	0.40	12,52	27 <u>5</u>
1163	*	1121	<u>/3.57</u>	599	-120.8	0.72	0.40	12.59	<u> 252</u>
		 							
FIELD EQUI	DATEAUS AN	TO CATE	ID A STON						
HELD EQUI	PIMENT A								
Water Level Pr		<u>Moc</u>			Calibration				
	~~~		e Indicator		Checked Ag	gainst Calibr	ated Length		
Water Quality		YSI	Model 556 wi	th FT Cell	Twice Daily	/ Calibration	Verification	n also Calibr	ated Weekly
GENERAL C	OMMENT								
errous Iron =		Y.	SI 556 Multi-P	arameter Probe Unit #		Field Param	eters Measu	red in Flow	Through Cell
Pump Placeme		·····		Well Diameter (in.) =	1 2 2 1 1 m	Screen Inter	val (ft BTO	C) =	
Turbidity of Sa	mple =	·		Notes:	***************************************				
			-						



Project Name:				Project No.	T14622-27	03			
Location:Mid	dletown, Io			Well No.	JAW-54	(Line 3)			
Date/Time Co			1610	Personnel: KD	S/ PCE				
Sampling Met	thod:	Well Wiz	ard	Sample Media:	groundwate	er			
Sample QA S	plit:		] 5	Split Sample No.					
Sample QC D	uplicate:	V	]	Duplicate Sample No.	<u>Jaw</u>	54	LINE	<u>3)</u>	
MS/MSD Req	juested:		] 1	MS/MSD Sample No.					
SAMPLE CO	NTAINER	S PRESE	RVATIVES	ANAL VSIS					
Sample Cont			eservative	PALALAND E DAD	Analysis R	eanested			
(2) 1 Liter Am			ne, Cool to 4°	d		(SW-846 83	330)		
						(2			
			***************************************	<del></del>					
Will Dist	CINC DAT								
WELL PURO Date	GENG DAL	6/5/	10-7	Well Depth (ft BTC	)(C)				
Time Started		77/	1455	Depth to Water (ft B		47	<u> </u>		
Time Started Time Complet	tad		1733	Water Column Leng			3		
PID Measurer			1010	Volume of Water in					
Background				Purge Rate (liters/mi					A
Breathing Z		***************************************		Level of Drawdown					
Well Head	Me			Amount Purged (lite					
FIELD MEA	CHIDDMEN	TO		Amount Furged (me	18)				
	,	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Tamananatana	T Conductivity	Lopp		Tranki dita	Water	D
Time	Amount	pH	Temperature		ORP	DO	Turbidity	ł	Purge
	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
14.55	(Hers)	7.83	10 27	476	- 49	25,09	0.95	(ft) 45,25	100 ML/m
		1:03	12 32	500	-3/3				
1505		7.24	13:47		77.3	2.44	1.10	5,00	700 / · 250
15 10		7.27	13.52	597 559	- 42.4		2.10	3/6	170
15/5			13,58	337	- 26,2	1.55			
1220		<del></del>		482			0,95	5.19	200 150
1525		7.33	13,47	<del> </del>			0.70		150
	<b>-</b>		13.97	452	- 25,2 - 25,3	2111	1.30	5,21	150
1530		7,33 7,32	13.92	423	- 28,9	2114	0.65	5,2/	750
1536	<b></b>	7 3		417		2.01	0.80	5,31	220
1545		2,730	13,65	4/5	- 29.5	1.88 1.88	0,55		200
1550		7.30	12.97	410	- 31.0	7.57			250
1322		7.28	12,60	407	- 29,3		0,60		
FIELD EQUI	PMENT A			1 7 4 1	2 2 7 , 3	4.127	W/ UJ	- S V day /	/ 3 9
1.151315 15001	(# 1444224 F A.	Mo			Calibration				
Water Level P	'rohe		pe Indicator		Checked Ag	rainet Calib	rated Length		
Water Quality			l Model 556 w	ith FT Cell					rated Weekly
GENERAL C			LITERAL TOUR	**** * * * ****	1 7110 1/411)	, vanoi anoi	· · · · · · · · · · · · · · · · · · ·	13 6130V V-831U	xxxxx 17 CVXX1 y
Ferrous Iron =			SI 556 Multi-l	Parameter Probe Unit	#	Field Param	eters Measi	red in Flow	Through Cell
Pump Placeme		1	J. 555 Histii-	Well Diameter (in.)			rval (ft BTO	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	11104811 0011
Turbidity of Sa				Notes:		SOLUCII HIRIU		~3	
			·	~ - ~ CC - W					***************************************
								<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	
				**************************************	<del></del>				
L									



D	***				RU 6/				
Project Nam		1 /2	7-2 17 17	Project No. T14622		703			
Location:Mi Date/Time C			107,1610	Well No. TAW	54(4	NE 3)			
		UE'	<u>e</u>	Personnel: 005	IREE				
i .		TOW WHAT	enstautie pum ¬ <i>ಀ</i> /೯೬೭ <i>।</i>	Sample Media: Gro	undwater				
Sample QA	-Julie			アイファック Split Sample No.					
Sample QC 1	•	) ≽		Duplicate Sample No.	VAW.	154 (	LINE :	š <i>)</i>	
MS/MSD Re		' <u> </u>	<del></del>	MS/MSD Sample No.				<b>V</b>	<u>, , , , , , , , , , , , , , , , , , , </u>
		RS, PRES	ERVATIVES,	ANALYSIS					
Sample Con			eservative		Analysis 1	Requested	_		
(2) 149 6(A83	er Amy	Er None	Cool	Te 4°C	EX P	L051r6	s (50	1846 8	8310)
WELL PUR	GING DAT	`A							
Date	OIN DAI	6/05	107	Well Depth (ft BTC	V(1)				
Time Started		145	- 4	Depth to Water (ft B			~		
Time Comple		16.1	70	Water Column Leng		4,7	2		
PID Measure			<del></del>	Volume of Water in			·		
Backgroun	d			Purge Rate (liters/mi					·
Breathing.	Zone			Level of Drawdown	(f) RTOC\		, , , , , , , , , , , , , , , , , , ,		
Well Head				Amount Purged (liter					
FIELD MEA	SUREMEN	VIS			-24.0				
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Dames
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Purge
	(liters)		` ,	Ru	J - 1-17	(mg/L)	(110)	(ft)	Rate
1600		7,29	13,75	407	407	2,58	0.45	5.28	1000
1605		7,27	13,75	407	1-74/	12.42	0,60	5 2 2	175 m -/41N
1610	14	7.30	14,25	407	-76.2	7.34	0.50	5,20	<del>-//2</del>
	'	, ,	7				<u> </u>	3.420	<u> </u>
***************************************						<del></del>		<b></b>	
·									
TELD EQUI	PMENT A	ND CALIF	BRATION						
		Mod	<u>lel</u>		Calibration				
Vater Level P		Slop	e Indicator		Checked Ag	ainst Calibr	ated Length		
Vater Quality		YSI	Model 556 wi	th FT Cell	Twice Daily	Calibration	Verificatio	n also Calibr	rated Weekly
GENERAL C	OMMENT:								acc weekiy
errous Iron =		YS	l 556 Multi-Pa	rameter Probe Unit#	j	Field Param	eters Measi	red in Flow	Through Cell
ulfide=				Well Diameter (in.) =	211	Screen Inter	val (ft BTO	C) =	
urbidity of Sa	mple =			Notes:					
							***************************************		
							ž.	······································	



Purging Data	Date   Time   Collected:   16   17   17   15   Personnel:   ROB   16   16   18   18   18   18   18   18	Date/Time Collecte Sampling Method: Sample QA Split: Sample QC Duplica MS/MSD Requeste SAMPLE CONTA Sample Container	d: 67/07 Well Wiz  ate:  d:  INERS, PRESE		Personnel: ROJ Sample Media: plit Sample No. uplicate Sample No.	TILLE					
Sample Media:   Split Sample Mo.	Sample Method:	Sampling Method: Sample QA Split: Sample QC Duplica MS/MSD Requeste SAMPLE CONTA Sample Container	well Wiz	ard Sp	Sample Media:  plit Sample No.  uplicate Sample No.		P.F.				
QA Split:	Sample QA Split:   Split Sample No.   Sample QC Duplicate:   Duplicate Sample No.	Sample QA Split: Sample QC Duplica MS/MSD Requeste SAMPLE CONTA Sample Container	d:	] S _f	plit Sample No. uplicate Sample No.						
Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description   Description	MS/MSD Requested:	Sample QC Duplica MS/MSD Requeste SAMPLE CONTA Sample Container	d:	] Di	uplicate Sample No.						
D Requested:	MS/MSD Requested:	MS/MSD Requeste  SAMPLE CONTA  Sample Container	d:	] м	•				······		
Purging Data   Preservative   Analysis Requested	Sample Container	SAMPLE CONTA Sample Container	INERS, PRESE	<u> </u>	S/MSD Sample No.						
Purging Data   Purging Data   Purging Data   Purging Requested	Sample Container   Preservative   Analysis Requested	Sample Container		BYLLBYYDG A							
PURGING DATA	WELL PURGING DATA   Date   Depth (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water (ft BTOC)   Depth to Water in Well		D _r ,		NALYSIS						
PURGING DATA           arted         1/535         Depth to Water (ft BTOC)         8,33           completed         1/615         Water Column Length         8,33           completed assurements         Volume of Water in Well Purge Rate (liters/min)         0,725           pround hing Zone         Level of Drawdown (ft BTOC)         Amount Purged (liters)         7           MEASUREMENTS         Amount Purged (liters)         7         Water Purged (liters)         (sU)         (°C)         (μS/cm)         (mV)         (mg/L)         (NTU)         Elevation Rate (liters)         Rate (liters)         Rate (liters)         (ft)         8, 36 / 75         4, 40 / 1.3 8 / 8, 36 / 75         4, 60 / 75         5, 42 / 2.8 8 / 6.5 400 m/L/m         Acc (ft)         7.02 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75 / 5.75	WELL PURGING DATA   Date   6/7/07   Well Depth (ft BTOC)   B 33	(2) 1 Liter Amber C									
Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Completed   Com	Date 6/7/07 Well Depth (ft BTOC)  Fime Started / 1535 Depth to Water (ft BTOC)  Fime Completed /6/5 Water Column Length  Volume of Water in Well  Background Breathing Zone Well Head Purge Rate (liters/min)  Breathing Zone Well Head Purged (liters)  Time Amount pH Temperature Conductivity ORP DO Turbidity Water Purge (liters)  FIELD MEASUREMENTS  Time Amount pH Temperature Conductivity ORP (mg/L) (NTU) Elevation Rate (liters)  FIELD MEASUREMENTS  Time Amount pH Temperature Conductivity ORP (mg/L) (NTU) Elevation Rate (liters)  FIELD MEASUREMENTS  Time Amount pH Temperature Conductivity ORP (mg/L) (NTU) Elevation Rate (ft)  FIELD MEASUREMENTS  Time Amount pH Temperature Conductivity ORP (mg/L) (NTU) Elevation Rate (ft)  FIELD MEASUREMENTS  FIELD MEASUREMENTS  Time Amount pH Temperature Conductivity ORP (mg/L) (NTU) Elevation (ft)  FIELD MEASUREMENTS  FIEL		ilass No	ne, Cool to 4°C		Explosives	(SW-846 83	30)			
Completed   16/5   Depth to Water (ft BTOC)   B/33	Fime Started	WELL PURGING	DATA 6/7/		Well Depth (ft BTOC	C)					
Water Column Length   Volume of Water in Well   Purge Rate (liters/min)   O, /25	Fine Completed   16 / 5   Water Column Length   Volume of Water in Well   Background   Purge Rate (liters/min)   O / 25    Breathing Zone   Level of Drawdown (ft BTOC)   Well Head   Amount Purged (liters)   7    FIELD MEASUREMENTS   Time   Amount   pH   Temperature   Conductivity   ORP   DO   Turbidity   Water   Purge   Purged   (liters)   (SU)   (°C)   (μS/cm)   (mV)   (mg/L)   (NTU)   Elevation   Rate   (ft)    Time Started	77				83	3				
Volume of Water in Well   Purge Rate (liters/min)   O / 25	PlD Measurements		ih					₩			
Purge Rate (liters/min)   O, /25     Head	Background   Breathing Zone   Level of Drawdown (ft BTOC)										
Level of Drawdown (ft BTOC)   Head   Amount Purged (liters)   7	Developed   Developed   Breathing Zone   Developed						0.12				
Head   Amount Purged (liters)   7	Well Head   Amount Purged (liters)   7							<i>i</i>		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	······································
MEASUREMENTS           ne         Amount Purged (SU)         pH (SU)         Temperature (°C)         Conductivity (μS/cm)         ORP (mV)         DO (mg/L)         Turbidity (NTU)         Water Purge Elevation (ft)           35         7.28         14.95         14.75         6/.8         5.42         7.2         8.65         40.0         μμ/νη           40         7.02         15.12         704         54.6         4.40         1.3         8.36         175           45         7.01         15.35         69.5         35.1         4.47         3.1         8.75         175           50         6.98         15.62         68.6         58.7         4.47         1.1         8.95         125           55         6.98         16.74         683         58.3         4.20         1.5         8.95         125           60         6.98         16.74         680         57.4         3.57         1.2         8.95         125           65         7.08         17.45         625         57.5         4.47         1.2         8.95         125           65         7.08         17.45         625         57.5         4.47         1.2	FIELD MEASUREMENTS           Time         Amount Purged (SU)         pH (SU)         Temperature (μS/cm)         Conductivity (mV)         ORP (mV)         DO (mg/L)         Turbidity (NTU)         Water Elevation (ft)         Purge Rate           1536         7.28         14.95         67.5         61.8         5.42         7.8         8.65         40.0         μ.//// (π)           1540         7.02         15.12         70.4         54.6         4.40         1.3         8.36         175           1545         7.01         15.35         69.5         35.1         9.47         3.1         8.95         175           1550         6.98         15.62         68.6         58.7         4.47         1.1         8.95         125           1555         6.98         16.74         683         58.3         4.20         1.5         8.95         125           1560         6.98         16.74         680         57.4         3.57         1.2         8.95         125           1565         7.03         17.45         625         57.5         4.17         1.2         8.95         125         64           1610         7.03         17.45         625<						·-7				
Amount   pH   Temperature   Conductivity   ORP   DO   Turbidity   Water   Purge   (SU)   (°C)   (μS/cm)   (mV)   (mg/L)   (NTU)   Elevation   Rate   (ft)   Time Amount PH Purged (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation Rate (liters) (liters) (πV) (mg/L) (NTU) Elevation (ft) (ft) (πV) (πg/L) (πV) (πg/L) (πV) (πg/L) (πV) (πg/L) (πV) (πσ/L) (		EMENTS		Amount Luiged (Inters	,,						
Purged (SU)     (°C)     (μS/cm)     (mV)     (mg/L)     (NTU)     Elevation (ft)     Rate       35     7.28     14.95     67.5     67.8     5.42     2.8     8.65     400 m/L/m       40     7.02/5-12     704     54.6     4.40     1.8     8.86     175       45     7.01/5.35     69.5     55.1     4.47     3.1     8.95/5.25       50     6.98/5.62     68.6     58.7     4.47     1.6     8.95/5.25       55     6.98/6.24     683     58.3     4.20/7.5     8.95/7.25       60     6.98/6.76     680     57.4     3.57/7.2     8.95/7.25     125       65     7.08/7.45     685     57.5     4.47/7.2     8.91/7.25     6.75/7.2       67     7.08/7.45     685     54.4     4.47/7.2     2.91/7.25     6.92/7.25	Purged (liters)       (SU)       (°C)       (μS/cm)       (mV)       (mg/L)       (NTU)       Elevation (ft)       Rate         1535       7.28       14.95       67.5       6/.8       5.42       2.8       8.65       400 m/L/m         1540       7.02       15.12       704       54.6       4.40       1.3       8.36       175         1545       7.01       15.35       69.5       35.1       9.41       3.1       8.95       175         1550       6.98       15.62       68.6       58.7       4.47       1.1       8.95       125         1555       6.98       16.74       683       58.3       4.20       1.5       8.95       125         1555       6.98       16.74       680       57.4       3.57       1.2       8.95       125         1545       7.03       17.45       685       57.5       4.17       1.2       8.91       125       04         1610       7.00       12.02       686       54.4       4.17       0.90       8.92       125			Temperature	Conductivity	ORP	DO	Turbidity	Water	P	iiroe
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				(μο/οπ)	1 (1114)	(mg/L/)	(1110)			······
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			1000	1-25	6/0	K 110	70		400	nu la
7.01 $15.35$ $695$ $55.1$ $9.47$ $3.1$ $8.95$ $175$ $50$ $6.98$ $15.62$ $686$ $58.1$ $4.47$ $1.1$ $8.95$ $125$ $155$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $156$ $157$ $157$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$ $158$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$						1 22	45		175	<u>"                                      </u>
50 6,98 15.62 686 58.7 4.47 1.1 8.95 125 55 6.98 16.24 683 58.3 4.20 1.5 8.95 125 60 6.98 16.76 680 57.4 3.57 1.2 8.95 125 * 76 55 7.08 17.45 625 57.5 4.17 1.2 8.91 125 04 10 7.00 12.02 686 54.4 4.11 0.90 8.92 125	1550 6.98 15.62 686 58.7 4.47 1.1 8.95 125 1555 6.98 16.24 683 58.3 4.20 1.5 8.95 125 1560 6.98 16.76 680 57.4 3.57 1.2 8.95 125 * 76 1565 7.03 17.45 625 57.5 4.17 1.2 8.91 125 04 1610 7.00 12.02 686 54.4 4.11 0.90 8.92 125			1/2/5	704		9 40		0,06		
55 6.98 /6,24 683 58.3 4.20 1,5 8.95 125 60 6.98 16,76 680 57.4 3.57 1.2 8.95 125 *76 65 7.08 17.45 625 57.5 4.17 1.2 8.91 125 08 10 7.08 12.02 686 54.4 4.11 0.90 8.92 125	1555 6.98 16,24 683 58.3 4.20 1.5 8.95 125 1560 6.98 16,76 680 57.4 3.57 1.2 8.95 125 * 76 1565 7.00 17.45 685 57.5 4.17 1.2 8.91 125 06 1610 7.00 12.02 686 54.4 4.11 0.90 8.92 125							_ئىر			
60 6.98 16,76 680 57.4 3,57 1.2 8,95 125 * 16 55 7.08 17.45 685 57.5 4.17 1.2 8,91 125 04 10 7.08 12.02 686 54.4 4.11 0.90 8,92 125	1560 6.98 16,76 680 57.4 3.57 1.2 8.95 125 * 16 1565 7.00 17.45 685 57.5 4.17 1.2 8.91 125 04 1610 7.00 12.02 686 54.4 4.11 0.90 8.92 125										
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10 7.00 12.02 686 54,4 4.11 0.90 8,92 125	1610 7.00 12.02 686 34.4 4.11 0.90 8,92 125								895		
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[レベ] フートム 90 1 ウェック   トロタル ・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	1615 7 6.99 17,27 684 54.6 4.14 1.20 8.92 125	1610			686	134.4	4.11	0.90	8,92	125	
13 1 10 17 17 10 10 17 17 17 17 17 17 17 17 17 17 17 17 17		1615	7 6.99	17,27	684	5416	4.14	1.20	8,92	125	
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		1565	6.98 7.03 7.00	16,76	680 685 686	57.4 57.5 54.4	3.57 4.17 4.11	0.90	8,95 8,91 8,92	125 125 125	
		<				1					



Project Name:				Project No.	T14622-2					
Location:Mide				Well No.	JAW-17	(Line 3A)				
Date/Time Col			925		RDS/RCE			·····	······	
Sampling Metl	nod: /	Well Wiz	ard	Sample Media:	/ groundwa	er				
Sample QA Sp	lit:		] 5	Split Sample No.						
Sample QC Du	iplicate:			Ouplicate Sample		# #	f	1	·····	
MS/MSD Req	uested:	$\supset$	] <	VIS/MSD Sample	No 100	W 17	LINE	341		<del></del>
SAMPLE CO		-		ANALYSIS						····
Sample Conta			eservative		Analysis l					
(2) 1 Liter Am	ber Glass	No	ne, Cool to 4°	C	Explosive	s (SW-846 8	330)			
		· · · · · · · · · · · · · · · · · · ·				***************************************				
WELL PURC	ING DAT		7							
Date		6/0	107	Well Depth (ft l	BTOC)					
Time Started		//	830	Depth to Water		٠, ھ	69			
Time Complet	ed		925	Water Column L	ength		• •			
PID Measuren			<del></del>	Volume of Wate						
Background				Purge Rate (liter		0,92	- F			
Breathing Z				Level of Drawdo						
Well Head	one	·····	***************************************	Amount Purged		12				
FIELD MEAS	STID ENAITS	rre		Amount Furged	(Incas)	15				
		<del></del>	I T	C	I opp	T 50	I months to activity	1 337-3	n	
Time	Amount Purged	pH (SU)	Temperature (°C)	Conductivit (µS/cm)	y ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation	Purge Rate	
	(liters)		` ′	" '	` ′	*	, ,	(ft)		
<b>83</b> 0		6.96	14.57	654	125.6	3,32	1,0	6.96	300 141	C/WIL
835		6.93	12.77	700	168.7	1.97	1.4	6,06	900	7
840		6.94	<del></del>	695	134.5	8.21	1,5	6.96	300	
8 43 8 43		6. 2.3	13,24	688	158.4		0.25	6.85	150	
8 4 4				683		5.39		2	75	
<u>850</u> 235		7,00				3,07	6/95			
200 900		7.02	<del>// 2/ / /</del>	684	139,7	12.15		10.86		1151 POWE
1 22 /		7,02	73,7/	677	125.2	5,68	0,40	6185		<u> </u>
905		1,03	13.75	674	116,4	8.25	0,25	6,25	200	
910		7.03	13,93	671	109.1	9.84	1,20	6.85	200	
975		7,08	14,64	673	101.9	9,74	1,10	6,85	とこち	
920		7.04	13,44	665	99,9	7,53	1,10	6,85	225	
725	13	7.04	13.32	661	97.6	10,45	0.25	6 85	225	
930	······································					†				
FIELD EQUI	PMENT A	ND CALI	BRATION			-t	<u> </u>	<u> </u>		
	A / A F ( ) A A ( ) A	Mo			Calibration	,				1
Water Level P	roha		pe Indicator			ı .gainst Calib	entad Lancel	<b>.</b>		I
				(.t FVD (3 +t					. 3.882 3.5	1
Water Quality			I Model 556 w	am r i Celi	i wice Dai	y Cambratio	n venticatio	n aiso Calib	rated Weekly	
GENERAL C			01.666.	n	i to the st	E'.115		r r . max	701	1
Ferrous Iron =		Y	51 556 Multi-	Parameter Probe I					Through Cell	
Pump Placeme		·		Well Diameter (			rval (ft BTO			
Turbidity of Sa	ımple =	· · · · · · · · · · · · · · · · · · ·		Notes: 🧩 .	OO RENG	11V GJ	<u>COLAI</u>	<u> </u>		
				····	· · · · · · · · · · · · · · · · · · ·					
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Location: Middletown, Iowa  Date/Time Collected: 6/8/07  Sampling Method: Well Wizard Sample Media: groundwater  Sample QA Split: Split Sample No.  Sample QC Duplicate: Duplicate Sample No.  MS/MSD Requested: MS/MSD Sample No.  SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	
Sampling Method:   Well Wizard   Sample Media:   groundwater    Sample QA Split:   Split Sample No.    Sample QC Duplicate:   Duplicate Sample No.    MS/MSD Requested:   MS/MSD Sample No.    SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	
Sample QA Split: Split Sample No.  Sample QC Duplicate: Duplicate Sample No.  MS/MSD Requested: MS/MSD Sample No.  SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	
Sample QC Duplicate:  Duplicate Sample No.  MS/MSD Requested:  MS/MSD Sample No.  SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	
MS/MSD Requested: MS/MSD Sample No.  SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	
SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS	
	-
Sample Container Preservative Analysis Requested	
(2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330)	
(2) 1 Enter randor of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court of the court	
WELL PURGING DATA	
Date 6/8/07 Well Depth (ft BTOC)	
Time Started Depth to Water (ft BTOC)	
Time Completed Water Column Length	
PID Measurements Volume of Water in Well	
Background Purge Rate (liters/min) Breathing Zone Level of Drawdown (ft BTOC)	
Well Head Amount Purged (liters)	
FIELD MEASUREMENTS	
Time Amount pH Temperature Conductivity ORP DO Turbidity Water	Purge
Purged (SU) (°C) (μS/cm) (mV) (mg/L) (NTU) Elevation (ft)	Rate
I INELL DOU	
WELL DRY	
WELL DRY	
FIELD EQUIPMENT AND CALIBRATION	
FIELD EQUIPMENT AND CALIBRATION  Model  Calibration	
FIELD EQUIPMENT AND CALIBRATION  Model  Water Level Probe  Slope Indicator  Checked Against Calibrated Length	
FIELD EQUIPMENT AND CALIBRATION  Model  Water Level Probe Water Quality Meter  YSI Model 556 with FT Cell  Calibration Checked Against Calibrated Length Twice Daily Calibration Verification also Calibrated Weeter Quality Meter	eekly
FIELD EQUIPMENT AND CALIBRATION  Model Water Level Probe Slope Indicator Water Quality Meter YSI Model 556 with FT Cell GENERAL COMMENTS  Calibration Checked Against Calibrated Length Twice Daily Calibration Verification also Calibrated We	
FIELD EQUIPMENT AND CALIBRATION  Model Slope Indicator YSI Model 556 with FT Cell  GENERAL COMMENTS  Ferrous Iron = YSI 556 Multi-Parameter Probe Unit #  Field Parameters Measured in Flow Throug	
FIELD EQUIPMENT AND CALIBRATION  Model Water Level Probe Water Quality Meter YSI Model 556 with FT Cell  GENERAL COMMENTS Ferrous Iron =  YSI 556 Multi-Parameter Probe Unit # Pump Placement Depth =  Well Diameter (in.) =  Well Diameter (in.) =  Screen Interval (ft BTOC) =	
FIELD EQUIPMENT AND CALIBRATION  Model Slope Indicator YSI Model 556 with FT Cell  GENERAL COMMENTS  Ferrous Iron = YSI 556 Multi-Parameter Probe Unit #  Field Parameters Measured in Flow Throug	
FIELD EQUIPMENT AND CALIBRATION  Model Water Level Probe Water Quality Meter YSI Model 556 with FT Cell  GENERAL COMMENTS Ferrous Iron =  YSI 556 Multi-Parameter Probe Unit # Pump Placement Depth =  Well Diameter (in.) =  Well Diameter (in.) =  Screen Interval (ft BTOC) =	



Project Name:	IAAAP	······		Project No.	T14622-270	)3				
Location:Mide		ya		Well No.	JAW-20 (I	ine 3A)				
Date/Time Co.	llected: 6	8/07	1155	Personnel: RO	8/PCE					
Sampling Met		Well Wiza	nrd	Sample Media:	groundwate	Г				
Sample QA Sp	olit:		S	plit Sample No.						
Sample QC D	uplicate:		D	ouplicate Sample No						
MS/MSD Req	uested:		M	1S/MSD Sample No						
SAMPLE CO			RVATĮVES, A	ANALYSIS	Analysis R	agnected				
Sample Conta (2) 1 Liter Am			ne, Cool to 4°C	4	Explosives		830)			
								******		
WELL PURG	GING DAT.	A , /2	. /	337 11 D / 1 / 2 P. P. P. P. P. P. P. P. P. P. P. P. P.	00)					
Date		10/2	107	Well Depth (ft BTC		200	7			
Time Started			iloo	Depth to Water (ft l		28.9	0			
Time Complet		115	5	Water Column Len						
PID Measurer				Volume of Water in						
Background	i			Purge Rate (liters/n		010	<i>40</i>			
Breathing Z	Cone			Level of Drawdowr	ı (ft BTOC)					
Well Head				Amount Purged (lit	ers)	÷	7			
FIELD MEA	SUREMEN	TS								
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	P	urge
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	1	Rate
	(liters)	(55)	( )	(μο, νιιι)	\	\ <i></i>	` ' ' '	(ft)		
1100	(116013)	-7 /3	14,45	673	67,6	3:61	112	29,48	300	MILTHIN
7/05		144	13,48		3996742		1.4	30.18	200	ECHILL SELL
		7,06		674	4/3	1.76	2.6	30,57	1200	
1/10		6.97	14,22	<u> </u>			1 size, 65	30,80	150	
1/15		6.97	14.98	675	43.6	2.00	111			
1120		6,49	16.14	679	45.3	2,54	1.5	30.93	100	V:11e
1/25		7,00	16,68	682	46.2	2,44	i. 7	31.05	80	7F. V 3
1130		7.01	17.12	684	45.9	3.43	, 4	31,18	80	
1135		7,02	17.62	688	48.3	3.63	1.5	3/28	40	
1140		7,02	18.54	687	47.2	3,02	1.8	31.32	40	
1145		704	19,24	690	46,0	4,12	1,8	31.78	40	
1150		7.04	19.63	<i>693</i>	46,6	4,55	1.7	31.45	40	
1155	-7	7.04	19.33	693	46.5	4.37	19	27. 52	40	
	<del>                                     </del>	1104	17, 44	V 1 3	<del>  7 × 3 -</del>	77.01			<del> </del>	
/ Z 0 0	TON KYON Y	100 000	DA PERON	<u> </u>	<u> </u>			<u></u>	<u> </u>	
FIELD EQU	IPMENT A				C 1					
		<u>Mo</u>			Calibration					
Water Level F			pe Indicator		Checked Ag					
Water Quality	Meter	YS	I Model 556 w	ith FT Cell	Twice Daily	/ Calibratio	n Verificatio	n also Calib	rated Wee	<u>kly</u>
GENERAL (		îS .								
Ferrous Iron =			SI 556 Multi-l	Parameter Probe Uni	it#	Field Paran	neters Measi	ared in Flow	Through	Cell
Pump Placem			S. SPS MARKE	Well Diameter (in.			rval (ft BTC			
					<i></i>	~~(~~!! !!!b				
Turbidity of S	ampie =			Notes:		***************************************				





TŁ		GR	OUNDW/	Figu ATER FIELD S		NG DAT	TA SHE	5/V et	1/opi	2
Project Name	: IAAAP			Project No.	T14622-27					
Location:Mid			<del>//) &gt;</del>	Well No.	JAW-21 (					
Date/Time Co		Well Wiz	· // Q	Personnel: RU	V/PCO					
Sampling Me	inog:	well wiz	aro	Sample Media:	groundwat	er				
Sample QA S	plit:		S	Split Sample No.						
Sample QC D	uplicate:		] r	Duplicate Sample No.		***************************************	······		*******************************	
MS/MSD Red	juested:		N	MS/MSD Sample No.						
			RVATIVES,	ANALYSIS						
Sample Cont (2) 1 Liter An	<del></del>		eservative ne, Cool to 4°C		Analysis F Explosives	<b>Requested</b> (SW-846-83	30)			
WELL PURG Date Time Started Time Complete PID Measurer Background	ted ments	6/8   6   1330   140	5	Well Depth (ft BTOC Depth to Water (ft BT Water Column Length Volume of Water in V Purge Rate (liters/min	roc) h Well n)		16			
Breathing 2	Cone			Level of Drawdown (1	,		5 - B	<u> 195 /21</u>	/sフ	
Well Head FIELD MEA	CUDEMEN	TO		Amount Purged (liters	s)		5			
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate	
1300	\	7.2	14.36	964	185	12.40	<u> </u>	7.37	200 Mi	Juin
1305		7.04	14,92	453	20,5	3,98	20	7.30		
1310		7,00	14.17	445	22.8	5.72	24	7, 35	200	
1315		6.84	13.95	435	35.6 35.7	5,58 4,36		7.35 7.35	200 200	
13 25		6.67	13.87	428 422	105 2	36 5 14	11 9:3	7.35	200	
1330		6,27	14,72	422	90,7	4.68	5.4.	7.30	175	
13"35		6.99	14,30	420	5./	4,77	4.4	2,35	200	*
1340		10,00	14,02	420	46,7	4.73	4.0	7.35	200	X y
1345		2187	13, <u>18</u>	4/9	43.7	4,17	6.0	7.3,5	200	
<u> </u>		6,85	13,79	419	37.8	4.12	2,5	<u> 7</u> /2	208	
<u> </u>		6189	13,87 13,80	420	29.6	4,03	2.6	7.40	7.02	
FIELD EQU	PMENT AT	L & 3月 ND CALIE		420	29,0	7723	2,0	7.40	200	—
Water Level P Water Quality GENERAL O	robe Meter	<u>Moo</u> Sloj YSI		ith FT Cell		gainst Calibr			rated Weekly	
Ferrous Iron = Pump Placeme	ent Depth =		SI 556 Multi-F	Parameter Probe Unit # Well Diameter (in.) =		Field Param Screen Inter	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>		Through Cell	
Turbidity of S	ample =			Notes:	P. El 20 A	2124	El au	<del>nr</del>		

ROS 6/8/07



51NX 20x2

001

Project Name	e: IAAAP			Project No. T14622	2688	<del>7</del> 63				
Location:Mic	ddletown, Id	)Wa		Well No.	JAW-2		16 3/4)			_
Date/Time C	ollected: (	18/07	1405	Personnel:	RO41 RCC	<del>- (</del>	is sir j			_
Sampling Mo	ethod:L <del>ow F</del>	low with p	eristaltie pum	Sample Media: Gro	undwater					
Sample QA S	اسا Split:	411 W LZ	205 8	Split Sample No.						1
Sample QC I		L_	] 6/8/07 1	Duplicate Sample No.						7
MS/MSD Re	quested:		] 1	MS/MSD Sample No.						1
SAMPLE C	ONTAINE	S, PRES	ERVATIVES,	ANALYSIS						=
Sample Con	tainer	Pr	eservative		Analysis I	hetzerneS				
2(1) 41+	a Glassan	nser	N-NE C	00/YE	Etol	051 UKS /	SW-846	8330		
			, , , , , , , , , , , , , , , , , , , ,			· ·	<u> </u>	<del>-'/'`)</del> -		-
										1
						····				]
WELL PUR	GING DAT	A ; .	1							4
Date		6/8/	07	Well Depth (ft BTC	C)					
Time Started		130	0	Depth to Water (ft B	TÓC)	7.10				
Time Comple			405	Water Column Leng	th		¥			-
PID Measure				Volume of Water in	Well					1
Backgroun				Purge Rate (liters/mi		6,20				1
Breathing 2				Level of Drawdown			· · · · · · · · · · · · · · · · · · ·	·····		-
Well Head FIELD MEA		ma		Amount Purged (liter	rs)	75				1
Time			·							1
1 mile	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation	Purge Rate	
1405	ß	6.97	13,77	420	14.5	3.79	2.0	7,40	ZOO MILLAY	¥
			<i>V</i> * * * * * * * * * * * * * * * * * * *		1777		<i>3.</i> C	1,70	<u> </u>	1451
										1
										1
										]
					-					]
										1
					<del> </del>					1
										1
										1
TELD EQUI	PMENT AN	ID CALD	PDATION		<u>L</u>					
TOOL DOOL	R IVERDIA E 1471.	Mod			C-13					
Water Level Pr	robe		e Indicator		Calibration	ainat Caliba	ور. ۲ است			l
Water Quality			Model 556 wit	h FT Cell	Checked Aga	unsi Calibration	ated Length	1. 0.19		
GENERAL C		1		~ 1 ~~~	I WILL DAILY	Catteration	vermeation	n also Calibra	ated Weekly	
errous Iron =	****	YS.	I 556 Multi-Pa	rameter Probe Unit #	F	ield Parame	eters Measn	red in Flow	Through Cell	į
ulfide=				Well Diameter (in.) =	<b>z</b> " s	creen Interv	al (ft BTO	')=	rmonen con	
urbidity of Sa	mple =			lotes:				- /		;



Location: Middletown, Iov Date/Time Collected: 6/ Sampling Method:  Sample QA Split:  Sample QC Duplicate:  MS/MSD Requested:  SAMPLE CONTAINER:	wa 107 Well Wiz		Well No. Personnel:	JAW-22 6 / L/C groundwat	2			
Sampling Method: Sample QA Split: Sample QC Duplicate: MS/MSD Requested:	Well Wiz	ard						
Sample QA Split: Sample QC Duplicate: MS/MSD Requested:	Well Wiz		Sample Media:	groundwat	er			
Sample QC Duplicate:  MS/MSD Requested:		] s						
MS/MSD Requested:		, ~	plit Sample No.					
-		] r	Suplicate Sample No.				,	***************************************
AMPLE CONTAINER		] /	AS/MSD Sample No.					
Sample Container		RVATIVES, .	ANALYSIS	Analysis I	Dogwood			
2) I Liter Amber Glass		ne, Cool to 4°C	7		(SW-846 83	330)		
					*******			
VELL PURGING DATA	. ,	,						
Date	6/7/	07	Well Depth (ft BTOO					
ime Started		020	Depth to Water (ft BT	,	8.11	·····		
ime Completed	10	255	Water Column Length					
ID Measurements			Volume of Water in V					
Background			Purge Rate (liters/min		01/00			
Breathing Zone	***************************************		Level of Drawdown (1					<del>/ / / / / / / / / / / / / / / / / / / </del>
Well Head	705		Amount Purged (liters	s)	4_			
TELD MEASUREMEN	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Τ	C 1	T 088	T 80	L 773 . 1 . 1 . 1	1	T
Time Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
1120	6.90	18.82	1107	140:2	3.32	1150	8.42	300 MIL/MA
1025	12 87	18.79	12.14	112.6	1.94	6.05	8,61	<i>[50]</i>
1030	4.84	19,64	1274	9014	1.7/	0,95	8,66	100
10.35	6.84	20.65	1294	79,2	1,46	1.50	8.71	100
1040	10:84	21,45	1301	73.7	1126	1,30	8/7/	106
1045	b. 85	22,31	1306	66.8	1.15	1,20	8.65	40
10 50	6.86	23.75	1316	64.7	1,21	1,00	8.65	BO * 481 K
1035 4	6.86	22,11	1317	62,7	1,24	0.95	8.10	100
					1	******		
			<u> </u>					
			·					***************************************
			***************************************					······································
IELD EQUIPMENT AN	D CALIF	BRATION		1	1			
	Mod			Calibration				
ater Level Probe		oe Indicator			gainst Calibr	ated Lenath		
ater Quality Meter		Model 556 wi	th FT Cell					ated Weekly
ENERAL COMMENTS		HOUGH JOU WI	U1 1 1 V-V-11	1 WICE Dall	y Canthaution	v ChinicallOl	i aiso Calibi	aicu weekiy
errous Iron =		SI 556 Multi E	arameter Probe Unit #		Field Dorom	otare Magne	rad in Flore	Through Cell
imp Placement Depth =	1	DI JJU WIUIII-F						i monău cen
urbidity of Sample =			Well Diameter (in.) =	<u>'C-1'</u>	Screen Inter	vai (II B I O	<u></u>	
aroranty or Sample =			Notes:		······································			



Project Name:	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>			Project No.	T14622-27	703				
Location:Mid				Well No.		(Line 5A/	5B)			
Date/Time Co			1005	Personnel: RUS	1 RC t					
Sampling Met	hod: /	Peristaltic	Pump	Sample Media:	groundwate	er				
Sample QA S _I	olit:		] s	plit Sample No.						
Sample QC D	uplicate:		) r	Ouplicate Sample No.						
MS/MSD Req	uested:		] N	MS/MSD Sample No.						
SAMPLE CO				ANALYSIS						
Sample Conta			eservative		Analysis F					
(2) 1 Liter Am	ber Glass	No	ne, Cool to 4°(	3 	Explosives	(SW-846 8	330)			
						<del></del>				
				·····						
		· · · · · · · · · · · · · · · · · · ·								
WELL PURC	SING DAT	A 6/6	10			19.9				
Date				Well Depth (ft BTOC		17:7	<u> </u>			
Time Started		93	55	Depth to Water (ft BT		_ <del></del>	74			
Time Complet		100	<u> 25                                    </u>	Water Column Length			*			
PID Measuren				Volume of Water in V						
Background				Purge Rate (liters/min		0,/0	0			
Breathing Z	lone			Level of Drawdown (f	t BTOC)					
Well Head				Amount Purged (liters	s)	6				
FIELD MEA	SUREMEN	TS								
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
	(liters)	l ` ′	` ′	`` ′	1 ` ′			(ft)		
935		6,77	12.19	561	103.2	1.31	5.5	534	200 MIL /M	161
940		6.80	12 37	321	99.8	0.99	2.7	2 51	200 /	**
045		62.81	12,46	561	95,5	0.91	4.8	8.42	:90	
455		6.82	12.34	563	87.4	0.91	3.7	5.63	190	
955		6.83	12.68	560	86.5		3.7	5.47	150	
1000		6.83	13.73	559	80.8		2.9	5.30	110	
1005	6	6.82	13.21	560	78.9	* *	2.6	5.29	100	
10 5 2	~	12.65		<u> </u>	+ <i>+~~</i> -7-	<b></b>	<del>                                     </del>	<del></del>		
						<b>-</b>				
•				<u></u>	<del> </del>	<b>-</b>				
					<del>                                     </del>					_
						<b> </b>				
			***************************************		<u> </u>		<b>-</b>			
EIELD EOU	DMTCNEE A	NIN CALLE	DATION		<u> </u>	<u> </u>	<u> </u>			
FIELD EQUI	PMENI A				Challe and a					
100	,	Mo			Calibration		. 15 .7			
Water Level P			pe Indicator			-	rated Length		. 1981 11	
Water Quality			Model 556 w	th Ff Cell	Twice Dail	y Calibratio	n Verificatio	n also Calib	rated Weekly	
GENERAL C										
Ferrous Iron =	······	Y	SI 556 Multi-F	Parameter Probe Unit #					Through Cell	
Pump Placeme				Well Diameter (in.) =			rval (ft BTO	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>		
Turbidity of Sa	ımple =			Notes: * DO			T iN			
				<i>W/LL</i>	CNNNG	E BER	ORE A	1825 CA	PELL AND	
				CALIAA	478					
			•							



Project Name:	IAAAP			Project No.	T14622-27	03			
Location: Mid	dlotown Io	****		Well No.			'D'		
Location; Mid	uictown, 10	wa 77 7 .	Sty Sur we	<del></del>		(Line 5A/5	(B)		
Date/Time Co	ilected:	6/7	<i>855</i>	Personnel: ROS	KCE_				
Sampling Met	hod:	Peristaltic	Pump	Sample Media:	groundwate	er			
Sample QA S	olit:		] s	plit Sample No.					
Sample QC D	uplicate:		]	Ouplicate Sample No.	<del></del>				
MS/MSD Req	uested:		] N	AS/MSD Sample No.					
CAMBLE CO	NETT A EXTERNO	e porce	DVATUEC	A NEA E NYCINCI					
SAMPLE CC Sample Cont:			KVATIVES, . eservative	ANAL 1515	Amalania D	Lokernon			
(2) 1 Liter Am			ne, Cool to 4°C	٦	Analysis R	(SW-846 8:	220)		
(2) I Litter Air	ibei Giass	NO	ile, Cooi io 4 (		Explosives	(3W-040 o.	330)		
			·····	·····	<del></del>				
					****				
					<del></del>				
			·						
WELL PURC	TINE DATE	<u> </u>							
Date	ING DAL	10/1	1-	Wall Dank / G DTO	·**\	000	, ,		
		0/6	- / /	Well Depth (ft BTOC		20,0 5.9			
Time Started		-	<u> </u>	Depth to Water (ft BT		<u>50.9</u>	5		
Time Complet			555	Water Column Length					
PID Measurer	nents			Volume of Water in V	Vell				
Background	1			Purge Rate (liters/mir	1)0-150 -	Ditt 5			
Breathing Z				Level of Drawdown (					
Well Head				Amount Purged (liters	,	5			
FIELD MEA	CUDEMEN	TC.		Amount ruiged (mei:	5)	5			
		···	T.m		1 255	r	T m	1 337	*-
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
825	(incis)	6.91	1175	396	146.2	2.04	6.8	6,69	150 MIL/1924
870			1/ 93	396	776		7.5	7,40	125
		6.25			1611	1.18			
<u> </u>		6,00	1213	<u> 397                                    </u>	125,5	1,10	2.2	7.66	100
840		6.86	12.32	397	75.2	1,11	2.8	7.78	75
845		6.87	12,57	345	89.2	1,05	3.2	7.74	75
850		6.87	12.67	393	85,3	1.07	3 0	7.13	75
<b>8</b> 55	5	6,86	12.67	391	827	1,09	7.3	7 73	75
		6100	16, 47	<del></del>	102.1	1.07	• • • •	1.7.	
900									
				:					
				·····	-				
					-				
,									
EVEL E POLI		in alver			<u> </u>			<u> </u>	
FIELD EQUI	PMENT A.								
		<u>Mo</u>			<u>Calibration</u>				
Water Level P	robe	Slo	pe Indicator		Checked Ag	gainst Calib	rated Length		
Water Quality	Meter	YS	l Model 556 w	th FT Cell	Twice Daily	Calibration	i Verificatio	n also Calib	rated Weekly
GENERAL C									
Ferrous Iron =		Y	SI 556 Multi-I	Parameter Probe Unit #	<i>‡</i>	Field Paran	neters Measu	red in Flow	Through Cell
Pump Placemo				Well Diameter (in.) =			rval (ft BTO		——————————————————————————————————————
Turbidity of Sa				Notes:	<b>36</b> 7		······································		
				<del> </del>					***************************************



Project Name:				Project No.	1 14622-27				
Location:Mid				Well No.		(Line 5A/	5B)		
Date/Time Co		16/07	1325	Personnel:	OSTRCE				
Sampling Met	hod: 📝	Peristaltic	Pump	Sample Media:	groundwate	er			
Sample QA S _I	olít:		S	plit Sample No.					
Sample QC D	uplicate:		r	Suplicate Sample	No				
MS/MSD Req	uested:		N	AS/MSD Sample	No.				
SAMPLE CO	NTAINED	c ppece	DVATIVES	ANIAT VCIC				***	<u> </u>
Sample Conta			servative	AINAL I SIS	Analysis R	agnacted			
(2) 1 Liter Am	her Glass		ne, Cool to 4°(	4		(SW-846 8	220)		
(2) 1 Liter Am	Del Giass	NOI	ie, Cooi 10 4 C		Explosives	(3 W-040 0.	330)		
			***************************************						
					·····	·		······································	
			<del></del>						
ARIASA A APAZAS	375 C D 4 22	4				***************************************			
WELL PURC	ING DAT	1 c. 10	107	ND 11 5 3 76 7		and	/ <u></u>		
Date			<del>/ 0</del>	Well Depth (ft I		6.4	<u>-5</u>		
Time Started		12	. 5 <i>U</i>	Depth to Water (		6.4	> 7		
Time Complet		13	,25	Water Column L					
PID Measuren	nents			Volume of Wate	r in Well				
Background				Purge Rate (liter	s/min)	0,175	×		
Breathing Z				Level of Drawdo				***************************************	
Well Head	one	***************************************		Amount Purged		8			
<u> </u>	CLIDENTEN	TO		Amount ruigeu	(IIICIS)	ζ.2			
FIELD MEA				r			T =		
Time	Amount	pН	Temperature	Conductivit		DO	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
	(liters)							(ft)	
(250		2,03	1312	606	9212	*	10.0	7.19	210 MILLMIN
1255		6.98	12.12	592	88.2	5.	6.8	7.45	210 /
1300		6.91	12,22	584	72.3	1	5,2	7.48	225
1305		6.97	12,48	576	66.0		2.3	7,52	190
			12.73	569	63.8	<del>  </del>	·		75
13/0		7,00					1.2	7,40	
1315		7.03	12.90	560	<u> 58. j</u>		0.50	7.36	175
13 Zo		7.06	12:73	553	55.€		0.65	7.34	175
1325	8	7.05	22,71	549	54.9	K.	0.45	7.34	175
				•				•	
					·····		İ		
FIELD EQUI	DMENT A	UD CALD	DATION				I		
FIELD EQUI	FIVIENT A				G 111				
		Mod			Calibration				!
Water Level P		,	e Indicator				rated Length		ļ
Water Quality	Meter	YSI	Model 556 w	ith FT Cell	Twice Dail	y Calibratio	n Verificatio	n also Calib	rated Weekly
GENERAL C	OMMENT	S							
Ferrous Iron =			SI 556 Multi-l	Parameter Probe U	Jnit#	Field Paran	neters Measi	red in Flow	Through Cell
Pump Placeme		A.		Well Diameter (			rval (ft BTO		
Turbidity of Sa		·····	······································	Notes: * 2			METER.		July group of the same
raidiaity of Si	иинс =				~ / P / 9-7 ~~	<u> N/40/1</u>	115151	. 001 0	2 84NG
				<u> </u>	ron so	ř1			



Project Name				Project No.	T14622-2702				
Location:Mid		wa		Well No.	JAW-29 (				
Date/Time Co		1407_	1467	Personnel:	/W//	<u> </u>	,		
Sampling Me	thod: $ u$	d 120	<u> </u>	Sample Media:	groundwat	er			
Sample QA S	plit:		] :	Split Sample No.					
Sample QC D	uplicate:		] 1	Ouplicate Sample No.					
MS/MSD Red	juested:		]	MS/MSD Sample No.				<b>******</b>	
SAMDI E CO	ANITA INIED	c pprer	RVATIVES,	ANALVETC	<del></del>				
Sample Cont	/iv i Alivi; K siner		eservative	ANAL 1919	Analysis R	la annactad			
(3) 40 ml vial:		***	L, Cool to 4°C	7	VOCs	requesteu			
<u> </u>			23, 000/10 / (		YOCS				
, , , ,									
			*****						
WELL PURC	GING DATA		10-1						
Date		0/6	<u> 107 </u>	Well Depth (ft BTOC					
Time Started			į.	Depth to Water (ft BT			7,55		
Time Complet				Water Column Length			- '-/		
PID Measurer				Volume of Water in W					
Background				Purge Rate (liters/min					
Breathing Z	one			Level of Drawdown (f					
Well Head	~~~~			Amount Purged (liters	)	į	5 gallo	169.	
FIELD MEA		<del></del>	I vura	I	T		,	•	
Time	Amount	pН	Temperature	Conductivity	ORP	, DO	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	My Rate
(3:12	(liters)	7,48	4.40	- C2. 1	-49 10	*	7.70	(ft)	MIN ,
13:17		7,32	10 53	58.5	- 25,0	2:49	3.3	8.7	1/0
1327		7.30	5.0	200 J	-34.7	1.49	3.05	7,5 <del>4</del>	//6
1357		5,50	17, 45	5 \$ 5	- 29 3	1.49	3.3%	V 75	(A) (A) (50
1332		7240	12.96	5 8 R	-26,4	.41	1777A	4.86	30
1537	!!! <del>!</del>	7.3%	20.42	<u> </u>	-27.8	17.45	3,43	9.91	78
1340		7.5%	72.00	(50)	- 7/0 0	129	3.9.1	907	76
LEAT		7:1	23 . NG	604	-24,2	1.36	3.44	9.99	
1357		7: 34	24,09	60%	-234	1 79	2.00	70.02	1/2
1357		<b>ን</b> ‹ ዓን	24,000	(o \ 4	280	1,27	2.56	10.05	20
1407.		7.30	25,16	617	-27.1	7, 20	WZ-54	10.85	10
	<u> </u>	4	<del></del>	<i>5</i> <			2.5A	7	
1407	1/244	2436	25/202	6 ( Å	-7618	1 /	2,38	/O.07	
FIELD EQUI	PMENT AN								
•		<u>Moc</u>			Calibration				
Water Level Pi			e Indicator		Checked Ag				
Water Quality			Model 556 wi	th FT Cell	Twice Daily	<b>Calibration</b>	Verification	n also Calib	rated Weekly
GENERAL C	OMMENTS								
errous Iron =		Y:	SI 556 Multi-F	arameter Probe Unit #					Through Cell
Pump Placeme				Well Diameter (in.) =		Screen Inter	val (ft BTO	C) =	
Furbidity of Sa	mple =		<del></del>	Notes:		······································	***************************************		
			•						



Project Name	: IAAAP	· · · · · · · · · · · · · · · · · · ·	<u> </u>	Project No. T14622-2702					
Location: Mid		wa		Well No.	Jaw-30 (L	ine 9)		······································	
Date/Time Co		1107	655 <b>1258</b> 1	Personnel:	······	MN	S/A-C	····	
Sampling Me		"Will		Sample Media:	groundwat				
Sample QA S	plit:		] s	Split Sample No.	***************************************				
Sample QC D	Ouplicate:		] I	Ouplicate Sample No.					
MS/MSD Red	quested:		M	AS/MSD Sample No.			· · · · · · · · · · · · · · · · · · ·		
			RVATIVES,	ANALYSIS					
Sample Cont			eservative		Analysis F	Requested			
(30) 40 ml vial	s (6)	HC	L, Cool to 4°C		VOCs	····			
WELL PUR	GING DATA	<b>A</b> .							
Date		6/4	107	Well Depth (ft BTO	C)				
Time Started	à.	17 672	910	Depth to Water (ft B			8. F1	<del>e</del> .	
Time Comple	ted T	i de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l	450	Water Column Lengt		······································	3		
PID Measure		<u></u>		Volume of Water in		***************************************			
Backgroun				Purge Rate (liters/mir					
Breathing 2				Level of Drawdown (		***************************************	·		
Well Head				Amount Purged (liter		-	2-42	-90-	2.5 90 R/A
FIELD MEA		TS						J-3	, ~~ <u>~</u>
Time	Amount Purged	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation	Purge Rate
2.12	(liters)	7.46	14.64	654	+4,5	7 ~72	A.96	(ft)	To to t
<u> </u>		7.28	13.10	- 10 / 10 / 10 / 10 / 10 / 10 / 10 / 10	1 D/12	0.32	14 2	9.20	- 107 - 107
7/2		40	15.94	610 6004		0.41	A Fa	4,74	
<del>320</del> 325		7/26	14.00	(si2.5	- <del>[] / / } -</del>	12.27	3.00	1444	140
<u> </u>		150	13.43	626	1-25.0 -23.7	0,12	1,32	4.17	
935		44	14.04	6D7	-30.4	0.51	1132	9/3	790
940		43/2	IH IA	100 7	-32H	D. 3/1	7.47	9,12	195
545		776	14.18	67/4	12/25	0.2	0.97	4,12,	150
		434	1/1/1/2	72	-77.5	0.19	0 45	13/3	
4 <b>5</b> 5 455	Press	7.26	14,45	610		0.14	0.13	9.04	190
FIELD EQU	IPMENT A	ND CALII	BRATION						
		<u>Mo</u>	<u>del</u>		Calibration	L			
Water Level I	Probe		pe Indicator		Checked A	gainst Calíb	rated Length	1	
Water Quality	Meter /	YS	I Model 556 w	ith FT Cell					rated Weekly
GENERAL (					***************************************	<del></del>	***************************************		
Ferrous Iron =			SI 556 Multi-l	Parameter Probe Unit	#	Field Paran	neters Measi	ired in Flow	Through Cell
Pump Placem	ent Depth =			Well Diameter (in.) :			rval (ft BTC		
Turbidity of S				Notes:					
	···	nick with the sector than the section of the set description of			***************************************	······································			
				<u> </u>					
				***************************************	<del></del>	, L. L. Z			



Project Name				Project No.	T14622-2702				
Location:Mic				Well No.	Jaw-31 (Line 9)				
Date/Time Co		16107	147581	Personnel: MM	JAC				
Sampling Me	thod:	WW		Sample Media:	groundwat	er			
Sample QA S	Split:		] :	Split Sample No.				<del></del>	
Sample QC D	Duplicate:		] 1	Duplicate Sample No.			<b>***</b>		
MS/MSD Re	quested:		] 1	MS/MSD Sample No.					
	CAMBLEAN	O BRECE							
			RVATIVES,	ANALYSIS					
Sample Cont (3) 40 ml vial			eservative	ν.	Analysis I	Requested	···		
(2) 1 Liter A			L, Cool to 4°C		VOCs				
(2) I Liter A	inder Giass	NO	ne, Cool to 4°C		SVOCs		··········		
		*****		<del>/************************************</del>					
								·	
WELL PUR	GING DAT	A	1 4						
Date			14	Well Depth (ft BTOC	")				
Time Started		0141	<del></del>	Depth to Water (ft BT			1614	À	
Time Comple	eted			Water Column Length			1 6 I J	<u> </u>	
PID Measure		**************************************		Volume of Water in W					
Background				Purge Rate (liters/min		****		<u> </u>	
Breathing 2	Zone			Level of Drawdown (f					
Weil Head				Amount Purged (liters			300	1	
FIELD MEA	SUREMEN	TS		9 (	7	******		*in-	
Time	Amount	рН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	
	(liters)			`` ´	` ′		(" " - /	(ft)	/min.
4:59		7.17	12.02	to 40	-50.2	1,54	318	11.15	400
1504		7.12	12.31	624	-40.0	1.74	0.67	12,09	4 50
(909		7.17	io isa	(0) 11	- 240	1.10	0.79	12.95	100
1514		1.	ぼうつ	(020	-270	1,60	0.15	12.92	725
ાર્ક દ્વ		7.11	16,25	1, 35	-26.1	(.58	7) 30	12.91	120
1924		710	10.25	16.39	-24,1	1,50	7539	12,04	718
15 29		7.09	6.50	しょろブ	-23.2	1,49	5;4ŏ	12.25	110
1594		7.08	16,04		- 25.4	1.42		12.98	110
~									£
	<u> </u>								
FIELD EQUI	IPMENT A								
		Mod			Calibration				
Water Level P			ndicator			gainst Calibi			
Water Quality			Model 556 wi	th FT Cell	Twice Dail	y Calibratior	Verification	n also Calib	rated Weekly
GENERAL C									
Ferrous Iron =		Y	SI 556 Multi-F	Parameter Probe Unit #					Through Cell
Pump Placeme		······································		Well Diameter (in.) =		Screen Inter	val (ft BTO	C) =	
Turbidity of S	ample =			Notes:	***************************************	······	····		<u> </u>
									<del></del>
				···········	······································	· · · · · · · · · · · · · · · · · · ·	······································		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~



Project Name				Project No.	T14622-27	702				
· · · · · · · · · · · · · · · · · · ·	ddletown, Io			Well No.	Ļ9-MW11	(Line 9)				
Date/Time C		1707	1010		1/AC					
Sampling Me	ethod: PCC	USTAUTI	<u> </u>	Sample Media: 1	groundwat	er				
Sample QA S	Split:		] 5	Split Sample No.						
Sample QC I	Duplicate:		] 1	Ouplicate Sample No.						
MS/MSD Re	equested:		] ,	MS/MSD Sample No.	w					····
			ERVATIVES,	ANALYSIS			<del></del>			***************************************
Sample Con			eservative		Analysis R	tequested				
(3) 40 ml via	.ls	HC	CL, Cool to 4°C	*	VOCs					
((KC)										
	****									
			·····							
	·····			·····						
WELL PUR	GING DAT						()			
Date		4/1/0	<u>, 7</u>	Well Depth (ft BTO			324°			
Time Started		7		Depth to Water (ft B'	TOC)		10.03	*****		
Time Comple	eted	10	11)	Water Column Lengt			<u> </u>			
PID Measure	ements		<u> </u>	Volume of Water in V						
Backgroun				Purge Rate (liters/min				a		
Breathing 2			<u> </u>	Level of Drawdown (						
				,	` /	4	- E _	·····		
Well Head				Amount Purged (liter	ːs)		マヤマ	lal '		***************************************
FIELD MEA			•					····	-	
Time	Amount	pН	Temperature		ORP	DO	Turbidity	Water	Purge	201
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	mr.
	(liters)	l			ĺ	Min				
935		6.76	13 10	1123 425407.09 0.00 10.74						
940		6.86	12.93	1099	-84.8	0.27	0.00	11.58	290 290	***************************************
9 45		6.67	13.18	1086	-91/	0,23	12.00	12.03	250	
450				1000			++			
		6.66	13.62	1080	\$5.1	0.22	0,00	12-21	190	
465		6.64	14.00	1083	86-9	0.19	000	12.24	170	***************************************
1000		0-66	14.18	1092	-8 <u>\$</u> ,0	0.16	0.00	12.19	150	
1005		6.65	14.40	409 <b>o</b>	-87.6	0:15	0-00	12.15	150	
1010	2/24/	10,04	14-35	1090	~ 87.0	0,19	0.00	12.13	150	
	I. A.							1.5		***************************************
	1									
	1			,,,,						
	+	1			-					
FIELD EQU	TOMENT A	ND CALL	PRIFICAL					L		
FIELD EQU.	IFIVIENT A				~					
• • •		<u>Moo</u>			<u>Calibration</u>					
Water Level F			pe Indicator		Checked Ag					
Water Quality			l Model 556 wi	th FT Cell	Twice Daily	/ Calibration	Verificatio	n also Calib	rated Weekly	
GENERAL (	COMMENT	S			***************************************					***************************************
Ferrous Iron =	<b>=</b>	Y	SI 556 Multi-F	arameter Probe Unit #	#	Field Param	eters Measu	ired in Flow	Through Cell	
Pump Placeme				Well Diameter (in.) =		Screen Inter			Imough con	
Turbidity of S		<del></del>		Notes:	***************************************	SCICCII IIICI	vai (it DTO	<u> </u>		
anoldity of 3	umpic -			i YOUS.	·····		<del></del>			
			-				······	<del></del>		
				······································						



Project Name				Project No.	T14622-2703					
Location:Mid				Well No.						
Date/Time Co			1500		SPRCE					
Sampling Me	thod:	Well Wiz	ard	Sample Media:	groundwate	er	*****			
Sample QA S	plit:		] s	plit Sample No.			····			
Sample QC D	uplicate:		Г	Ouplicate Sample No.	***************************************					
MS/MSD Rec	luested:		l N	4S/MSD Sample No.						
SAMPLE CO	ONTAINER	S, PRESE	RVATIVES,	ANALYSIS						
Sample Cont		Pre	servative		Analysis R	equested				
(1) 500 ml Po	ly	No	ne, Cool to 4°C	·	Metals-Dis	s (Lab will	filter and pr	eserve)		
						······································				
								*****		
WELL PURG	GING DAT	A , Z , Z				***************************************				
Date		6/6/0	7	Well Depth (ft BTO	C)					
Time Started		7 /	1415	Depth to Water (ft B'		7, 1	1			
Time Complet	teđ	15		Water Column Lengt			<del></del>			
PID Measurer				Volume of Water in						
Background				Purge Rate (liters/mi						
Breathing Z										
	one			Level of Drawdown (						
Well Head				Amount Purged (liter	s)	9				
FIELD MEA			,		·····	***				
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
	(liters)	1				*		(ft)	4	
14.15		6,93	14.88	596	25.0	5125	0,00	7,40	200 ML/19/N	
19 20		7.04	16.24	591	30.2	1	0.00	730	200 /	
1925		7.04	13.56	597	34,5	1	10,10	7,44	200	
1430		7.04	/3.35	<del>3</del> 73	35.8		<del>  </del>	7.45	200	
1435		7.02		2/3	38.0		<del>  0</del>		150	
			13.60	570 569			<del>                                     </del>	7.45		
1440		7.04	13.66	264	37.3		01	7.45	150	
1445		7,04	13,60	569	36/6		Ke,	7595	/50	
14.50		7,02	13.8j	569	39,4	***************************************	8.16/8	7,50	150	
1455		7.01	13,92	568	40.2	1	1.4	7.50	150	
1500	9	6.90	14.01	567	12.2	*	1.4	7.50	150	
	_		•							
FIELD EQUI	PMENT A	ND CALIE	RATION				<u> </u>			
-		Mod			Calibration					
Water Level P	robe.		e Indicator			rainct Calib	rated Length			
Water Quality			Model 556 wi	th ET Call					rated Weekly	
GENERAL C			THOUGH JJO WI	urr I Ceri	I WICE Dall)	Cambiado	r v chilicatio	n aiso Caild	rated weekly	
Ferrous Iron =			or <i>eed</i> x4 n	Communication Develop \$17.75	14	relan.		1 7 2779	art	
· · · · · · · · · · · · · · · · · · ·	~~~~	Y	4-minin occ is	arameter Probe Unit					Through Cell	
Pump Placement Depth = Well Diameter (in.) = 2 // Screen Interval (ft BTOC) =							, , , , , , , , , , , , , , , , , , , ,			
Turbidity of Sa	ımple =	>>>>>>		Notes: - ローブリク/	<del></del>		OF S	MARKE K	E CALIARITOR	
				<u> </u>	PROBE	AND M	ETEA- 1	VON F	UNETION	



Project Name	: IAAAP			Project No.	T14622-27	703			
Location: Mid	ldletown, Io	va		Well No.		sticide Pit)			
Date/Time Co	ollected:			Personnel:		·····			·····
Sampling Me	thod:			Sample Media:	groundwat	er	***************************************		
Sample QA S			1 s	plit Sample No.		<u> </u>			
Sample QC D			- -	Ouplicate Sample No.	******			····	
MS/MSD Red		r		AS/MSD Sample No.		······································			***************************************
	•								
SAMPLE CO Sample Cont			RVATIVES, . eservative	ANALYSIS	Analysis F	Latanuaal			
(1) 500 ml Po			ne, Cool to 4°C	7	Matala Dia	s (Lab will	filter and pr	250512)	*****
(1) 500 mi 10	ı y	INC	ne, Coor to 4 C	w	Wictals-Dis	s (Lab will	inter and pr	eserve)	
		·····							****
								····	
					···			· · · · · · · · · · · · · · · · · · ·	
	·								
WELL PUR	GING DATA		1						
Date	JING DAKA	6/8	9/11	Well Depth (ft BTOC	<i>'</i>				
Time Started		/	1800						
	٠ا	<del>,</del>	<u> </u>	Depth to Water (ft BT					
Time Comple				Water Column Length		***************************************			
PID Measurer				Volume of Water in W	-				
Background				Purge Rate (liters/min					
Breathing Z	Zone			Level of Drawdown (f	t BTOC)				
Well Head				Amount Purged (liters	)				
FIELD MEA	SUREMEN	TS			(many				
Time	Amount	pН	Temperature	Conductivity	ORP	, DQ	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(n/g/L)	(NTU)	Elevation	Rate
	(liters)	, ,	` '	(4		[ <i>[291]</i> _	,	(ft)	. 1000
				$\sim$	1 1/			\	
						<del>-   -   -   -   -   -   -   -   -   -  </del>			
					<b> </b>				
		·····		/ <i>/</i> 1/11\T-	<del>                                     </del>				
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RIELD ROU	PMENT AN	DCAID	PATION						
FIELD EQUI	PMENT AN								
FIELD EQUI		Mo	<u>del</u>		Calibration				
Water Level P	robe	<u>Mo</u> Slo	<u>del</u> pe Indicator		Checked A				
Water Level P Water Quality	robe Meter	<u>Mo</u> Slo YS	<u>del</u>		Checked A				rated Weekly
Water Level P Water Quality GENERAL C	robe Meter COMMENTS	Mo Slo YS	del pe Indicator I Model 556 wi	th FT Cell	Checked A				rated Weekly
Water Level P Water Quality GENERAL C Ferrous Iron =	robe Meter COMMENTS	Mo Slo YS	del pe Indicator I Model 556 wi		Checked A Twice Dail	/ Calibration	Verification	n also Calibi	rated Weekly Through Cell
Water Level P Water Quality GENERAL C	robe Meter COMMENTS	Mo Slo YS	del pe Indicator I Model 556 wi	th FT Cell	Checked A Twice Dail	/ Calibration	Verification eters Measu	n also Calibi red in Flow	
Water Level P Water Quality GENERAL C Ferrous Iron =	robe Meter COMMENTS ent Depth =	Mo Slo YS	del pe Indicator I Model 556 wi SI 556 Multi-F	th FT Cell  'arameter Probe Unit #  Well Diameter (in.) =	Checked A Twice Dail	Calibration	Verification eters Measu	n also Calibi red in Flow	
Water Level P Water Quality GENERAL C Ferrous Iron = Pump Placeme	robe Meter COMMENTS ent Depth =	Mo Slo YS	del pe Indicator I Model 556 wi SI 556 Multi-F	th FT Cell  'arameter Probe Unit #	Checked A Twice Dail	Calibration	Verification eters Measu	n also Calibi red in Flow	
Water Level P Water Quality GENERAL C Ferrous Iron = Pump Placeme	robe Meter COMMENTS ent Depth =	Mo Slo YS	del pe Indicator I Model 556 wi SI 556 Multi-F	th FT Cell  'arameter Probe Unit #  Well Diameter (in.) =	Checked A Twice Dail	Calibration	Verification eters Measu	n also Calibi red in Flow	
Water Level P Water Quality GENERAL C Ferrous Iron = Pump Placeme	robe Meter COMMENTS ent Depth =	Mo Slo YS	del pe Indicator I Model 556 wi SI 556 Multi-F	th FT Cell  'arameter Probe Unit #  Well Diameter (in.) =	Checked A Twice Dail	Calibration	Verification eters Measu	n also Calibi red in Flow	

142



Project Name				Project No.	T14622-2					
Location:Mid				Well No.	JAW-32	(Firing Site	)			
Date/Time Co		9/57	1280	Personnel: R	251 R	CE				
Sampling Me	hod:	Well Wiz	ard	Sample Media:	groundwa	ter				
Sample QA S	plit:		] s	plit Sample No.	**************************************					
Sample QC D	uplicate;		] [	Ouplicate Sample No.	·····					
MS/MSD Rec	uested:		] N	AS/MSD Sample No.				,		
CAMBLE CO	NET A ENTERD	e parer	DV: APENTEO	A NT A Y NZCIYCI						
SAMPLE CO Sample Cont	JNIAINEK oiman			ANALYSIS	A 3 4 1	n				
(2) 1 Liter Pol			eservative			Requested	1 7 1 600			
(1) 1 Liter Pol	<del>*************************************</del>	HN				neters (Gross		ι)		
(1) 1 Liter For	<u>y</u>	HN	103		Rad Paran	neters (Total	Oranium)			
		······				***				
										<b></b>
WELL PUR	INC DAT	4								
Date	JING DAL	• /	19/07	Wall Double (ft DTO)	71					
Time Started			1115	Well Depth (ft BTOO Depth to Water (ft BT						
Time Started Time Complete	ad		1230			1313	0			
PID Measurer		<del></del>	1.50%	Water Column Length						м
				Volume of Water in V		1 000	······································			
Background				Purge Rate (liters/mir		0.080				
Breathing 2	one			Level of Drawdown (	,					
Well Head				Amount Purged (liter	s)	8				
FIELD MEA										****
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate	
1115	(110015)	9.20	13.96	419	14.4	2.15	21	13.4	40 M	14/MIN
1120		7.10	16,20	485	14,8	4.98	4,0		172	7 11/210
1125		7,00	15.24	493	13.0	3.61			90	
1130		12 00	13,55	498	17.0	3,31	3.1 2.9		140	
1135		7.06	15.73	506	17.5	6.00	Z. 0		50	
1140		697	16.37	516	81.0	6.20	210		80	
1145		7.04	16:10	316	37.8	4,59	1.9		70	
1150		2.05	14.23	524	18,0	1,50	1.0		70	
1/55	***************************************	7.02	14,04	523	27.4	7,33	1.6		180	
1200		7,06	14.10		31.0				140	
1205		7.07	171 6a	524 525	36.0	1 2	1 24		40	
1210		7,08	14.42	529	32.8	6,28	1.6		100	
1215	***************************************	7.06		<u> </u>	34,1	17,15	Z, 5			
FIELD EQUI	DATENIE A			967	1-41	7.65	610	1	100	
FIELD EQUI	FIVERINE AL				Q 27 27					
13.7 Y 1 D		<u>Mo</u>			Calibration					
Water Level P		-	e Indicator			gainst Calib	-			
Water Quality			Model 556 wi	th FT Cell	Twice Dail	y Calibration	ı Verificatio	n also Calib	rated Weekly	
GENERAL C	OMMENT									
Ferrous Iron =		Y	<u>SI 556 Multi-F</u>	arameter Probe Unit #					Through Cell	Í.
Pump Placeme				Well Diameter (in.) =		Screen Inter			<del> </del>	
Turbidity of Sa	ımple =			Notes: 4 TOP	OF PU	MPN	O WAR	EL BL	E Y	
				*						
			4		**************************************			····	richment de de la companya de la companya de la companya de la companya de la companya de la companya de la co	



SM 2022

Project Name				Project No. T14622.2608 2703							
Location: Mic				Well No. JAW OZ FIRING SITE)							
Date/Time C	ollected: 6	0/4/07	1230	Perconnel L	103 1 Day 2"	CTIC	3//2/				
Sampling Me	ethod:L <del>ow F</del>	low with p	eristaltic pum	o Sample Media	Groundwater						
Sample QA S			welln	Split Sample No.							
Sample QC I	Duplicate:	<del></del>		Duplicate Sample			***************************************				
MS/MSD Re	quested:	- American		MS/MSD Sample							
SAMPLE C	ONTAINEI	RS, PRES		, ANALYSIS			· · · · · · · · · · · · · · · · · · ·				
Sample Con	tainer		eservative	, AUALISIS		_					
£7		1411	HNE	3 '3	Analysis	Requested	_ /	^_	2 / /		
3 V	152 Po			<u> </u>	KON PO	QRME.	TERS (	GROSS	ALPRA BETAL		
		7	<u> </u>	<u> </u>	<u>KAULA</u>	20 M 870	ed Y:	TOTAL 1	RANIU/M)		
				****			<u> </u>				
WELL PUR	GING DAT	A , ,					·····				
Date		6/9/07	123	Well Depth (ft	BTOC)						
Time Started			1115	Depth to Water	(ft BTOC)		3, 30				
Time Comple			1230	Water Column	Length		1,00	· · · · · · · · · · · · · · · · · · ·			
PID Measure			/	Volume of Wat	er in Well						
Backgroun				Purge Rate (lite	ers/min)	0,08	*				
Breathing 2	Zone			Level of Drawd	own (ft BTOC)		0				
Well Head				Amount Purged	(liters)	R		·····			
FIELD MEA	SUREMEN	TS				$ \Omega$					
Time	Amount	pН	Temperature	Conductivi	ty ORP	DO	Turbidity	Water	T		
	Purged	(SU)	(°C)	(uS/cm)	(mV)	(mg/L)	(NTU)		Purge		
	(liters)		A R4 6	19	(M.)	(mg/L)	(IVIO)	Elevation	Rate		
1220		7,20	1828	328	16,8	533	2.4	(ft)	<u> </u>		
1225		7,10	15.87	333	17.3	6,45	2,7	<i></i>	100 m/s/m/2		
1230		7,11	15.88	584	16 3	1000	2.8		100		
- / /						<del>                                     </del>	641 B		ජුව		
6/10/07	7					<del>                                     </del>	<u> </u>				
1-1-							<del> </del>				
10820		7.13	12.41	520	193.5	4.55	291				
				0 0	7	1 // 00	<del>///</del>				
			WAI	KAN DRY	URIO	317m	84100	2_			
			601	alitras	ON 6/9/0	<del>1-2-1-1-1</del>	7 -110				
			WIII (	ome BALL		+ Fin	1540F		112 K 2212		
					17/-3/3-2		151701	- SAVA	LE Duteces		
FIELD EQUI	PMENT A	ND CALII	BRATION			L					
		<u>Moc</u>	<u>lei</u>		Calibration						
Water Level P			oe Indicator		Checked A	gainst Calib	rated I anoth				
Water Quality	Meter	YSI	Model 556 w	ith FT Cell	Twice Dail	eumst Camu. V Calibration	ateu Lengu	l 	prated Weekly		
GENERAL C	OMMENT:	S				y Canorano	i vermeane	n aiso Cairb	rated Weekly		
errous Iron =		YS	I 556 Multi-P	arameter Probe U	nit #	Field Poron	otoro Ma-	umo d. I. YYY	77		
Sulfide=				Well Diameter (i	n )=	Scream Into	reliers ivieas	ired in Flow	Through Cell		
urbidity of Sa	unple =				OP OP F	Screen Inter		()= 182 86	<del>//</del>		
					the second second						
			NA.	7 - 5	DO 401	20 11/ 1	- LOW 7	UPEN	FFECTING		
			•			INS	5TX81	111			
					ŧ		w.	/			



Project Name:				Project No.	T14622-27	03			
Location:	Middletoy	n, Iowa		Well No.	MW-513-	OFF SITE	) JAW	32 F	IRING SITE
Date/Time Co	llected: 🕼	112/07	1559	Personnel AOS	1 RCE				
Sampling Met		Harricane		Sample Media 🗸	groundwate	r			
Sample QA S	plit:	NEIL	W123A1	2. plit Sample No.		· · ·			
Sample QC D	uplicate:			Ouplicate Sample No.	<del></del>			· · · · · · · · · · · · · · · · · · ·	
MS/MSD Rec	quested:			IS/MSD Sample No.	· · · · · · · · · · · · · · · · · · ·				
SAMPLE CO	NTAINER	S. PRESE	RVATIVES,	ANALYSIS	· · · ·				
Sample Cont			eservative		Analysis R	equested			
(2) 1 Liter Am			ne, Cool to 4°	÷		(SW-846-8:	307		
1111476		;	NONE	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s			URAN	IUM	
	/				cocces and the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the		····		
WELL PUR	GING DATA	1 . /	1	*	<u> </u>				
Date		6/12	107	Well Depth (ft BTO	C)				
Time Started		17	₹3E	Depth to Water (ft B)		TOP	OFE	Uml	7
Time Comple	ted	1=	29	Water Column Lengt	,			- 11/2	/
PID Measurer				Volume of Water in V		<del></del>			
Background				Purge Rate (liters/min		0,0	30		
Breathing 2				Level of Drawdown (					
Well Head				Amount Purged (liter					
FIELD MEA	SUREMEN	TS		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			<u> </u>		· · · · · · · · · · · · · · · · · · ·
Time	Amount	pH	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
i iiii¢	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
	(liters)	(00)	(0)	(40.011)	(,	(115/2)	(1,10)	(ft)	, raic
1575	(Incoro)	7.03	15.91	545	-181	5.70	0.90	~ <b>!</b> /	115 mistres
1538		7 29	16,14	34/	-9.0	5,19	0.50	12 23	50 7
1541		- 2/	18.17	745	1-7:3	5.85	0.50	~~ <del>~</del>	100
1/2/1		475	1.8 =11		-0.1	5.47	0. 83	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	80
1227	<b>-</b>	115	19:00	745	3.7	X 4/2	2 /2	_ ~	250
1550	<b>_</b>	715	19.71	KUA	1 6 2	5,47	0.40		50
1553	<u> </u>	100	20.14	350	8.2	441	020		30
<del>                                     </del>	<del></del>	1500		552	8.2	,	0.05		30
1250	2.5	7.7.2		<del></del>		4.20		-6-	
1037	6.0	114	21,27	553	9.0	2.30	0,20	7	80
								- 7	
							1	~~~	
		<b></b>							
FIRE D ROLL	I DAARATT I	NED CLEE	OD LTION			<u>L</u>			
FIELD EQU	IPWENT A				Calibustian				
W	. 1	<u>Mo</u>			Calibration				
Water Level P			pe Indicator	: 1 rom or 11			rated Length		
Water Quality			I Model 556 w	ith F I Cell	I wice Dail	y Calibration	n Venticatio	n also Calib	orated Weekly
GENERAL C									
Ferrous Iron =		Y	St 556 Multi-l	Parameter Probe Unit					Through Cell
Pump Placeme	ent Depth =			Well Diameter (in.)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		rval (ft BTO	C) ==	
Turbidity of S	ample =			Notes:	EDO EL	<u> 524 ]</u>	Mall	VUE :	to wu
				QE/	UCHAND	NIOV	264W	Sec-2 back	
						- / *** *		·	
									<i></i>





Project Name:	·····		·	Project No.	T14622-27	·-··				
Location: Mide				Well No.	JAW-34 (	Firing Site	)	***********		
Date/Time Col			010	Personnel: AUS	/RCE					
Sampling Meth	hod:	₩ell Wiz	ard	Sample Media: /	groundwate	r				
Sample QA Sp	olit:		] s	Split Sample No.	<u></u>	<u>.</u>				
Sample QC Dı	uplicate:		] [	Ouplicate Sample No.	***************************************		***************************************	·····		
MS/MSD Req	uested:		] ,	MS/MSD Sample No.						
SAMPLE CO	NTAINER	S, PRESE	RVATIVES,	ANALYSIS						
Sample Conta	iner	Pre	eservative		Analysis R	equested				
(2) 1 Liter Poly	у	HN	Ю3		Rad Parame	eters (Gross	Alpha/Beta	)		
(1) 1 Liter Poly	у	HN	iO3		Rad Parame	eters (Total	Uranium)			
WELL PURG	GING DAT	A , ,	<i>j</i> _							
Date		6/9	107	Well Depth (ft BTOC						
Time Started		7 *	925	Depth to Water (ft BT		19.34	Ž.			
Time Complete			1010	Water Column Length						
PID Measurem	nents			Volume of Water in W	Vell					
Background				Purge Rate (liters/min	1)	0.06	D			
Breathing Zo				Level of Drawdown (f						
Well Head				Amount Purged (liters)						
FIELD MEAS	SUREMEN	ITS				· ·				
Time	Amount	pH	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
Time	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Rate	
925	(HEIS)	6,97	14,52	1404	197.4	3,80	arto	19.68	300 MIL/M	
		6,97	17732	1318	108.4	2.45			200	
<u> </u>			12167	1305	1983	2,57		20.13		
<u> 935</u>		6.94	13.5%				8,45	20.75	300 300	
940		6.76		1295	53.7	3,66				
945		6,97	14.01	1293	49.3	2.42	0,45	20,65	125	
950		6,97	15,24	1301	44.6	2/16	0.20	20,73	125	
955		2,00	15.25	1300	37.4		0,45			
1000		6.99	14,99	1301	310	2.11	0.35	20,86	<u> </u>	
1005		6,98	15.46	1298	29.8	2.09	0.95	20.90	80	
1010	7	6,99	16,20	1302	27.9	2,12	1,60	20,91	60	
V										
FIELD EQUI	PMENT A	ND CALII	BRATION		<u> </u>					
		Мо			Calibration					
Water Level Pr	robe	***************************************	pe Indicator		Checked As	ainst Calib	ated Lenoth	1		
Water Quality			l Model 556 w	ith FT Cell					rated Weekly	
GENERAL C	OMMENT			1001 2 X NOVA	i nice Dall	, canoratioi	· · · · · · · · · · · · · · · · · · ·	ii wwo Cand	· cocc · · · · · · · · · · · · · · · · ·	
Ferrous Iron =	♥14114113141		CL556 Made: 1	Daramatar Deaka Hali 4	<u>.</u>	Field Dares	atare Mann	rad in Class	Through Cell	
	nt Danth	<u>I</u>	-Biniki oce ie	Parameter Probe Unit #					rmough Cell	
Pump Placemen				Well Diameter (in.) =	4'	Screen Inter	vai (II BTU	<u>( ) = </u>		
Turbidity of Sa	impie =			Notes:		·····				





Project Name: IAAAP			Project No.	T14622-27	03							
	1 3 3 3 4 1-10/18/5/3/ 2											
Date/Time Collected: 6		1740	Personnel	RD5/								
Sampling Method:	Flurricane		Sample Media	groundwate	er							
Sample QA Split:	VELL	NFRQX	) plit Sample No.	<del></del>								
Sample QC Duplicate:		Ī	Ouplicate Sample No.	<u></u>	<del></del>	<del>'</del>						
MS/MSD Requested:		N	MS/MSD Sample No.		·							
SAMPLE CONTAINE	RS, PRESE	RVATIVES,	ANALYSIS									
Sample Container		servative		Analysis R	equested							
(2) I Litter Amber Glass	Noi	ne, Cool to 420	2	E <del>xplosives</del>	<del>(SW-846-8</del> :							
MILITER P	20-L	NONE		OLFP	alver	1 UR	NIUM	7				
V		<b></b>		0.00				*				
	/											
WELL PURGING DA	$\Gamma A_{a}$											
Date	6/12/0	7	Well Depth (ft BTO		***************************************							
Time Started	<u> </u>	1830	Depth to Water (ft B'		20,	30						
Time Completed	** * * * * * * * * * * * * * * * * * * *	1740	Water Column Lengt									
PID Measurements		, ,	Volume of Water in	Well								
Background			Purge Rate (liters/mi	n)	<u>ح. و</u>	> <del>?</del>						
Breathing Zone			Level of Drawdown (	(ft BTOC)								
Well Head	***************************************		Amount Purged (liter									
FIELD MEASUREME	NTS											
Time Amount	····	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge				
Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate				
(liters)		U a		1 30			(ft)					
1630	7.47	16.11	1266	919,5	3.75	0.00	20.69	125 mil/	MIN			
7635	7.06		1274	1-7,2	1,89	0:00	20,85	90 /				
1640	6.79	17.74	1300	- 4,5	1.52	0,00	20,86	<i>'90</i>				
/6 45	6,97	18 30	1320	44,0	1.45	6.25	20,90	80				
16 50	6.95	18,97	1322	1-0/6	1,27	0,00	20.93	80				
16 55	6.96	19.72	1326	1/3	1,29	0,30	20.95	@ A				
1700	6,95	18.92	1324	-716	1,22	0,80	21.02	90 4445	TPOWS			
1705	6.95	19.16	1326	-26	1.20	0,15	71.09	907	000			
1710	6.95	18,16	7323	-0.0	1.17	0.10	21,16	100				
1715	6 95		132Z	7 7	110	030	21,22	80				
1720	6.93	18/17	1321	6/8	1.18	0,00	21,25	90				
1725	7	17:72	1332	1,100	110							
1733	6.75	18.15		13.4	++++	5.35	21.30	<u> </u>	- <del></del>			
FIELD EQUIPMENT			1323	1127	1.22	ರಿ.೮೦	21.28	75	*1			
FIRED EQUIPMENT				Calibration					086			
Water Faculty of	<u>Mo</u>			Calibration		. 1 * -						
Water Level Probe		pe Indicator	1.4 mm 27 51			rated Length						
Water Quality Meter		Model 556 w	ntn FT Cell	Twice Daily	Calibration	ı Verificatio	n also Calib	rated Weekly				
GENERAL COMMEN									1			
Ferrous Iron =		SI 556 Multi-l	Parameter Probe Unit					Through Cell				
Pump Placement Depth =	=		Well Diameter (in.)			rval (ft BTO						
Turbidity of Sample =			Notes:	7								
								·····	I			
							***************************************	****				
			34000000000000000000000000000000000000									



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Project Name				Project No.	T14622-2	703				
Location:	Middletow			Well No.	MW-513	(OFF-SITE	) 14n	34 F	-1R1NB SI	+=
Date/Time Co				Personnel	ROST	RCE				
Sampling Me	thod:	Harrican		Sample Media	groundwat	ег				
Sample QA S	plit:	WEIL LA		plit Sample No.				w		
Sample QC D	uplicate:			Ouplicate Sample No.	<u></u>					
MS/MSD Red	quested:		] /	MS/MSD Sample No.		····				
SAMPLE CO	ONTAINER	S. PRESE	RVATIVES.	ANALYSIS				· · · · · · · · · · · · · · · · · · ·		
Sample Cont			eservative		Analysis F	Seanested				
(2) 1 Liter An			ne Cool to 4°	3		(SW-846-8:	30)	-		
	ItRRPO	N	None			oluen !		14/1		
WELL PUR	GING DATA	١ .	,		<del></del>			<del></del>		******
Date		<u> </u>	107	Well Depth (ft BTOC	C)					
Time Started			1630	Depth to Water (ft BT	OC)	20	. 30			
Time Comple			1740	Water Column Length						
PID Measurer	nents			Volume of Water in W	Vell					
Background	1			Purge Rate (liters/min	)	ರಿ. ೯	8			
Breathing 2	Cone			Level of Drawdown (f	t BTOC)	· · · · · · · · · · · · · · · · · · ·				
Well Head				Amount Purged (liters	s)	(0				
FIELD MEA	SUREMEN	TS				<u> </u>				
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate	
1735		6.91	19.18	1326	13.8	613	0.25	21.36	80 m/s/	,
1740	6	6.92	19.51	1335	12.5	1.26	0.07)	21,40	30 11	<u> </u>
1745						1			1 2	
					<del> </del>					
					1					
								<del>                                     </del>		
							····			
					<u> </u>	<b></b>				
					†					
							·····			
					<u> </u>					
						<b>-</b>				
FIELD EQUI	PMENT A	VD CALII	BRATION		L	1				
•		Мо			Calibration					
Water Level P	robe	***************************************	e Indicator			gainst Calibr	ated Lenoth	3		
Water Quality	Meter		Model 556 wi	th FT Cell					rated Weekly	
GENERAL C						2	· · · · · · · · · · · · · · · · · · ·	ii aiso Callt	nada weekiy	
Ferrous Iron =			SI 556 Multi-P	arameter Probe Unit #		Field Param	eters Mean	red in Floo	Through Cell	
Pump Placeme	nt Denth =	<u> </u>		Well Diameter (in.) =	411	Screen Inter			intough Cell	
Turbidity of Sa			<u> </u>	Notes:	£:	SOLUTION THEOL	-41 (11 19 1 0	<i>∪j</i>		
			······································	> \ \( \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \sigma \s	<del>,</del>	······································				
			•	***************************************		· ************************************				
			•							
			···					·		



Project Name				Project No.	T14622-27				
Location:Mid				Well No.	EBP-MW	2 (East Bu	rn Pad)		
Date/Time Co	llected: ५	17107	1623	Personnel:	MM	SIAC	*		
Sampling Me	thod:	Hurricano	MON.	Sample Media:	groundwat	er /			
Sample QA S	plit:		] :	Split Sample No.					
Sample QC D	uplicate:		] ,	Duplicate Sample No.	<del></del>		· · · · · · · · · · · · · · · · · · ·		
MS/MSD Red	quested:		] 1	MS/MSD Sample No.					
SAMPLE CO	NTA INE	oc porce	DVATIVES	ANAT VCIC					
Sample Cont			eservative	ANALISIS	Analysia I	Dogwoodod			
(1) 500 ml Po			ne, Cool to 4°	^	Analysis F	s (Lab will	filter and m	222222	
(1) 500 111 1 0	ı y	NO	ne, Cooi 10 4 (		Metals-Dis	s (Lab Will	mer and pr	eserve)	
						***************************************		····	
			******						
								,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
		•							
WELL PUR	SING DAT	A .							
Date		8/2/	01	Well Depth (ft BTOC	3)		50 F	+. •	
Time Started		ito	ĎŽ.	Depth to Water (ft BT		<u> </u>	42 3		5.38 4K
Time Comple	ted	11	73	Water Column Length			ryt J	X.> / `	<u></u>
PID Measurer			<del></del>	Volume of Water in V					
Background				Purge Rate (liters/min		***************************************			
Breathing 2				Level of Drawdown (f					
Well Head	70110	***************************************		Amount Purged (liters		2 3/4	9a0 .		
FIELD MEA	SUREMEN	ITC	ř	Timount Ediged (Inters		to 7 1	4		
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Days
THE	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Purge
	(liters)	(50)	( )	(μο/οπ)	[ (m v)	(ing/L)	(MIU)	1 1	Rate
/b O3	(Incis)	7.16	13.57	888	-/08.0	0-10	N/	(ft) 45.5≥	425
1609	ì	7.10	13.31	957	-133.Z	0.15	<u> </u>	45.95	<del>-144</del>
16 13		7.13	12.35	456	-140,9	0.10		49.56	
1618		7.15	13.30	950	1/44 /2	0.05	* / ·	45,54	
1 in 23	7/4		73.75	932	-/45	0.05		45.57	<u> 400                                  </u>
150 G 3	7.74	7 - 6 %	. 1.31	7.5 4	775.5	09,00	- Ker /	70.37	400
11-11-1					<del> </del>				
					1		***************************************	<del>  </del>	
	·				<b>†</b>				
									<u></u>
FIELD EQUI	PMENT A	ND CALIF	RATION						
		Mod			Calibration				
Water Level P	robe		ndicator		Checked As	roinet Calibr	atad Lanath		
Water Quality			Model 556 w	ish ET Call				ı n also Calibrat	rad Wastels
GENERAL C			WIOGCI JJO W	unt i Con	I WICE Daily	Canoration	v Cillicatio	n aiso Canorai	ed weekly
Ferrous Iron =	WITHITE I		SI 556 Malis I	Parameter Probe Unit #		Field Dom	atare Mana-	erad in Plant T	hrough Call
Pump Placeme	nt Denth -	1	JI JJU WIUIU-I	Well Diameter (in.) =		Screen Inter		red in Flow T	mough Cell
Turbidity of Sa		······································			PEAUE -				
a 111 (11221 ) \$ (12 13)		<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>	**************************************	, 1020. <u>1 - V</u>	TANK	PAN MIT	<u>rriiv</u>	NVNV.	
			•				· · · · · · · · · · · · · · · · · · ·		
				······································			<del> </del>	<u> </u>	



Project Name		······	****	Project No.	T14622-27					
Location:Mid			*******	Well No.	EBP-MW3		rn Pad)			
Date/Time Co		1.19.1	<u>5年</u>	Personnel:		, IRO				
Sampling Me	thod:	Peristaltic	: Pump	Sample Media:	groundwate	r [/]				
Sample QA S	plit:		] s	plit Sample No.		*******************************				
Sample QC D	uplicate:	Ø	_ г	Ouplicate Sample No.						
MS/MSD Red	quested:		] N	MS/MSD Sample No.						
SAMPLE CO	NTAINED	C DDECE	RVATIVES,	ANAI VCIC						
Sample Cont			eservative	A.VALI ( 010	Analysis R	ennested				
(2) 1 Liter An			ne, Cool to 4°C	2	Explosives		330)			
7=7		******	,			(2 000.				
						***************************************		······································	***************************************	
		····								
					***************************************					
	<del>/</del>									
WELL PUR	CINC DATA									***************************************
Date	JING DATE		~ 1	Well Depth (ft BTOC	")	~ 27	المهرات			
Time Started		- 101 PH	<del>4.1</del>	Depth to Water (ft BT			98 Ft.			
	E						AX FT.			
Time Comple		***************************************		Water Column Length						
PID Measures				Volume of Water in W			,			
Background				Purge Rate (liters/min						
Breathing 2	Zone			Level of Drawdown (f			-			
Well Head				Amount Purged (liters	s)	7.	25 g	$\alpha l$ .		
FIELD MEA	SUREMEN	TS		<u> </u>			e v d	700		
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
Time	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Řate	ML
ನಿಯ		7,40	11.92	560	25,3	3.68	7,80	7,90	550	
828		7.02	11.46	54 (J	-/2.4	1,73.	2.34	9.28	425	
<b>7</b> 3 3		7.00	11.75	- 13 G - 44 97 \	-29.9	7.36	0.00	9,15	200	
838		**************************************	1196					9.01		
723 743			12.25	<u>541</u>	1-38-Q	1.26			<u> 200</u>	
		7.01	/2/ <b>Z</b> O	533	-45,5	1.30		8,95	200	
848		7.02	12.19	527.	- 48:0	1.35	0,00	9.02	2/0	
<u> 253 </u>	2/40	678	/2-08	524	-48.6	1,36	0,00	9.07	<u>210</u>	
<u> </u>	2									
FIELD EQU	PMENT A	VD CALI	BRATION				<del> </del>	<u> </u>	***************************************	
		Mo			Calibration					
Water Level F	troha		pe Indicator		Checked As	volunt Calib	rated Langeth			
				al er call			-		orod Wests	
Water Quality			I Model 556 w	ım r i Celi	i wice Daily	/ Cambranor	i verificatio	n also Calibr	aica weekly	
GENERAL (			· · · · · · · · · · · · · · · · · · ·			er i.e.				
Ferrous Iron =		Y	SI 556 Multi-I	Parameter Probe Unit #		<del></del>		<del> </del>	Through Cell	
Pump Placeme				Well Diameter (in.) =	:	Screen Inte	rval (ft BTO	C) =		
Turbidity of S	ample =		**************************************	Notes:	***************************************		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	rar (. ambito do reio reservada do senda ser essencibrar a debada do re		
				-						



Project Name:	IAAAP			Project No.	T14622-270					
Location:Mide		va	4/9/57	Well No.	EBP-MW4 (East Burn Pad)					
Date/Time Co	llected: (	0/01/07	440	Personnel:	$\alpha_{N}$	5/AC	/			
Sampling Met		Hurricane	WOP 1/st	Sample Media:	groundwate	r /				
Sample QA Sp			S	plit Sample No.						
Sample QC Di	uplicate:			ouplicate Sample No.						
MS/MSD Req	uested:		N	IS/MSD Sample No.						
SAMPLE CO	NTAINER	S. PRESE	RVATIVES,	ANALYSIS						
Sample Conta			eservative		Analysis R	equested				
(2) 1 Liter Am			ne, Cool to 4°C	3	Explosives		30)			
<u> </u>										
***************************************										
WELL PURC	GING DATA					٠	/			
Date		6/8/	57	Well Depth (ft BTOO		4	3 Pt.			
Time Started		1000	Ŧ	Depth to Water (ft BT	TOC)	3	4.48	FC +		
Time Complet	ed			Water Column Length						
PID Measuren	nents			Volume of Water in V	Vell					
Background	ĺ			Purge Rate (liters/mir	1)					
Breathing Z		***************************************		Level of Drawdown (	ft BTOC)					
Well Head				Amount Purged (liters	s)					
FIELD MEA	SUREMEN	TS								
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
Time	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
	(liters)	(00)		(7.1.		` ~ _	l ` ´	(ft)		
1007	177	7.10	14.86	680	-32.2	1,39	5/.6	38.28	120	
1012	(90	7.09	15 07	1,86	- 70.3	1.20	14.2	38.48	24	
7017		7.10	17.07	697	127.3	7 705	44,4	38.53	25	
1022		7,11	18.25	694	1-25.6	1.10	34.4	<b>4</b> 8.57	25	
		1/19	19.92	701	-75.0	1.07	30.8	38.62	ZŠ	
1027		1/15	20.05	7.69	- 25.2	1.04	78.8	38,64	10	
103Z 1037	<u> </u>	7.15		711	- 749	0.97	27//	30,65	10	
1037			14.40		1-5.8	3.17	160	F2.95	7. 35	
7 0935		7.10	/4.40	936	<del>                                     </del>	2.7.7				
	<u> </u>	<b>—</b>	1	<del></del>	1	7				
<b>√</b>	A A A	1) 7	$\mathcal{M}$		<del>4/ ) 1/4 /</del>	V 151	V/K	1-1		
			1-1	1 4 4 4 4 6	1///	4	U// =	16 612	<del>- 1910  </del>	
***************************************		<i>I</i>								
		***	N * 1 25 7 7 8 7				<u> </u>			
FIELD EQU	IPMENT A				0.13					
			<u>odel</u>		Calibration					
Water Level F			pe Indicator				rated Length			
Water Quality			1 Model 556 w	rith FT Cell	Twice Dail	y Calibratio	n Venficatio	n also Calib	rated Weekly	
GENERAL C	COMMENT									
Ferrous Iron =		)	/SI 556 Multi-	Parameter Probe Unit a					Through Cell	
Pump Placem	ent Depth =			Well Diameter (in.) =		Screen Inte	rval (ft BTC	)C) =		
Turbidity of S				Notes:			,			
I										



Project Name:	IAAAP			Project No.	T14622-270					
Location:Mide	lletown, Iov	va		Well No.	EBP-MW5		rn Pad)			
Date/Time Col	اون :lected	8107		Personnel:	Mmg/h					
Sampling Met	nod: 🏋 🌣	1/2		Sample Media:	groundwate	Г				
Sample QA Sp	olit:		S	plit Sample No.						
Sample QC Dı	aplicate:		D	uplicate Sample No.			,,,,,,			
MS/MSD Req	uested:		N	IS/MSD Sample No.				W W. W. CONSTRUCTION OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF TH		
SAMPLE CO	NTAINER:	S, PRESEI	RVATIVES,	ANALYSIS						
Sample Conta	niner		servative		Analysis R					
(2) 1 Liter Am	ber Glass	Non	ie, Cool to 4°C		Explosives	(SW-846 83	330)		····	
							, , , , , , , , , , , , , , , , , , ,			
WELL PURC	SING DATA	نىس د	والمعارض والم			1	- CA 1			
Date		6/8/	07	Well Depth (ft BTO		4	7. 8 F			
Time Started				Depth to Water (ft B)	roc)	3	2-28			
Time Complet	ed	***************************************		Water Column Lengt						
PID Measurer				Volume of Water in V						l
i e				Purge Rate (liters/mir						
Background				Level of Drawdown (						
Breathing Z	one								,	
Well Head				Amount Purged (liter	'S)					
FIELD MEA	SUREMEN	TS					T == 1.11./	XXX	D	
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	ML
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
	(liters)	, ,	, ,				tra (se	(ft)		min
1323	(114015)	7.00	13,19	687	-475	194	44	33,97	500	1
		7,00	13.32	676	-67,9	7.67	110 -100	233.01	100	
328		·			-759	7.60		32.78	100	
13 22		7.00	14.30W	2 6 7 7		, ,	11 -7/	32.73	700	,
1338		7.01	14.53	66	1-80.5	491	#1.7			
13.45		7.01	14,52	684	-79.7	1.59	44,8	32,72	100	
1349		7,01	14.45	683	-79,1	1,60	29.4	32,71	100	
1555		6.98	14.57	602	-77.5	1260	18.4	2,2.70	100	
1358		7-62		672	1.75 14	1.59	12.0	37,69	1,90	
(403		7.00	14.09	649	- 75, 4	1,60	9.34	32,69	100	
					-13.6	1.60	6.76	32.69	100	
1408		7.03	14. to			1,59	5.05	32.69	-700 -	
1413		7.03	<u> 17:72</u>	608	-72,8	<del>]</del>			100	
1418		7.03	<u> </u>	64	>72.0	7-60	<u> 409</u>	32.69		
1 427		7.03	14.89	7, 6, 0	-71.3	46/	2.94	32.64	180	
FIELD EQU	IPMENT A				A 20 '					
		<u>Mo</u>			Calibration					
Water Level F	robe	Slo	pe Indicator	/	Checked A	gainst Calib	rated Length	1		I
Water Quality			I Model 556 w	ith FT Cell	Twice Dail	y Calibratio	n Verificatio	n also Calibra	ated Weekly	
GENERAL (										
Ferrous Iron =			SI 556 Multi-	Parameter Probe Unit					Through Cell	
Pump Placem				Well Diameter (in.)		Screen Inte	erval (ft BTC	)C) =		
Turbidity of S				Notes:				<u>.,</u>		
***************************************		····		***************************************						
				***************************************	······································					
									***************************************	1
I									·	



20/2

Project Name:	<u></u>	444 F			114622				
Location:		IONA	<u> </u>		<u> نب ۲۰ - ۹۴</u>	s LEA	ક્પ B)(	22 PAO	
Date/Time Co		6/8/0	7	Personnel	nn	5/AL-			
Sampling Met	hod: MOR		**************************************	Sample Media	Azerinê i	ب تخضر			
Sample QA S	plit:		] s	plit Sample No.	<i>9</i>				
Sample QC D	uplicate:		] [	Suplicate Sample No.					
MS/MSD Req	uested:		] »	IS/MSD Sample No.					
SAMPLE CO	NTAINER	S, PRESE	RVATIVES, A	NALYSIS					
Sample Cont	ainer	Pr	eservative		Analysis R	equested			
				<del>1120</del>			<del></del>	N 1	7
			- 1	<del>/////</del>			<u> </u>	3C/C '	
		,	CONT						
WELL PURC	ING DATA						*****		
Date	mid bytt		_	Well Depth (ft BTO	M				
Time Started		****		Depth to Water (ft B'					
Time Complet	ed			Water Column Lengt					<del></del>
PID Measuren				Volume of Water in					
Background				Purge Rate (liters/min					
Breathing Z				Level of Drawdown (			• • • • • • • • • • • • • • • • • • • •		<del>*************************************</del>
Well Head	OILC			Amount Purged (liter					
FIELD MEA	CHERMEN	re		Amount I taged (Inc.	3)				
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Rate
1428		7.03	14.9.4	658	-70,6	1.61	2.60	32.69	<i>(0</i> 0
1433	and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of th	7.04	14,83	657	169.5	1162	2.65	32.69	100
1438	V/\V/\/								
FIELD EQUI	PMENT AN								
		Mo			Calibration				
Water Level P			pe Indicator		Checked Ag				
Water Quality			I Model 556 wi	th FT Cell	Twice Daily	/ Calibration	Verification	n also Calibra	ated Weekly
GENERAL C	OMMENTS								
Ferrous Iron =		7	SI 556 Multi-F	arameter Probe Unit				ired in Flow I	Through Cell
Pump Placeme	*************************			Well Diameter (in.)	ınt .	Screen Inter	val (ft BTO	C) =	
Turbidity of Sa	ımple =			Notes:		***************************************	***************************************		
					····				



Project Name										
Location:Mid				Well No.		(East Burn	Pad)			
Date/Time Co			630		rce					
Sampling Met	hod:	Well Wiz	ard	Sample Media: /	groundwat	er				
Sample QA S	olit:			Split Sample No.		····		<del></del>		
Sample QC D	uplicate:		] 1	Duplicate Sample No.					···	
MS/MSD Req	uested:		י	MS/MSD Sample No.						
SAMPLE CO	NTAINED	C DDECE	DVATIVEC	ANIAT VOIC					***	
Sample Conta			servative	ANAL 1313	Analysis F	la canactad				
(2) 1 Liter Am			ne, Cool to 4°	^		(SW-846 8	330)			
(2) I Little Mil	iber Chass	1401	ic, Coor 10 4	<u> </u>	Explosives	(2 M-040 0	330)			
									<u></u>	•
	····					****				
					***************************************		*****			
									***************************************	
WELL PURG	ING DAT	A	-							
Date		6/6/	107	Well Depth (ft BTOC	7)					
Time Started		160		Depth to Water (ft BT	,	201	10			
Time Complet	ed		30	Water Column Length					<u></u>	
PlD Measuren			<u> </u>	Volume of Water in V				······································		
Background				Purge Rate (liters/min		0,090	7		<u></u>	
Breathing Z		•••••	***************************************	Level of Drawdown (f				·····		
Well Head		****		Amount Purged (liters		- K				
FIELD MEA	SUREMEN	TS			- /					_
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Rate	
1600	(liters)	7.19	15,02	874	15.8	*	1.00	20.30	250 Mic/n	7/
1605		715	13.02	876	19.6		1.00	20,63	175	1 /N
1610		7.15	14.07	874	16.5		0,60	20.83	190	
1615	***************************************	7,15	14.38	877	13:7		0.65	20,96	100	
1620	····	7.75	16.46	881	14,0		0,75	21.02	90	
1625	**************************************	7.16	17.09	883	138		0.75	21,10	90	
1630	60	7 15	17 02	883	15.0		0.20	21,18	90	
		14/3	11,44	503	<del>  / 3 - 4 -</del>		0.70	<u> - 61:16</u>		
		1								
		tt								
	***************************************				1					
									<u></u>	
FIELD EQUI	PMENT A	ND CALIB	RATION	L			<u> </u>	<u>I</u>		
•		Mod			Calibration					
Water Level Pi	obe		e Indicator			rainst Calib	rated Length			
Water Quality		-	Model 556 w	ith FT Cell					rated Weekly	
GENERAL C				AND A A SOUTH	1 11100 12001	,	Cilicado	ano Canb	acce fromly	$\dashv$
Ferrous Iron =			SI 556 Multi-I	Parameter Probe Unit #	;	Field Paran	neters Messen	red in Flow	Through Cell	ı
Pump Placeme	nt Denth =	1 1	or one main-i	Well Diameter (in.) =			rval (ft BTO		rmough Coll	-
Turbidity of Sa		······		Notes:	· • [	OCIUCII IIIC	var(it DIO	<u> </u>		
					·····	······································	······································			
				**************************************		······································				



Project Name				Project No.	T14622-27				
Location:Mid				Well No.		East Burn	Pad)		
Date/Time Co	ollected: /	1101	<u> </u>	Personnel:	/   /  5				
Sampling Me	thod:	Well Wiz	ard	Sample Media:	groundwate	r			
Sample QA S	Split:		] s	Split Sample No.	***************************************				
Sample QC E	Ouplicate:		) r	Ouplicate Sample No.					
MS/MSD Red	quested:		) N	AS/MSD Sample No.					·····
SAMPLE CO	ONTAINER	S PRESE	RVATIVES,	ANALVSIS					
Sample Cont			eservative	ALVIEL DID	Analysis R	emested			
(2) 1 Liter Ar			ne, Cool to 4°C		Explosives		330)		
X2				<del> </del>		(20.000			
				***************************************					***************************************
			···········				······································	***************************************	
WELL PUR	GING DAT	A							
Date			01	Well Depth (ft BTOO					
Time Started			1-	Depth to Water (ft BT	OC)		21.95		
Time Comple	eted	-	34	Water Column Length	1				
PID Measure	ments			Volume of Water in V	Vell				
Backgroun	d			Purge Rate (liters/min	)				
Breathing 2	Zone			Level of Drawdown (f	t BTOC)	***************************************			
Well Head		***************************************		Amount Purged (liters	s)	•	3 a	allone.	
FIELD MEA	SUREMEN	TS			•				
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
UOL	(111111)	243	HIZH	546	-73.4	1.43	0.00	22,343	725
לטון		7.23	12.44	585	-24.3	1.69	0.00	82.58	460
1117		7.20	12.42	583	-564	1. 55	0.00	72.25	360
477								723,73	
1117		7.21	12.56	554	-55.6	1.49	000	22,75	350
112.3		7.20	12.83	5.54	-59.0	142	1100	22.79	<b>3</b> 50
va7		7.21	13.26	586	-60,5	1.35	0.00	22,81	250
1152		7/14	13,6	536	40.9	1.34	0,00	22,79	3 <i>00</i>
1137	Bas	7.20	13,95	538	-61.	1.33	2.00	22.40	7,68
-	3 0/00								
FIELD EQU	IPMENT A	ND CALII	BRATION						
		Mo	<u>del</u>		Calibration				
Water Level F	Probe		pe Indicator		Checked Ag	gainst Calibr	ated Length	ŧ	
Water Quality	Meter		Model 556 w	ith FT Cell				n also Calibra	ted Weekly
GENERAL O					<del>_</del>				
Ferrous Iron =	=	Y	SI 556 Multi-I	Parameter Probe Unit #		Field Param	eters Meast	red in Flow T	hrough Cell
Pump Placeme	ent Depth =			Well Diameter (in.) =			val (ft BTO	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	
Turbidity of S				Notes:					
	menterventalasa <b>(in</b> disentabilarbilarbilas) asasian was disent	recommende to the dissection of the lead of the desire law is		· · · · · · · · · · · · · · · · · · ·		~~~	***************************************		
							***************************************		
			•						



Project Name				Project No.	T14622-27	03			
Location:Mid		wa		Well No.	EDA-04 (	East Burn	Pad)		
Date/Time Co	ollected:	17/07	1435	Personnel:	L/MR3				
Sampling Me	thod:	Well Wiz	ard	Sample Media:	groundwate	er			
Sample QA S	plit:		] s	Split Sample No.					
Sample QC D	uplicate:		] .	Ouplicate Sample No.		***************************************			·
MS/MSD Red	quested:		] 1	MS/MSD Sample No.	***************************************			······································	
SAMPLE CO	ONTAINER	S. PRESE	RVATIVES	ANALYSIS					
Sample Cont			servative		Analysis R	equested			
(2) 1 Liter An			ne, Cool to 4°C		Explosives		330)	***************************************	
· · · · · · · · · · · · · · · · · · ·			,			(2			
				***************************************		***************************************			
			·····						
							·····		
WELL PUR	GING DAT	4							
Date	SING DAY	. 1	07	Well Depth (ft BTOC	*1				
Time Started		***************************************	<u> </u>	Depth to Water (ft BT			8.01	$\Delta_{\chi}$	
Time Started Time Comple	tad	142	2				0,00	ry.	
		147	2	Water Column Length					
PID Measure				Volume of Water in W					****
Background		***************************************		Purge Rate (liters/min			***		
Breathing 2	Zone			Level of Drawdown (f					
Well Head				Amount Purged (liters	.)		2.3/4	f galle	01 S
FIELD MEA	SUREMEN	TS						Ü	
Time	Amount	pH	Temperature	Conductivity	ORP	DO	Turbidity	Water	My Purge
	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Rate
1355		7.45	14.10	657	-534	2.05	0,00	8.43	<b>7</b> 50
1400 .		7,14	12.14	9,54	-71.7	0,39	0.00	8 28 4	57S
(409)		7.11	17.74	\$>12 <u></u>	-950	6.10	0.00	Ř. 14	390
1410	<u> </u>	7,19	13.14	862	105.0	0.14	0.00	8.90.	990
1410		1.13	13.52	959	-1161	0,22	n. 00	8,99	215
1470		7 4	14.5a	960	1218	049	0.01	819	110
1425		7.14	16191	81	-124.5		<del></del>	2.97	110
1430		7.18				8:17	0,00		<del></del>
一提灣一	2 3/W		49.4	<u>814</u>	1 4 2 2 3 3 1		0.00	8,47	
VT // /	A MA	7.18	<u> </u>	874	~128 6	011	10.00	9,44	110
	V 1 1								
						·····			
				·····	ļ	· · · · · · · · · · · · · · · · · · ·			
FIELD EQU	IPMENT A	ND CALIE	BRATION						
		<u>Mo</u>			<u>Calibration</u>				
Water Level P	robe	Slop	e Indicator		Checked Ag	gainst Calibi	rated Length		
Water Quality	Meter	YSI	Model 556 wi	ith FT Cell					rated Weekly
GENERAL C								***************************************	***************************************
Ferrous Iron =			SI 556 Multi-F	Parameter Probe Unit #		Field Param	eters Measu	red in Flow	Through Cell
Pump Placeme				Well Diameter (in.) =			val (ft BTO		
Turbidity of S			****	Notes:				<u> </u>	
AMEDICAL OF DE	43115/20			2.30/16\cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot			·····	**************************************	
				<u></u>			······································	···	***************************************
			•					·····	



Project Nam	e TAAAP			Decinat No. 371 (CO)	3.0400 A	DE 6/	7			
Location:Mi		OW4		Project No. T1462	***************************************		03			
Date/Time C	*************************************	6/4/2	<u> </u>	Well No. JA		NBI	4 ( NO1	27# BO	DAN PRO	1
Sampling Me	ethod Loru I	Harris the	0340	Personnel: RO  Sample Media: Gro	SIMCE				L	<i></i>
8		ful [			oundwater					
Sample QA S Sample QC I	•			Split Sample No.		· · · · · · · · · · · · · · · · · · ·			***************************************	
•	_	<u></u>		Duplicate Sample No	70000					•
MS/MSD Re				MS/MSD Sample No	).					
		RS, PRES	ERVATIVES,	ANALYSIS						
Sample Con		P	reservative		Analysis	Requested				
(2) 141E	e AMSE	~ No.	NE took	-40 4°C	FVA	21 -514	TES 151	1.00	= <b>330</b> /	
	GL081	7				<u> </u>	ant n.	0 / 0	<u> </u>	
						***************************************		····		
<u> </u>						****				
WELL PUR	CINC DAT	PA								
Date	OMO DAI	6/7	/7	Well Depth (ft BTC	<b>)</b> (1)					
Time Started			810	Depth to Water (ft E	STOC)		· ·			
Time Comple	eted	50	340	Water Column Leng		23.5				
PID Measurer	ments	***************************************	<u> </u>	Volume of Water in			······································			
Background				Purge Rate (liters/m						
Breathing 2			· · · · · · · · · · · · · · · · · · ·	Level of Drawdown	(A DTOO)	0,30	2102			
Well Head		***************************************								
FIELD MEA		TTC		Amount Purged (lite	rs)	10.	-MENS			
Time	Amount	pΗ	Townson	A 1 (4 )						
1335	Purged	(SU)	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
	-	(30)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
<i>ଟ/ ୦</i>	(liters)	***	2 7 7					(ft)		
8/5	ļ	7.17	19.41	812	51,4	15:147	1,00	33,17	250 M/L	lmin
8.5		7.//	73,82	67/	58.1	5 24	0,43	33.71	275	7 12 1 10 1
820		7.12	13,75	869	55.3	4\AZ	0.10	37.7/	300	
825		7,12	13.58	<u>87.0</u>	601	4.76	0,00	33.72	200	
<u>830</u>		7.13	13,58	270	57,8	17.15	0.00		7200	
<u> </u>		2/13	13,60	868	58.7		0,00		300	
840	10	7.13	13.65	868	20,5		0.00	33,72	200	<del></del>
					<del>                                    </del>		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- VV. 16	300	
					1					
FIELD EQUI	PMENT A	VD CALII	BRATION		<u> </u>	<u>_</u>				
-		Moc			C-Et-					
Water Level Pr	obe		e Indicator		Calibration					
Water Quality I			Model 556 wit	L TOT OLI	Checked Ag	aınst Calıbr	ated Length			
GENERAL CO		1.51	TANGET 230 MIL	n r i Celi	1 Wice Daily	Calibration	Verification	n also Calib	orated Weekly	
errous Iron =			1 552 8 July 10							
Sulfide=		15	יי וווואו סכב ו NIMII-Pai	rameter Probe Unit #	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>	Field Parame	eters Measu	red in Flow	Through Cell	- 1
urbidity of Sar	mnla			Vell Diameter (in.) =	9"	Screen Interv	val (ft BTOC	C) =	35,-	
. or Drunty Of Saf	прие =	····	N N	iotes:** Oo F	200BE	ANO 1	21 ETE1	NON	FUNCHIO	MINZ
										7-1,10
								······································		
	*****									



Project Name: IAAAP Project No. T14622-2703									
Location:	Middletow	n, Iowa		Well No.	MW-117	/(OFF-SITI	Ξ)		
Date/Time Co	ollected: 🏉	12107	1550	Personnel M.S	m.44 /	M. M.Co	7 - Su	entic	
Sampling Me		Hurrican	2	Sample Media	groundwat	er	<i>t</i>		
Sample QA S	plit:			plit Sample No.	***************************************				
Sample QC D	uplicate:		II.	Ouplicate Sample No.					
MS/MSD Red	quested:		] N	4S/MSD Sample No.					
SAMPLE CO	ONTAINER	S. PRESE	RVATIVES,	ANALYSIS		<del></del>			
Sample Cont		-	eservative		Analysis I	hatzenna§			
(2) 1 Liter An			ne, Cool to 4°0	7		(SW-846 8	330)		
(2) 1 21111		214/	, 000.00		i i i i i i i i i i i i i i i i i i i	(511 516 6	330)	·····	
WELL PUR	CINC DAT								
Date	OING DAI	6/0	167	Well Depth (ft BTO	$\sim$	61	71		
Time Started		1/1/2	70.1	Depth to Water (ft B)		-51	<u>/</u>	·····	
Time Comple	ted /6/	<del>772</del>	SAVA	Water Column Lengt		<u> </u>	-1		
PID Measurer			3 0 0 0 0 0	Volume of Water in V			······································		
Background				Purge Rate (liters/mir					
Breathing 2				Level of Drawdown (					
Well Head	Johne	<del></del>	<del></del>	Amount Purged (liter		-			
FIELD MEA	CHDEMEN	me		Amount Furged (mer	-> /				
Time	***************************************	.,	Tamasantan	Conductivity	ORP	DO	T 701.1.272	1 11/-4	T
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	(μS/cm)	(mV)	(mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
1500	X2	6.75	15:30	672	193.2	0.48	85.0	37.19	500
1505		6.99	15.77	626 -	100.0	0.23	31.0	27.18	500
1510		7/16	15.96	C 75	118.7	130	2.5	27.18	500
150		7.24	16.08	537 -	122.1	,24	2.5	27.18	500
1520		7,27	16.19	518	+121.0	139	77	27.18	500
1525	2.5	7.30	16.16	509 -	116.9	163	0.00	27.18	500
1530	1 2	4.32	16.02	508	1/2.	1.89	0.00	21.18	500
1535		7.35	16.20	498 -	106.4	1.15	0,00	17 18	700
1540		7.36	16.34	495 -	102,5	1.20	0.00	27.18	500
1 mes com		7.36	16.27		101.6	1-20	0.00	27.18	
13622		((,))	( 0 , 24	-1/4	710.0			9-1110	
					+				
FIELD EQUI	PMENT A	ND CALII Mo			Calibration	<u>I</u>			
Water Level P	robe		oe Indicator			gainst Calib	rated Lancel		
Water Quality			mulcator Model 556 wi	ek ET Call					materal Washile
······			iviogei 556 Wi	uifi Cell	i wice Dail	y Calibration	i verificatio	n aiso Calib	rated Weekly
GENERAL C			areez ek sina	The state of	ı	ru. i a n		g * g***	maria de u
Ferrous Iron =		Y	51 330 Multi-P	arameter Probe Unit #					Through Cell
Pump Placeme				Well Diameter (in.) =		Screen Inte	rval (ft BTO	<u>() ==</u>	
Turbidity of Sa	ample =			Notes:			<del></del>		
			v						



Project Name	Project Name: IAAAP Project No. T14622-2703									
Location:	Middletow			Well No.	MW-117 <b>/</b>	(OFF-SITE		, ,		
Date/Time Co	ollected: (a)	10/67	1800	Personnel 1/2 5/2	424/1	4 MCCO		antic		
Sampling Met		Hurricane		Sample Media	groundwate		1			
Sample QA S	plit:		]	Split Sample No.						
Sample QC D	uplicate:		] [	Ouplicate Sample No.						
MS/MSD Rec	quested:		] N	MS/MSD Sample No.	<del></del>			<del>., </del>		
SAMPLE CO			RVATIVES, eservative	ANALYSIS	Analysis R	hataaraa				
(2) 1 Liter Arr			ne, Cool to 4°C	^		(SW-846 83	220)			
(2) 1 LHCI /\(\frac{1}{1}\)	IDEL CHASS	INO	ne, Cooi io - c	<u></u>	Explosives	(5W-040 o.	330)			
WELL PURO	GING DAT.	A lalies	174	Well Depth (ft BTO	C)			3.00		
Time Started		160		Depth to Water (ft B7			1	7.77		
Time Complet	ted	185	<del>```</del>	Water Column Lengti			<u> </u>	1111		
PID Measuren				Volume of Water in V						
Background				Purge Rate (liters/mir						
Breathing Z		***************************************	-	Level of Drawdown (ft BTOC)						
Well Head	ion.		***************************************	Amount Purged (liter						
FIELD MEA	SURFMEN	TÇ		Tillioune i di Bed (i.i.e.	3)	_		<del></del>		
Time	Amount	pH	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
Listin	Purged	(SU)	(°C)	(μS/cm)	(mV)		(NTU)	Elevation		
. !	(liters)	(30)	( )	(μο/ειιι)	(mv)	(mg/L)	(NTO)	l .	Kate	
1655	(IIICES)	772	17.98	407	59.9	1 4-1	<u> 7a</u>	(ft) 27.80	<del> </del>	
		7.48	7	1298		1.54	<del>-27</del> 75		500	
1700		7.48	16,14	7.48	- 71.1	157		27.80	500	
	***************************************	1.70	16.04	7/5	+78.2	134	80	27.19	450	
710-	4 .	1.41	15.41	473	85, 2	-22	85	27.84	750	
1715	3.5	7.51	15.16	472 -	101.0	613	75_	27.84	750	
1120		7.54	15.71	425	143.9	* 44 <u> </u>	50	27.82	500	
1725		7.55	15,80	475 -	-119.4	110	32	27.81	500	
1730		2.55	15.77	474 -	120.1	10	25	27.8/	500	
1735		7.55	15.67	4/4	121.8	. 09	20	27.81	5700	
1740		7.56	15.46	473 -	124.8	.08	14	27.81	500	
1745		7.56	15,63	474 -	124.7	08	/0	27.81	SZO	
1750	4.0	7.56	15,68	473 -	- 125.5	108	10	27.81	600	
1755		7.5%	15,66	475	125,2	,07	6,5	27.81	500	
FÍELD EQUI	PMENT A	ND CALIE		***************************************						
		Mod	del		Calibration					
Water Level Pr	robe		e Indicator		Checked Ag	ainst Calibr	ated Length	ì		
Water Quality		-	Model 556 wi	th FT Cell	_	-	-		orated Weekly	
GENERAL C						C-411-C-4	* VI	11 0130	rated recess;	
Ferrous Iron =	OF) (#) (#) m.z. (		\$1.556 Multi-P	arameter Probe Unit #	<u>{</u>	Field Param	atare Meser	red in Flow	Through Cell	
Pump Placeme	nt Denth =	~ ~	31 02/0 171420 1	Well Diameter (in.) =	***************************************	Screen Inter			Imough Con	
Turbidity of Sa		<del></del>		Notes:		Street inter	vai (it bio	C.J		
I Williamy on Da	шрк			NOICS.			·····			
			***		All and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco	***************************************				



Project Name:	IAAAP		'03						
	Middletow			Well No.	MW-1178	(OFF-SITE	Ξ)		
Date/Time Col	lected: $\varphi$	12/07	1430	Personnel /// S	n44 /1	1. Max	Sulle	Atic	
Sampling Meti	10d: 1	Hurricane		Sample Media	groundwate	er 🐧	<b>.</b>		
Sample QA Sp	olit:		s	plit Sample No.					
Sample QC Du	iplicate:		E	Ouplicate Sample No.				***************************************	
MS/MSD Req	uested:		N	AS/MSD Sample No.	***************************************				
SAMPLE CO	NTAINER	S, PRESE	RVATIVES,	ANALYSIS	***************************************				
Sample Conta			servative		Analysis R				
(2) 1 Liter Am	ber Glass	No	ne, Cool to 4°C		Explosives	(SW-846 8	330)		
								····	
WELL PURG	ING DAT.	A , ,	l				- يسبر		
Date		0/12	107	Well Depth (ft BTO			<u> </u>	455	
Time Started		/33	<u> </u>	Depth to Water (ft B			A	6,55	
Time Complete	ed	144	2	Water Column Lengt					
PID Measurem	ents	•		Volume of Water in '					
Background				Purge Rate (liters/mir					
Breathing Z	one			Level of Drawdown (	(ft BTOC)				
Well Head				Amount Purged (liter	rs)				
FIELD MEAS	SUREMEN	TS	* * ****					•	
Time	Amount	рН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	
	(liters)			7:3:				(ft)	
133S		<i>5.3</i> 2	16,53	430	-3.1	246	4.14	26.81	325
1340		7.74	15.79	<u>430                                    </u>	+56.0	2.45	3.32	26.81	325 325
1345		553	15.88	431	83.7	256	1.73	26.81	325
1310		9.00	15.75	<i>443</i> 3 -	107.8	2.72	0.75	26.8/	325
1355		8.22	15.80	432	+92.0	2.77	0.55	26,81	325
1400		7.85	15.67	430	184.4	2,85	0.55	26.81	325
1405		1,43	15.78	427	1623	2.83	0.15	26.81	325
1410		7.27	15.73	426	+,50,7	2.83	0.00	26.81	325
1415	3.5	7.03	15.82	424	+44.7	2.77	0,00	26.81	325
1420		7.03	15,71	472	+39 /	2.11	6.00	26.81	325
1425		200	15.73	421	+ 38./	2,70	0.00	6.21	スクイ
* · X.J		1.6.16	<i>L</i> - <i>E E S</i>	4 - 1	UB:7		U 2190	~~~	
FIELD EQUI	PMENT A	ND CALI	RRATION		1		L		
1		Mo			Calibration				
Water Level Pr	oha		oe Indicator			rainet Calib	rated Length		
Water Level Pr			Model 556 w	ith ET Cell		-	_		orated Weekly
	······		MINIOUEL 330 M.	un f i CCII	i wice Dally	Canoranoi	i v cillicatio	n aiso Callo	nated weekly
GENERAL C	UMMENT		OF EER SE IV D	Annone whom Davids a 1 C. To 1	T .	maa n		and to the	Thursday C. H
Ferrous Iron =	D 2	Y	31 330 Multi-h	Parameter Probe Unit					Through Cell
Pump Placeme				Well Diameter (in.) =	-	screen inte	rval (ft BTO	C) ==	
Turbidity of Sa	mple =			Notes:				<del></del>	
			•				·		
						·			



Location:	e: IAAAP			Project No.					
	Middletow			Well No.	MW-121	(OFF-SITE			
Date/Time C		10157	// <i>[13</i>		144 //		01-54	lentic	
Sampling Me	thod:	Hurricano	e	Sample Media	groundwat	er	· ŝ		
Sample QA S	Split:		] 5	Split Sample No.	***************************************		WINDOWS TO THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PAR		
Sample QC [	Ouplicate:		<b>]</b> r	Duplicate Sample No.	<del></del>	······································			
MS/MSD Re	quested:		] ,	MS/MSD Sample No.					
			ERVATIVES,	ANALYSIS	* \$ 3 - T		***************************************		
Sample Cons (2)   Liter Ar			eservative one, Cool to 4°C	~	Analysis F	<b>Cequested</b> s (SW-846-83	2201		
(4) 1 1101	HUCI O1400	110	ne, Coorio -	~	Explosives	(3W-0-10 G.	330)		······
Date Time Started Time Comple PID Measure Backgroun Breathing 2	eted ments d	095	/o7- b	Well Depth (ft BTOC Depth to Water (ft BT Water Column Length Volume of Water in W Purge Rate (liters/min Level of Drawdown (f	FOC) n Vell )			<u> </u>	
Well Head				Amount Purged					
FIELD MEA		ITS		111100011-1-0-1	7	>			
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
0951		6.89	1341	743	52.3	2,25	626	22.08	300
0456	<u> </u>	689	1360	747	15.0	1.62	462	22.07	300
The same water	<b>†</b>	4.81	13,65	736	-9.0	1.44	250	2206	200
100		4.83	13.60	735	20,5	142	141	22.06	300
	1	4.07	1.5 600	(.7)	T	" " # HOW			
100G 100G		6,85	13.64	733 "	34.8				
100				733 -	34.8	1.03	97.7	22,06	300
100 1006 1011 1D16	2.5ai	(a, 85 (a.83	13.44 13.42	133 a	39,8 39,0	1.03 195	927 62.6	22,16 2009	300 400
100   1006 1011 1016 1021	2,5gd	6,85 6,85 6,10	13.44 13.42 13.40	733 - 737 - 737 - 732 - 7	34,8 31,0 51.2	195 195 191	99. <b>7</b> 62.6 37.3	22,06 2009 22,08	300 400 400
100   1006 1011 1016 1021 1026		6,85 6,89 6,90 6,85	13.44 13.42 13.40	733 " 732 " 732 " 730 "	94, 8 39, 0 51, 2 -53,5	1.03 195	927 62.6	22,16 2009	300 400
100   1006 1011 1016 1021 1026	2.5gal Stop	6.85 6.80 6.80 6.85 des	13.64 13.42 13.40 13.42 6 Ranc	733 " 132 - 132 - 130 " Lightons "Vhi	94, 8 39.0 51.2 -53.5 caller	1.03 195 .91 .99	92.7 62.6 37.3 26.8 2	22.08 22.08 22.08	300 400 400 400
100   100G 1011 1016 1021 1026 1028 1053		6.85 6.80 6.30 6.85 du	13.44 13.40 13.40 13.42 6 Rains 13.46	733 " 732 " 732 " 730 "	34.8 39.0 51.2 -53.5 whey 40.6	1.57	92.7 62.6 31.3 26.8 2 46.3	22.06 22.08 22.08 22.08	300 400 400 400 500
100   1006 101   1016 1021 1026 1028 1053 1058		6,85 6,80 6,90 6,85 du. 6,98	13.44 13.40 13.40 13.42 6 Roins 13.46.	733 " 132 - 132 - 130 " Lightons "Vhi	34.8 39.0 51.2 -53.5 colley 40.6 42.4	1.03 195 .91 .89 1.57	92.7 62.6 31.3 26.8 2 46.3 21.6	22.06 22.08 22.08 22.08 22.01 22.01	300 400 400 400 500
100   1006 101   1016 1021 1026 1028 1053 1058		6.85 6.89 6.90 6.85 du 6.98 6.93 6.93	13.44 13.40 13.42 6 Rpins 13.46 13.46 13.13 14.00	733 " 732 " 732 " 730 " Lighting "Yki 7260 " 727 "	34, 8 39.0 51.2 53.5 colley 40.6 42.4 49.7	1.03 195 .91 .89 1.57 1.00	92.6 37.3 26.8 2 46.3 21.4 13.1	22.06 22.08 22.08 22.08 22.01 22.01 22.01 22.01	300 400 400 400 500 500 500
100   1006 101   1016 1026 1026 1028 103 103 108	Stop	(a. 85 6.80 (a. 90 (a. 85 du. 6. 98 (a. 93 6. 93 6. 94	13.44 13.40 13.42 6 Rpinc 13.46 13.46 13.13 14.00 14.06	733 " 132 - 132 - 130 " Lightons "Vhi	34.8 39.0 51.2 -53.5 colley 40.6 42.4	1.03 195 .91 .89 1.57	92.7 62.6 31.3 26.8 2 46.3 21.6	22.06 22.08 22.08 22.08 22.01 22.01	300 400 400 400 500
100   1006 101   1016 1021 1026 1028 1053 1058	Stop	(e, 85) (e, 80) (e, 85) (dec. 98) (e, 98) (e, 93) (e, 93) (e, 94) ND CALIE	/3.44 /3.42 /3.40 /3.42 6. Rain 6 /3.46 /3.13 /4.06 BRATION	733 " 732 " 732 " 730 " Lighting "Yki 7260 " 727 "	34.8 39.0 51.2 -53.3 coller 40.6 42.4 49.7 53.3	1.03 195 .91 .89 1.57 1.00	92.6 37.3 26.8 2 46.3 21.4 13.1	22.06 22.08 22.08 22.08 22.01 22.01 22.01 22.01	300 400 400 400 500 500 500
100   100G 101   1016 1021 1026 1028 1053 103	Stops IPMENT AN	(e, 85) (e, 80) (e, 90) (e, 85) (c, 93) (e, 93) (e, 93) (e, 94) ND CALIE	/3.44 /3.42 /3.40 /3.42 6. Rain 6 /3.46 /3.13 /4.06 BRATION	733 " 732 " 732 " 730 " Lighting "Yki 7260 " 727 "	34.8 39.0 51.2 -53.5 colley 40.6 42.4 49.7 53.3	1.57 1.00 1.58	92.7 62.6 31.3 26.8 2 46.3 21.6 13.1 9.77	22.06 22.08 22.08 22.07 22.07 22.07 23.07 23.07	300 400 400 400 500 500 500
100   1006 101   1016 1026 1028 1053 105 108 FIELD EQU	Stop STOP IPMENT AP	(e. 85) (e. 80) (e. 90) (e. 85) (e. 98) (e. 93) (e. 93) (e. 93) (e. 94) ND CALIE	/3.44 /3.42 /3.42 6.20 /3.46 /3.46 13.13 /4.00 /4.06 BRATION del pe Indicator	733 - 732 - 730 - 730 - 730 - 730 - 724 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 -	34.8 39.0 51.2 53.3 colley 40.6 42.4 49.7 53.3 Calibration Checked Ag	1.57 1.00 1.58 1.00 1.58	92.7 92.6 31.3 26.8 21.6 13.1 9.77	22.06 22.08 22.08 22.07 22.07 22.07 23.07 23.07	\$00 400 400 500 500 500 500
100   1000 101   1016 1026 1028 1053 1055 1105 FIELD EQU	Stops  IPMENT A:  Probe Meter	(e. 85) (e. 80) (e. 90) (e. 85) (e. 98) (e. 93) (e. 93) (e. 93) (e. 94) ND CALIE	/3.44 /3.42 /3.40 /3.42 6 Rain 6 /3.46 /3.13 /4.00 /4.06 BRATION del	733 - 732 - 730 - 730 - 730 - 730 - 724 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 - 727 -	34.8 39.0 51.2 53.3 colley 40.6 42.4 49.7 53.3 Calibration Checked Ag	1.57 1.00 1.58 1.00 1.58	92.7 92.6 31.3 26.8 21.6 13.1 9.77	22.06 22.08 22.08 22.07 22.07 22.07 23.07 23.07	300 400 400 500 500 500
1006 1016 1016 1026 1026 1028 1053 105 1108 FIELD EQU Water Level F Water Quality GENERAL C	IPMENT APProbe Meter COMMENT:	(a. 85) (a. 80) (a. 80) (a. 80) (a. 90) (a. 80) (a. 93) (a. 94) (a. 93) (a. 93) (a. 93) (a. 93) (a. 94) (a.	/3.44 /3.42 /3.40 /3.42 to Rp10 c /3.46 /3.13 /4.00 /4.06 BRATION del pe Indicator	733 " 732 " 732 " 730 " 494ms " (4) 726 " 727 " 727 "	34, 8 39, 0 51. 2 -53.5 -76.6 42.4 44.7 53.3 Calibration Checked Ag Twice Daily	(.03 .93 .94 .89 	97.7 22.6 37.3 26.8 21.6 13.1 9.77 rated Length 1 Verification	22.06 22.08 22.08 22.07 22.07 22.07 22.07	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00
100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100	IPMENT APProbe Meter COMMENT:	(a. 85) (a. 80) (a. 80) (a. 80) (a. 90) (a. 80) (a. 93) (a. 94) (a. 93) (a. 93) (a. 93) (a. 93) (a. 94) (a.	/3.44 /3.42 /3.40 /3.42 to Rp10 c /3.46 /3.13 /4.00 /4.06 BRATION del pe Indicator	733 732 730 730 730 737 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 727 72	39.8 39.0 51.2 53.5 40.6 42.4 49.7 53.3 Calibration Checked Ag	1.57 1.00 -68 gainst Calibr	97.7 97.3 26.8 21.6 3.1 9.77 rated Length a Verification	22.06 22.08 22.08 22.09 22.09 22.09 22.07 22.07	\$00 400 400 500 500 500 500
100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100	IPMENT AND Probe Meter COMMENT:	(a. 85) (a. 80) (a. 80) (a. 80) (a. 90) (a. 80) (a. 93) (a. 94) (a. 93) (a. 93) (a. 93) (a. 93) (a. 94) (a.	/3.44 /3.42 /3.40 /3.42 6.20 /3.46 /3.73 /4.00 /4.06 BRATION del pe Indicator I Model 556 wi	733 " 732 " 732 " 730 " 494ms " (4) 726 " 727 " 727 "	39.8 39.0 51.2 53.5 40.6 42.4 49.7 53.3 Calibration Checked Ag	(.03 .93 .94 .89 	97.7 97.3 26.8 21.6 3.1 9.77 rated Length a Verification	22.06 22.08 22.08 22.09 22.09 22.09 22.07 22.07	\$00 \$00 \$00 \$00 \$00 \$00 \$00 \$00



Project Name: IAAAP Project No. T14622. 2703											
Location: Mide				Well No. MW-1	21 / 04	-5/4F)					
Date/Time Co		0107		Personnel: M. Su			Selenti	<			
Sampling Met	hod: 🏰	MICAN	_2_	Sample Media	roundwa						
Sample QA Sp	olit:		s	plit Sample No.	<i></i>						
Sample QC D	uplicate:		D	uplicate Sample No.							
MS/MSD Req	uested:			IS/MSD Sample No.			······································				
SAMPLE CO		S PRESE		•				***************************************			
Sample Cont:			eservative	AIVALII 313	Analysis R	ennested					
21 / 6146			NONE		F 1/2 1/05	in 1576	Jel-846.	6330)			
								<del></del>			
		····			·····						
WELL PURC	GING DAT	A									
Date		4/18/0	7	Well Depth (ft BTO	C)	á	94.23				
Time Started		64109	51	Depth to Water (ft B	TOC)	بر بر	22.0				
Time Complet		114		Water Column Lengt							
PID Measuren				Volume of Water in	Well		···· -				
Background				Purge Rate (liters/mi							
Breathing Z	Cone			Level of Drawdown (ft BTOC)							
Well Head				Amount Purged (liters) 6-0							
FIELD MEA	SUREMEN	TS									
Time	Amount	pН	Temperature		ORP	DO	Turbidity	Water	Purge		
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate		
	(liters)							(ft)			
11/3		6295	14.42	727	25316	155	7.40	22.07	500		
	3.5	10.94	14.29	723	+9-9	-63	10.44	22.05	900		
FIELD EQUI	IPMENT A										
		<u>Mo</u>			Calibration						
Water Level P			pe Indicator		Checked Ag	ainst Calib	rated Lengt	h			
Water Quality	Meter	YS	l Model 556 w	ith FT Cell	Twice Daily	Calibratio	n Verificatio	on also Calil	orated Weekly		
GENERAL C							***************************************				
Ferrous Iron =		Y	SI 556 Multi-P	arameter Probe Unit #	¥	Field Paran	neters Meas	ured in Flov	v Through Cell		
Sulfide=				Well Diameter (in.) =			rval (ft BTC		<u> </u>		
Turbidity of Sa	ample =			Notes:			· · · · · · · · · · · · · · · · · · ·				
								······································			



Project Nam	Project Name: IAAAP Project No. T14622-2703								
Location:	Middletov			Well No.	MW-123	(OFF-SIT	E)	······································	
Date/Time C	Collected: 🕼	11/07	1030	Personnel 4 Sak	Ale / N	1. MeCa	1-Sale	WTC.	
Sampling M	ethod:	Hurrican	е	Sample Media	groundwa				
Sample QA	Split:		]	Split Sample No.					
Sample QC 1	Duplicate:		] 1	Duplicate Sample No.	***************************************				
MS/MSD Re	equested:		]	MS/MSD Sample No.					
SAMPLE C	ONTAINER	RS, PRESE	RVATIVES,	ANALYSIS					
Sample Con			eservative		Analysis I	Requested			
(2) 1 Liter A	mber Glass	No	ne, Cool to 4°	С	Explosives	(SW-846 8	330)		
WELL PUR	GING DAT	71 2 3				-			
Date		4/11/0	<u> </u>	Well Depth (ft BTO		<u> </u>	49		
Time Started		0950	2	Depth to Water (ft B'		<u> 20 -</u>	49		
Time Comple		105	3	Water Column Lengt				·	
PID Measure		•		Volume of Water in V					
Backgroun				Purge Rate (liters/mir	n)				
Breathing .				Level of Drawdown (					
Well Head				Amount Purged (liter	s) Jak	4,5			
FIELD MEA	SUREMEN	ITS							
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
	(liters)				27.8			(ft)	
0455		7.02	14.81	692	1444	1.14	12.3	20.51	500
1000		7.08	14.66	700 .	38.7	×36	10,12	20.50	500
1005		7.03	14,87	701	+435	239	6.18	20.50	500
1010		7.02	14.93	703 -	46.1	. 33	2.70	20.51	500
1015	2.25	7.00	14.92	904 -	49.2	, 29	1.40	20,56	500
1020	<u> </u>	6.97	14.97	705 -	52.4	.27	0.55	20.50	500
1025	1.25	4.04	14,90	705	<u> </u>	. 78	.08	20,50	500
FIELD EQU	IPMENT A	ND CALIF	BRATION						
		Mod			Calibration				
Water Level F			e Indicator		Checked Ag	gainst Calibi	rated Length	i	
Water Quality			Model 556 wi	ith FT Cell	Twice Daily	Calibration	Verificatio	n also Calib	rated Weekly
GENERAL (									
Ferrous Iron =		Y:	SI 556 Multi-P	arameter Probe Unit#		Field Param	eters Measu	red in Flow	Through Cell
Pump Placeme				Well Diameter (in.) =		Screen Inter	val (ft BTO	C) =	
Furbidity of S	ample =			Notes:					
			•						
									WIII WARRANT AND A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE



Project Name	IAAAP	***		Project No.	T14622-27	703			
Location:	Middletow	n, Jowa		Well No.	MW-125	(OFF-SITE		1.	
Date/Time Co	ellected:	107	0900	Personnel M	OR / M	Mea	-Salen	Fic.	
Sampling Me		Hurricane	>	Sample Media	groundwat				
Sample QA S	plit:		] s	plit Sample No.	-				
Sample QC D	uplicate:	***************************************	] r	Ouplicate Sample No.	<del></del>				······································
MS/MSD Red	quested:		] N	4S/MSD Sample No.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	····			
SAMPLE CO		S, PRESE	RVATIVES,	ANALYSIS				<del></del>	
Sample Cont	ainer		eservative		Analysis R				
(2) 1 Liter An	nber Glass	No	ne, Cool to 4°(	2	Explosives	(SW-846 83	330)		
									***************************************
								······································	
WELL PUR	GING DATA	<b>A</b> , , ,	i						
Date		- 6/11/	07	Well Depth (ft BTC	PC)				
Time Started		0815		Depth to Water (ft B	TOC)	20.0	14	······································	· · ·
Time Complet	ted	0925	,	Water Column Leng					
PID Measurer				Volume of Water in					
Background	i			Purge Rate (liters/mi	in)				
Breathing Z				Level of Drawdown					
Well Head				Amount Purged (lite		4.	ture.		
FIELD MEA	CHDEMEN	ጥር		Timodic Laigot (	13)	77.	<b>\</b>		
Time	Amount	рН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
Tillie	l .	:	-	i ·	ł	l .		Elevation	Rate
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	1 :	Kate
0010	(liters)	1 6-1	d1 (6====	(23c)	+	1 116	11.00	(ft)	
<u>0815</u>	12001	687	14.47	634	3.2	146	409	20.96	<u> 400</u>
<u>0020</u>		6.89		<u> </u>	2,3	1.68	279	20.96	<u> </u>
<u> </u>		6.75	14.65	<u> 825</u>	-0.3	1.85	101.4	2096	500
0830		6.69	14,80	829	+2.9	2.02	329	70.96	500
0835		19.69	14,90	829	+5.2	1.96	13.7	20.96	500
0840		6.69	15,05	827	+6.4	1.95	7.46	20.96	500
0845	3,5	6.70	14.82	830	一7.3	2.02	4, 45-	20.96	500
0850		6191	14,79	829	+7.8	2.10	2.83	20.96	500
0855	1.0	6:12	14.91	826	483	2.09	1,47	20.96	50 U
FIELD EQUI	PMENT AT	ID CALIF	BRATION						
<b>.</b>		Мо			Calibration				
Water Level P	rohe		e Indicator		Checked A	rainet Calibr	ated Length	r	
Water Quality		_	Model 556 w	th FT Cell					rated Weekly
GENERAL C			WIOGEL JOU W	mii Cen	i wice Daii	y Canoration	v CHHCaulo	n aiso Callo	I GICH W CULIY
					M	malan			. Тэ 3. С. 19
Ferrous Iron =		Y :	oi oo Multi-F	arameter Probe Unit					Through Cell
Pump Placeme				Well Diameter (in.)		Screen Inter	vai (it B10	(,,) ==	
Turbidity of Sa	ımple =			Notes:		······································		······································	···
				· · · · · · · · · · · · · · · · · · ·					
								·	·



Project Name: IAAAP Project No. T14622-2703										
Location:	Middleto	wn, Jowa		Well No.	MW _{&gt;} 136	_(OFF-SIT	E) 🗼			
Date/Time C			1615	Personnel //	SMALL	$M_{i}M_{i}^{q}$	DileS	1 Pentr		
Sampling M	ethod:	Hurrican	e e	Sample Media	groundwa		<b>~</b> 7			
Sample QA	Split:		]	Split Sample No.						
Sample QC I	Duplicate:		] 1	Duplicate Sample No	o		<del></del>			
MS/MSD Re	equested:		]	MS/MSD Sample No	O					
SAMPLE C	ONTAINE	RS, PRESI	RVATIVES,	ANALYSIS			<del></del>			
Sample Con	tainer		eservative		Analysis 1	Requested				
(2) I Liter A	mber Glass	No	one, Cool to 4°	C		s (SW-846 8	330)			
		paller.								
										,
							***		***************************************	
									·····	
WELL PUR	GING DAT	Ά / /	1			<i>6</i>				
Date		du	07	Well Depth (ft BT			⊋,4			
Time Started		1/5	<u> </u>	Depth to Water (ft		50	19			
Time Comple		16.	<u> </u>	Water Column Len	gth		7		<u> </u>	
PID Measure	ments			Volume of Water in	n Well	***************************************		,··,··,·		
Backgroun	d			Purge Rate (liters/n	nin)					<b>^</b>
Breathing 2				Level of Drawdown	n (ft BTOC)					····
Well Head				Amount Purged (Lit	ons)	4.5900	<i>)</i>			
FIELD MEA	SUREMEN	NTS				1 4				
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Rate	
1535		7.57	14.54	674	78,7	2.37	24.8	6.03	450	
1540		7,50	15,35	615	1198	1.69	62.6	6.03	450	
1545		7.53	15.02	662	-126.0	1.97	25.0	6.03	450	
1550		7.52	15/12	1067	- 124.9	2.21	4.63	6.02	450	
1535		7.52	15.21	663	- 122.2	226	4.12	6,03	450	
1600		7,52	15,19	1265	121.8	2.33	7.67	4.03	452	
1605	4.0	7654	15.19	664	1-119.8	2.34	0.87	6.03	450	
1610	خء ا	7.55	15.28	665	- 118.9	2.38	0.24		450	
		7.5	10:00		100.7		000	6.03	-73 <i>e</i>	
TELD EQU	PMENT A	VD CALIF	RATION			i.				
		Мос			Calibration					l
Vater Level P	robe	***************************************	e Indicator			goingt Colib	ated Length			1
Vater Quality				th FT Call					. 1757 11	
Water Quality Meter YSI Model 556 with FT Cell Twice Di GENERAL COMMENTS						y Cambranor	v emication	ı aiso Calib	rated Weekly	
errous Iron =	· word rate a suit that		SI 556 Madel D	arameter Probe Unit	· #	Distant	% #	1 4 9794	m	l
ump Placeme	ent Denth =	1.	a journalite	Well Diameter (in.)					Through Cell	
urbidity of Sa						screen Inter	val (ft BTO	(,) =		
VI DE	********			Notes:			······································		·····	
			<b>&gt;</b>			······································	····		<u> </u>	
			•••	······································		·····				
<del></del>		····								1



Project Name	e: IAAAP			Project No.	T14622-27	03				
Location:	Middletow	n, Iowa		Well No.	MW-303	(OFF-SITE	)			
	ollected: 6	112/07	1/00	Personnel M. '\	UHI M	$M^{e}Ca$	1 - Sal	entic	1	
Sampling Mo	ethod:	Hurricane		Sample Media	groundwate	er				ur na tyliatriji
Sample QA	Split:	<u> </u>	S	Split Sample No.					49-91-1-1	
		-						-		
Sample QC I	Duplicate:	L_	I	Suplicate Sample No.						
MS/MSD Re	anataj.	7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		//////////////////////////////////////						
MONION KO	equestea.	L		as/MSD sample No.						
SAMPLE C	ONTAINER	S, PRESE	RVATIVES,	ANALYSIS		and the second				
Sample Con	tainer	Pre	servative		Analysis R	lequested				9 A.S. E.J.A.
(2) 1 Liter A	mber Glass	No	ne, Cool to 4°0		Explosives	(SW-846 83	330)		da sagiri — esa	
							Latera Kaligorija		Balay Balay Co	
	iguş Ali Bulklıdığı					Autopenius		سأرفأ فأسأرهن		
the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	GING DAT	A / /							1,14,14	
Date		10/13	<u> </u>	Well Depth (ft BTO			70,00			
Time Started		$-10^{2}$	$\underline{\nu}$	Depth to Water (ft B'			17,21			- 1
Time Compl		112	Σ	Water Column Lengt			·	<u> </u>		
PID Measure				Volume of Water in V	Carthauthau an an an an an an					
Backgrour				Purge Rate (liters/min						
Breathing				Level of Drawdown (						
Well Head				Amount Purged (liter	's)					
	ASUREMEN	<del></del>								
Time	Amount	pH	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purg	
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	<b>3</b>
	(liters)							(ft)		
1025		7.77	15.43	439 -	-11.7	4.5%	30.1	17.29	500	
1030		7,87	15.52	440	+599	5.0%	357.3	17.29	500	
1035		7.87	15.56	445	63.7	5,00	11.00	11,29	500	79.4
1040	Yerra Artis	1.88	15.61	444	+65.9	5.02	3.63	17.29	500	1996
1045	3.25	7.89	15.78	444	66.8	4.90	1.60	1729	500	100
1050		7.89	15.72	GH.	68.0	486	19.92	7.79	500	
1055	1.0	7.89	15,87	444 -	68.5	4.72	0.10	12.29	570	
								′		
			·							
					Ĭ					
					1.5				·	
-4			1.11.1.1							
FIELD EQU	IPMENT A	ND CALII	BRATION							
		Mo			Calibration					
Water Level	Probe		e Indicator		Checked A	gainst Calibi	ated Length	•		
Water Quality			Model 556 w	ith FT Cell					orated Weekly	
GENERAL	COMMENT								<u>-</u>	
Ferrous Iron	/ &	Y	SI 556 Multi-F	Parameter Probe Unit #	<i>‡</i>	Field Param	eters Measi	red in Flow	Through Cell	<b> </b>
Pump Placem				Well Diameter (in.) =		Screen Inter				
Turbidity of S				Notes:						
							<del></del>			
				***************************************			***************************************			
			•				·····	······································		1
										<u></u>



Project Name				Project No.	T14622-2	703				
Location:	Middletov			Well No.	MW-304,	,(QFF-SIT	E)		***************************************	
Date/Time C	ollected: 🕼	1207	ON 5	Personnel M. X	uH4/	M. M	Cay-	Xelanti	ž ym	·····
Sampling Me		Hurrican		Sample Media	groundwat				<u>. 1. () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 () 11 </u>	
Sample QA S	Split:			Split Sample No.						
Sample QC I	Ouplicate:	X	1	Ouplicate Sample No.	MW	304-	F)			
MS/MSD Re	equested:			MS/MSD Sample No.	····			<del></del>		
SAMPLE C	ONTAINER	S, PRESE	RVATIVES,	ANALYSIS						
Sample Con-	tainer	Pr	eservative		Analysis I	Cequested				
(2) 1 Liter Ar	mber Glass	No	ne, Cool to 4°	С	Explosives	(SW-846 8	330)			
WELL PUR	GING DAT						and the state of			
Date		4/12/	0 +	Well Depth (ft BTO			70.64		·	
Time Started		COZ	<u></u>	Depth to Water (ft B7			9.80			
Time Comple		<u> 945</u>	7	Water Column Lengtl				· . ·		
PID Measure				Volume of Water in V						······································
Backgroun Breathing 2				Purge Rate (liters/min					<u> </u>	
Well Head		·····		Level of Drawdown (1			. 0-			
FIELD MEA		romen		Amount Purged (liters	s)	-1.0	sax_	···········		***************************************
Time	<del></del>	···	Tank	Control	Lonn	T 50	Lac 1. e.	I vs.7 .	-	
ime	Amount Purged	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP	DO	Turbidity	Water	Purge	
	(liters)	(30)	( C)	(μ3/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
0835	(IIICIS)	7 62	13.63	611	4.3	5.36	1	10.23	HO ST	101
0840		7.32	13,87	549 -	19.2	1.79	1018	10.22	450	
0845		7.41	13.90	21/	43.0	2.44	138	10.22	650	
0850		707	14.25	3/4 -	148.6	2.19	74.6	10.22	350	
0855	3,5	7.42	14.08	521 -	-53.8	191	18	10,22	500	
0400		7.44	14:09	522 -	58. Z	1.95	17.4	10,22	500	***************************************
0903		7,49	14.05	5/8	100.7	2.00	11.7.	10,23	500	
0910		7.45	14.09	5/4 -	62.3	2,04	8.16	10.23	500	
0915		7,45	14.15	515	-63.)	2.05	5 69	10.22	500	
0920	3,5	7.45	14.34	514 -	641	Z.04	4.05	10.22	500	
										***************************************
FIELD EQU	IPMENT A									
		Mod			<u>Calibration</u>					
Water Level P			e Indicator			-	rated Length			
Water Quality			Model 556 w	ith FT Cell	Twice Daily	Calibration	Verificatio	n also Calibi	rated Weekly	
GENERAL C										
Ferrous Iron =		Y:	SI 556 Multi-P	'arameter Probe Unit #					Through Cell	
Pump Placeme				Well Diameter (in.) =		Screen Inter	val (ft BTO	<b>C</b> ) ≔		
Turbidity of Sa	ample =			Notes:				***************************************		
					······································		***************************************			
<b></b>										



Project Name				Project No.	T14622-2	703			
Location:	Middletov	<del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del>		Well No.	MW-307	(OFF-SIT	E)		
Date/Time C		10/07	1535	Personnel 14. Sc	446/	M. K40	n Sala	ATC.	
Sampling Mo	ethod:	Hurrican	e	Sample Media	groundwa	iter	į.		
Sample QA S	Split:			Split Sample No.				·	
Sample QC I	Duplicate:			Ouplicate Sample No.	***************************************	·			
MS/MSD Re	equested:			MS/MSD Sample No.					
SAMPLE C	ONTAINER	S. PRESE	ERVATIVES,	ANAL VÇIÇ					
Sample Con			eservative	ANALISIS	Analysis	Requested			
(2) 1 Liter At			one, Cool to 4°0	Ċ.		s (SW-846 8	330)		
						0 (011 0100	3507		
		·	·						
						******			
WELL PUR	GING DAT	<b>A</b> , ,					***************************************		
Date		6100	<u> </u>	Well Depth (ft BTO		<u> 73.</u>	67		
Time Started		1453		Depth to Water (ft BT		27.3	4	**,***,	
Time Comple		160	2	Water Column Length					
PID Measure				Volume of Water in V					
Backgroun				Purge Rate (liters/min	ı)				
Breathing 2	Zone			Level of Drawdown (1	,				
Well Head				Amount Purged (liters	*)				
FIELD MEA	SUREMEN	· · · · · · · · · · · · · · · · · · ·							
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation	Purge Rate
1455	(incis)	747	14.10	525	24.7	3.62	56.4	(ft) 27,37	453
1500		7.42	14.31	527 -	21.6	3. 99	7.32	27.37	37.5
1505		7.33	14.18	529 -	15.3	4.76	28.1	27.38	500
1570		7.36	13.84	530 -	13.9	5,17	6.08	27.38	500
1515	3000	7.38	13,77	530 -	-121	5.34	1.54	27.38	520
1520	7	7.39	/3 80 T	620	10.5	5,20	10.10	27.37	200
1525		7.39	13.86	53/	9.2	5,25	1.00	27.57	500
1530		7.34	13.69	539	84	5.34	0.00	27.36	550
······································		, A ± C			1 1	1 130	0:00	<i>41.38</i>	
··									
		***************************************							
				······································					
FIELD EQUI	IPMENT AN	ND CALIE	BRATION		<u> </u>			<u></u>	
~		Мо			Calibration				
Water Level P	robe		e Indicator			gainst Calibr	ated Length		
Water Quality	Meter	•	Model 556 wi	th FT Cell					rated Weekly
GENERAL C						,		and Cally	idea irodaly
errous Iron =			SI 556 Multi-P	arameter Probe Unit #		Field Param	eters Measu	red in Flow	Through Cell
Pump Placeme				Well Diameter (in.) =		Screen Inter			rinoagn Cen
Furbidity of Sa			······································	Notes:			(11 12 1 ()	** J	
······································	······································					······		***	
					***************************************				***************************************
			-		· · · · · · · · · · · · · · · · · · ·				



Project Name	: IAAAP			Project No. T14622	2703				
Location:Mid	ldletown, Io	wa ,		Well No. Mw 30					
Date/Time Co	ollected:	5164/	1400		146/14.	Meca,	C. L. 1.		
Sampling Me	thod:	Tron	2_	Sample Media		1	<u> Alynti</u>		
Sample QA S			3	plit Sample No.	*****				
Sample QC [	Ouplicate:		] [	Suplicate Sample No.					·····
MS/MSD Re				MS/MSD Sample No.					
		S, PRESI	RVATIVES,	ANALYSIS					
Sample Cont			eservative		Analysis	Requested			
2) 14	Reytonic	<b>W</b>	Ving		Caplas		<del></del>		
<u> </u>	····		<u> </u>		//				
<u> </u>									
<u> </u>	······································		·········						
WELL PUR	GING DAT	Δ .	/						
Date	ORIO DAL		07	Well Depth (ft BTC	<b>V</b> (1)	grange.	112 6 3		
Time Started		722	<u> </u>	Depth to Water (ft E	ITOCI ITOCI	<u> </u>	28	***************************************	
Time Comple	ted	1417		Water Column Leng	th	Colocol a	) a.k.		
PID Measure	ments			Volume of Water in	Well				
Backgroun	d			Purge Rate (liters/m			······		
Breathing 2	Zone			Level of Drawdown	(fl. RTOC)	<del> </del>			
Well Head				Amount Purged (lite	(RDIOC)	452	77		
FIELD MEA	SUREMEN	TS		Amount Furged (Mee	\$ <b>**</b> ) 7500 K	7 74	-X		
Time	Amount	pН	Temperature	Conductivity	ORP	DO	The Lists	1 377 : 1	To
	Purged	(SU)	(°C)	(μS/cm)	(mV)	1	Turbidity	Water	Purge
	(liters)		( -)	(µo/enr)	(1111)	(mg/L)	(NTU)	Elevation	Rate
1325		7.69	14.37	511	- 24.7.	2.70	63.2	(ft)	2
1330		7.54	14.86	<1h	41 2	3,44	449	21.52	350
7335		7.53	14.94	506	476	4.31	19.0	25.53 25.53	400
1340		7.53	14.39	498	T < 5 0	4.97	7.33	25.53	
_3 <b>45</b>	3020	752	14.62	496	43.8	5.18	2.03	25.52	
/350	9	7.52	14.68	496-	93.3	5,26	1,35	25.53	450
1355	1878	7.54	14,68	490	- 53.7	525	0.00	25.53	452
	j						020		450
				······································		······································			
					<del></del>			<u> </u>	
FIELD EQU	IPMENT A	VD CALI	BRATION						
		Mo			Calibration				
Water Level P	robe		oe Indicator			ı gainst Calib	ratad I amad	_	
Water Quality	Meter	YSI	Model 556 wi	th FT Cell	Twice Dail	y Calibratia	Warfard	1	rated Weekly
GENERAL C	COMMENT	S			1 WICC Dan	y Campiano	ii vermeane	n aiso Canb	rated Weekly
Ferrous Iron =			SI 556 Multi-Pa	rameter Probe Unit	4	Field Dorn	ratara Mar -	mand In 121.	. TT 1 . 63 . 53
Sulfide=				Well Diameter (in.)		Screen Inter	ieters Meas	ured in Flow	Through Cell
Turbidity of S.	ample =			Notes:		Sciech inte	tvar (it BTO	<u>(C) =</u>	
				· · · · · · · · · · · · · · · · · · ·			·		
			Nea						
			-				······································		



Project Name	·			Project No.	T14622-2	703					
Location:	Middletov										
Date/Time Co			1330	Personnel RO.	[ /ROE						
Sampling Me	thod: /	Hurrican	e	Sample Media	groundwa	ter					
Sample QA S	Split:			Split Sample No.			······································				
Sample QC D	Ouplicate:		]	Ouplicate Sample No.	·····						
MS/MSD Rec	quested:		] ,	MS/MSD Sample No.		· · · · · · · · · · · · · · · · · · ·					
			ERVATIVES,	ANALYSIS							
Sample Cont	ainer		eservative	·····	Analysis l						
(2) 1 Liter An	2) 1 Liter Amber Glass None, Cool to 4°C Explosives (SW-846 8330)										
WELL PURG	GING DAT	A									
Date		_6/1	2/07	Well Depth (ft BTOC	<b>(</b> )						
Time Started			85	Depth to Water (ft BT	OC)	6.1	Ø				
Time Complet		13	Q 0	Water Column Length	1						
PID Measurer				Volume of Water in W	/ell						
Background		···		Purge Rate (liters/min		0,5	60				
Breathing Z	Cone			Level of Drawdown (f	t BTOC)						
Well Head				Amount Purged (liters	)	7	:4				
FIELD MEA	SUREMEN	TS									
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation	Purge Rate		
1255	(mers)	5.67	14.44	549	62.6	7.42	45	(ft) 6.12	>1000milla.		
1200		7.46	12.90	ズッタ	5.8	0.37	23	6,12	\$1000/		
1905		7,43	13,43	582	-15.6	0,37	72	6,11	500		
1310		7,43	13,43	577	- 22.5	0.37	54	6,11	500		
1315	j4	7 42	13 44	577	-31.8	0.26	2,2	6.11	500		
1320		7.42	13.45	578	-370	0.27	7.5	6.11	500		
1325	······································	7,43	73,47	578	-37.8		0.95	6.11	500 % Vir 0		
1330	10	7.42	13.41	578	-38.0		0.30	611	500		
TIELD EQUI	PMENT A	ND CALIE	BRATION								
		Mod			Calibration						
Vater Level Pr			e Indicator			gainst Calibr					
Vater Quality		YSI	Model 556 wi	th FT Cell	Twice Daily	/ Calibration	Verification	n also Calib	rated Weekly		
GENERAL C	OMMENT										
errous Iron =		Y:		arameter Probe Unit #					Through Cell		
ump Placemer				Well Diameter (in.) =		Screen Inter					
urbidity of Sa	mple =			Notes:							
	·							***			
			***		·		······································		<u> </u>		



Location: <b>M</b> i Date/Time (	ddletown 1	-							
Date/Time (	Location: Middletown, Iowa  Deta/Clima Call and I AAAP  Project No. T14622. 770 3  Well No. MW 408								
		1010	1305	Personnel:	Survei	/11/11/	7	1 / ·	
Sampling M	ethod:	• /		Sample Media	JAL TYCE	ZMM	Coy. Si	elentic	£
Sample QA	Split:			Split Sample No.		****	¥		
Sample QC	Duplicate:		<del>_</del> ,	Duplicate Sample No	^			**************************************	
MS/MSD R	equested:	Ē		MS/MSD Sample No					
SAMPLE C	ONTAINE	RS, PRES	ERVATIVES	ANAT VÇIÇ					
Sample Con	tainer		reservative	, PRIVILLE ISES	A 3	<b>.</b>			
					Analysis	Requested	*****		
						****		· · · · · · · · · · · · · · · · · · ·	
	······································	····						<del> </del>	
									· · · · · · · · · · · · · · · · · · ·
WELL PUR	GING DAT	`A							
Date		11 1	7	Well Depth (ft BT)	<b>^</b> C)	1 -	7		
Time Started		122	<u> </u>	Depth to Water (ft I	BTOC)		1.0		
fime Comple	eted			Water Column Leng	zth .	<u>-</u> \$	<u> </u>		···
ID Measurer Backgroun				Volume of Water in	Well			****	
Breathing 2		***************************************		Purge Rate (liters/m	iin)	<del>*************************************</del>			
Well Head			·	Level of Drawdown	(ft BTOC)				
IELD MEA		TC		Amount Purged (lite	ers)		· · · · · · · · · · · · · · · · · · ·	*****	
Time	Amount	pH	Tomposte					**************************************	*****
	Purged	(SU)	Temperature (°C)	Conductivity	ORP	DO	Turbidity	Water	Purge
	(liters)	(50)	(0)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
1220	······································	7.39	15715	7/2	1		-	(ft)	
1225		7.28	15,27	<u>717</u> 744	-645	1.76	851	5.59	500
1230		7.24	15, 33	749	- 1006	188	282	5.50	500
1235		7.27	15.19	753	112.6	178	83.1	5.59	425
1240		7,29	15.41	753	1/22.0	177	28/	5.57	425
245	<i>3</i> _S	7.24	14.97	753	1/32.0	<u> 25 </u>	12.6	5,57	425
250		7.28	14.95	75-7		85 ر	10.24	5.58	500
255		7.27	15112	755	1/37.0	. 73	357	558	450
360		7.30	15109	756 -	145.4	172	1.40	J) 5%	450
				1.72	<del>7 /85 · 7  </del>	71	10.70	57.58	450
					<del> </del>	· · · · · · · · · · · · · · · · · · ·			
				***	1				
				**************************************	<del>                                     </del>				
ELD EQUII	PMENT AN	D CALIE	RATION					L	
		Mod			Calibration				
iter Level Pro		Slop	e Indicator			n.i			
iter Quality I	Meter	VSI	Model 556 wit	h FT Cell	Checked Aga	ainst Calibr	ated Length	l	
NERAL CO	<b>MMENTS</b>	<u> </u>			1 wice Daily	Calibration	Verificatio	n also Calib	rated Weekly
rous Iron =	···	YSI	556 Multi-Par	ameter Probe Unit #	A.	Mala D			
fide=				Vell Diameter (in.) =	- t	icia Parami	eters Measu	red in Flow	Through Cell
bidity of Sar	nple =		N	otes:	2	creen inter	val (ft BTO	U) =	
-				Theores Ga.	to a				
				menye ya	r ur	wod a	<u>01074 (</u>	<u>evel</u>	
			******	······································	***************************************		isos de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya del companya de la companya del companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la		



Project Name		************************		Project No. T14622-2703						
Location:	Middletow	vn, Iowa,		Well No.	MW-409	(OFF-SITE	3)			
Date/Time Co		112/27	1345	Personnel	RUSI	DOCK				
Sampling Met	thod:	Hurricane	3	Sample Media	groundwat	er				
Sample QA S	plit:			Split Sample No.	***************************************		· · · · · · · · · · · · · · · · · · ·			
Sample QC D	uplicate:		<b>"</b> /	Duplicate Sample No.						
MS/MSD Red	quested	X		MS/MSD Sample No.	WINS	109		www.	, , , , , , , , , , , , , , , , , , ,	
SAMPLE CO	NTAINER	S. PRESE	RVATIVES,	ANALYSIS						
Sample Cont			eservative	CALLERAN A NORW	Analysis R	Seanested .				
(2)   Liter An			ne, Cool to 4°0	2		(SW-846 83	330)	N	· · · · · · · · · · · · · · · · · · ·	
				<del></del>		12		:		
		***************************************		***************************************		<del></del>				
					<del></del>			***************************************		
WELL PURG	GING DAT	Ā ,	4		***************************************					
Date		6/12	107	Well Depth (ft BTO	C)					
Time Started		1 /3	10	Depth to Water (ft BT		20	42			
Time Complet	ted	13	45	Water Column Lengtl						
PID Measurer				Volume of Water in V	Well					
Background				Purge Rate (liters/min		0,50	0			
Breathing Z				Level of Drawdown (	ft BTOC)		<del>*************************************</del>			
Well Head				Amount Purged (liters	s)	24	9	<del></del>	· · · · · · · · · · · · · · · · · · ·	
FIELD MEA	SUREMEN	ITS			<del></del>	ÿ	<del></del>			
Time	Amount	рН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	
	Purged	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
	(liters)	1 ` '		<b>"</b>				(ft)	,	
1210	<u> </u>	297	15,60	645	-98.0	0,10	170		7/000 MIL/MIT	
1315		7.51	13.82	639	-87.6	*******	80	20,50	71000	
13 20	14	14.45	13.47	640	-86.8	0,27	27	20,50	71000	
1725	<i></i>	740	14.69	643	-019	0.25	51	71 19	500	
1330		.741	14,92	646	71.6	6,12	5/2	20.49	500	
1385		7.43	14.81	644	- 70,0	0/07	<del>-3///</del> -	20.49	500	
1340		2.48	15,09	643	- 10.2	0,07	6,25	20,49	800	
1345	7415	7,49	15,11	643		0.06	0,70	20,40		
1072	17-10	<del>  / 77</del>	73,//	<u> </u>	172,1	11.00	V110	124.77	500	
		<del> </del>			1					
	·····			······································						
					-					
		<del>                                     </del>		<u> </u>	-					
FIELD EQUI	TANK STATE A 1	- TO CALLE	>							
FIELD EQUI	PMENT A				C 115					
117-4 1 1 D	ŧ	Mod			Calibration					
Water Level P			oe Indicator	· · · · · · · · · · · · · · · · · · ·		gainst Calibr				
Water Quality			Model 556 wi	th FT Cell	Twice Daily	y Calibration	Verification	n also Calib	rated Weekly	
GENERAL C	OMMENT									
Ferrous Iron =		Y:	<u>SI 556 Multi-P</u>	arameter Probe Unit #					Through Cell	
Pump Placeme			,	Well Diameter (in.) =	72/	Screen Inter	val (ft BTO	C) ≈		
Turbidity of Sa	mple =			Notes:			····			



Project Nat	ne: IAAAP		ע	Project No. T1462	22.0000					
Location: M	liddletown,	Iowa (	2/11/07	Well No. 11462		103				
Date/Time	Collected -	1/4/0-	1 12/05	Y.	N 201, (	OFFH	1721			
Sampling N	Aethod:Low	flow with	ocristaltic ou	Personnei: Sample Media: Gr	ROSTR	<u>(                                    </u>				
Sample QA	Split:		HUR.	Split Sample No.	omowner			***************************************		
Sample QC	Duplicate:	Ē	7	Duplicate Sample No		·····		***************************************	***************************************	
MS/MSD R	emested	<b>–</b>	=				***************************************			1
		De ppro		MS/MSD Sample No S, ANALYSIS	0.					
Sample Cor	ntsinar			S, ANALYSIS						
	ITER ,		reservative	2006 10 40	Analysis	Requested		*		1
		3777 CE	VOIVE C	302 10 4	UEX	PLOS	IVES	(5W-	846 <b>8</b> 3°	1668
	***************************************							V		W / 1
					······································		···			
WELL PUR	CDICDE	*								
Date	COLING DA	IA HA	Les 6/1	1/07 ST	·					
Time Started	ŧ	Jyjn	/ \ / - /	Well Depth (ft BT)	OC)					
Time Comple	eted	-/-/-	1205	Depth to Water (ft I	BTOC)	78,	49			
ID Measure	ments		700	Water Column Leng Volume of Water in	gih					
Backgroun				Purce Pote City	Well				***************************************	
Breathing.	Zone		***************************************	Purge Rate (liters/m Level of Drawdown	un)	0,40	0			
Well Head			***************************************	Amount Purged (life	(m BLOC)					
TELD MEA	SUREMEN	TS	<del>'''''''''''''''''''''''''''''''''''''</del>	Autount Furgett (litte	xs)	3:	3			
Time	Amount	pН	Temperature	Conductivity	ORP					
	Purged	(SU)	(°C)	(μS/cm)	(mV)	DO	Turbidity	Water	Purge	
10 m	(liters)			(20011)	(mv)	(mg/L)	(NTU)	Elevation	Rate	
3005		7.7/	14.88	664	-27 1	7 70		(ft)		
13/0 13/5		7.38	14,07	641	-16.3	5-62	<del>-//</del>	18.53	21000 m	re/MIN
		7.27	14,95	644	0,8	4,57	2.5	12.54	21000	
1320	- <del>, , , -</del>	7.23	14,90	646	10,0	437	412	18.00	560	
1330	14	2,21	14.93	646	14.0	1.41	1.0	18,52	300	
1335		7.24	14,97	646	14.1	234	3.2	18 29	500	
1340		7,24	15.00	647	18,0	4.48	1,2	18,52	500 *	
2345		7:24	14,96	646	14.6	4.55	11.6	12 32		USA PODE
(X)	14	7,23	14.98	643	16.8	4/53	7.5	18.52	500 500	
1350	-'r-	7,24	15,08	640	16.9	4.43	7, 2	18,52		
1200		7 28	14.18	64.5	14.9	4/50	16	18,52	500	
1405	77	1, 57	42.74	643	12,0	4.49	12	18.50	B OD	
ELD BQUII	MENTAN		10,44	645	14.5	4 22	13	18 32	400	
- 4-22	THOUSEN A PAGE			···-			······································	- C - 3 Cf	<del></del>	
ter Level Pro	obe	Mode Stone	u Indicator		Calibration					
ter Quality A				W. Marie	Checked Aga	inst Calibra	ted Length			1
NERAL CO	MMENTS	1315	Model 556 wit	DFT Cell	Twice Daily (	Calibration	Verification	also Calibr	ated Weekly	
rous lron =			556 Model to							<u>-</u>
fide=		1 .71	MILLIE-P'81	rameter Probe Unit #	Fi	eld Paramet	етѕ Меаѕи	ed in Flow	Through Cell	į
bidity of San	pple =	···	<u>V</u>	Vell Diameter (in.) =	7" Sc	reen Interve	d (ft BTOC	)=		
		·····	<u> </u>	otes:				<del>^</del>	· · · · · · · · · · · · · · · · · · ·	-1
			******	·	······································	***************************************				
			*****			····				
							·			



Project Name				Project No.	T14622-27				
Location:	Middletow			Well No.	MW-509	(OFF-SITE	3)		
Date/Time Co			<del>09</del> 1000		PROF				
Sampling Me	thod: /	Hurricane	e	Sample Media	/groundwat	er			
Sample QA S	Split:		] s	Split Sample No.	W. Historia				
Sample QC D	Suplicate:		] r	Ouplicate Sample No.	<del></del>				
MS/MSD Red	quested:		] \	MS/MSD Sample No.	<del></del>		W		<del></del>
SAMPLE CO	ONTAINER	S, PRESE	RVATIVES,	ANALYSIS					
Sample Cont			eservative		Analysis R	Requested			
(2) 1 Liter An	nber Glass	No	ne, Cool to 4°C	2		(SW-846 83	330)		
	A			***************************************		***************************************	***************************************		<del></del>
	<del>)                                      </del>					***************************************			
							······································		-
			****************	<del>·</del>		***************************************			
WELL PURG	GING DAT.	Ā	ge.				-		
Date		blick	1 2 <b>7</b>	Well Depth (ft BTOC	7				
Time Started		*/*/ (	2930	Depth to Water (ft BT		5,2	~		
Time Comple	ted	10	00	Water Column Length					
PID Measurer				Volume of Water in W				~.·.	
Background				Purge Rate (liters/min		0,30	А		
~				Level of Drawdown (f		<u> </u>	<u> </u>		
Breathing Z	Lone				,				<u> </u>
Well Head				Amount Purged (liters	)	70	·····	·····	
FIELD MEA	7		·	<b>*</b> ***********************************	·	·	<del>,</del>		
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge
٩	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate
	(liters)							(ft)	
0930		7,23	13.45	361	138.6	5,82	22	5.28	500 MIL/MID
-0035		7, 28		361	11/13	<u> </u>	7.8	5.28	500 / "
0.87/0		7,29	13.21	361	95.7	4.23	70	5.28	500
Davis		7.30	15 14	360	009	4.78	5.1	5,28	560
0220	14	7,3/	13.08	360	34.6	4,84	1.6	5.28	500
10/85 X	<i>V-r</i>	7.32	13.01	360	79.8	4,92	3,6	5,28	500
1088	6	7.33	18.02	360	76.7	491	4,4	5,28	500
	¥	1177	19.00	300	141	4.71	4,5	13,20	300
	11401	0 ~	, ,					<del> </del>	
	1. TH-	1	2617B	<del>U</del>				<b> </b>	
		$\theta$						<b> </b>	,
<b></b>		<b>——</b>						<u> </u>	
								<u> </u>	
FIELD EQUI	IPMENT A								
		Mod			Calibration				
Water Level P			pe Indicator		_	gainst Calibr	-		
Water Quality	Meter	YSI	Model 556 wi	th FT Cell	Twice Daily	/ Calibration	Verificatio	n <u>also Calib</u>	rated Weekly
GENERAL C	OMMENT	S				***************************************		<u>, , , , , , , , , , , , , , , , , , , </u>	<u></u>
Ferrous Iron =		Y	SI 556 Multi-P	arameter Probe Unit #		Field Param	eters Meast	ired in Flow	Through Cell
Pump Placeme				Well Diameter (in.) =		Screen Inter			
Turbidity of Sa		·····	***************************************	Notes:					
	***************************************						·		·····
			***						
				<u> </u>			**************************************	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	***************************************
<u> </u>									



Project Name	· IAAAP			Project No.	T14622-27	03	<del></del>	<del></del>	
Location:	Middletow	n. Iowa	······································	Well No.		(OFF-SITE	}		
Date/Time Co			1140		4/RCC		<i></i>		
Sampling Me		Hurricane		Sample Media	groundwate				
Sample QA S				Split Sample No.	8				
Sample QC D	uplicate:		l I	Ouplicate Sample No.					
MS/MSD Rec	quested:		N	MS/MSD Sample No.	······································	<del></del>	·*····································		
SAMPLE CO	NTAINER	S, PRESE	RVATIVES,	ANALYSIS		<del></del>			
Sample Cont			servative		Analysis R				
(2) 1 Liter An	iber Glass	No	ne, Cool to 4°0	3	Explosives	(SW-846 83	30)		
WELL PURG Date Time Started Time Comple PID Measurer Background Breathing Z	ted ments i	A 6/10/ 110	07 25 40	Well Depth (ft BTO Depth to Water (ft B Water Column Leng Volume of Water in Purge Rate (liters/mi Level of Drawdown	TOC) th Well n) (ft BTOC)	5/3,	3		
Well Head				Amount Purged (liter	rs)	17			
FIELD MEA		<del></del>	····						
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate
1105		7,58	14.66	523	116	5.82	1.5	5.42	500 MIL/11/1
1110		7.49	13.81	528	81.3	1,21	4.0	5,38	500
1115		7.46	13.74	531	55,0	0,47	2.1	5,38	500
1/20		7.46	13.61	533	33.0	0,23	5.3	5,38	500
1/25		746	/3,57	<b>5</b> 34	20.3	0,21	0,75	5,78	500
1/30	14	7.46	13.51	<i>5</i> 33	/5,5	0,28	1.50	5.38	500
1/35		7 45	13.42	532	14.8	0,40	0,45	5.37	300
1140	3	7.45	13.43	530	14,0	0,39	1,14	5/37	500
FIELD EQUI	PMENT A	ND CALIE	RATION						
		Moc			<u>Calibration</u>				
Water Level P	robe	Slop	e Indicator		Checked Ag	gainst Calibr	ated Length		
Water Quality	Meter	YSI	Model 556 w	th FT Cell	Twice Daily	Calibration	Verificatio.	n also Calib	rated Weekly
GENERAL C					·····	······································	······································		······
Ferrous Iron =			SI 556 Multi-P	arameter Probe Unit	<b>4</b>	Field Parame	eters Measu	red in Flow	Through Cell
Pump Placeme	nt Denth =	* *		Well Diameter (in.) =	······································	Screen Inter			
Turbidity of Sa		······································		Notes:		COLOGII BRICL	· · · · · · · · · · · · · · · · · · ·	<b>~</b> J	
i with the De	mpre			337565.				·····	······································
			•		nde der sich die der der der der werde der der senten erwert der der der der der der der der der der	***************************************	delika aripusini kanalusi danasi dada indeli	arthur til de alexanea a la la sepalement de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia de la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la competencia del la	



Project Name				Project No.	T14622-21					
Location:	Middletow			Well No.	MW-510	(OFF-SITI	) <b>X</b>			
Date/Time Co		110/07	1510	Personnel RO	1/ACE					
Sampling Me	thod:	Hurricane	2	Sample Media	groundwat	er				
Sample QA S	Split:		] s	split Sample No.	4				· · · · · · · · · · · · · · · · · · ·	
Sample QC D	Ouplicate:		] [	Ouplicate Sample No.				·····		
MS/MSD Rec	quested:		] .	MS/MSD Sample No.						
SAMPLE CO	ONTAINER	S, PRESE	RVATIVES,	ANALYSIS						
Sample Cont	ainer	Pre	eservative		Analysis F	Requested				l
(2) 1 Liter An	nber Glass	No	ne, Cool to 4°C		Explosives	(SW-846 8	330)			
WELL PURG	GING DAT	A	1							
Date		6/10/	07	Well Depth (ft BTO					·····	
Time Started	. 1		1435	Depth to Water (ft B7		8	45			
Time Complet			<u>iS10</u>	Water Column Lengtl						
PID Measurer				Volume of Water in V						
Background				Purge Rate (liters/mir	/	0,500	)			
Breathing Z	Lone	·		Level of Drawdown (						
Well Head				Amount Purged (liters	s)	25				
FIELD MEA	SUREMEN									
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Pu	rge
	Purged (liters)	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	E .	ate
1435	(mois)	741	12 22	E 4.7.	78.0	0.52	18	8.46	>1000	1/1/1/1/1/1
1440		315	75.50	775	-36.5	0.08	8,8			
14 45		H 75					010	846	7100	2_/
1450	: 2	1.40	13,01	2/7	765,7	0,06	20	8.46	0.00	
	iA	7,77	1311	<u> 579</u>	067.7	0.07	3.4	8,47	500	
1455		7.43	13.13	571	-58.2	0.07	0.95	8,77	400	
1500		7.43	/3 /5	<u> </u>	-53.6	0,06	0/70	8.47	500	
1505		7.43	13,22	576	-52,2	0,07	0,80	847	560	* 48/Rev
1510	17	7,46	13.28	576	-57.6	0.07	0,60	0.47	500	, g
				Ÿ	,,,					
					f · · · · · · · · · · · · · · · · · · ·				············	
					†	·····				
FIELD EQUI	DMENT A	UD C'AT IN	PATION		<u> </u>					
TECD EQUI	DIMERITA				C 10					
Maran Yaman I. D.	ŧ	Moc			Calibration					
Water Level Pr			e Indicator		Checked Ag					
Water Quality			Model 556 wi	th FT Cell	Twice Daily	Calibration	Verification	n also Calib	rated Week	ly
GENERAL C	OMMENT	8								
errous Iron =		Y S	SI 556 Multi-P	arameter Probe Unit#		Field Param	eters Measu	red in Flow	Through C	ell
ump Placeme	nt Depth =			Well Diameter (in.) =	27/		val (ft BTO			
urbidity of Sa				Note WELL		····	2842 6		1 July 20 1	2160
·····	<u> </u>	***************************************		000			to be the top	28 2 500 V E	<u> ~ ~ ~ ~ </u>	LY IXX
				<u> </u>	<u> </u>					
								······································	***************************************	



Project Name:	IAAAP			Project No.	T14622-27		·,		<del></del>	
Location:	Middletow			Well No.						
Date/Time Co		107 1	'605	Personnel /	15/RC	****				
Sampling Met	hod:	Hurricane		Sample Media	groundwate	T				
Sample QA S _I	olit:		S	plit Sample No.						
Sample QC D	uplicate:		r	Ouplicate Sample No.						
MS/MSD Req	uested:		N	4S/MSD Sample No.	<u>,-,-,-,-,-</u>					
SAMPLE CO	NTAINER	S, PRESEI	RVATIVES,	ANALYSIS						
Sample Cont			servative		Analysis R	equested				
(2) 1 Liter Am		Nor	e, Cool to 4°C	•• 	Explosives	(SW-846 83	30)			
WELL PUR	GING DAT		Ž.							
Date		_6/1s/	(0.1	Well Depth (ft BTO			A.			
Time Started			1505	Depth to Water (ft B		6,00	7			
Time Comple			1605	Water Column Leng						
PID Measurer				Volume of Water in			······································			
Background				Purge Rate (liters/mi		<u>0.350</u>				
Breathing Z	one			Level of Drawdown	,					
Well Head				Amount Purged (lite	rs)	32				
FIELD MEA	SUREMEN	TS								
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purg	e
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	e
	(liters)	`	. ,			. –		(ft)		
1505	(	8.11	1191	549	475,D	9.70	31000	6,30	7/000	MIL/77/X
1310		7.45	10 61	542	-739	1.38	600	6103	71000	77 //
13/15	:7	7.34	14.05	545	-64.5	173	310	6,01	450	¥
12:00	14	7.38	14.09	548	-510	0.75	110	6,02	400	—— <del>****</del>
1,220		1,00	13.07	349	- X-7 - 1	0.48	60	6.02	400	
1925		17.23	1515	575	194	0,42	46		400	
1530		7,44			1-67.0			1002	400	151 100
1535		7.4.6	14.13	592	-6213	-	31	6.02		4
1540		7,46	14,19	542	1625	0.53	61	6,02	350	
15.45		740	14,24	542	-6/,0	0,55	18	6,02	350	
1550		1.48	14,35	542	1-661	0,62	1/_	6,02	700	
1555	14	5-4-8	<u> 1437</u>	<u> </u>	-602	0.62	18	6.02	350	
1600		7,48	14/9	570	-51/2	5.67	se , 2-	6,02	750	
1605	4	1.49	14.23	529	F 57.0	0,64	5,2	600	350	
FIELD EQUI	PMENT A	ND CALIE	RATION						·	
		Mod	lel		<u>Calibration</u>					
Water Level P	robe	Slor	e Indicator		Checked A	gainst Calib	rated Length	İ		
Water Quality			Model 556 w	ith FT Cell	Twice Dail	- y Calibration	ı Verificatio	n also Calib	rated Weekly	
GENERAL C	.,.,.									
Ferrous Iron =			SI 556 Multi-l	Parameter Probe Unit	#	Field Paran	neters Measi	red in Flow	Through Cel	1
Pump Placeme		1:	J. J. J. J. 273 LEILS - I	Well Diameter (in.)			rval (ft BTO			
Turbidity of S				Notes:		2x7/28		nali	V Ana	11/11
runnialty of S	апріс –			7		Monta		TOEL	- 1911 P	4/4
				-(FC)122		MITH	s ward	<u> </u>	<u> </u>	
				<u> </u>						
										ı



#### Figure 1 GROUNDWATER FIELD SAMPLING DATA SHEET SAT 10F Z

Project Name: IAAAP Project No. T14622-2703													
Location:	Middletov												
Date/Time Co		2/07	1000	Personnel RC	15 120C	) <b>E</b>		***************************************					
Sampling Met	thod:	/lucrican	<u>م</u> رسم ر د	Sample Media	groundwat	er							
Sample QA S		FLOW		ERISTALTIC Split Sample No.	PUMF	>							
	-	<u></u>	·		····								
Sample QC D	uplicate:	L	j i	Ouplicate Sample No.									
MS/MSD Rec	juested:		Townson, and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	MS/MSD Sample No.									
SAMPLE CO	NTAINER	S, PRESE	RVATIVES.	ANALYSIS									
Sample Cont			eservative		Analysis F	Requested							
(2) 1 Liter Am			ne, Cool to 4°	~		(SW-846 8	33(1)						
<u> </u>						(5.1. 5.15 5.	2207	· · · · · · · · · · · · · · · · · · ·					
			<del></del>										
									~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~				
-,,-													
WELL PURC	CINC DAT	A	-		-								
Date	JING DAT	" telen le	3 7	Wall Double (& PTO)	~\								
Time Started		40010	1000	Well Depth (ft BTO			,						
			0000	Depth to Water (ft B)		<u> </u>							
Time Complet			700	Water Column Lengtl									
PID Measuren				Volume of Water in V									
Background			<u> </u>	Purge Rate (liters/mir		0.9	00						
Breathing Z	one			Level of Drawdown (PTOC)							
Well Head				Amount Purged (liters									
FIELD MEA	SUREMEN	ITS											
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge				
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate				
	(liters)						, , ,	(ft)	1				
18.30		7.35	13.53	569	207.2	194	Z /	6.52	450 MIL/MIN				
11935		7.23	13/14	326	1710	0.39	5.0	62.51	200				
0840		727	15 97	519	147.5	0.38		6,51	200				
0845		7 30	13.86	5/3	127,8	0,39	3.5	1000	2.00				
0850		733	13.83	509	107.5	0,40	3 3	2 31	200				
0255		7.36	13 97	506	85,2	0,39	7.0	9.21	200				
0900		725	14.02	308	65,1	0.38		67.5	200				
/		17 110	14.04	503	52,8	0.38	3.0	6.01	200				
		17 211					7	6.5/					
25,0	···	4 3 5	14,03	503	37A	0,38		6,5/	200				
272		4/73	14.10	37/	(1) V)	22		6/5/	200				
2970	19-	1,90	74,37	500	14,4	0.37		6.5/	200				
0925		1.40	14,40	477	6,6	0,3/	_ سـ	6,51	200				
0930		7,49	14.44	498	8/4	0,40		6.51	200				
FIELD EQUI	PMENT A												
		<u>Mo</u>			Calibration								
Water Level Pr		-	e Indicator		Checked Ag	gainst Calibr	ated Length						
Water Quality	Meter	YSI	Model 556 w	ith FT Cell	Twice Daily	Calibration	Verification	also Calibi	rated Weekly				
GENERAL C	OMMENT	s											
Ferrous Iron =		Υ:	SI 556 Multi-P	arameter Probe Unit #		Field Param	eters Measu	red in Flow	Through Cell				
Pump Placeme	nt Depth =		······	Well Diameter (in.) =		Screen Inter			<u> </u>				
Turbidity of Sa	·		 	Notes: * TUP	B 11087		OF CA		EN BOUL				
₹ = ==		··		1111	<u> </u>			<u> </u>	- JAVA				
			•				······································		***************************************				
			•		**************************************	***************************************	***************************************	***************************************					



SH 20Fl

Project Name:	ect Name: IAAAP Project No. T14622-2703										
	Middletown			Well No. MW-513 (OFF-SITE)							
Date/Time Col				Personnel <i>Po</i>							
Sampling Meth	iod:	Hurricane*		Sample Media	groundwate	r			, , , , , , , , , , , , , , , , , , , 		
	LOWE	LOW W		TALTIC PUN	I P						
Sample QA Sp	lit:		Sp	olit Sample No.							
Sample QC Du	plicate:		D	uplicate Sample No.		· · · · · · · · · · · · · · · · · · ·					
MS/MSD Req	iested:		М	S/MSD Sample No.							
NINTE CA	NOT A TRUTTE	DDECEL	RVATIVES, A	NAT VCIC							
SAMPLE CO Sample Conta			servative	MALISIS	Analysis R	equested					
(2) 1 Liter Am			e, Cool to 4°C			(SW-846 83	30)				
WELL PURC	ING DATA		- 1								
Date		6/12	107	Well Depth (ft BTC				w			
Time Started			D830	Depth to Water (ft B		6,5	<i></i>				
Time Complet		100	3	Water Column Leng	•						
PID Measuren				Volume of Water in			~				
Background	Į.			Purge Rate (liters/m		0,40	<u> </u>	·····			
Breathing Z	one			Level of Drawdown	,						
Well Head				Amount Purged (lite	ers)	名	7				
FIELD MEA	SUREMEN	TS					·		,		
Time	Amount	рН	Temperature	Conductivity	ORP	DO	Turbidity	Water	P	urge	
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation		Rate	
	(liters)	(50)	()	, , , , , , , , , , , , , , , , , , ,		` ` '	16/18	(ft)			
0934	(Inters)	4,46	11171	467	2,6	0.39	120	6.51	200 1	MILL MIN	
		7/6	14.22	400	-1.3	0.38	8,8		300		
0940		7 7 7		Jay	12/3	0.38	3.4	6,51	300		
0945		1.42	14,28	1,7,7	120		7.7		400		
0950		7.48	13,90	477	-5.2	0,38	0.00	6/5/			
0955		7,47	13.98	496	- 4.7	0,39	0.00	6.51	400		
1000	19	7,49	13:91	494	-4.0	0,40	5.00	6.51	400	#151	
									ļ		
									<u> </u>		
FIELD EQU	IPMENT A	ND CALI	BRATION			1	L		<u> </u>		
r range area		<u>Mo</u>	<u>del</u>		Calibration						
	'robe	Slo	pe Indicator			gainst Calib					
Water Level I	Meter	YS	I Model 556 w	ith FT Cell	Twice Dail	ly Calibratio	n Verificatio	n also Cali	brated We	ekly	
		`S								1	
Water Quality	COMMENT				. 24	Field Parar	neters Meas	ured in Flor	w Through	Cell	
Water Quality			SI 556 Multi-l	Parameter Probe Uni	t#						
Water Quality GENERAL G Ferrous Iron =			SI 556 Multi-l				erval (ft BTC				
1	ent Depth =		SI 556 Multi-l	Parameter Probe Um Well Diameter (in. Notes:							



Spr JOFZ

Project Name: IAAAP			Project No.	T14622-2	703				
Location: Middleto	wp, Iowa		Well No.	MW-514	(OFF-SIT	E)			
Date/Time Collected: 💪	111/07	1125	Personnel RO			/			
Sampling Method:	Hurricar		Sample Media	groundwa		······································			
				<i>B</i>					
Sample QA Split:			Split Sample No.						
			1	***************************************					
Sample QC Duplicate:	Г	٦	Duplicate Sample No.						
	L		Duplicate Sample (10,						
MS/MSD Requested:		7	MS/MSD Sample No.						
	Ł		MS/MSD Sample No.				·····		
SAMPLE CONTAINE	DC DDEC	PINTATENTEC	ARIAT SZOZO						
Sample Container			, ANALYSIS						
2) 1 Liter Amber Glass		reservative			Requested				
2) I Liter Amber Glass	IN C	one, Cool to 4°	C	Explosives	s (SW-846 8	330)			
			·						
		·							
							, , , , , , , , , , , , , , , , , , ,	······································	
WELL PURGING DA									
Date	d1910	7	Well Depth (ft BTO	C)					
ime Started	/	1020	Depth to Water (ft B		<u>.</u>	- T			
ime Completed	119	5	Water Column Lengt	h					
ID Measurements			Volume of Water in V				·····		
Background			Purge Rate (liters/min		0,40	<u> </u>			
Breathing Zone			Level of Drawdown (y A DTOO	UITU	<i>></i>		·····	
Well Head			Amount Purged (liter			~			
IELD MEASUREME	viro	-	Amount rurged (nter	s)	3	2			
		Tm :		· · · · · · · · · · · · · · · · · · ·					
	pН	Temperature	,	ORP	DO	Turbidity	Water	Purge	
Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
(liters)]		(ft)		
102.0	7.58	14,32	664	-110	1.75	200	5,69	7/000 mi	2/4
1025	7,23	13.51	666	-/37/7	1,38	60	5,67	71000	77
<i>1030</i>	7,20	14.37	661	-140.4	1,63	47	3,66	400	
1095 14	7,20	14.46	667	-140,0	1.85	177	5.66		
1040	7./7	14.54	667	-738,0	2,35	. 21			
1045	7.1%	14,60	664	-/36.8		11-15/3	3,66	400	
1650	7.16	14,60	662	1/2 2			3,66	400 4-45	
1055		14.56		736.	2.07	<u>75</u>	5,67	400 /	Φ,
1100			661	1-13/10	1,44	<u> </u>	5,67	400	
	2/6	14,56	661	-156.1	1.25		<u>5,67</u>	400	
1110 14	14/2	14-79	661	735.0	1.10	-21	5,67	400	
	1/8	14,79	660	733.0	1.0/	5,3	5.67	400	
1115	7.18	14,70	659	-131,0	0191	6.7	5,67	400	
	12/2	14,70	459	413118	0,01	14	5,67	400	
1120	110	NEW 1 7517 (N. N. T.					******		
1120	ND CALII	SKATION							
//20 ELD EQUIPMENT A	ND CALII			Calibration					
//20 ELD EQUIPMENT A	Mod	<u>del</u>		Calibration	rainet Calib-	atad I amath			- 1
I/ZO ELD EQUIPMENT A ater Level Probe	<u>Mod</u> Sloj	<u>del</u> pe Indicator	ith FT Call	Checked Ag				. 1350	
ILD EQUIPMENT A ater Level Probe ater Quality Meter	<u>Mo</u> Slo _l YSI	<u>del</u>	ith FT Cell	Checked Ag			ı also Calib	rated Weekly	
IIZO IELD EQUIPMENT A ater Level Probe ater Quality Meter ENERAL COMMENT	Mod Slop YSI S	del pe Indicator Model 556 w		Checked Ag Twice Daily	Calibration	Verification			
IELD EQUIPMENT A ater Level Probe ater Quality Meter ENERAL COMMENT errous Iron =	Mod Slop YSI S	del pe Indicator Model 556 w	arameter Probe Unit #	Checked Ag Twice Daily	Calibration Field Param	Verification	red in Flow	rated Weekly Through Cell	
IIZO IELD EQUIPMENT A Vater Level Probe Vater Quality Meter ENERAL COMMENT Errous Iron = Imp Placement Depth =	Mod Slop YSI S	del pe Indicator Model 556 w SI 556 Multi-P	arameter Probe Unit # Well Diameter (in.) =	Checked Ag Twice Daily	Calibration Field Param Screen Inter	Verification eters Measur val (ft BTO)	red in Flow C) =		
IIZO IELD EQUIPMENT A /ater Level Probe /ater Quality Meter ENERAL COMMENT errous Iron =	Mod Slop YSI S	del pe Indicator Model 556 w SI 556 Multi-P	'arameter Probe Unit # Well Diameter (in.) =	Checked Ag Twice Daily	Calibration Field Param	Verification eters Measur val (ft BTO)	red in Flow C) =		
IIZO IELD EQUIPMENT A Vater Level Probe Vater Quality Meter ENERAL COMMENT Errous Iron = Imp Placement Depth =	Mod Slop YSI S	del pe Indicator Model 556 w SI 556 Multi-P	arameter Probe Unit # Well Diameter (in.) =	Checked Ag Twice Daily	Calibration Field Param Screen Inter	Verification eters Measur val (ft BTO)	red in Flow		



Stat 2022

Project Nar	ne: IAAAP			Project No. T14622	2/200				
Location: M	iddletown,]	owa . 6	TIL TOLIN	Well No. 114622		707			
Date/Time	Collected /2	14107	1/25	Demonral	7/2000	EKTITE.			
Sampling N	Acthod:Low	low with	drietaite sum	m Sample Madia Gra	8/10/18		····		
Sample QA		Г	HEAR	Split Sample No.	midwater				
Sample QC	Duplicate:	Ē		Duplicate Sample No.				······································	
MS/MSD R	tequested:	Ē		MS/MSD Sample No.		· · · · · · · · · · · · · · · · · · ·			
SAMPLE (CONTAINE	RS, PRES	ERVATIVES	, ANALYSIS					
Sample Cor	ntainer	P	reservative	,	Analysis	Requested			
2147	zr an	380 G1	AND NO	VE COOL TO LOC		os ived	1501.	846 9	
		r				701150	(800	0703	5 5 5 6 /
								······································	
	····	······································							
WELL PUR	RGING DAT	A	7 L	ニコイ			···		
Date		16/11/	7 G/11/0	Wall Depth (ft BTO	C)				
Time Started	•	//	1120	Depth to Water (ft B'	TOC)	5,6	~	·	
Time Compl			25	Water Column Lengt	h				
PID Measure				Volume of Water in V	Well	***************************************		······································	
Backgroun				Purge Rate (liters/mir	n)	0.40) 2		······································
Breathing		******		Level of Drawdown (f BTOC)		, 0		······································
Well Head				Amount Purged (liter	g)	7	A	····	·
	SUREMEN	TS			~		D		
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	177	
	Purged (liters)	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Water Elevation	Purge Rate
1125	7	7,21	14,90	658	-129.0	4 77 7	1 5 20	(ft)	
······································					127.0	0.73	4.50	5.67	400

		-							
									·····
ELD EQUI	PMENT AN					1			
ater Level Pr		Mode		9	Calibration				
			Indicator	(Checked Aga	ainst Calibr	ated Lenoth		
iter Quality I		YSI N	Model 556 wit	h FT Cell	Twice Daily	Calibration	Verification	also Calibo	ated Weekly
Tous Iron =	OMMENTS	****	**/ * * * · · · ·		······································			Carron	www receils
fide=	·	1 N		ameter Probe Unit #	F	ield Parame	ters Measur	ed in Flow	Through Cell
bidity of Sar	nnla =			/ell Diameter (in.) =	211 S	creen Interv	al (ft BTOC) ==	
CAMERY OF THE	nbie -		N	otes.				-	
				X RANGE	01/1/1	FLL (21812	PARKE	ν
								1110-00	
	-						······································		



Project Name:				Project No.	114622-27	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Location: Middletown, lowa Well No. MW-515 (OFF-SITE)										
Date/Time Co		112/07	1140	Personnel RX	IRCE					
Sampling Met	hod: 🖊	Hurricanc		Sample Media	groundwate	r				
		DE2/5		gwyd						
Sample QA Sp	olit:] S	plit Sample No.		······································	www			<u></u>
Sample QC De	uplicate:] D	ruplicate Sample No.			 			· · · · · · · · · · · · · · · · · · ·
MS/MSD Req	uested:		N	IS/MSD Sample No.						
			RVATIVES,	ANALYSIS	Amalusia D	on and a				
Sample Conta			eservative		Analysis R Explosives		30)			
(2) 1 Liter Am	iber Glass	No	ne, Cool to 4°C		Explosives	(5 W -040 03)30)			
WELL PURC	JING DAT.	A. L. L. in .	ha	Wall Daniel (A DTO)	٦)					- 1
Date		6/14/	107	Well Depth (ft BTOC		 .	11			
Time Started			1110	Depth to Water (ft BT		<u>ئى ئى</u>	10			
Time Complet			0	Water Column Length						
PID Measurer				Volume of Water in V						
Background	i			Purge Rate (liters/min		0.20	3			
Breathing Z	Zone			Level of Drawdown (1						
Well Head				Amount Purged (liters	s)	11				
FIELD MEA	SUREMEN	ITS								
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Pur	ge
	Purged (liters)	(SU)	(°C)	(μS/cm)	(mV)	(mg/L)	(NTU)	Elevation (ft)	Ra	te ,
31 x 10	(Inters)	7,68	13,60	590	-15/5	234	1/2	550	450 n	rumin
1110		7 27	13/27	702	-100,0	1.38	9,2	5,50	450	
1//5		1 1 1	12116	585	-/38,9		4.3	3.50	450	,
1/20		1-4/	12.68		-140,7			750	430	
1/25		7147	13.50	<u> </u>	-140,	0.37	2.5	970		-// ///
1/30		7.47	13,89	586	1410	0,24	2,4	0.78		sup/1/1/1
1/35		7.97	14,04	585	143,1	0,23	2,4	₹ 78	200	/
1140	11	7.47	14,14	585	-143.3	0,23	116	5.48	200	(43) Davi
				-	<u> </u>					OFE
		1								
	 			······································		······································				
FIELD EQU	IDMENT	ND CALD	RDATION							
ricub eQu	IPMENI A				Calibration					
			odel V			on for one Couldba				
Water Level F			pe Indicator		Checked Ag					
Water Quality	/ Meter		l Model 556 w	ith FT Cell	Twice Daily	Calibration	i Verificatio	n also Calib	rated Weekl	У
GENERAL C	COMMENT	rs .								
Ferrous Iron =		Y	SI 556 Multi-F	arameter Probe Unit #	····				Through Co	ell
Pump Placem				Well Diameter (in.) =	7	Screen Inter	val (ft BTO	C) :::		
Turbidity of S		······································		Notes:						
, 123 CT 1435 Y 10 L W						·				
								·····	***************************************	
				***************************************	<u> </u>			······	***************************************	
l										



Project Name				Project No.	114622-27	03					
Location:	Middletow	n, lowa		Well No.	MW-516	(OFF-SITI	Ξ)				
Date/Time C	ollected:			Personnel							
Sampling Mo	ethod:	Hurrican	e	Sample Media	groundwat	er e					
Sample QA !	Split:] s	plit Sample No.							
Sample QC I	Ouplicate:		a [uplicate Sample No.							
MS/MSD Re	quested:) N	IS/MSD Sample No.							
SAMPLE C	ONTAINER	S. PRESE	RVATIVES, A	ANALYSIS							
Sample Con			eservative		Analysis R	eauested					
(2) 1 Liter A			ne, Cool to 4°C	t .		(SW-846 8	330)	·····			
		'									
						***************************************		···	***************************************		
WELL PUR	GING DATA	1									
Date				Well Depth (ft BTO	C)						
Time Started				Depth to Water (ft B)							
Time Comple				Water Column Length							
PID Measure				Volume of Water in V	Veli						
Backgroun				Purge Rate (liters/min)							
Breathing Zone				Level of Drawdown (
Well Head				Amount Purged (liters	s)						
FIELD MEA	SUREMEN	TS									
Time	Amount Purged (liters)	pH (SU)	Temperature (°C)	Conductivity (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Water Elevation (ft)	Purge Rate		
	ļ					·····					
									· · · · · · · · · · · · · · · · · · ·		
					/AC17	3) (15			······		

					168	Υ''''	-				
					· V	<u>' </u>	<u> </u>				
						Q	111				
					-						
FIELD EQU	IDMENT AN	DCALL	PDATION		<u> </u>		·····i				
FIELD EQU	II MIEMI AS	Mo			Callband						
Water Level F) roha		pe Indicator		Charled	alas Caliba					
Water Devel r Water Quality			Model 556 wit	L CT Call	Checked Ag				. 1381 83		
GENERAL (WOGEL 330 WIL	n r i Cen	I wice Daily	Cambration	verification	n also Calibra	ated Weekly		
Ferrous Iron =			CLEEL Mark D.			E'		. 3 2 303 6	T1) C D		
Pump Placeme		Y		rameter Probe Unit #					Through Cell		
Fump Flacem Furbidity of S			·····	Well Diameter (in.) =		screen Inter	val (ft BTO	∪) =			
i armany or S	ашріс —			Votes:			**************************************	·			
					efyeteniyeler delamidre assibulissa essilainesile essilamakas	**************************************					
						-		***************************************			
*=		·									



Project Name:				Project No.	T14622-2'	·····		·····		
	Middletov	£	***************************************	Well No.	MW-517	(OFF-SITI	Ε)			
Date/Time Col			0900	Personnel RDS	/RCE					
Sampling Meth	nod:	Hurrican	e	Sample Media	groundwat	er				
Sample QA Sp	lit:]	Split Sample No.			***************************************			
Sample QC Du	plicate:]	Duplicate Sample No.						
MS/MSD Requ	uested:]	MS/MSD Sample No.						
SAMPLE CO	NTAINER	S, PRESE	RVATIVES.	ANALYSIS						-
Sample Contai			eservative		Analysis F	Requested				
(2) 1 Liter Amb			one, Cool to 4°	С		(SW-846 8	330)		· · · · · · · · · · · · · · · · · · ·	
WELL PURG	ING DAT	Α , ,	,							7
Date		6/11	107	Well Depth (ft BTOC	C)					
Time Started			28/5	Depth to Water (ft BT]
Time Complete	ed .		0903	Water Column Length		10,0	8			
PID Measureme	ents			Volume of Water in W	Vell					
Background				Purge Rate (liters/min	1)	0,40	3			1
Breathing Zo	ne			Level of Drawdown (f	ft BTOC)	•				7
Well Head				Amount Purged (liters	s)	27				7
FIELD MEAS	UREMEN	TS		*************************************		*****				1
Time	Amount	pН	Temperature	Conductivity	ORP	DO	Turbidity	Water	Purge	1
	Purged	(SU)	(°C)	(µS/cm)	(mV)	(mg/L)	(NTU)	Elevation	Rate	
	(liters)	(4-7)		(4-2	()	(5, 2)	(,	(ft)	race	
03/5	(9 140	19.98	607	1187	4.66	130	10.11	21000 MILLO	, 1
0820		7.20	12.56	599	-90.1	0,72		20.12	7/000	1 ^
0825		7.2/	13.39	601	-922	0,50	2	10:10	450	-
0830		721	13.45	597	1. 95. 4		35	10,10	450	1
0835	14	7.31	12 42	596	-95.6	0,62	75	10.10	450	1
08%		1 31	13,60	593	0/0	0.59	19	10,10	450	1
0845	······································	1231	13.68	891	-1040		10			1
0850		17 20	13.60	592	-1040	0.67	6.7	10,10	450 *45 400	OFF
0855		1:33		700	1 7 7 7 3		9/			1 01
	13	7.34	13.58	590 590	-101.3	2.66	44	10.10	900	-
0800	12	7,35	13.60	- 57V	-100,9	0.65	3,9	10.10	408	4
			:							4
										4
EIELD FOUR	A STRUCT A	VID. CALL	30 (2010)							4
FIELD EQUIP	WENT A				~ ***					
War to the		<u>Mo</u>			Calibration					
Water Level Pro			pe Indicator			gainst Calibi				1
Water Quality N			Model 556 w	ith FT Cell	Twice Daily	/ Calibration	Verificatio	n also Calib	rated Weekly	1
GENERAL CO	DMMENT									1
Ferrous Iron =		Y	SI 556 Multi-F	Parameter Probe Unit #					Through Cell]
Pump Placemen				Well Diameter (in.) =	211	Screen Inter	val (ft BTO	(C) =]
Turbidity of San	nple =			Notes:]
			`						**************************************	1

Surface Water and Sediment Sample Collection Log

Project Number: T146 22 - 2703 Project Name: FAAAP Investigation Site: WEST BORN PAO Sample Number:	Collection Date: Collection Time: AR/COC Number:	6/1/07
Sample Name — <u>SCS</u>		
Water Samples Type of Water Body: Sample QC: Depth Below Water Surface (ft): Eh (mV): (ORP) 27.5 pH (SU): Conductivity (mS/cm): 1729 Dissolved Oxygen (mg/L): 7.34	Sample Analytical Parameter E + Plosiuss UOC'S	Analytical Method
Temperature (C): Turbidity (NTU):		
Sediment Samples	Sample Collected by: <u>ROS</u>	<u> </u>
Height of Water above Sample (ft): Sample Interval bgs (ft):	Logged by: Reviewed by:	
Sample Interval bgs (ft): Headspace Reading (ppm): Purpose: Chemical Sample Composited after VOC Collection: YES NO	DESCRIPTION:	
Sample Location Sketch/Comments:		The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
		THE ABOVE THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PART

Surface Water and Sediment Sample Collection Log

Project Number: 114612-2703 Project Name: 1444P Investigation Site: VEST ISOUN PRO Sample Number:	Collection Date: Collection Time: AR/COC Number	6/1/07 1350
Water Samples Type of Water Body: Sample QC: Depth Below Water Surface (ft): Eh (mV): ORP J 4.9 pH (SU): Conductivity (mS/cm): Dissolved Oxygen (mg/L): Temperature (C): VET VATEL SOLVET (SRAB) SOLVET (SRAB) 1.02 0.512 0.512 1.03	Sample Analytical Parameter EXPLOSIVES VOCE	Analytical Method
Temperature (C): Turbidity (NTU): Sediment Samples Height of Water above Sample (ft): Sample Interval bgs (ft): I Samples: Sample Interval bgs (ft): Headspace Reading (ppm): Purpose: Chemical Sample Composited after VOC Collection: YES NO	Sample Collected by: Logged by: Reviewed by: DESCRIPTION:	
Sample Location Sketch/Comments:		

Surface Water and Sediment Sample Collection Log 4622-2703 Collection Date: Project Number: Collection Time: Project Name: AR/COC Number: Investigation Site: Sample Number: Sample Name —_ Sample Analytical Water Samples Analytical Method Parameter OLUSIVES Type of Water Body: YES Sample QC: Depth Below Water Surface (ft): Eh (mV)(ORP) 103.4 pH (SU): Conductivity (mS/cm): Dissolved Oxygen (mg/L): Temperature (C): Turbidity (NTU): Sample Collected by: Sediment Samples Logged by: Height of Water above Sample (ft): Reviewed by: Sample Interval bgs (ft): DESCRIPTION: I Samples: Sample Interval bgs (ft): Headspace Reading (ppm): Geotechnical Purpose: Chemical NO Sample Composited after VOC Collection: YES

Sample Location Sketch/Comments:

	VARIANCE NO:	
	VARIANCE DATE(S): 6/8/07	(2 Dry Wells)
	PROJECT NUMBER: T14622-2	· · · · · · · · · · · · · · · · · · ·
PROJECT NAME: TAAAP	WORK PHASE: ーょつ83	•
>	- VARIANCE REPO	PRT -
SUMMARY OF CHANGE (by person	PESTICION Pit (SU	mp) DRY AGAIN
6/8/67 /020	JAW 18 - 6	DRY RAN WellWizARD No SAMPle (48.5')
EPORTED BY: RM SWA	4/8	/07
APPLICABLE DOCUMENT/WOR	K PLAN:	
STRIBUTION LIST		
	REQUESTED I	SIGNATURES
	APPROVED BY	
		IAGER APPROVAL:
	QA APPROVAL	-



APPENDIX B

CONCENTRATION TRENDS FOR SELECTED LOCATIONS AND PARAMETERS



Notes on the Preparation of Time/Concentration Graphs

Time/concentration graphs in this appendix have been prepared for selected groundwater data associated with the periodic groundwater monitoring program. Following is a brief explanation of the information that is contained in the appendix.

Data used for preparation of the graphs are presented to the left side of each graph. Data for the graphed wells include the date, concentration, "detection" column, and (where there was at least one non-detect) an "adjusted" column. Instances where a constituent was not detected on a given date are represented by an "N" in the detection column. In these cases, the "adjusted" column contains a value equal to one-half of the detection limit. Where a constituent was detected, there is no adjustment. Beneath the analytical data the PRG (i.e., the screening level that is described and used in the 2007 Groundwater Sampling Report) is provided.

Graphs were created by plotting the date on the x axis and the "adjusted" concentration on the y axis. Linear "best-fit" trend lines were added to certain graphs to provide a visual representation of the approximate long-term trends in concentrations over time. Trend lines were not added to graphs where there were more than approximately 10 to 20% non-detects, in order to avoid an overemphasis on the variability in detection limits over time.

JAW-40

			Adjusted
Date	RDX (µg/L)	Detected	RDX (µg/L)
5/12/1993	1.17	N	0.585
12/5/1999	0.05	N	0.025
5/5/2000	0.16	N	0.08
10/23/2000	1	Ν	0.5
5/31/2001	1.3	Ν	0.65
6/18/2002	0.82	Ν	0.41
6/3/2003	0.79	Ν	0.395
11/17/2004	0.48	Ν	0.24
9/29/2005	0.2	N	0.1
4/12/2006	0.2	N	0.1
8/31/2006	15.3	Υ	15.3
6/5/2007	0.19	N	0.095

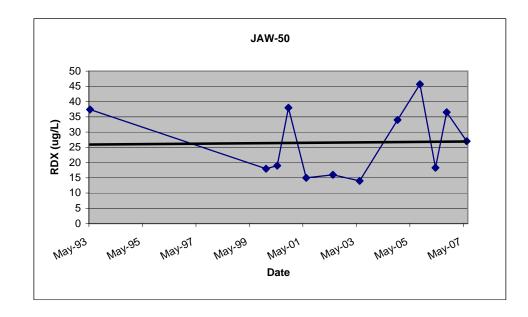
Screening Criteria = 2 ug/L

18 16 14 12 10 10 8 6 4 2 0 May 95 May 95 May 97 May 99 May 07 May 08 May 07 Date

JAW-40

JAW-50

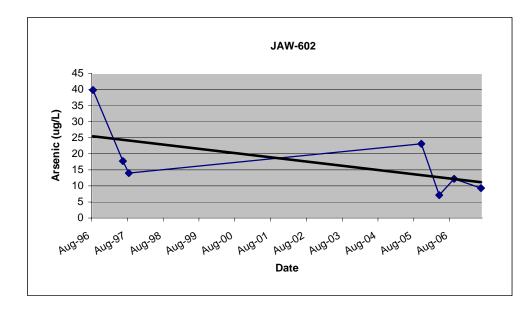
Date	RDX (µg/L)	Detected
5/14/1993	37.4	Υ
12/4/1999	18	Υ
5/5/2000	19	Υ
10/22/2000	38	Υ
6/4/2001	15	Υ
6/11/2002	16	Υ
6/2/2003	14	Υ
11/10/2004	34	Υ
9/29/2005	45.7	Υ
4/12/2006	18.3	Υ
9/5/2006	36.5	Υ
6/5/2007	27	Υ



JAW-602

Date	Arsenic (µg/L)	Detected
8/24/1996	39.8	Υ
6/28/1997	17.7	Υ
8/28/1997	14	Υ
10/11/2005	23.1	Υ
4/12/2006	7.1	Υ
9/7/2006	12.2	Υ
6/5/2007	9.3	Υ

Screening Criteria = 10 ug/L

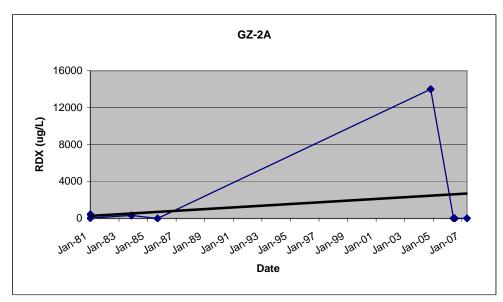


GZ-2A

Date	RDX (µg/L)	Detected	Adjusted RDX (µg/L)
1/27/1981	445	Υ	445
1/28/1981	30	Υ	30
12/12/1983	330	Υ	330
10/11/1985	7	Ν	3.5
11/18/2004	14000	Υ	14000
6/29/2006	10.2	Υ	10.2
7/13/2006	10.6	Υ	10.6
7/29/2006	3	Υ	3
6/5/2007	22.9	Υ	22.9

Screening Criteria = 2 ug/L

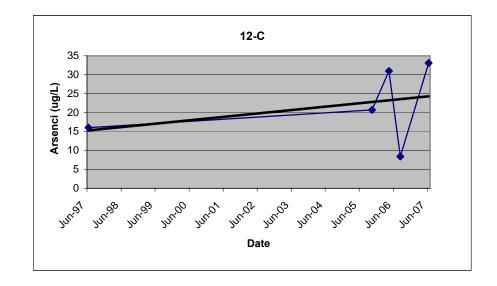
RDX increased since last sampling in 2006.



12-C

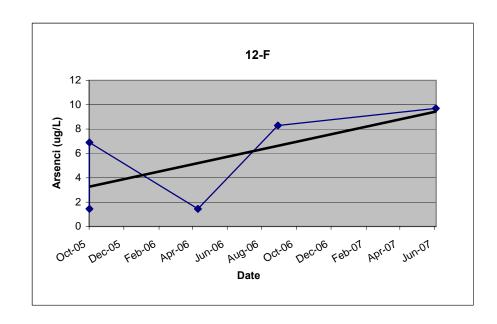
Dissolved			
Date	Arsenic (µg/L)	Detect	
6/11/1997	16	Υ	
10/5/2005	20.7	Υ	
4/12/2006	31	Υ	
8/31/2006	8.4	Υ	
6/5/2007	33.1	Υ	

Screening Criteria = 10 ug/L



12-F

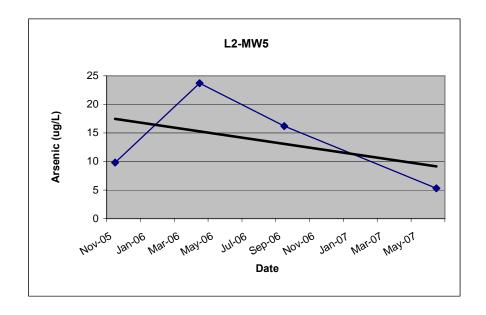
	Dissolved		Adjusted
Date	Arsenic (µg/L)	Detect	Arsenic (µg/L)
10/3/2005	2.9	N	1.45
10/3/2005	6.9	Υ	6.9
4/12/2006	2.9	N	1.45
8/31/2006	8.3	Υ	8.3
6/5/2007	9.7	Υ	9.7



Page 1 of 2

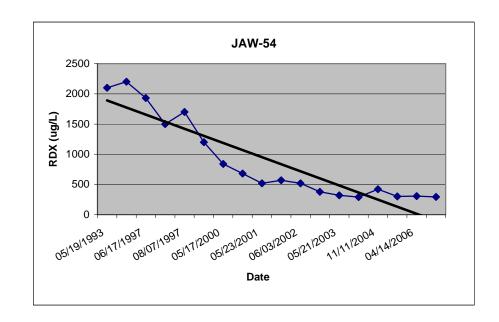
L2-MW5

Dissolved		
Date	Arsenic (µg/L)	Detect
11/18/2005	9.8	Υ
4/14/2006	23.7	Υ
9/5/2006	16.2	Υ
6/5/2007	5.3	Υ



JAW-54

Date	RDX (ug/L)	Detect
05/19/1993	2100	Υ
08/13/1996	2200	Υ
06/17/1997	1930	Υ
06/24/1997	1500	Υ
08/07/1997	1700	Υ
12/30/1999	1200	Υ
05/17/2000	840	Υ
11/19/2000	680	Υ
05/23/2001	520	Υ
05/23/2001	570	Υ
06/03/2002	520	Υ
06/03/2002	380	Υ
05/21/2003	320	Υ
05/21/2003	290	Υ
11/11/2004	420	Υ
10/03/2005	302	Υ
04/14/2006	307	Υ
6/5/2007	295	Y



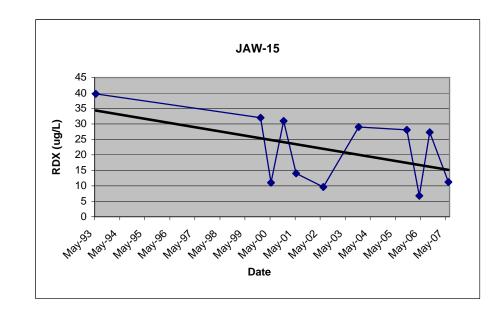
JAW-15

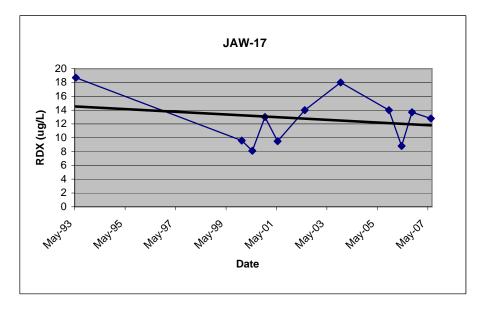
Date	RDX (ug/L)	Detect
5/14/1993	39.7	Υ
12/19/1999	32	Υ
5/15/2000	11	Υ
11/15/2000	31	Υ
5/21/2001	14	Υ
6/15/2002	9.6	Υ
11/18/2003	29	Υ
10/3/2005	28.1	Υ
4/24/2006	6.8	Υ
9/8/2006	27.3	Υ
6/7/2007	11.2	Υ

Screening Criteria = 2ug/L

JAW-17

Date	RDX (ug/L)	Detect
5/14/1993	18.7	Υ
12/18/1999	9.6	Υ
5/17/2000	8.1	Υ
11/15/2000	13	Υ
5/21/2001	9.5	Υ
6/5/2002	14	Υ
11/17/2003	18	Υ
10/3/2005	14	Υ
4/24/2006	8.8	Υ
9/8/2006	13.7	Υ
6/8/2007	12.8	Υ

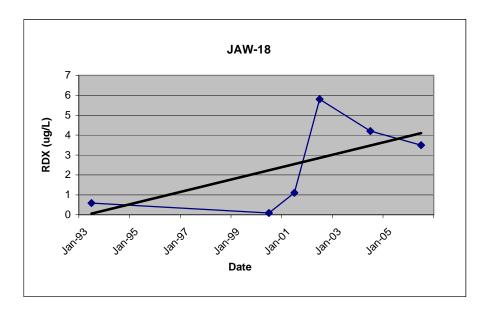




JAW-18

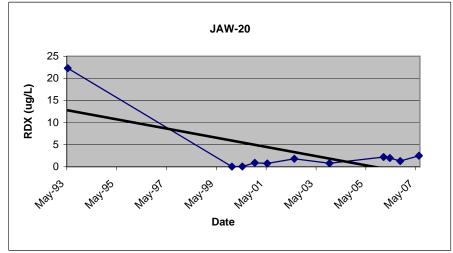
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/14/1993	1.17	N	0.585
5/17/2000	0.17	Ν	0.085
5/21/2001	1.1	Υ	1.1
6/5/2002	5.8	Υ	5.8
6/16/2004	4.2	Υ	4.2
4/24/2006	3.5	Υ	3.5
6/8/2007	NS		

Screening Criteria = 2ug/L



JAW-20

			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/14/1993	22.3	Υ	22.3
12/19/1999	0.05	Ν	0.025
5/17/2000	0.16	Ν	0.08
11/19/2000	0.9	Υ	0.9
5/24/2001	0.76	Υ	0.76
6/15/2002	1.8	Υ	1.8
11/17/2003	1.6	Ν	0.8
1/29/2006	2.2	Υ	2.2
4/9/2006	2	Υ	2
9/11/2006	1.3	Υ	1.3
6/8/2007	2.5	Υ	2.5



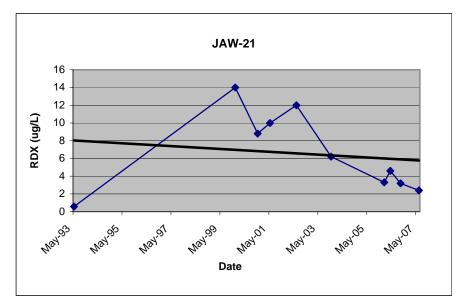
JAW-21

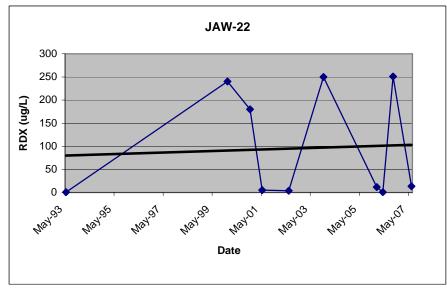
Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
5/14/1993	1.17	N	0.585
12/18/1999	14	Υ	14
11/18/2000	8.8	Υ	8.8
5/24/2001	10	Υ	10
6/15/2002	12	Υ	12
11/17/2003	6.2	Υ	6.2
1/29/2006	3.3	Υ	3.3
4/9/2006	4.6	Υ	4.6
9/10/2006	3.2	Υ	3.2
6/8/2007	2.4	Y	2.4

Screening Criteria = 2ug/L

JAW-22

Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
5/14/1993	1.17	N	0.585
12/19/1999	240	Υ	240
11/17/2000	180	Υ	180
5/21/2001	5.1	Υ	5.1
6/5/2002	3.7	Υ	3.7
11/18/2003	250	Υ	250
1/29/2006	11.6	Υ	11.6
4/9/2006	0.78	Υ	0.78
9/10/2006	251	Υ	251
6/7/2007	13.5	Υ	13.5





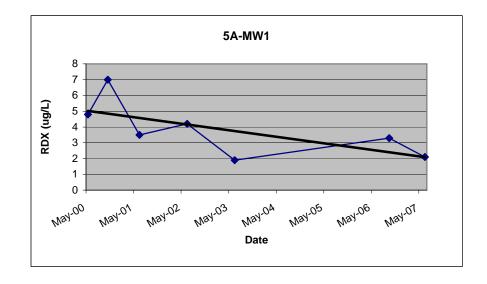
5A-MW1

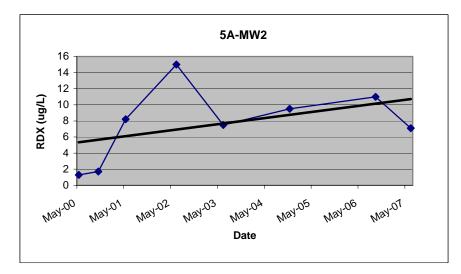
Date	RDX (ug/L)	Detect
5/22/2000	4.8	Υ
10/20/2000	7	Υ
6/3/2001	3.5	Υ
6/16/2002	4.2	Υ
6/1/2003	1.9	Υ
9/13/2006	3.3	Υ
6/5/2007	2.1	Υ

Screening Criteria = 2ug/L

5A-MW2

Date	RDX (ug/L)	Detect
5/22/2000	1.3	Υ
10/20/2000	1.7	Υ
5/18/2001	8.2	Υ
6/16/2002	15	Υ
6/1/2003	7.5	Υ
11/16/2004	9.5	Υ
9/12/2006	11	Υ
6/6/2007	7.1	Υ

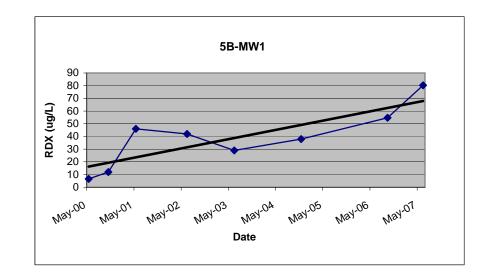




5B-MW1

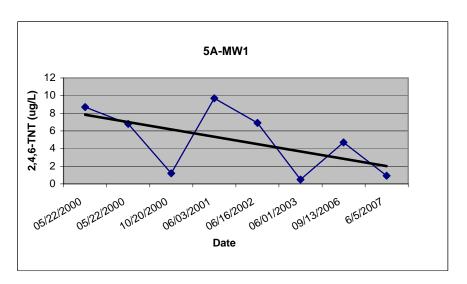
Date	RDX (ug/L)	Detect
5/22/2000	6.6	Υ
10/22/2000	12	Υ
5/18/2001	46	Υ
6/16/2002	42	Υ
6/1/2003	29	Υ
11/17/2004	38	Υ
9/12/2006	54.7	Υ
6/6/2007	80.3	Υ

Screening Criteria = 2ug/L



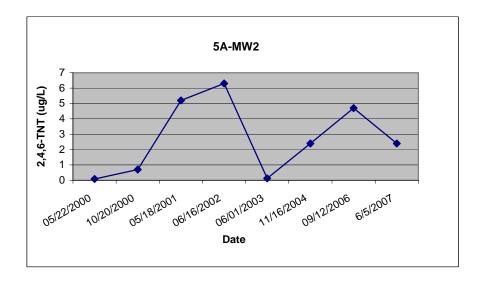
5A-MW1

Date	TNT (ug/L) Detec	Adjusted ct TNT (ug/L)
05/22/2000	8.7 Y	8.7
05/22/2000	6.8 Y	6.8
10/20/2000	1.2 Y	1.2
06/03/2001	9.7 Y	9.7
06/16/2002	6.9 Y	6.9
06/01/2003	0.99 N	0.495
09/13/2006	4.7 Y	4.7
6/5/2007	0.92	0.92



5A-MW2

Date	TNT (ug/L)	Detect	Adjusted TNT (ug/L)
05/22/2000	0.16	N	0.08
10/20/2000	1.4	N	0.7
05/18/2001	5.2	Υ	5.2
06/16/2002	6.3	Υ	6.3
06/01/2003	0.25	N	0.125
11/16/2004	2.4	Υ	2.4
09/12/2006	4.7	Υ	4.7
6/5/2007	2.4	ı	2.4



JAW-29

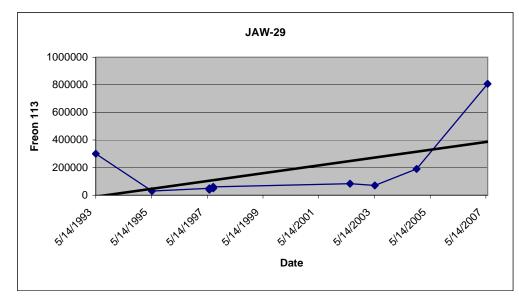
	Freon 113	
Date	ug/L	Det.
5/14/1993	300000	Υ
5/19/1995	30000	Υ
6/10/1997	50000	Υ
6/10/1997	40000	Υ
7/31/1997	50000	Υ
7/31/1997	60000	Υ
6/28/2002	83000	Υ
5/20/2003	71000	Υ
11/17/2004	190000	Υ
6/6/2007	808000	Υ

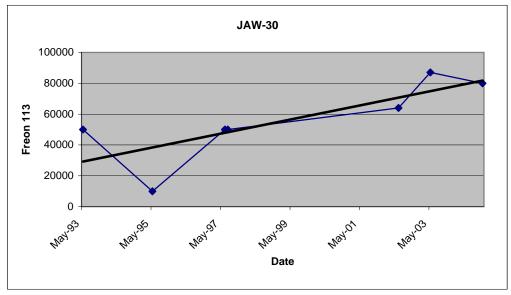
Screening Criteria = 59,000 ug/L

JAW-30

	Freon 113	
Date	ug/L	Det.
5/14/1993	50000	Υ
5/17/1995	10000	Υ
6/10/1997	50000	Υ
7/31/1997	50000	Υ
6/27/2002	64000	Υ
5/19/2003	87000	Υ
11/17/2004	80000	Υ
6/7/2007	77200	Υ

Screening Criteria = 59,000 ug/L





JAW-31

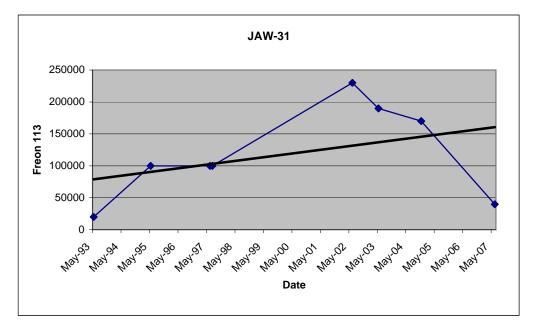
	Freon 113		
Date	ug/L	Det.	
5/14/1993	20000	Υ	
5/19/1995	100000	Υ	
6/10/1997	100000	Υ	
7/31/1997	100000	Υ	
6/27/2002	230000	Υ	
5/19/2003	190000	Υ	
11/17/2004	170000	Υ	
6/6/2007	39900	Υ	

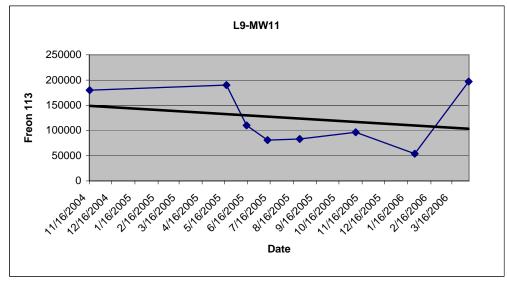
Screening Criteria = 59,000 ug/L

L9-MW11

	Freon 113		
Date	ug/L	Det	
5/18/2005	190000	Υ	
7/12/2005	81000	Υ	
6/14/2005	110000	Υ	
11/7/2005	96400	Υ	
4/7/2006	197000	Υ	
11/16/2004	180000	Υ	
8/24/2005	83200	Υ	
1/25/2006	53900	Υ	
6/7/2007	312000	Υ	

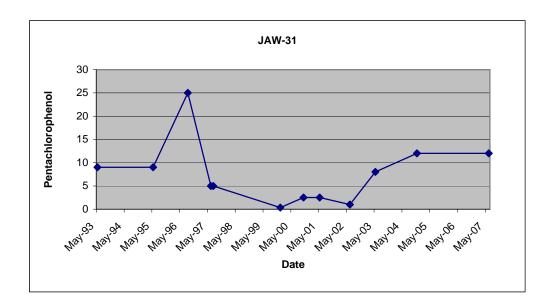
Screening Criteria = 59,000 ug/L





JAW-31

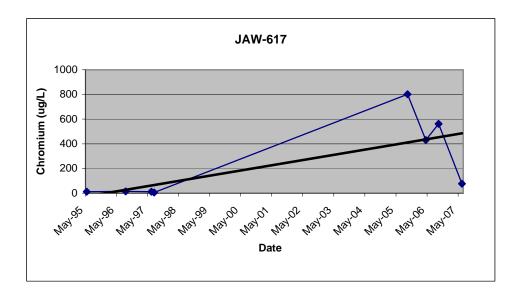
Pentachloro-			
Date	phenol Det adjus		
5/14/1993	18	N	9
5/19/1995	18	Ν	9
8/20/1996	50	Ν	25
6/10/1997	10	Ν	5
7/31/1997	10	Ν	5
12/21/1999	0.69	Ν	0.345
10/25/2000	5	Ν	2.5
5/30/2001	5	Ν	2.5
6/27/2002	1	Υ	1
5/19/2003	8	Υ	8
11/17/2004	12	Υ	12
6/6/2007	24	Ν	12



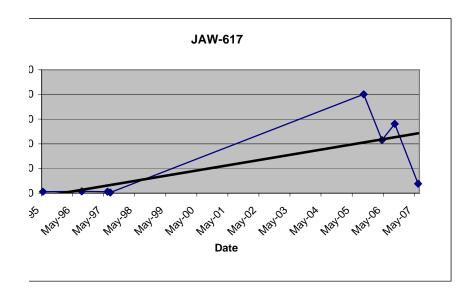
Concentration Trends for Selected Wells and Parameters Pesticide Pit

JAW-617

	Dissolved Chromium		Adjusted Chromium
Date	(ug/L)	Detect	(ug/L)
5/8/1995	12.2	Y	12.2
8/22/1996	14.5	Υ	14.5
6/6/1997	23	N	11.5
7/28/1997	5.2	Υ	5.2
9/29/2005	801	Υ	801
4/17/2006	430	Υ	430
9/5/2006	562	Υ	562
6/6/2007	76.1	Υ	76.1



Concentration Trends for Selected Wells and Parameters Pesticide Pit



JAW-32

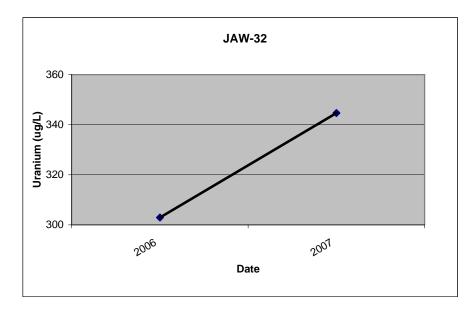
Date	Uranium (ug/L)	Detect
4/17/2006	302.94	Υ
6/12/2007	344.68	Υ

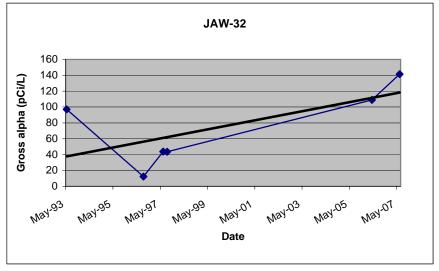
Screening Criteria = 30 ug/L

JAW-32

Gross alpha		
Date	(pCi/L)	Detect
5/25/1993	97	Υ
8/25/1996	12.3	Υ
6/14/1997	43.7	Υ
8/12/1997	43.5	Υ
4/17/2006	109	Υ
6/12/2007	141.49	Υ

Screening Criteria = 15 pCi/L





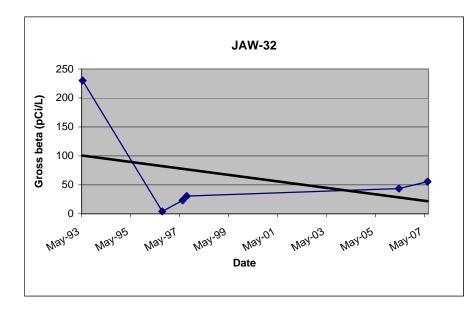
JAW-32

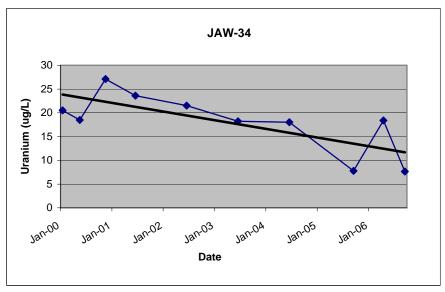
Gross beta		
Date	(pCi/L)	Detect
5/25/1993	230	Υ
8/25/1996	4.18	Υ
6/14/1997	23.3	Υ
8/12/1997	30.7	Υ
4/17/2006	43.7	Υ
6/12/2007	55.59	Υ

Screening Criteria = 4 pCi/L

JAW-34

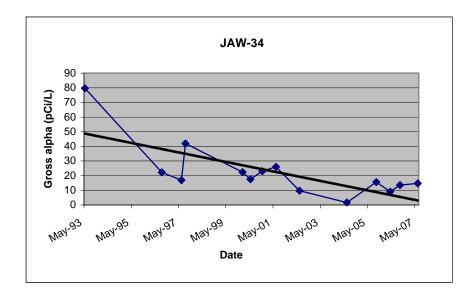
Date	Uranium (ug/L)	Detect
1/3/2000	20.5	Υ
5/15/2000	18.5	Υ
11/7/2000	27.1	Υ
6/19/2001	23.6	Υ
6/28/2002	21.5	Υ
6/3/2003	18.2	Υ
6/8/2004	18.00	Υ
9/29/2005	7.79	Υ
4/17/2006	18.38	Υ
9/13/2006	7.65	Υ
6/12/2007	17.23	Υ





JAW-34

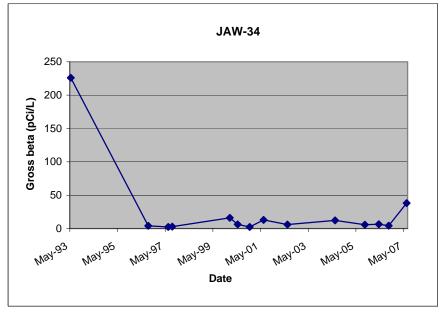
Date	Gross alpha (pCi/L)	Detect	Adjusted Gross alpha
5/25/1993	79.6	Υ	79.6
8/24/1996	22.3	Υ	22.3
6/14/1997	16.9	Υ	16.9
8/12/1997	41.9	Υ	41.9
1/3/2000	22.4	Υ	22.4
5/15/2000	17.6	Υ	17.6
11/7/2000	23	Υ	23
6/19/2001	26	Υ	26
6/28/2002	9.7	Υ	9.7
6/8/2004	3.32	N	1.66
9/29/2005	15.6	Υ	15.6
4/17/2006	9.1	Υ	9.1
9/13/2006	13.5	Υ	13.5
6/12/2007	14.72	Υ	14.72



Screening Criteria = 15 pCi/L

JAW-34

• • • • • • • • • • • • • • • • • • • •			
Date	Gross beta (pCi/L)	Detect	Adjusted Gross beta
5/25/1993	226	Υ	226
8/24/1996	4.1	Υ	4.1
6/14/1997	4.75	N	2.375
8/12/1997	5.87	N	2.935
1/3/2000	16.1	Υ	16.1
5/15/2000	6.3	Υ	6.3
11/7/2000	4.6	N	2.3
6/19/2001	13	Υ	13
6/28/2002	6.1	Υ	6.1
6/8/2004	12.2	Υ	12.2
9/29/2005	5.7	Υ	5.7
4/17/2006	6.4	Υ	6.4
9/13/2006	4.3	Υ	4.3
6/12/2007	38.26	Υ	38.26



Screening Criteria = 4 pCi/L

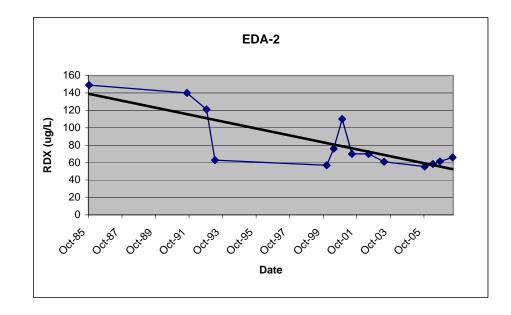
EDA-2

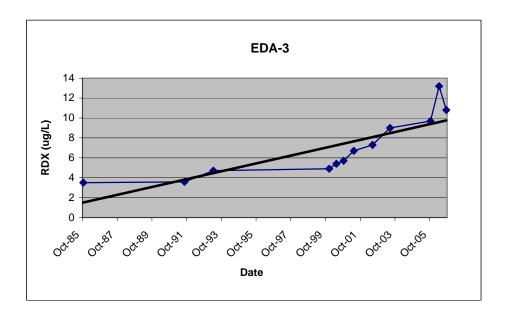
Date	RDX (ug/L)	Detect
10/8/1985	149	Υ
8/23/1991	140	Υ
10/21/1992	121	Υ
4/19/1993	62.9	Υ
12/8/1999	57	Υ
5/4/2000	76	Υ
11/1/2000	110	Υ
6/13/2001	70	Υ
6/26/2002	70	Υ
5/30/2003	61	Υ
10/3/2005	55.5	Υ
4/18/2006	58.4	Υ
9/11/2006	61.4	Υ
6/6/2007	66	Υ

Screening Criteria = 2 ug/L

EDA-3

Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
	NDX (ug/L)		
10/8/1985	1	N	3.5
8/22/1991	3.59	Υ	3.59
4/16/1993	4.71	Υ	4.71
12/6/1999	4.9	Υ	4.9
5/3/2000	5.4	Υ	5.4
10/31/2000	5.7	Υ	5.7
5/30/2001	6.7	Υ	6.7
6/25/2002	7.3	Υ	7.3
6/1/2003	9	Υ	9
10/3/2005	9.7	Υ	9.7
4/18/2006	13.2	Υ	13.2
9/11/2006	10.8	Υ	10.8
6/7/2007	15.1	Υ	15.1





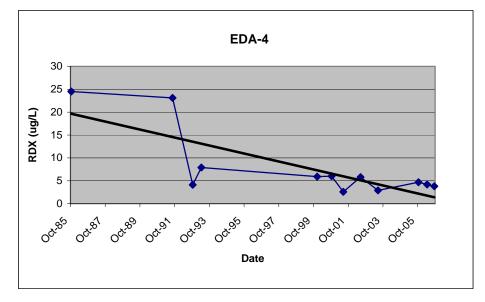
EDA-4

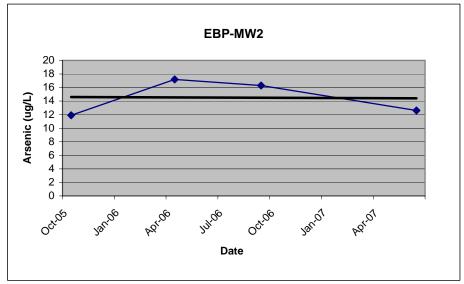
Date	RDX (ug/L)	Detect
10/8/1985	24.5	Υ
8/22/1991	23.1	Υ
10/20/1992	4.12	Υ
4/16/1993	7.9	Υ
12/7/1999	5.9	Υ
10/31/2000	6	Υ
6/13/2001	2.6	Υ
6/25/2002	5.8	Υ
6/1/2003	2.9	Υ
10/3/2005	4.7	Υ
4/18/2006	4.2	Υ
9/11/2006	3.8	Υ
6/7/2007	3.7	Υ

Screening Criteria = 2 ug/L

EBP-MW2

	Dissolved	
Date	Arsenic (ug/L)	Detect
10/10/2005	11.9	Υ
4/19/2006	17.2	Υ
9/12/2006	16.3	Υ
6/7/2007	12.6	Υ





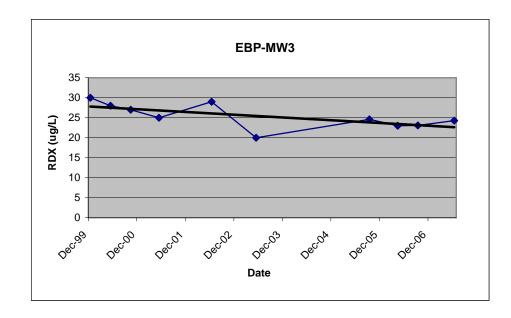
EBP-MW3

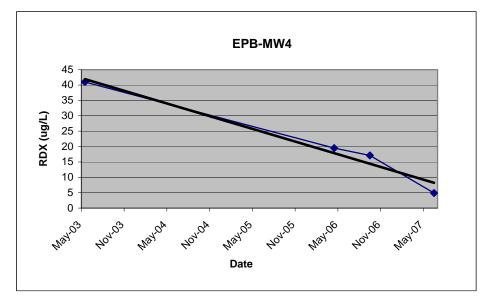
Date	RDX (ug/L)	Detect
12/9/1999	30	Y
5/2/2000	28	Υ
10/31/2000	27	Υ
5/24/2001	25	Υ
6/10/2002	29	Υ
5/21/2003	20	Υ
9/30/2005	24.6	Υ
4/19/2006	23	Υ
9/12/2006	23.1	Υ
6/8/2007	24.3	Υ

Screening Criteria = 2 ug/L

EBP-MW4

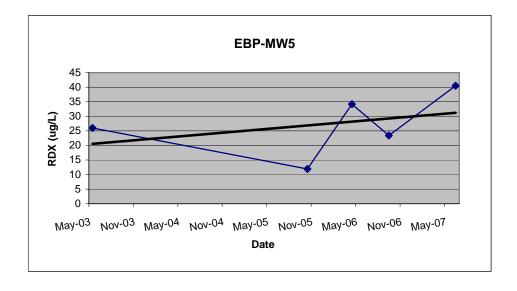
Date	RDX (ug/L)	Detect
5/12/2003	41	Υ
4/19/2006	19.5	Υ
9/12/2006	17.1	Υ
6/8/2007	4.9	Υ





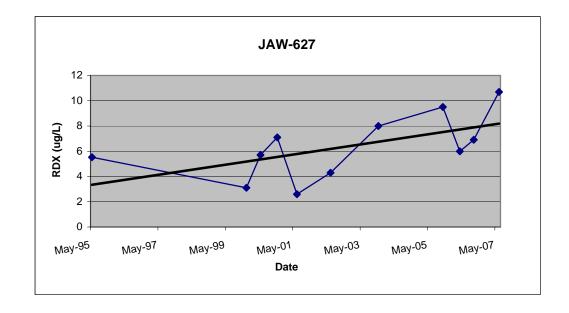
EBP-MW5

Date	RDX (ug/L)	Detect
5/12/2003	26	Υ
10/6/2005	11.9	Υ
4/19/2006	34.2	Υ
9/12/2006	23.4	Υ
6/8/2007	40.5	Υ



JAW-627

Date	RDX (ug/L)	Detect
5/8/1995	5.53	Υ
12/7/1999	3.1	Υ
5/4/2000	5.7	Υ
11/3/2000	7.1	Υ
6/2/2001	2.6	Υ
6/14/2002	4.3	Υ
11/19/2003	8	Υ
10/4/2005	9.5	Υ
4/20/2006	6	Υ
9/13/2006	6.9	Υ
6/7/2007	10.7	Υ



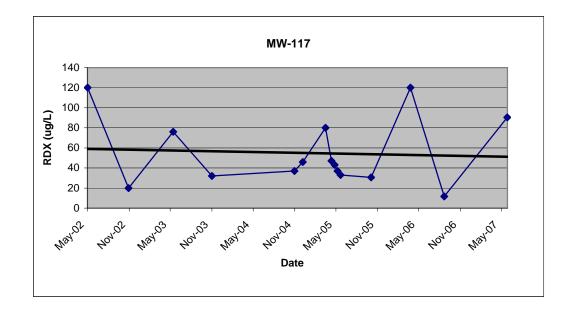
MW-117

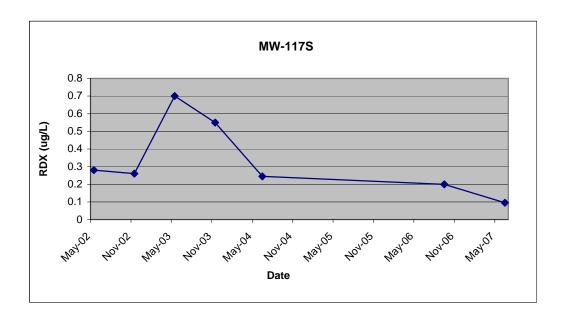
Date	RDX (ug/L)	Detect
5/17/2002	120	Υ
11/14/2002	20	Υ
5/30/2003	76	Υ
11/17/2003	32	Υ
11/15/2004	37	Υ
12/22/2004	46	Υ
4/1/2005	80	Υ
4/27/2005	47	Υ
5/11/2005	43	Υ
5/24/2005	37	Υ
6/6/2005	33	Υ
10/19/2005	30.6	Υ
4/11/2006	120	Υ
9/7/2006	11.7	Υ
6/12/2007	90.4	Υ



MW-117-S

Date RDX (ug/L) Detect RDX (u	g/L)
5/17/2002 0.56 N 0.28	3
11/14/2002 0.52 N 0.26	3
5/30/2003 1.4 N 0.7	
11/18/2003 1.1 N 0.55	5
6/19/2004 0.49 N 0.24	5
9/7/2006 0.2 Y 0.2	
6/12/2007 0.19 N 0.09	5

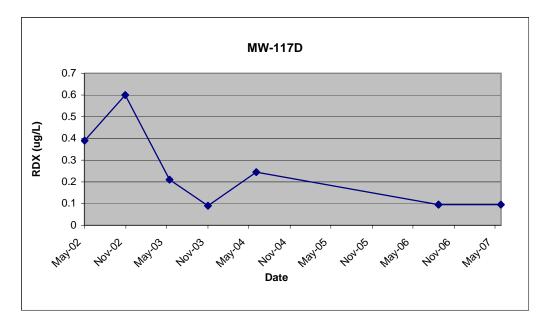




MW-117-D

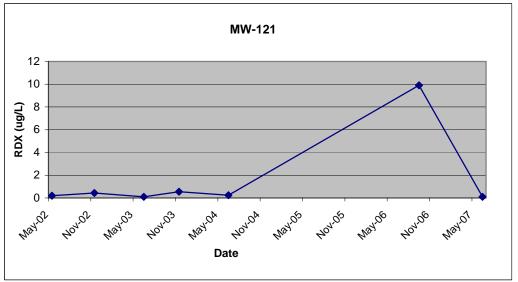
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/17/2002	0.78	N	0.39
11/14/2002	1.2	Ν	0.6
5/30/2003	0.42	Ν	0.21
11/17/2003	0.18	Ν	0.09
6/19/2004	0.49	Ν	0.245
9/7/2006	0.19	Ν	0.095
9/7/2006	0.19	Ν	0.095
6/12/2007	0.19	N	0.095

Screening Criteria = 2 ug/L



MW-121

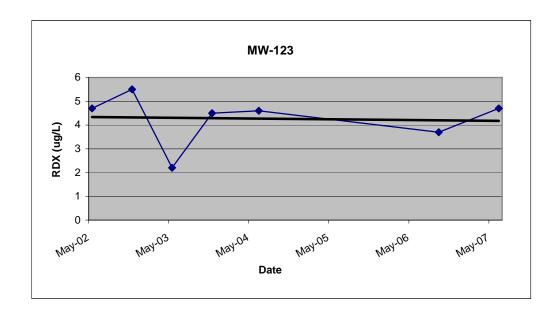
Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
5/17/2002	0.4	N	0.2
11/14/2002	0.87	Ν	0.435
6/4/2003	0.21	Ν	0.105
11/17/2003	1.1	Ν	0.55
6/18/2004	0.49	Ν	0.245
9/6/2006	9.9	Υ	9.9
6/10/2007	0.19	Ν	0.095



MW-123

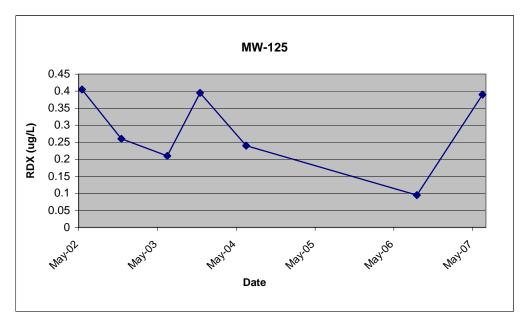
Date	RDX (ug/L)	Detect
5/17/2002	4.7	Υ
11/14/2002	5.5	Υ
5/30/2003	2.2	Υ
11/18/2003	4.5	Υ
6/10/2004	4.6	Υ
9/1/2006	3.7	Υ
6/11/2007	4.7	Υ

Screening Criteria = 2 ug/L



MW-125

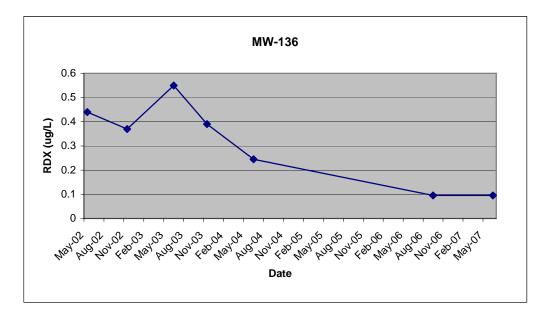
Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
5/16/2002	0.81	N	0.405
11/14/2002	0.52	Ν	0.26
6/4/2003	0.21	Υ	0.21
11/18/2003	0.79	Ν	0.395
6/10/2004	0.48	Ν	0.24
8/29/2006	0.19	Ν	0.095
6/11/2007	0.39	Υ	0.39



MW-136

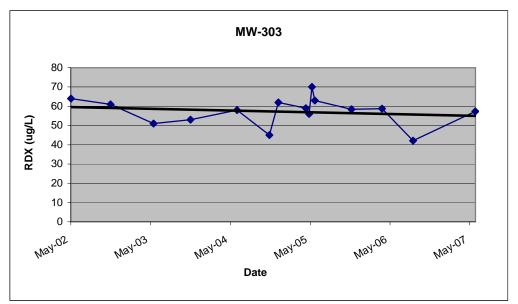
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/19/2002	0.88	N	0.44
11/13/2002	0.74	Ν	0.37
6/4/2003	1.1	Ν	0.55
11/16/2003	0.78	Ν	0.39
6/15/2004	0.49	Ν	0.245
9/6/2006	0.19	Ν	0.095
6/11/2007	0.19	N	0.095

Screening Criteria = 2 ug/L



MW-303

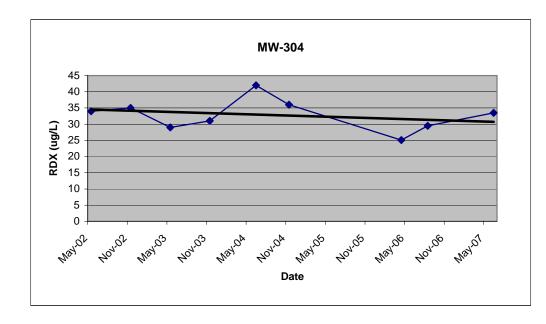
Date	RDX (ug/L)	Detect
5/18/2002	64	Υ
11/15/2002	61	Υ
5/31/2003	51	Υ
11/16/2003	53	Υ
6/16/2004	58	Υ
11/11/2004	45	Υ
12/22/2004	62	Υ
4/27/2005	59	Υ
5/12/2005	56	Υ
5/25/2005	70	Υ
6/7/2005	63	Υ
11/22/2005	58.4	Υ
4/11/2006	58.7	Υ
8/31/2006	42.1	Υ
6/12/2007	57.3	Υ



MW-304

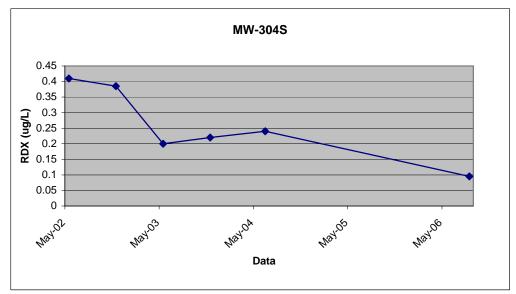
Date	RDX (ug/L)	Detect
5/19/2002	34	Υ
11/13/2002	35	Υ
5/31/2003	29	Υ
11/15/2003	31	Υ
6/16/2004	42	Υ
11/11/2004	36	Υ
4/11/2006	25.1	Υ
8/31/2006	29.5	Υ
6/12/2007	33.5	Υ

Screening Criteria = 2 ug/L



MW-304-S

			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/19/2002	0.82	N	0.41
11/13/2002	0.77	Ν	0.385
5/31/2003	0.4	Ν	0.2
11/16/2003	0.44	Ν	0.22
6/16/2004	0.48	Ν	0.24
8/31/2006	0.19	N	0.095



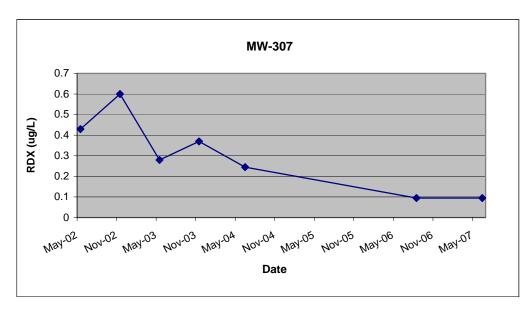
MW-307

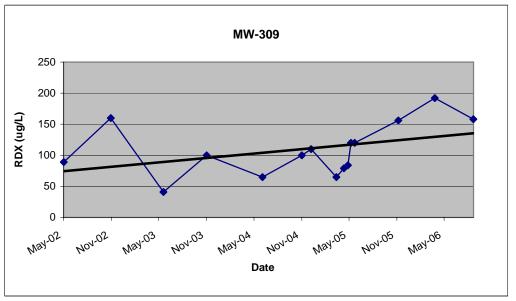
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/17/2002	0.86	N	0.43
11/14/2002	1.2	Ν	0.6
5/30/2003	0.56	Ν	0.28
11/16/2003	0.74	Ν	0.37
6/19/2004	0.49	Ν	0.245
8/29/2006	0.19	Ν	0.095
6/10/2007	0.19	N	0.095

Screening Criteria = 2 ug/L

MW-309

Date	RDX (ug/L)	Detect
5/17/2002	89	Υ
11/14/2002	160	Υ
6/4/2003	41	Υ
11/17/2003	100	Υ
6/18/2004	65	Υ
11/16/2004	100	Υ
12/22/2004	110	Υ
3/29/2005	65	Υ
4/27/2005	79	Υ
5/12/2005	84	Υ
5/24/2005	120	Υ
6/7/2005	120	Υ
11/22/2005	156	Υ
4/11/2006	192	Υ
9/6/2006	158	Υ
6/10/2007	128	Υ





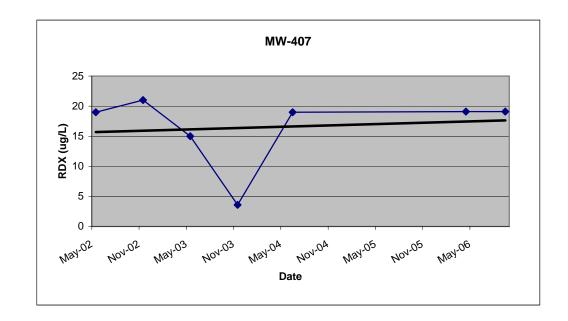
MW-407

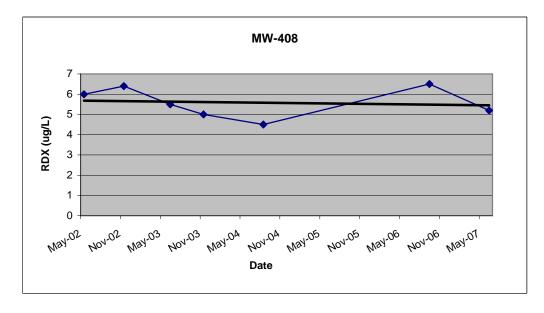
Date	RDX (ug/L)	Detect
5/19/2002	19	Y
11/15/2002	21	Υ
5/31/2003	15	Υ
11/16/2003	3.6	Υ
6/16/2004	19	Υ
4/13/2006	19.1	Υ
9/1/2006	19.1	Υ
6/10/2007	19.3	Υ

Screening Criteria = 2 ug/L

MW-408

Date	RDX (ug/L)	Detect
5/21/2002	6	Υ
11/13/2002	6.4	Υ
6/4/2003	5.5	Υ
11/16/2003	5	Υ
8/11/2004	4.5	Υ
9/6/2006	6.5	Υ
6/11/2007	5.2	Υ

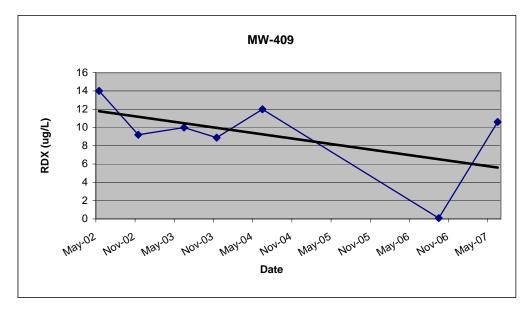




MW-409

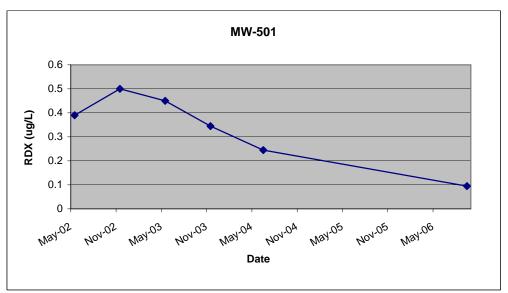
Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
5/18/2002	14	Υ	14
11/15/2002	9.2	Υ	9.2
6/4/2003	10	Υ	10
11/16/2003	8.9	Υ	8.9
6/15/2004	12	Υ	12
9/6/2006	0.19	Ν	0.095
6/12/2007	10.6	Υ	10.6

Screening Criteria = 2 ug/L



MW-501

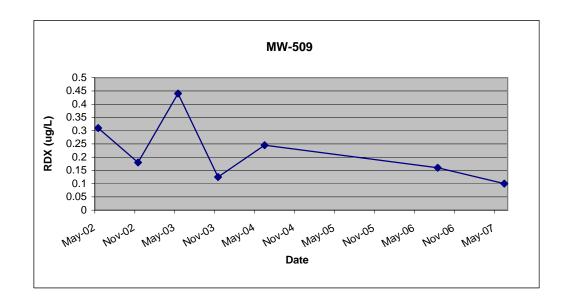
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/18/2002	0.78	N	0.39
11/15/2002	1	Ν	0.5
5/31/2003	0.9	Ν	0.45
11/15/2003	0.69	Ν	0.345
6/16/2004	0.49	Ν	0.245
9/1/2006	0.19	Ν	0.095
6/11/2007	0.074	Υ	0.074



MW-509

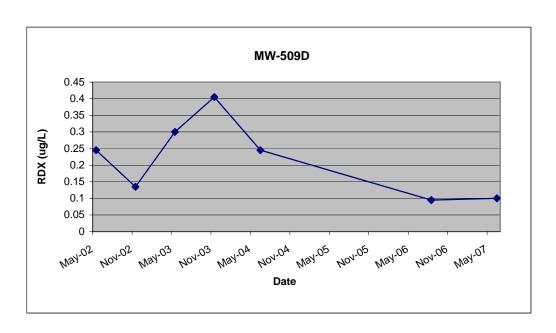
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/19/2002	0.62	N	0.31
11/14/2002	0.36	Ν	0.18
5/31/2003	0.88	Ν	0.44
11/16/2003	0.25	Ν	0.125
6/16/2004	0.49	Ν	0.245
8/31/2006	0.16	Υ	0.16
6/10/2007	0.2	N	0.1

Screening Criteria = 2 ug/L



MW-509D

			Adjusted	
Date	RDX (ug/L)	Detect	RDX (ug/L)	
5/19/2002	0.49	N	0.245	
11/14/2002	0.27	Ν	0.135	
5/31/2003	0.6	Ν	0.3	
11/16/2003	0.81	Ν	0.405	
6/16/2004	0.49	Ν	0.245	
8/31/2006	0.19	Ν	0.095	
6/10/2007	0.2	Ν	0.1	

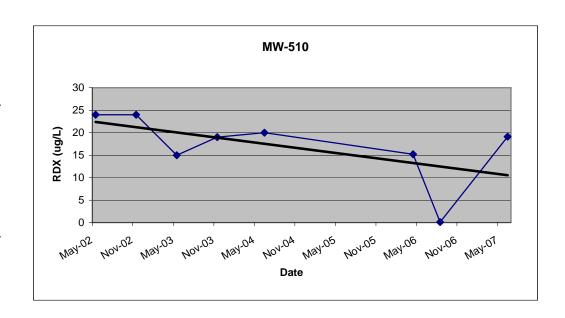


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MW-510

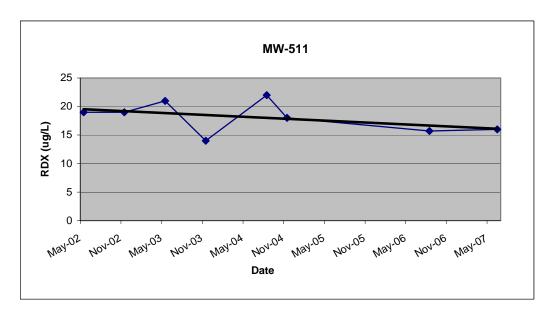
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/19/2002	24	Υ	24
11/15/2002	24	Υ	24
5/29/2003	15	Υ	15
11/15/2003	19	Υ	19
6/17/2004	20	Υ	20
4/13/2006	15.2	Υ	15.2
8/31/2006	0.19	Ν	0.095
6/10/2007	19.1	Υ	19.1

Screening Criteria = 2 ug/L



MW-511

Date	RDX (ug/L)	Detect
5/19/2002	19	Y
11/15/2002	19	Υ
5/29/2003	21	Υ
11/15/2003	14	Υ
8/11/2004	22	Υ
11/16/2004	18	Υ
8/31/2006	15.7	Υ
6/11/2007	16	Υ



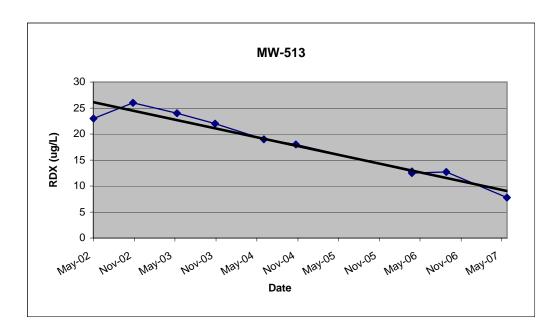
MW-513

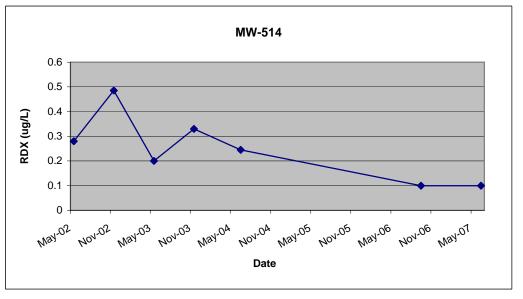
Date	RDX (ug/L)	Detect
5/20/2002	23	Υ
11/13/2002	26	Υ
5/29/2003	24	Υ
11/15/2003	22	Υ
6/20/2004	19	Υ
11/10/2004	18	Υ
4/13/2006	12.8	Υ
4/13/2006	12.5	Υ
9/14/2006	12.7	Υ
6/12/2007	7.8	Υ

Screening Criteria = 2 ug/L

MW-514

Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
5/21/2002	0.56	N	0.28
11/13/2002	0.97	Ν	0.485
5/30/2003	0.4	Ν	0.2
11/16/2003	0.66	Ν	0.33
6/19/2004	0.49	Ν	0.245
9/7/2006	0.2	Ν	0.1
6/11/2007	0.2	N	0.1

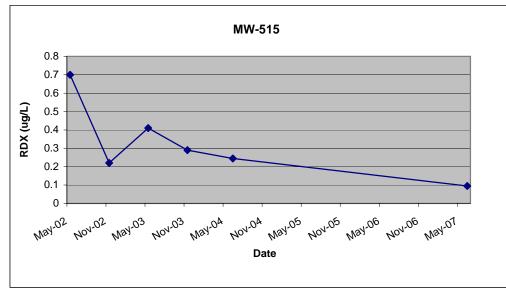




MW-515

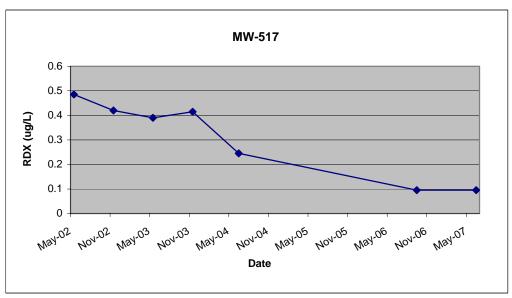
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/20/2002	1.4	N	0.7
11/13/2002	0.44	Ν	0.22
5/29/2003	0.82	Ν	0.41
11/15/2003	0.58	Ν	0.29
6/20/2004	0.49	Ν	0.245
6/12/2007	0.19	N	0.095

Screening Criteria = 2 ug/L



MW-517

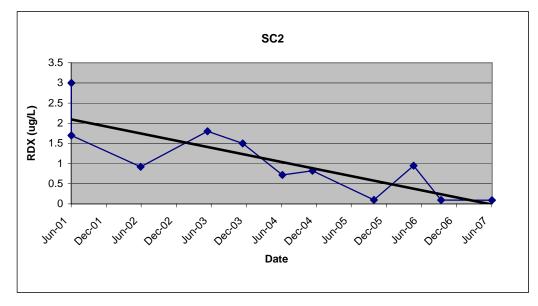
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
5/21/2002	0.97	N	0.485
11/13/2002	0.84	Ν	0.42
5/29/2003	0.78	Ν	0.39
11/15/2003	0.83	Ν	0.415
6/18/2004	0.49	Ν	0.245
9/1/2006	0.19	Ν	0.095
6/11/2007	0.19	N	0.095



Concentration Trends for Selected Wells and Parameters Surface Water

SC2

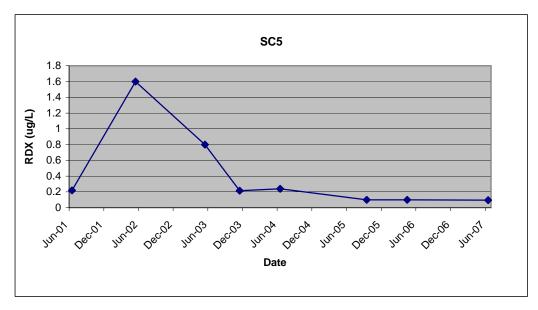
			Adjusted
Date	RDX (ug/L)	Detect	RDX (ug/L)
6/3/2001	3	Υ	3
6/3/2001	1.7	Υ	1.7
5/31/2002	0.92	Υ	0.92
5/15/2003	1.8	Υ	1.8
11/14/2003	1.5	Υ	1.5
6/8/2004	0.72	Υ	0.72
11/12/2004	0.82	Υ	0.82
9/29/2005	0.2	Ν	0.1
4/24/2006	0.95	Υ	0.95
9/14/2006	0.19	Ν	0.095
6/7/2007	0.093	Υ	0.093



Screening Criteria = 2 ug/L

SC5

			Aajustea
Date	RDX (ug/L)	Detect	RDX (ug/L)
6/3/2001	0.44	N	0.22
5/31/2002	1.6	Υ	1.6
5/15/2003	1.6	Ν	8.0
11/14/2003	0.43	Ν	0.215
6/9/2004	0.48	Ν	0.24
9/29/2005	0.2	Ν	0.1
4/24/2006	0.2	Ν	0.1
6/7/2007	0.19	N	0.095



Concentration Trends for Selected Wells and Parameters Surface Water

SCT2

Date	RDX (ug/L)	Detect	Adjusted RDX (ug/L)
6/3/2001	16	Υ	16
5/15/2003	110	Υ	110
11/14/2003	13	Υ	13
6/9/2004	42	Υ	42
11/12/2004	17	Υ	17
4/24/2006	21	Υ	21
9/14/2006	0.19	Ν	0.095
6/7/2007	5.1	Υ	5.1

