# SHALLOW GROUNDWATER REMEDIAL ACTION REPORT

STUDY AREA 6 SOUTH DEVELOPMENT AOC
NJDEP SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY
PROGRAM INTEREST NOS. G000000927, G000008741, G000008742, 033312, 003846, 010374

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**JULY 2018**

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# 1.0 INTRODUCTION

On behalf of Honeywell, Wood Environment & Infrastructure Solutions, Inc. (Wood; formerly Amec Foster Wheeler Environment & Infrastructure, Inc.) prepared this Shallow Groundwater Remedial Action Report (SA-6 South Shallow Groundwater RAR) to address shallow groundwater as part of the chromium remedy for the Study Area 6 South (SA-6 South or Site) Development Area of Concern (AOC) for submission to New Jersey Department of Environmental Protection (NJDEP). This report addresses remedial action reporting requirements in accordance with the NJDEP Technical Requirements for Site Remediation (TRSR). Forms required by NJDEP for RARs are attached to this document. This RAR will also be submitted to the Special Master, the Parties, and the Court pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South, ECF No. 434, entered by the United States District Court, District of New Jersey on August 2, 2012, in Civil No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 South Consent Decree"). [1]

SA-6 South is located on the west side of Jersey City between Route 440 to the east and the Hackensack River to the west (see **Figure 1**). SA-6 South is bordered by Study Area 7 (SA-7) to the north and Droyers Cove, Kellogg Street and Droyers Point Society Hill developments to the south. For implementation of remedial actions and future planned land use, SA-6 South is divided into the Open Space AOC and the Development AOC (see **Figure 2**).

The Chromium Remedy at SA-6 South was implemented from March 2013 to November 2016 in accordance with the NJDEP-approved Remedial Action Work Plans (RAWPs), the SA-6 South Consent Decree, the SA-6 South 100% Design Report and associated Design Change Bulletins. The implementation of the Chromium Remedy at SA-6 South was documented in a final RAR dated February 2017 submitted to NJDEP and all Parties. This SA-6 South Shallow Groundwater RAR is a supplement to the February 2017 RAR. The NJDEP approved the

[1] The "Parties" referenced in this RAR are the signatories to the SA-6 South Consent Decree: the City of Jersey City, Hackensack Riverkeeper, and Honeywell. In addition, the "Special Master" referenced in this RAR is the Honorable Senator Robert Torricelli, who was appointed pursuant to the SA-6 South Consent Decree, paragraph 85, to oversee and enforce the implementation and long-term monitoring of the Chromium Remedy within SA-6 South, and the Initial Development Period related to the Open Space AOC.

February 2017 RAR on March 30, 2017. A brief summary of the Chromium Remedy is provided below. For additional details about the Site and the Chromium Remedy, refer to the February 2017 RAR.

Within the designated SA-6 South Development Area, chromium-impacted soils[2] exceeding 20 milligrams per kilogram (mg/kg) for hexavalent chromium within 20 feet of the ground surface were excavated in accordance with the NJDEP Chromium Policy Directive (NJDEP, 2007), except for two Deed Notice Areas where further excavation is deferred until Route 440 roadwork or work along the riverfront bulkheads is conducted. To achieve the remedial action objectives for soils and groundwater in the Open Space AOC, engineering controls (vertical hydraulic barriers and a Resource Conservation and Recovery Act-equivalent cap) were constructed around the Open Space AOC to fully contain existing and consolidated hexavalent chromium-impacted soil and impacted groundwater. Groundwater level measurements are taken periodically in piezometers on either side of the hydraulic barriers to assist in maintaining an inward hydraulic gradient relative to the Open Space AOC in accordance with an approved Long Term Monitoring Plan (LTMP) prepared for SA-6 (Amec Foster Wheeler, February 2018). Institutional controls (deed notice and conservation restriction) were also established for the Open Space AOC so that this area remains as open space.

A Remedial Action Permit (RA Permit) Application for Soil was submitted to NJDEP on December 14, 2017. A Classification Exception Area (CEA) for the regional shallow groundwater for chromium was approved in February 2012 (see **Appendix A**) and a RA Permit Application for Groundwater for the Open Space AOC was submitted on December 5, 2017. The shallow groundwater CEA and associated RA Permit are discussed further in Section 7.0.

Following completion of the Chromium Remedy at SA-6 South, groundwater samples from 12 monitoring wells installed in the SA-6 South Development AOC were collected for eight quarterly sampling rounds in accordance with the NJDEP-approved RAWP and the approved LTMP prepared for SA-6. This RAR is being submitted per the SA-6 South Consent Decree Paragraphs 70 and 86(c)(vii) to address shallow groundwater conditions at the SA-6 South Development AOC and

[2] "Chromium-impacted soils" are those soils containing hexavalent chromium concentrations exceeding 20 mg/kg.

indicates that remedial objectives for the shallow groundwater have been met. Based on the groundwater sampling results, Honeywell concludes that no further action is required for shallow groundwater at the SA-6 South Development AOC. Honeywell requests NJDEP acknowledgement and concurrence with the above.

On February 28, 2011, Honeywell submitted initial Receptor Evaluations for SA-6 South. Updated Receptor Evaluation Forms and required attachments for each SA-6 South site are included with this RAR submission. The monitoring wells in the SA-6 South Development AOC will be abandoned during post-remedy activities.

This report addresses the shallow groundwater zone, i.e., within fill material (above the meadow mat and underlying native soils), generally up to a depth of 20 feet below grade. Deeper groundwater zones (beneath the meadow mat) are being addressed by the regional groundwater remedy pursuant to a court-approved remedy and subject to oversight by a court-appointed Special Master. The source of the deeper groundwater impacts is related to historical operations at the former Mutual Chemical Company plant located on the east side of Route 440 (at Study Area 5). The regional groundwater remedy includes a Groundwater Extraction and Treatment (GWET) system with pumping from extractions wells for treatment at the onsite treatment system located at SA-6 North. Ongoing monitoring and maintenance requirements include implementation of a Long-Term Monitoring Plan referred to as the Integrated Groundwater Sampling and Analysis Plan for Study Areas 5, 6 and 7, with annual progress reports submitted to the court-appointed Special Master.

# 2.0 COMPLIANCE WITH NJDEP TECHNICAL REQUIREMENTS FOR SITE REMEDIATION

This Shallow Groundwater RAR was prepared in accordance with the remedial action reporting requirements specified in the NJDEP TRSR (New Jersey Administrative Code [N.J.A.C.] 7:26E-5.7). The following is a summary of required elements for RARs prepared under the current TRSR as they relate to SA-6:

- Applicable reporting requirements for RARs under N.J.A.C. 7:26E-1.6 were followed in preparing this RAR with exceptions noted below.
- All documents, forms, spreadsheets and worksheets required for RARs are provided with this RAR.
- Case Management personnel from NJDEP's Site Remediation Program has oversight of this Site; there is no Licensed Site Remediation Professional.
- An initial receptor evaluation (RE) for this Site was submitted in February 2011. Updated well searches were conducted for SA-6 South in December 2015 and May 2018. The updated RE form is included.
- The area of concern for the SA-6 Chromium Remedy consisted of chromium-impacted fill which was addressed in the Soils RAR.
- The contaminants of concern for shallow groundwater are total and hexavalent chromium.
- The remedial action objectives included attaining of concentrations of total chromium in shallow groundwater to below the NJDEP Groundwater Quality Standard of 70 micrograms per liter (µg/L) by removing chromite ore processing residue (COPR) above the underlying confining layer (meadow mat).
- The remedial investigation regulatory timeframe pursuant to N.J.A.C. 7:26E-4.10 is not applicable to SA-6, because the remedial actions were completed under court oversight prior to current regulatory timeframe requirements.
- Since this RAR addresses shallow groundwater, reporting requirements pertaining to soil remediation, site disturbance, or waste disposal, backfill documentation, site restoration, and waste manifests pursuant to N.J.A.C. 7:26E-5.7 are not applicable.

- A remedial action permit is not required for shallow groundwater for the SA-6 Development AOC.
- Descriptions of the remedy, tabular data presentation, sample locations, and permitting requirements are provided herein in accordance with N.J.A.C. 7:26E-5.7.
- Data usability is discussed in Section 3.0.

# 3.0 DATA VALIDATION AND USABILITY

All samples were analyzed by SGS Accutest Laboratories, Inc. of Dayton, New Jersey (SGS Accutest). Total chromium analysis was performed using United States Environmental Protection Agency (USEPA) SW846 200.7 and hexavalent chromium analysis was performed using USEPA Method 7199. Third party data validation was performed by Validata, LLC (Validata) of Seattle, Washington. Additionally, Honeywell employs Dr. Rene Surgi of Analytical & Environmental Services, Inc. (AESI) of Glencoe, Illinois, to provide third-party analytical quality assurance/quality control (QA/QC). Once the data packages are issued by Accutest to Validata, the hexavalent chromium (and total chromium, if performed) data are validated. Employing such a protocol provides a high degree of confidence that the hexavalent chromium analytical data that has passed the internal laboratory QA/QC standards and was not rejected by the validator is accurate, precise, representative and, thus, usable. Rejected data, although reported, is flagged with an "R" and is not used for the intended purpose of the associated sampling. Data validation reports will be provided upon request.

Honeywell prepared a Data Management Plan (DMP) which was made part of the 100% Design Report for the SA-6 Chromium Remedy (**Appendix E**). Honeywell revised the DMP in August 2014 to clarify data validation level and frequency based upon the purpose of the sampling and end use of the data. This revised DMP was submitted to NJDEP and all Parties on August 22, 2014. The DMP outlines the specific data validation objectives and procedures involved in producing quality, usable analytical data during implementation of the SA-6 Chromium Remedy.

A summary of the data validation level and frequency for groundwater samples analyzed for total and hexavalent chromium collected during the SA-6 post-remedy groundwater sampling per the revised DMP follows:

- Level IV data validation 100% of total chromium samples analyzed; and
- Level V data validation 100% of hexavalent chromium samples analyzed.

The NJDEP issued guidance for Data of Known Quality Protocols (DKQPs) in April 2014, approximately 1 year after the start of the SA-6 Chromium Remedy. The NJDEP was consulted regarding whether the questionnaire that is part of the

DKQP process needed to be filled out for samples collected during the implementation of the Chromium Remedy. NJDEP concluded that the DKQP questionnaires were not required for the Chromium Remedy since the laboratory follows rigorous QA/QC protocols specifically developed for the chromium program in Jersey City which results in the generation of data of known quality and because the third-party validation process covers the data assessment and usability evaluation promoted in the DKQP guidance. We note that the validation process essentially asks the same questions as those on the questionnaire.

As indicated above, 100% of the groundwater samples analyzed were validated by Validata. Data validation qualifiers are included on **Tables 1** through **12**. Based on overall RAR data and validation results, the groundwater data are usable as qualified and is acceptable for characterization and delineation per NJDEP guidance. The data qualifications do not have a negative impact on overall project objectives.

Given the high level of internal and external QA/QC that is conducted by Honeywell, the 100% data validation that Honeywell employs for hexavalent chromium, and validation of 10% of samples for analytical parameters other than hexavalent chromium, the analytical data meets NJDEP's standards of precision, accuracy, and usability.

# 4.0 MONITORING WELL INSTALLATION

To satisfy the requirements for post-remediation groundwater monitoring indicated in the NJDEP-approved RAWP, the Development AOC Shallow Groundwater Monitoring Plan (SGWMP) included as Appendix D of the SA-6 South 100% Design Report (Amec, June 2013) specified that Honeywell would sample groundwater from 12 monitoring wells in the Development AOC following completion of the soil excavation activities. Due to the excavation activities, many existing monitoring wells in the Development AOC installed during previous investigations were abandoned. Therefore, 11 new monitoring wells were installed in the Development AOC for post-remediation monitoring. One monitoring well, 163-MW-02R, was not affected by the excavation so a new well was not required in that location. All 12 wells used for the SA-6 South Development AOC post-remedy groundwater monitoring are shown on **Figure 2** and include:

- 073-MW-06
- 073-MW-07
- 073-MW-08
- 124-MW-12
- 124-MW-13
- 125-MW-02
- 125-MW-03
- 134-MW-03
- 134-MW-04
- 140-MW-09
- 140-MW-10
- 163-MW-02R

Drilling and monitoring well construction procedures were described in the February 2017 RAR. In addition, the documents required by NJDEP for installation of new monitoring wells were provided in the appendix section of the February 2017 RAR.

# 5.0 GROUNDWATER SAMPLING AND ANALYSIS

The SGWMP for SA-6 South indicated that groundwater sampling would be conducted for a one-year period (4 rounds of monitoring), at which point, groundwater sample results and continuation of groundwater monitoring would be evaluated. Based upon detection of total chromium results of groundwater samples greater than the NJDEP Groundwater Quality Standard (GWQS) of 70 µg/L for total chromium in unfiltered samples from several wells in the SA-6 South Development AOC during the first year of sampling, Honeywell elected to continue sampling for an additional four quarters.

Samples were collected from all 12 monitoring wells quarterly from 2nd Quarter 2016 through 4th Quarter 2017. After consultation with NJDEP, two rounds of samples were collected during the 4th Quarter 2017: the first set in October 2017 and the second set in late December 2017 (which was considered to be representative of the 1st Quarter 2018). An additional round of sampling was completed for one well (140-MW-09) in March 2018 because some of the post remedy sampling events indicated total chromium concentrations above 70 µg/L, mostly in unfiltered samples and some in filtered samples. The March 2018 data was provided to all Parties in the April 2018 SA-6 Progress Report. Based upon Plaintiff comments on the April 2018 Progress Report, two additional rounds of groundwater sampling at 140-MW-09 were completed in June 2018 to compare to the March 2018 data.

Samples were collected via low-flow purging/sampling protocols per the NJDEP Field Sampling Procedures Manual, the Development AOC Shallow Groundwater Monitoring Plan (Amec, June 2013), and the LTMP. Submersible pumps were utilized to extract the water from the wells and all non-dedicated/disposable sampling equipment was decontaminated before and after sampling of each well. Field parameters, including temperature, specific conductivity, pH, dissolved oxygen (DO), salinity, turbidity and oxidation-reduction potential (ORP), were measured using a multiparameter water quality meter (Horiba U-52) and recorded during purging. Groundwater Field Parameter Sampling Forms summarizing the field sampling parameters for all sampling rounds are provided in **Appendix C**.

Once purging was completed, laboratory-provided sample containers with appropriate preservatives were filled. Additionally, a portion of the water obtained

from the piezometers was also field-filtered, utilizing a 0.45-micron (µ) filter. During the first two sampling rounds, concentrations of total chromium in field-filtered samples from well 140-MW-09 were lower than the unfiltered sample, but were not necessarily less than 70 µg/L. Therefore, beginning with the fourth quarter 2016, samples collected from well 140-MW-09 and 125-MW-03 (which exhibited total chromium above 70 µg/L in its unfiltered sample during the 3rd quarter 2016), were also filtered through a 0.1 µ filter. With the exception of the October 2017 and June 2018 sample rounds (as discussed in Section 6.0), total chromium concentrations in all of the 0.1 µ filtered samples were less than 70 µg/L.

In accordance with the DMP, quality assurance/quality control samples were also collected during each sampling round including duplicate samples and field blanks.

After filtering, the samples were placed in sample containers. Once filled, all containers were placed in coolers with ice and samples were transported to SGS Accutest for analysis under chain of custody. Samples were analyzed for total chromium and hexavalent chromium using USEPA Method 200.7 and Method 7199, respectively, as indicated in Section 3. Laboratory analytical reports are provided on compact disc in **Appendix D**. Electronic Data Deliverable (EDD) confirmation documentation is included in **Appendix B**.

# 6.0 ANALYTICAL RESULTS

Groundwater analytical results are summarized on **Tables 1 through 12** for all rounds of sampling. With the exception of some sporadic detections of hexavalent chromium in monitoring well 140-MW-10 during the first year of sampling, all hexavalent chromium results were below the detection limit of 0.0055 milligrams per liter (mg/L). Total chromium was below the GWQS of 70 µg/L in unfiltered and filtered samples in 8 out of the 12 monitoring wells. Total chromium was detected above 70 µg/L in unfiltered samples from three monitoring wells (134-MW-04, 125-MW-02, and 125-MW-03) during one quarter each out of 8 sampling rounds; results for the 4 most recent rounds of quarterly sampling were below 70 µg/L.

One monitoring well, 140-MW-09, had detections above 70 µg/L in unfiltered and/or filtered samples during 4 of 8 quarterly events in 2016-2017 (the first, second, third, and seventh quarterly events). The groundwater sampling results were reviewed with the NJDEP in a meeting on January 23, 2018. At that meeting, based upon the detection of total chromium above 70 µg/L in 140-MW-09 during some sampling rounds, it was determined that an additional round of sampling would be performed at monitoring well 140-MW-09 during March 2018. In June 2018, two additional sampling rounds were performed as discussed in Section 5.0.

As indicated on **Table 10**, the results for 140-MW-09 in the March and June 2018 sampling rounds exhibited total chromium concentrations greater than 70 µg/L in the unfiltered and several of the 0.45 µ filtered samples. Total chromium concentrations were less than 70 µg/L in the 0.1 µ filtered sample on during March 2018. Overall, results from the for 140-MW-09 indicate total chromium concentrations above 70 µg/L in 7 out of 11 rounds, and the most recent sampling round in March and June 2018 indicate total chromium ranging from 96.9 to 204 µg/L in unfiltered samples and less than 70 µg/L in 4 out of 12 filtered samples. Hexavalent chromium was not detected during any of the 11 sampling rounds from 140-MW-09.

In a meeting with the NJDEP on May 14, 2018, the March 2018 sampling results for 140-MW-09 were discussed and NJDEP indicated that total chromium detections in groundwater during the post-remedy groundwater sampling can be attributed to historic fill due to the sporadic nature of total chromium detections above 70 µg/L,

absence of hexavalent chromium, and the completed soil remedial actions including excavation of chromium-impacted soils from the SA-6 South Development AOC. The post-remediation groundwater monitoring results show that, while total chromium concentrations exceeded 70 µg/L in the unfiltered sample and several of the filtered samples from 140-MW-09 during the March and June 2018 sampling rounds, data do not indicate a trend of exceedances and the results are not related to the presence of COPR impacted soils. This is supported by the following lines of evidence:

- All hexavalent chromium-impacted soils exceeding 20 mg/kg have been excavated from the SA-6 South Development AOC.
- Groundwater monitoring data indicate total chromium concentrations less than the GWQS in 11 out of 12 wells including other wells near 140-MW-09.
- Hexavalent chromium results were non-detect or well below 70 µg/L in all wells during all rounds of sampling.
- Total chromium was detected above 70 µg/L in unfiltered samples from some wells occasionally during the monitoring program; filtered results were less than 70 ppb in all cases except some sampling rounds from 140-MW-09.
- Honeywell has an existing CEA for chromium (and historic fill) impacted shallow groundwater for the Site (as discussed in Section 7).

# 7.0 EXISTING CLASSIFICATION EXCEPTION AREA

Honeywell has established regional CEAs for groundwater for the SA-5/6/7 sites as an institutional control to identify chromium-impacted groundwater above the NJDEP GWQS and prevent the use of groundwater within the designated CEA areas. The NJDEP approved the CEA on February 16, 2012 (see approval letter in **Appendix A**). The CEAs address the shallow fill, deep overburden, and bedrock groundwater zones. As previously indicated, the shallow zone refers to groundwater within fill material (above an underlying native confining layer of meadow mat and other native soils), generally to a depth of 20 feet bgs. The shallow zone CEA excludes SA-7.

Because the NJDEP has determined that total chromium concentrations that exceed the GWQS of 70 µg/L can be attributed to historic fill as indicated in Section 6.0, the NJDEP requested that Honeywell modify the boundary of the existing shallow groundwater CEA for chromium to exclude the SA-6 South Development AOC and only include the SA-6 South Open Space AOC. Revised CEA boundary shape files were submitted to the NJDEP via electronic mail correspondence on May 15, 2018.

A RA Permit Application for shallow groundwater for the SA-6 South Open Space AOC was submitted by Honeywell to the NJDEP on December 5, 2017. NJDEP is expected to issue a RA Permit for the shallow groundwater in the SA-6 South Open Space AOC in the near future. A RA Permit is not required for the SA-6 South Development AOC based on the post-remediation monitoring results and conclusions as indicated in Section 8.

In addition, NJDEP requested that Honeywell include total chromium as a component to the historic fill CEA which was originally submitted to the NJDEP in the Non-Chromium RAR on December 9, 2016 by Honeywell's License Site Remediation Professional, Mr. Peter Jaran, PE. A revised Classification Exception Area/Well Restriction Area (CEA/WRA) Fact Sheet Form was submitted to NJDEP on May 24, 2018 and is attached to this RAR in the "NJDEP Forms" section.

# 8.0 CONCLUSIONS

The post-remediation groundwater monitoring data indicate that remedial objectives for shallow groundwater for attainment of the NJDEP GWQS for chromium at the SA-6 South Development AOC have been completed. Based on the groundwater monitoring results and lines of evidence discussed in Section 6, Honeywell concludes that no further action is required for shallow groundwater for the SA-6 South Development AOC. Accordingly, Honeywell requests written acknowledgment from the NJDEP regarding the following:

- This RAR is in compliance with the NJDEP TRSR;
- A Remedial Action Permit for shallow groundwater with respect to chromium at the SA-6 South Development AOC is not required; and
- The boundary of the NJDEP-approved existing CEA for shallow groundwater has been modified to remove the SA-6 South Development AOC. On June 14, 2018, NJDEP issued the modified shallow groundwater CEA.

# 9.0 REFERENCES

AMEC Environment and Infrastructure, Inc, 2012. Supplemental Remedial Investigation Report/Remedial Action Selection Report/Remedial Action Work Plan for Chromium. Site 163, Jersey City, New Jersey. May 2012.

AMEC Environment and Infrastructure, Inc., 2013. Chromium Remedy 100% Design Report – Issued for Construction, Study Area 6 South (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. June 2013.

Amec Foster Wheeler Environment and Infrastructure, Inc., 2016. Remedial Action Report SA-6 South Non-Chromium Remedy (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. December 2016.

Amec Foster Wheeler Environment and Infrastructure, Inc., 2017. Revised Remedial Action Report SA-6 South Chromium Remedy (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. February 2017.

Amec Foster Wheeler Environment and Infrastructure, Inc., 2017. Construction Completion Report SA-6 South Chromium Remedy (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. October 2017.

AMEC Environment and Infrastructure, Inc., 2018. Long Term Monitoring Plan, Study Area 6 North (Sites 087 and 088) and Study Area 6 South (Sites 073, 124, 125, 134, 140, and 163), Jersey City, New Jersey. February 2018.

Cornerstone Environmental Group, April 2014; Integrated Groundwater Sampling and Analysis Plan, Study Areas 5, 6, and 7.

Cornerstone, 2017, Integrated Annual Groundwater Performance Report for 2016, Study Areas 5, 6 and 7; August 2017.MACTEC Engineering and Consulting, Inc, 2008. Supplemental Remedial Investigation Report/Remedial Action Selection Report/Remedial Action Work Plan for Chromium. Study Area 6 South (Sites 073, 124, 125, 134, and 140), Jersey City, New Jersey. December 2008.

NJDEP, 2005; revised 2011; Field Sampling Procedures Manual, August 2005.

NJDEP, 2007; Chromium Policy Directive dated February 8, 2007.

NJDEP, 2012; Technical Requirements for Site Remediation, N.J.A.C. 7:26E. Last amended May 7, 2012.

United States District Court, District of New Jersey, 2012; First Amended Consent Decree Regarding Remediation and Redevelopment between Honeywell, Hackensack Riverkeeper, Inc. and the City of Jersey City (SA-6 South Consent Decree).

# 10.0 LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AOC | Area of Concern |
| CEA | Classification Exception Area |
| COPR | Chromite Ore Processing Residue |
| DKQPs | Data of Known Quality Protocols |
| DMP | Data Management Plan |
| DO | Dissolved Oxygen |
| EDD | Electronic Data Deliverable |
| GWET | Groundwater Extraction and Treatment |
| GWQS | Groundwater Quality Standard |
| LTMP | Long Term Monitoring Plan |
| µ | Micron |
| µg/L | Micrograms per liter |
| mg/kg | Milligrams per kilogram |
| mg/L | Milligrams per liter |
| N.J.A.C. | New Jersey Administrative Code |
| NJDEP | New Jersey Department of Environmental Protection |
| ORP | oxidation-reduction potential |
| QA/QC | quality assurance/quality control |
| RA Permit | Remedial Action Permit |
| RAR | Remedial Action Report |
| SGWMP | Shallow Groundwater Monitoring Plan |
| TRSR | Technical Requirements for Site Remediation |
| USEPA | United States Environmental Protection Agency |

# TABLES

**Table 1**
**Summary of Groundwater Analytical Results - 073-MW-06**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-06-040616 | | 073-MW-06-040616-F | | 073-MW-06-0701616 | | 073-MW-06-070616F | | 073-MW-06-100516 | | 073-MW-06-100516F | |
| | Lab Sample ID | | JC17735-1 | | JC17735-1F | | JC23489-5 | | JC23489-5F | | JC29015-3 | | JC29015-3F | |
| | Date Sampled | | 04/06/2016 | | 04/06/2016 | | 07/06/2016 | | 07/06/2016 | | 10/05/2016 | | 10/05/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **13.1** | | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 1**
**Summary of Groundwater Analytical Results - 073-MW-06**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-06-011817 | | 073-MW-06-011817-F | | 073-MW-06-042017 | | 073-MW-06-042017F | | 073-MW-06-071217 | | 073-MW-06-071217F | |
| | Lab Sample ID | | JC35733-2 | | JC35733-2F | | JC41596-4 | | JC41596-4F | | JC46825-1 | | JC46825-1F | |
| | Date Sampled | | 01/18/2017 | | 01/18/2017 | | 04/20/2017 | | 04/20/2017 | | 07/12/2017 | | 07/12/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | **4.4** | | 10 | U | 4 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 1**
**Summary of Groundwater Analytical Results - 073-MW-06**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-MW-06 | | 073-QC | | 073-QC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-06-100417 | | 073-MW-06-100417F | | 073-MW-06-122717 | | 073-MW-06-122717F | | 073-FB-042017 | | 073-FB-071217 | |
| | Lab Sample ID | 2018 GWQS | JC52417-2 | | JC52417-2F | | JC58071-1 | | JC58071-1F | | JC41596-5 | | JC46825-6 | |
| | Date Sampled | | 10/04/2017 | | 10/04/2017 | | 12/27/2017 | | 12/27/2017 | | 04/20/2017 | | 07/12/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | | Field Blank | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 4 | U | 4 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 2**
**Summary of Groundwater Analytical Results - 073-MW-07**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-07-040616 | | 073-MW-07-040616-F | | 073-MW-07-040616-DP | | 073-MW-07-040616-DPF | | 073-MW-07-070516 | | 073-MW-07-070516F | | 073-MW-07-070516DP | | 073-MW-07-070516DPF | |
| | Lab Sample ID | | JC17735-2 | | JC17735-2F | | JC17735-3 | | JC17735-3F | | JC23431-2 | | JC23431-2F | | JC23431-3 | | JC23431-3F | |
| | Date Sampled | 2018 GWQS | 04/06/2016 | | 04/06/2016 | | 04/06/2016 | | 04/06/2016 | | 07/05/2016 | | 07/05/2016 | | 07/05/2016 | | 07/05/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **21.8** | | 10 | U | **21.1** | | 10 | U | **15.1** | | **13.1** | | **16** | | **12.1** | |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | UJ | 5.5 | UJ | 5.5 | UJ | 5.5 | UJ |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DMP 2/22/2018
Checked by: NW 5/17/2018

**Table 2**
**Summary of Groundwater Analytical Results - 073-MW-07**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-07-100516 | | 073-MW-07-100516F | | 073-MW-07-011717 | | 073-MW-07-011717-F | | 073-MW-07-042017 | | 073-MW-07-042017F | | 073-MW-07-071217 | | 073-MW-07-071217F | |
| | Lab Sample ID | | JC29015-4 | | JC29015-4F | | JC35620-1 | | JC35620-1F | | JC41596-3 | | JC41596-3F | | JC46825-3 | | JC46825-3F | |
| | Date Sampled | | 10/05/2016 | | 10/05/2016 | | 01/17/2017 | | 01/17/2017 | | 04/20/2017 | | 04/20/2017 | | 07/12/2017 | | 07/12/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **24.2** | | 10 | U | 4 | U | 4 | U | **8.9** | | 10 | U | **6.4** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DMP 2/22/2018
Checked by: NW 5/17/2018

# Table 2
## Summary of Groundwater Analytical Results - 073-MW-07
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

| | Location ID | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | 073-MW-07 | | FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-07-100417 | | 073-MW-07-100417F | | 073-MW-07-122717 | | 073-MW-07-122717F | | FB-040616 | |
| | Lab Sample ID | | JC52417-3 | | JC52417-3F | | JC58071-2 | | JC58071-2F | | JC17735-5 | |
| | Date Sampled | 2018 GWQS | 10/04/2017 | | 10/04/2017 | | 12/27/2017 | | 12/27/2017 | | 04/06/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **10.5** | | **10.7** | | **14.7** | | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DMP 2/22/2018
Checked by: NW 5/17/2018

**Table 3**
**Summary of Groundwater Analytical Results - 073-MW-08**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-08-040716 | | 073-MW-08-040716-F | | 073-MW-08 | | 073-MW-08F | | 073-MW-08-100516 | | 073-MW-08-100516F | |
| | Lab Sample ID | | JC17835-1 | | JC17835-1F | | JC23489-1 | | JC23489-1F | | JC29015-1 | | JC29015-1F | |
| | Date Sampled | | 04/07/2016 | | 04/07/2016 | | 07/06/2016 | | 07/06/2016 | | 10/05/2016 | | 10/05/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **25.8** | | 10 | U | **18.2** | | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 3**
**Summary of Groundwater Analytical Results - 073-MW-08**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | | 073-MW-08 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 073-MW-08-011917 | | 073-MW-08-011917-F | | 073-MW-08-042017 | | 073-MW-08-042017F | | 073-MW-08-071117 | | 073-MW-08-071117F | |
| | Lab Sample ID | | JC35794-1 | | JC35794-1F | | JC41596-1 | | JC41596-1F | | JC46740-4 | | JC46740-4F | |
| | Date Sampled | | 01/19/2017 | | 01/19/2017 | | 04/20/2017 | | 04/20/2017 | | 07/11/2017 | | 07/11/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | **6.4** | | 10 | U | **8.1** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 3**
**Summary of Groundwater Analytical Results - 073-MW-08**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Location ID** | | **2018 GWQS** | **073-MW-08** | | **073-MW-08** | | **073-MW-08** | | **073-MW-08** | |
| **Client Sample ID**** | | | 073-MW-08-100317 | | 073-MW-08-100317F | | 073-MW-08-122717 | | 073-MW-08-122717F | |
| **Lab Sample ID** | | | JC52310-3 | | JC52310-3F | | JC58071-3 | | JC58071-3F | |
| **Date Sampled** | | | 10/03/2017 | | 10/03/2017 | | 12/27/2017 | | 12/27/2017 | |
| **Sample Type** | | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 4**
**Summary of Groundwater Analytical Results - 124-MW-12**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 124-MW-12-040816 | | 124-MW-12-040816-F | | 124-MW-12-070716 | | 124-MW-12-070716F | | 124-MW-12-100416 | | 124-MW-12-100416F | |
| | Lab Sample ID | | JC17927-2 | | JC17927-2F | | JC23593-2 | | JC23593-2F | | JC28915-2 | | JC28915-2F | |
| | Date Sampled | | 04/08/2016 | | 04/08/2016 | | 07/07/2016 | | 07/07/2016 | | 10/04/2016 | | 10/04/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 4**
**Summary of Groundwater Analytical Results - 124-MW-12**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 124-MW-12-011817 | | 124-MW-12-011817-F | | 124-MW-12-041817 | | 124-MW-12-041817F | | 124-MW-12-071017 | | 124-MW-12-071017F | |
| | Lab Sample ID | | JC35733-3 | | JC35733-3F | | JC41429-8 | | JC41429-8F | | JC46646-6 | | JC46646-6F | |
| | Date Sampled | | 01/18/2017 | | 01/18/2017 | | 04/18/2017 | | 04/18/2017 | | 07/10/2017 | | 07/10/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 4 | U | 10 | U | **3.5** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 4**
**Summary of Groundwater Analytical Results - 124-MW-12**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-MW-12 | | 124-FB | | 124-FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 124-MW-12-100217 | | 124-MW-12-100217F | | 124-MW-12-122817 | | 124-MW-12-122817F | | 124-FB-100217 | | 124-FB-122817 | |
| | Lab Sample ID | 2018 GWQS | JC52224-1 | | JC52224-1F | | JC58136-1 | | JC58136-1F | | JC52224-9 | | JC58136-2 | |
| | Date Sampled | | 10/02/2017 | | 10/02/2017 | | 12/28/2017 | | 12/28/2017 | | 10/02/2017 | | 12/28/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | | Field Blank | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 5**
**Summary of Groundwater Analytical Results - 124-MW-13**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 124-MW-13-040816 | | 124-MW-13-040816-F | | 124-MW-13-070716 | | 124-MW-13-070716F | | 124-MW-13-100416 | | 124-MW-13-100416F | |
| | Lab Sample ID | | JC17927-1 | | JC17927-1F | | JC23593-1 | | JC23593-1F | | JC28915-1 | | JC28915-1F | |
| | Date Sampled | | 04/08/2016 | | 04/08/2016 | | 07/07/2016 | | 07/07/2016 | | 10/04/2016 | | 10/04/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **19.2** | | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 5**
**Summary of Groundwater Analytical Results - 124-MW-13**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 124-MW-13-011817 | | 124-MW-13-011817-F | | 124-MW-13-041817 | | 124-MW-13-041817F | | 124-MW-13-071017 | | 124-MW-13-071017F | |
| | Lab Sample ID | | JC35733-1 | | JC35733-1F | | JC41429-7 | | JC41429-7F | | JC46646-7 | | JC46646-7F | |
| | Date Sampled | | 01/18/2017 | | 01/18/2017 | | 04/18/2017 | | 04/18/2017 | | 07/10/2017 | | 07/10/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 4 | U | 10 | U | **5.5** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 5**
**Summary of Groundwater Analytical Results - 124-MW-13**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-MW-13 | | 124-FB | | 124-FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 124-MW-13-100417 | | 124-MW-13-100417F | | 124-MW-13-122717 | | 124-MW-13-122717F | | 124-FB-071017 | | 124-FB-122717 | |
| | Lab Sample ID | 2018 GWQS | JC52417-1 | | JC52417-1F | | JC58071-6 | | JC58071-6F | | JC46646-8 | | JC58071-7 | |
| | Date Sampled | | 10/04/2017 | | 10/04/2017 | | 12/27/2017 | | 12/27/2017 | | 07/10/2017 | | 12/27/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | | Field Blank | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 2 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | UJ | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 6**
**Summary of Groundwater Analytical Results - 125-MW-02**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-02-040816 | | 125-MW-02-040816-F | | 125-MW-02-070516 | | 125-MW-02-070516F | | 125-MW-02-100416 | | 125-MW-02-100416F | |
| | Lab Sample ID | | JC17927-3 | | JC17927-3F | | JC23431-6 | | JC23431-6F | | JC28915-8 | | JC28915-8F | |
| | Date Sampled | | 04/08/2016 | | 04/08/2016 | | 07/05/2016 | | 07/05/2016 | | 10/04/2016 | | 10/04/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | UJ | 5.5 | UJ | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 6**
**Summary of Groundwater Analytical Results - 125-MW-02**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-02-011717 | | 125-MW-02-011717-F | | 125-MW-02-041917 | | 125-MW-02-041917F | | 125-MW-02-071117 | | 125-MW-02-071117F | |
| | Lab Sample ID | | JC35620-2 | | JC35620-2F | | JC41518-2 | | JC41518-2F | | JC46740-6 | | JC46740-6F | |
| | Date Sampled | 2018 GWQS | 01/17/2017 | | 01/17/2017 | | 04/19/2017 | | 04/19/2017 | | 07/11/2017 | | 07/11/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **3260** | | **14.3** | | **4.8** | | 10 | U | 4 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 6**
**Summary of Groundwater Analytical Results - 125-MW-02**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-MW-02 | | 125-QC | | 125-QC | | 125-FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-02-100217 | | 125-MW-02-100217F | | 125-MW-02-122617 | | 125-MW-02-122617F | | 125-FB-100416 | | 125-FB-041917 | | 125-FB-122617 | |
| | Lab Sample ID | | JC52224-2 | | JC52224-2F | | JC58029-7 | | JC58029-7F | | JC28915-9 | | JC41518-5 | | JC58029-8 | |
| | Date Sampled | | 10/02/2017 | | 10/02/2017 | | 12/26/2017 | | 12/26/2017 | | 10/04/2016 | | 04/19/2017 | | 12/26/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | | Field Blank | | Field Blank | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 4 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

# Table 7
## Summary of Groundwater Analytical Results - 125-MW-03
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

| | Location ID | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-03-040816 | | 125-MW-03-040816-F | | 125-MW-03-070716 | | 125-MW-03-070716F | | 125-MW-03-100416 | | 125-MW-03-100416F | | 125-MW-03-100416FA | | 125-MW-03-100416DP | | 125-MW-03-100416FDP | | 125-MW-03-100416FADP | |
| | Lab Sample ID | | JC17927-4 | | JC17927-4F | | JC23593-3 | | JC23593-3F | | JC28915-4 | | JC28915-4F | | JC28915-5F | | JC28915-6 | | JC28915-6F | | JC28915-7F | |
| | Date Sampled | | 04/08/2016 | | 04/08/2016 | | 07/07/2016 | | 07/07/2016 | | 10/04/2016 | | 10/04/2016 | | 10/04/2016 | | 10/04/2016 | | 10/04/2016 | | 10/04/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Duplicate Filtered (0.1 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | **71.3** | | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

# Table 7
## Summary of Groundwater Analytical Results - 125-MW-03
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

| | Location ID | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-03-011817 | | 125-MW-03-011817-F | | 125-MW-03-011817-DP | | 125-MW-03-011817-DPF | | 125-MW-03-041817 | | 125-MW-03-041817F | | 125-MW-03-041817FA | | 125-MW-03-041817DP | | 125-MW-03-041817FDP | | 125-MW-03-041817FADP | |
| | Lab Sample ID | 2018 GWQS | JC35733-5 | | JC35733-5F | | JC35733-6 | | JC35733-6F | | JC41429-3 | | JC41429-3F | | JC41429-4F | | JC41429-5 | | JC41429-5F | | JC41429-6F | |
| | Date Sampled | | 01/18/2017 | | 01/18/2017 | | 01/18/2017 | | 01/18/2017 | | 04/18/2017 | | 04/18/2017 | | 04/18/2017 | | 04/18/2017 | | 04/18/2017 | | 04/18/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Duplicate Filtered (0.1 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 4 | U | 10 | U | 10 | U | 4 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

# Table 7
## Summary of Groundwater Analytical Results - 125-MW-03
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

| | Location ID | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-03-071017 | | 125-MW-03-071017F | | 125-MW-03-071017FA | | 125-MW-03-071017DP | | 125-MW-03-071017FDP | | 125-MW-03-071017FADP | |
| | Lab Sample ID | 2018 GWQS | JC46646-2 | | JC46646-2F | | JC46646-3F | | JC46646-4 | | JC46646-4F | | JC46646-5F | |
| | Date Sampled | | 07/10/2017 | | 07/10/2017 | | 07/10/2017 | | 07/10/2017 | | 07/10/2017 | | 07/10/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Duplicate Filtered (0.1 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 2 | U | 10 | U | 10 | U | 2 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

# Table 7
## Summary of Groundwater Analytical Results - 125-MW-03
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

| | Location ID | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-03-100217 | | 125-MW-03-100217F | | 125-MW-03-100217FA | | 125-MW-03-100217DP | | 125-MW-03-100217F-DP | |
| | Lab Sample ID | 2018 GWQS | JC52224-3 | | JC52224-3F | | JC52224-5F | | JC52224-4 | | JC52224-4F | |
| | Date Sampled | | 10/02/2017 | | 10/02/2017 | | 10/02/2017 | | 10/02/2017 | | 10/02/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

# Table 7
## Summary of Groundwater Analytical Results - 125-MW-03
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

| | Location ID | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | 125-MW-03 | | FB | | 125-FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 125-MW-03-100217FA-DP | | 125-MW-03-122617 | | 125-MW-03-122617F | | 125-MW-03-122617FA | | 125-MW-03-122617-DP | | 125-MW-03-122617F-DP | | 125-MW-03-122617FA-DP | | FB-040816 | | 125-FB-041817 | |
| | Lab Sample ID | | JC52224-6F | | JC58029-1 | | JC58029-1F | | JC58029-2F | | JC58029-3 | | JC58029-3F | | JC58029-4F | | JC17927-5 | | JC41429-9 | |
| | Date Sampled | | 10/02/2017 | | 12/26/2017 | | 12/26/2017 | | 12/26/2017 | | 12/26/2017 | | 12/26/2017 | | 12/26/2017 | | 04/08/2016 | | 04/18/2017 | |
| | Sample Type | | Duplicate Filtered (0.1 µ) | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Duplicate Filtered (0.1 µ) | | Field Blank | | Field Blank | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 4 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 8**
**Summary of Groundwater Analytical Results - 134-MW-03**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 134-MW-03 | | 134-MW-03 | | 134-MW-03 | | 134-MW-03 | | 134-MW-03 | | 134-MW-03 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 134-MW-03-040716 | | 134-MW-03-040716-F | | 134-MW-03 | | 134-MW-03F | | 134-MW-03-100516 | | 134-MW-03-100516F | |
| | Lab Sample ID | | JC17835-4 | | JC17835-4F | | JC23489-2 | | JC23489-2F | | JC29015-2 | | JC29015-2F | |
| | Date Sampled | | 04/07/2016 | | 04/07/2016 | | 07/06/2016 | | 07/06/2016 | | 10/05/2016 | | 10/05/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **11.8** | | 10 | U | 10 | U | 10 | U | **31.5** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 8**
**Summary of Groundwater Analytical Results - 134-MW-03**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Location ID** | **2018 GWQS** | **134-MW-03** | | **134-MW-03** | | **134-MW-03** | | **134-MW-03** | | **134-MW-03** | |
| | **Client Sample ID**** | | 134-MW-03-011917 | | 134-MW-03-011917-F | | 134-MW-03-041917 | | 134-MW-03-041917F | | 134-MW-03-071117 | | 134-MW-03-071117F | |
| | **Lab Sample ID** | | JC35794-4 | | JC35794-4F | | JC41518-4 | | JC41518-4F | | JC46740-5 | | JC46740-5F | |
| | **Date Sampled** | | 01/19/2017 | | 01/19/2017 | | 04/19/2017 | | 04/19/2017 | | 07/11/2017 | | 07/11/2017 | |
| | **Sample Type** | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **24.8** | | 10 | U | **18.5** | | 10 | U | **11.1** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 8**
**Summary of Groundwater Analytical Results - 134-MW-03**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 134-MW-03 | | 134-MW-03 | | 134-MW-03 | | 134-MW-03 | | FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 134-MW-03-100317 | | 134-MW-03-100317F | | 134-MW-03-122717 | | 134-MW-03-122717F | | FB-070616 | |
| | Lab Sample ID | 2018 GWQS | JC52310-5 | | JC52310-5F | | JC58071-4 | | JC58071-4F | | JC23489-4 | |
| | Date Sampled | | 10/03/2017 | | 10/03/2017 | | 12/27/2017 | | 12/27/2017 | | 07/06/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **57.8** | | 10 | U | **33.1** | | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 9**
**Summary of Groundwater Analytical Results - 134-MW-04**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 134-MW-04-040716 | | 134-MW-04-040716-F | | 134-MW-04 | | 134-MW-04F | | 134-MW-04-100616 | | 134-MW-04-100616F | |
| | Lab Sample ID | 2018 GWQS | JC17835-2 | | JC17835-2F | | JC23489-3 | | JC23489-3F | | JC29084-3 | | JC29084-3F | |
| | Date Sampled | | 04/07/2016 | | 04/07/2016 | | 07/06/2016 | | 07/06/2016 | | 10/06/2016 | | 10/06/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **139** | | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 9**
**Summary of Groundwater Analytical Results - 134-MW-04**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 134-MW-04-011917 | | 134-MW-04-011917-F | | 134-MW-04-041917 | | 134-MW-04-041917F | | 134-MW-04-071117 | | 134-MW-04-071117F | |
| | Lab Sample ID | | JC35794-2 | | JC35794-2F | | JC41518-3 | | JC41518-3F | | JC46740-3 | | JC46740-3F | |
| | Date Sampled | | 01/19/2017 | | 01/19/2017 | | 04/19/2017 | | 04/19/2017 | | 07/11/2017 | | 07/11/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | **4.2** | | 10 | U | **4.2** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 9**
**Summary of Groundwater Analytical Results - 134-MW-04**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-MW-04 | | 134-QC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 134-MW-04-100317 | | 134-MW-04-100317F | | 134-MW-04-122717 | | 134-MW-04-122717F | | 134-FB-100616 | |
| | Lab Sample ID | | JC52310-2 | | JC52310-2F | | JC58071-5 | | JC58071-5F | | JC29084-4 | |
| | Date Sampled | | 10/03/2017 | | 10/03/2017 | | 12/27/2017 | | 12/27/2017 | | 10/06/2016 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **16.9** | | 10 | U | **15.9** | | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-09-040716 | | 140-MW-09-040716-F | | 140-MW-09-070516 | | 140-MW-09-070516F | |
| | | | Lab Sample ID | JC17835-5 | | JC17835-5F | | JC23431-1 | | JC23431-1F | |
| | | | Date Sampled | 04/07/2016 | | 04/07/2016 | | 07/05/2016 | | 07/05/2016 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **216** | | **62.0** | | **145** | | **123** | |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | UJ | 5.5 | UJ |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-09-100616 | | 140-MW-09-100616F | | 140-MW-09-100616FA | | 140-MW-09-011917 | | 140-MW-09-011917-F | |
| | | | Lab Sample ID | JC29084-1 | | JC29084-1F | | JC29084-2F | | JC35794-3 | | JC35794-3F | |
| | | | Date Sampled | 10/06/2016 | | 10/06/2016 | | 10/06/2016 | | 01/19/2017 | | 01/19/2017 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **184** | | **134** | | **61.1** | | **14.4** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-09-041817 | | 140-MW-09-041817F | | 140-MW-09-041817FA | | 140-MW-09-071117 | | 140-MW-09-071117F | | 140-MW-09-071117FA | |
| | | | Lab Sample ID | JC41429-1 | | JC41429-1F | | JC41429-2F | | JC46740-1 | | JC46740-1F | | JC46740-2F | |
| | | | Date Sampled | 04/18/2017 | | 04/18/2017 | | 04/18/2017 | | 07/11/2017 | | 07/11/2017 | | 07/11/2017 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **15.5** | | 10 | U | 10 | U | **16.5** | | **10.4** | | **16.8** | |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | 2018 GWQS | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 140-MW-09-100217 | | 140-MW-09-100217F | | 140-MW-09-100217FA | | 140-MW-09-122617 | | 140-MW-09-122617F | | 140-MW-09-122617FA | |
| | Lab Sample ID | | JC52224-7 | | JC52224-7F | | JC52224-8F | | JC58029-5 | | JC58029-5F | | JC58029-6F | |
| | Date Sampled | | 10/02/2017 | | 10/02/2017 | | 10/02/2017 | | 12/26/2017 | | 12/26/2017 | | 12/26/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | **227** | | **178** | | **104** | | **29.6** | | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-09-032318 | | 140-MW-09-032318F | | 140-MW-09-032318FA | | 140-MW-09-032318-DP | | 140-MW-09-032318F-DP | | 140-MW-09-032318FA-DP | |
| | | | Lab Sample ID | JC62829-1 | | JC62829-1F | | JC62829-2F | | JC62829-3 | | JC62829-3F | | JC62829-4F | |
| | | | Date Sampled | 03/23/2018 | | 03/23/2018 | | 03/23/2018 | | 03/23/2018 | | 03/23/2018 | | 03/23/2018 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Unfiltered | | Duplicate Filtered (0.45 µ) | | Duplicate Filtered (0.1 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **102** | | **46.9** | | **45.6** | | **96.9** | | **83.4** | | **47.7** | |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | UJ |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-09-060718 | | 140-MW-09-060718-DP | | 140-MW-09-060718F | | 140-MW-09-060718F-DP | | 140-MW-09-060718FA | | 140-MW-09-060718FA-DP | |
| | | | Lab Sample ID | JC67518-1 | | JC67518-3 | | JC67518-1F | | JC67518-3F | | JC67518-2F | | JC67518-4F | |
| | | | Date Sampled | 06/07/2018 | | 06/07/2018 | | 06/07/2018 | | 06/07/2018 | | 06/07/2018 | | 06/07/2018 | |
| | | | Sample Type | Unfiltered | | Duplicate Unfiltered | | Filtered (0.45 µ) | | Duplicate Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Filtered (0.1 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **124** | | **122** | | **117** | | **67.6** | | **86.3** | | **129** | |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | | 140-MW-09 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-09-062518 | | 140-MW-09-062518-DP | | 140-MW-09-062518F | | 140-MW-09-062518F-DP | | 140-MW-09-062518FA | | 140-MW-09-062518FA-DP | |
| | | | Lab Sample ID | JC68665-1 | | JC68665-3 | | JC68665-1F | | JC68665-3F | | JC68665-2F | | JC68665-4F | |
| | | | Date Sampled | 06/25/2018 | | 06/25/2018 | | 06/25/2018 | | 06/25/2018 | | 06/25/2018 | | 06/25/2018 | |
| | | | Sample Type | Unfiltered | | Unfiltered | | Filtered (0.45 µ) | | Duplicate Filtered (0.45 µ) | | Filtered (0.1 µ) | | Duplicate Filtered (0.1 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **204** | | **202** | | **102** | | **131** | | **156** | | **151** | |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 10**
**Summary of Groundwater Analytical Results - 140-MW-09**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Location ID / Client Sample ID** / Lab Sample ID / Date Sampled / Sample Type / Units | 2018 GWQS | 140-FB 140-FB-071117 JC46740-7 07/11/2017 Field Blank | | 140-FB 140-FB-032318 JC62829-5 03/23/2018 Field Blank | | 140-FB 140-FB-060718 JC67518-5 06/07/2018 Field Blank | | 140-FB 140-FB-062518 JC68665-5 06/25/2018 Field Blank | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | 4.0 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP/07/14/2018
Checked by: NW 7/16/2018

**Table 11**
**Summary of Groundwater Analytical Results - 140-MW-10**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-10-040716 | | 140-MW-10-040716-F | | 140-MW-10-070716 | | 140-MW-10-070716F | | 140-MW-10-100416 | | 140-MW-10-100416F | |
| | | | Lab Sample ID | JC17835-3 | | JC17835-3F | | JC23593-5 | | JC23593-5F | | JC28915-3 | | JC28915-3F | |
| | | | Date Sampled | 04/07/2016 | | 04/07/2016 | | 07/07/2016 | | 07/07/2016 | | 10/04/2016 | | 10/04/2016 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | **63.0** | | 10 | U | **16.1** | | 10 | U | **10.4** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | | 5.5 | U | 5.5 | U | 5.5 | U | 11 | | 9.9 | |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: JWM 5/16/2018
Checked by: NW 5/17/2018

**Table 11**
**Summary of Groundwater Analytical Results - 140-MW-10**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-10-011917 | | 140-MW-10-011917-F | | 140-MW-10-041917 | | 140-MW-10-041917F | | 140-MW-10-071017 | | 140-MW-10-071017F | |
| | | | Lab Sample ID | JC35794-5 | | JC35794-5F | | JC41518-1 | | JC41518-1F | | JC46646-1 | | JC46646-1F | |
| | | | Date Sampled | 01/19/2017 | | 01/19/2017 | | 04/19/2017 | | 04/19/2017 | | 07/10/2017 | | 07/10/2017 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | 10 | U | 10 | U | 4.0 | U | 10 | U | **2.7** | | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: JWM 5/16/2018
Checked by: NW 5/17/2018

**Table 11**
**Summary of Groundwater Analytical Results - 140-MW-10**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | 140-MW-10 | | FB | | FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 140-MW-10-100317 | | 140-MW-10-100317F | | 140-MW-10-122617 | | 140-MW-10-122617F | | FB-040716 | | FB-070716 | |
| | | | Lab Sample ID | JC52310-1 | | JC52310-1F | | JC58029-10 | | JC58029-10F | | JC17835-6 | | JC23593-4 | |
| | | | Date Sampled | 10/03/2017 | | 10/03/2017 | | 12/26/2017 | | 12/26/2017 | | 04/07/2016 | | 07/07/2016 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Field Blank | | Field Blank | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: JWM 5/16/2018
Checked by: NW 5/17/2018

**Table 12**
**Summary of Groundwater Analytical Results - 163-MW-02R**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| | Location ID | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | 163-MW-02R-040616 | | 163-MW-02R-040616-F | | 163-MW-02R-070516 | | 163-MW-02R-070516F | | 163-MW-02R-100516 | | 163-MW-02R-100516F | | 163-MW-02R-011817 | | 163-MW-02R-011817-F | |
| | Lab Sample ID | | JC17735-4 | | JC17735-4F | | JC23431-4 | | JC23431-4F | | JC29015-5 | | JC29015-5F | | JC35733-4 | | JC35733-4F | |
| | Date Sampled | | 04/06/2016 | | 04/06/2016 | | 07/05/2016 | | 07/05/2016 | | 10/05/2016 | | 10/05/2016 | | 01/18/2017 | | 01/18/2017 | |
| | Sample Type | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| **Parameter Name** | **Units** | **2018 GWQS** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | U | 5.5 | U | 5.5 | UJ | 5.5 | UJ | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**Table 12**
**Summary of Groundwater Analytical Results - 163-MW-02R**
**Study Area 6 South**
**Honeywell International**
**Jersey City, New Jersey**

| Parameter Name | Units | 2018 GWQS | Location ID | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | | 163-MW-02R | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Client Sample ID** | 163-MW-02R-042017 | | 163-MW-02R-042017F | | 163-MW-02R-071217 | | 163-MW-02R-071217F | | 163-MW-02R-100317 | | 163-MW-02R-100317F | | 163-MW-02R-122617 | | 163-MW-02R-122617F | |
| | | | Lab Sample ID | JC41596-2 | | JC41596-2F | | JC46825-2 | | JC46825-2F | | JC52310-4 | | JC52310-4F | | JC58029-9 | | JC58029-9F | |
| | | | Date Sampled | 04/20/2017 | | 04/20/2017 | | 07/12/2017 | | 07/12/2017 | | 10/03/2017 | | 10/03/2017 | | 12/26/2017 | | 12/26/2017 | |
| | | | Sample Type | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | | Unfiltered | | Filtered (0.45 µ) | |
| | | | | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q | CONC | Q |
| **CHROMIUM** | **ug/l** | **70** | | 4 | U | 10 | U | 4 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

# Table 12
## Summary of Groundwater Analytical Results - 163-MW-02R
## Study Area 6 South
## Honeywell International
## Jersey City, New Jersey

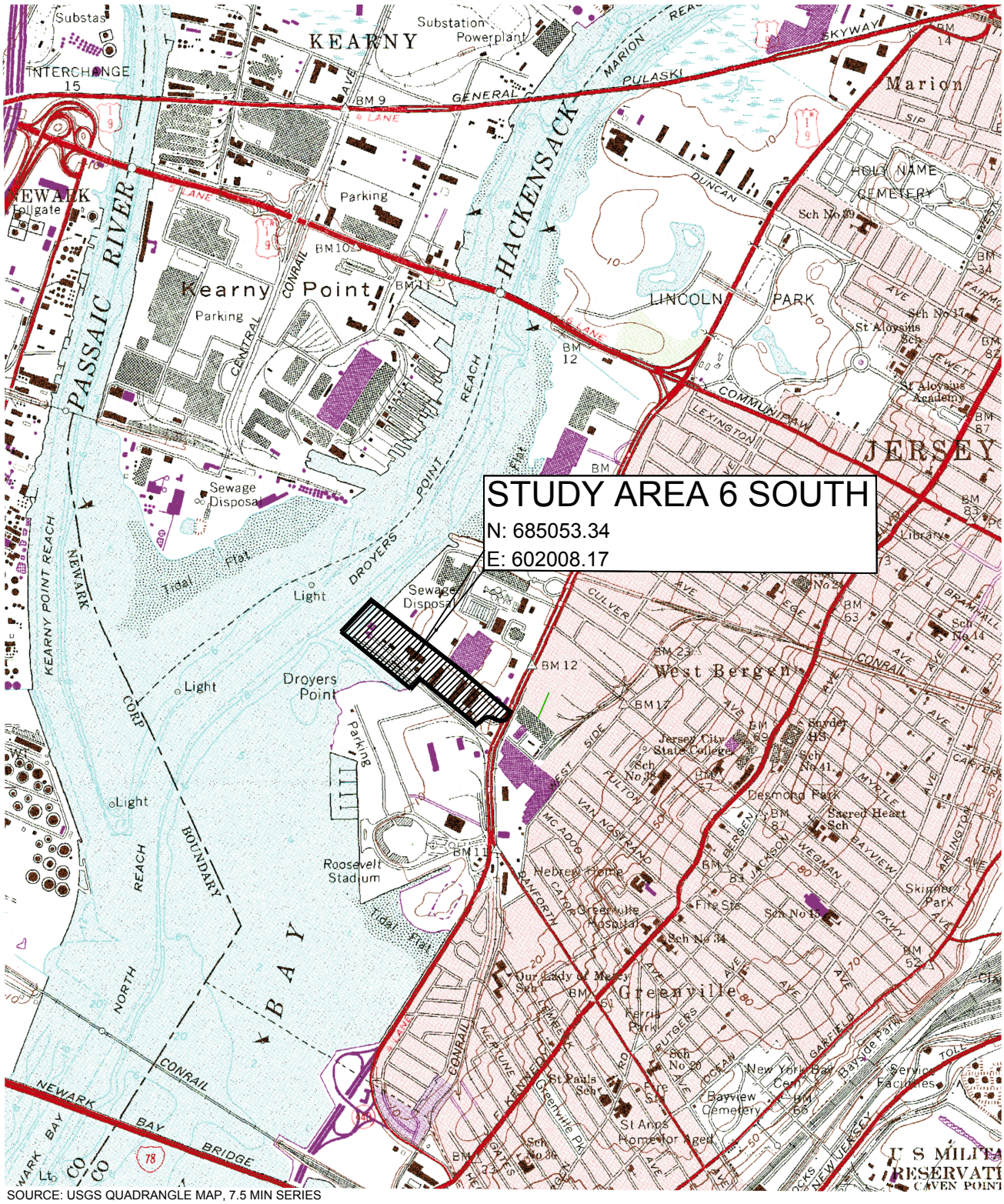
| | Location ID | | FB | | 163-QC | | 163-QC | | 163-QC | | 163-QC | | 163-FB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Client Sample ID** | | FB-070516 | | 163-FB-100516 | | 163-FB-011717 | | 163-FB-011817 | | 163-FB-011917 | | 163-FB-100317 | |
| | Lab Sample ID | 2018 GWQS | JC23431-5 | | JC29015-6 | | JC35620-3 | | JC35733-7 | | JC35794-6 | | JC52310-6 | |
| | Date Sampled | | 07/05/2016 | | 10/05/2016 | | 01/17/2017 | | 01/18/2017 | | 01/19/2017 | | 10/03/2017 | |
| | Sample Type | | Field Blank | | Field Blank | | Field Blank | | Field Blank | | Field Blank | | Field Blank | |
| **Parameter Name** | **Units** | | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** | **CONC** | **Q** |
| **CHROMIUM** | **ug/l** | **70** | 10 | U | 10 | U | 4 | U | 10 | U | 10 | U | 10 | U |
| **HEXAVALENT CHROMIUM** | **ug/l** | **NC** | 5.5 | UJ | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U | 5.5 | U |

Notes:
2018 GWQS: NJDEP Groundwater Quality Standards, N.J.A.C 7:9C, Last Amended 1/6/2018
NC: No criterion established
**: DP=Field Duplicate; F=Filtered (0.45 µ); FA=Filtered (0.1 µ)
**Bold concentrations indicate detections above the reporting limit**
**Bold and shaded concentrations exceed the 2018 GWQS**
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit



Prepared by: DP 2/22/2018
Checked by: NW 5/17/2018

**FIGURES**



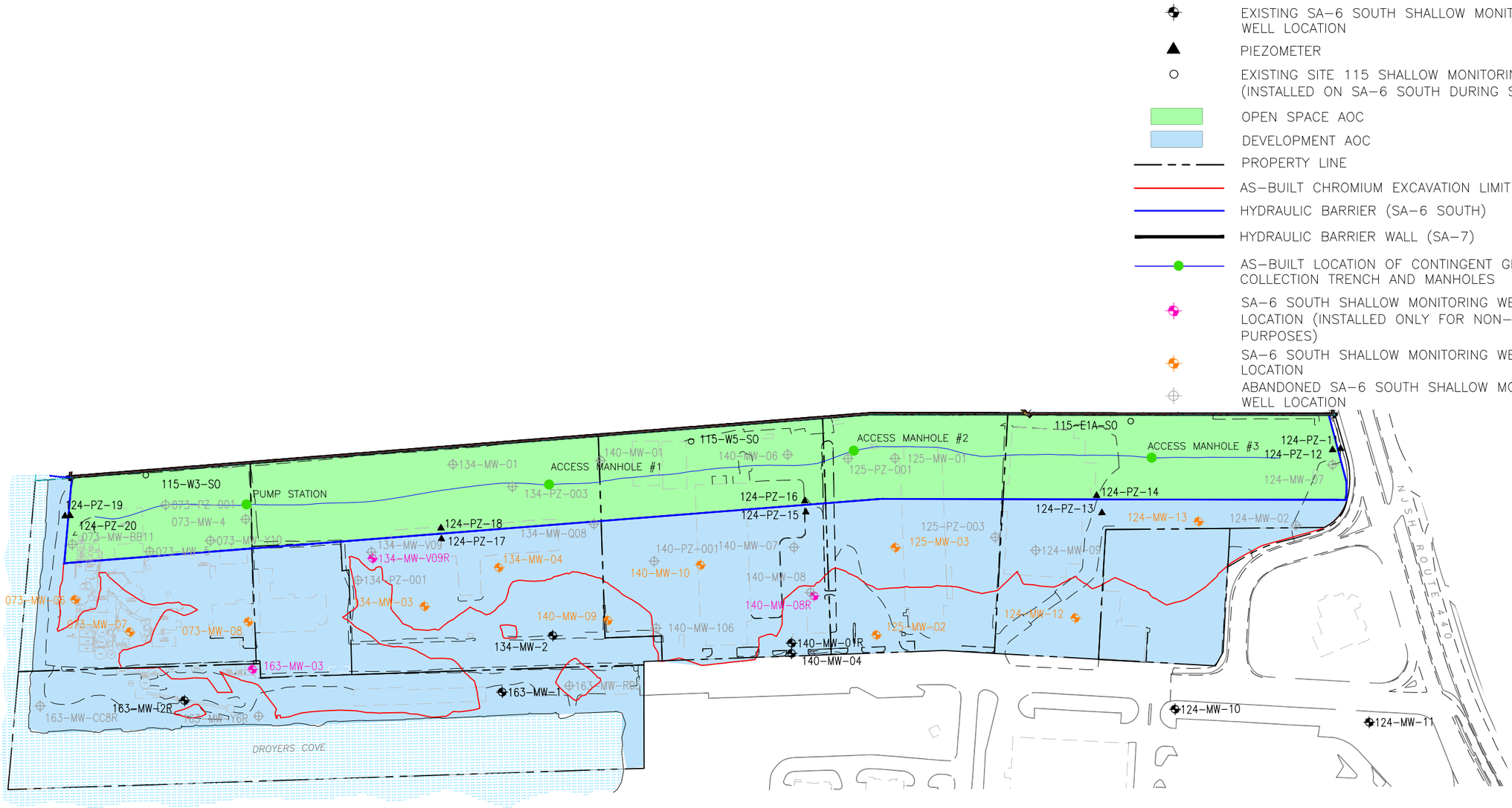

SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

0 1000 2000 4000
SCALE IN FEET

| | |
|---|---|
| *WOOD. PROJECT No.* 3480150488<br>*DRAWING:* 3480150488-5710-SLM0-F100 | |
| *PREPARED/DATE:* CW 05/15/18 | *CHECKED/DATE:* NW 05/15/18 |

wood.
ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

**FIGURE 1**
SITE LOCATION MAP
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY




SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

| REV. | DATE | STATUS | PRPD BY | CHKD BY |
|---|---|---|---|---|
| | | | | |

*WOOD. PROJECT No.* 3480150488
*DRAWING:* 3480150488-5710-MWL0-F900

*PREPARED/DATE:* CW 05/15/18
*CHECKED/DATE:* NW 05/15/18

wood.
ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

**FIGURE 2**
SHALLOW MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

# APPENDIX A

# NJDEP REGULATORY CORRESPONDENCE

State of New Jersey

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**

PHIL MURPHY
*Governor*

SHEILA OLIVER
*Lt. Governor*

**Site Remediation and Waste Management Program**
**Bureau of Ground Water Pollution Abatement**
**Mail Code: 401-05V**
**P.O. Box 420**
**Trenton, NJ 08625-0420**
**Phone: (609) 292-8427**

CATHERINE R. MCCABE
*Commissioner*

14 June 2018

Maria Kaouris, Remediation Manager
Honeywell International, Inc.
115 Tabor Road
Morris Plains, NJ 07950

Re: Revised Classification Exception Area/Well Restriction Area
Study Area 6; Hudson County Chromate Sites 73, 87, 88, 124, 125, 134 and 140
425, 445 & 465 Route 440
Jersey City, Hudson County
Program Interest Number: PI# 008809
Subject Item ID: CEA100167476

Dear Ms. Kaouris,

The New Jersey Department of Environmental Protection (Department) established a Classification Exception Area/Well Restriction Area (CEA/WRA) for contamination in the ground water at these sites on 16 February 2012. Although contamination in the ground water in this area remains above the Ground Water Quality Standards (N.J.A.C. 7:9C-1.7), additional data has been provided which necessitates a revision to the established CEA to more accurately reflect ground water conditions. The Department has based this determination on environmental data provided by Dennis Nagg of Wood Environment & Infrastructure Solutions, Inc., received by the Department on 15 May 2018. The Department has revised the CEA/WRA for the shallow fill at Study Area 6 to reflect the soil remediation performed there, as described by the enclosed CEA Fact Sheet. Previously approved CEAs for the deep overburden (glacial till) and bedrock (Passaic Formation) remain unchanged.

The shallow ground water contamination is attributed to the emplacement of Chromite Ore Processing Residue (COPR) at the sites referenced above. Subsequent soil remediation at Study Area 6 North and South included excavation and off-site disposal of some of the chromium-impacted soil, and excavation and consolidation of some of the chromium-impacted soil in the contained and capped "Open Space" areas.

Attainment of the Ground Water Quality Standards would need to be confirmed through sampling. Consistent with N.J.A.C. 7:26C-7.3, the CEA/WRA may also be revised or removed at any time based on new relevant data to more accurately reflect ground water conditions.

Thank you for your attention to this matter. If you have any comments or questions regarding this CEA/WRA, please contact David Van Eck at (609) 633-2427.

Sincerely,

Mary Anne Kuserk, Chief
Bureau of Ground Water Pollution Abatement

Enclosure

c: Dennis Nagg, Wood Environment & Infrastructure Solutions
Rolando R. Lavarro, Jr., Jersey City Redevelopment Agency
Jeremy Farrell, Jersey City Municipal Utilities Authority
Carrie Nawrocki, Hudson County Regional Health Commission (CEHA)
Francesca Giarratana, Hudson County Division of Planning
Stacey Flanagan, Department of Health & Human Services
E. Junior Maldonado, Hudson County Clerk
Robert Byrne, RMC, Jersey City Clerk

# Classification Exception Area/Well Restriction Area

# Case Information

| *Subject Item* | *Designation* |
|---|---|
| CEA100167476 | G000008789-Shallow |
| CEA100167477 | G000008789-Deep Overburden |
| CEA100167478 | G000008789-Bedrock |

**Case ID:** 008809 - RPC050001
**Case Number:** CR 117 RYERSON STEEL
**Preferred Id:** 008809
**Case:** Hudson County Chromate 117
**Address:** 440 Rte 440

**City:** Jersey City
**County:** Hudson

**Lot and Block of the Case**

| *Block* | *Lot* |
|---|---|
| 26101 | 1 |

**Site Location: Refer to Exhibit A – Site Location Map**

**Lots and Blocks of the CEAs (All in Jersey City, Hudson County)**
(Shallow CEAs in overburden fill)

| Subject Item CEA100167476 [CEA A] | | Subject Item CEA100167476 [CEA B] | | Subject Item CEA100167476 [CEA C] | |
|---|---|---|---|---|---|
| SA-6 North Open Space | | SA-6 South Open Space | | SA-5 East of Route 440 | |
| BLOCK | LOT | BLOCK | LOT | BLOCK | LOT |
| 21901 | 5 | 24601 | 1 | 21901 | 6 |
| 21901 | 9 | 24601 | 2 | 21901 | 7 |
| 21901 | 10 | 24601 | 3 | 21901 | 8 |
| | | 24601 | 4 | 21902 | 1 |
| | | 24601 | 5 | 21902 | 2.01 |
| | | 24601 | 6 | 21902 | 2.02 |
| | | 24601 | 7 | 21902 | 13.01 |
| | | 24601 | 8 | 21902 | 14.01 |
| | | | | 21902 | 14.02 |
| | | | | 21902.01 | 1 |
| | | | | 21902.03 | 1 |
| | | | | 21902.04 | 1 |
| | | | | 22001 | 4 |
| | | | | 24601 | 8 |
| | | | | 24602 | 1 |
| | | | | 26101 | 1.01 |
| | | | | 26101 | 1.02 |
| | | | | 26101 | 3 |
| | | | | 26101 | 9 |

| Subject Item CEA100167477 | | Subject Item CEA100167478 | |
|---|---|---|---|
| Deep Overburden | | Bedrock | |
| BLOCK | LOT | BLOCK | LOT |
| 26101 | 1.01 | 26101 | 1.01 |
| 26101 | 1.02 | 26101 | 1.02 |
| 16001 | 1 | 16001 | 1 |
| 16001 | 4 | 16001 | 4 |
| | | 16001 | 6 |
| 16001 | 7 | 16001 | 7 |
| 16001 | 8 | 16001 | 8 |
| 21901 | 1 | 21901 | 1 |
| 21901 | 2 | 21901 | 2 |
| 21901 | 3 | 21901 | 3 |
| 21901 | 4 | 21901 | 4 |
| 21901 | 5 | 21901 | 5 |
| 21901 | 6 | 21901 | 6 |
| 21901 | 7 | 21901 | 7 |
| 21901 | 8 | 21901 | 8 |
| 21901 | 9 | 21901 | 9 |
| 21901 | 10 | 21901 | 10 |
| 21902 | 1 | 21902 | 1 |
| 21902 | 2.01 | 21902 | 2.01 |
| 21902 | 2.02 | 21902 | 2.02 |
| 21902 | 13.01 | 21902 | 13.01 |
| 21902 | 14.01 | 21902 | 14.01 |
| 21902 | 14.02 | 21902 | 14.02 |
| 21902 | 14.03 | 21902 | 14.03 |
| 21902.01 | 1 | 21902.01 | 1 |
| 21902.02 | 1 | 21902.02 | 1 |
| 21902.03 | 1 | 21902.03 | 1 |
| 21902.04 | 1 | 21902.04 | 1 |
| 21902.04 | 2 | 21902.04 | 2 |
| 22001 | 4 | 22001 | 4 |
| | | 22002 | 1 |
| | | 22003 | 3 |
| 22003 | 16 | 22003 | 16 |
| 22004 | 1 | 22004 | 1 |
| | | 24601 | 1 |
| | | 24601 | 2 |
| | | 24601 | 3 |
| | | 24601 | 6 |
| 24601 | 7 | 24601 | 7 |
| 24601 | 8 | 24601 | 8 |
| 24601 | 9 | | |
| 24601 | 10 | | |
| | | 24601 | 11 |
| 24601 | 12 | | |
| 24602 | 1 | | |
| 26102 | 2 | | |
| | | 26102 | 17 |
| | | 26102 | 20 |

**Facility Contact(s)**

**Responsible Party(s):** Maria Kaouris, Remediation Manager
Honeywell International, Inc.
115 Tabor Road
Morris Plains, NJ 07950

**NJDEP Contact:** Bureau of Ground Water Pollution Abatement
Phone: (609) 292-8427

# CEA Information

| ***Subject Item*** | ***Description*** |
|---|---|
| CEA100167476 | Shallow Fill Layer |
| CEA100167477 | Deep Overburden below Meadow Mat |
| CEA100167478 | Bedrock Aquifer (Passaic Formation) |

| ***Subject Item*** | ***Affected Formation*** | ***Vertical Depth*** |
|---|---|---|
| CEA100167476 | Fill | 20 |
| CEA100167477 | Glacial Till | 20 to 90 |
| CEA100167478 | Passaic Formation | 90 to 110 |

| ***Subject Item*** | ***Classification*** |
|---|---|
| CEA100167476 | II-A |
| CEA100167477 | II-A |
| CEA100167478 | II-A |

## Contaminant

**This CEA/WRA applies only to the contaminants listed in the table below. The ground water quality criteria / primary drinking water standards for these contaminants are listed in micrograms per liter (µg/L). All constituent standards (N.J.A.C. 7:9C-1.6) apply at the designated boundary.**

| ***Subject Item*** | ***Contaminant*** | ***Concentration (1)*** | ***GWQS (2)*** |
|---|---|---|---|
| CEA100167476 | Chromium | 229000 Micrograms Per Liter | 70 Micrograms Per Liter |
| CEA100167476 | Chromium (VI) | 115000 Micrograms Per Liter | 70 Micrograms Per Liter |
| CEA100167477 | Chromium | 7330 Micrograms Per Liter | 70 Micrograms Per Liter |
| CEA100167477 | Chromium (VI) | 6920 Micrograms Per Liter | 70 Micrograms Per Liter |
| CEA100167478 | Chromium | 440000 Micrograms Per Liter | 70 Micrograms Per Liter |
| CEA100167478 | Chromium (VI) | 446000 Micrograms Per Liter | 70 Micrograms Per Liter |

Note: *(1)* Maximum concentration detected at the time of CEA establishment
*(2)* Ground Water Quality Standards

**CEA Boundaries: Refer to Exhibit B –CEA Boundary Maps**

## Projected Term of CEAs:

| ***Subject Item*** | ***Date Established*** |
|---|---|
| CEA100167476 | 1/1/2012 |
| CEA100167477 | 1/1/2012 |
| CEA100167478 | 1/1/2012 |

| ***Subject Item*** | ***Duration in Years*** |
|---|---|
| CEA100167476 | Indeterminate |
| CEA100167477 | Indeterminate |
| CEA100167478 | Indeterminate |

| ***Subject Item*** | ***Anticipated Expiration Date*** |
|---|---|
| CEA100167476 | |
| CEA100167477 | |
| CEA100167478 | |

**Comment:** The shallow groundwater contamination is attributed to the emplacement of Chromite Ore Processing Residue (COPR) at several contiguous Chrome Sites near the former Mutual Chemical Plant (HCC Site 117), collectively known as Study Areas 5, 6 and 7. COPR at Study Area 7 (HCC Sites 115, 120 and 157) was excavated and disposed off-site. The CEA was originally established in 2012. Subsequent soil remediation at Study Areas 6 North and 6 South included excavation and off-site disposal of some of the chromium-impacted soil, and excavation and consolidation of some of the chromium-impacted soil in the contained and capped "Open Space" areas, which are not to be developed. The shallow CEA has been revised accordingly.

**Note**: Since groundwater quality data indicates exceedance of contaminants above the Primary Drinking Water Standards, and the designated uses of Class II-A aquifers include potable use, the CEA established for this site is also a Well Restriction Area. The extent of Well Restriction shall coincide with the boundaries of the CEA.

## Well Restrictions set within the boundaries of the CEAs

| ***Subject Item*** | ***Restriction*** |
|---|---|
| CEA100167476 | Double Case Wells: With the exception of monitoring wells installed into the first water bearing zone, any proposed well to be installed within the CEA/WRA boundary shall be double cased to an appropriate depth in order to prevent any vertical contaminant migration pathways. This depth is either into a confining layer or 50 feet below the vertical extent of the CEA. |
| CEA100167477 | Double Case Wells: With the exception of monitoring wells installed into the first water bearing zone, any proposed well to be installed within the CEA/WRA boundary shall be double cased to an appropriate depth in order to prevent any vertical contaminant migration pathways. This depth is either into a confining layer or 50 feet below the vertical extent of the CEA. |
| CEA100167478 | Double Case Wells: With the exception of monitoring wells installed into the first water bearing zone, any proposed well to be installed within the CEA/WRA boundary shall be double cased to an appropriate depth in order to prevent any vertical contaminant migration pathways. This depth is either into a confining layer or 50 feet below the vertical extent of the CEA. |

**Exhibit A – Site Location Map**

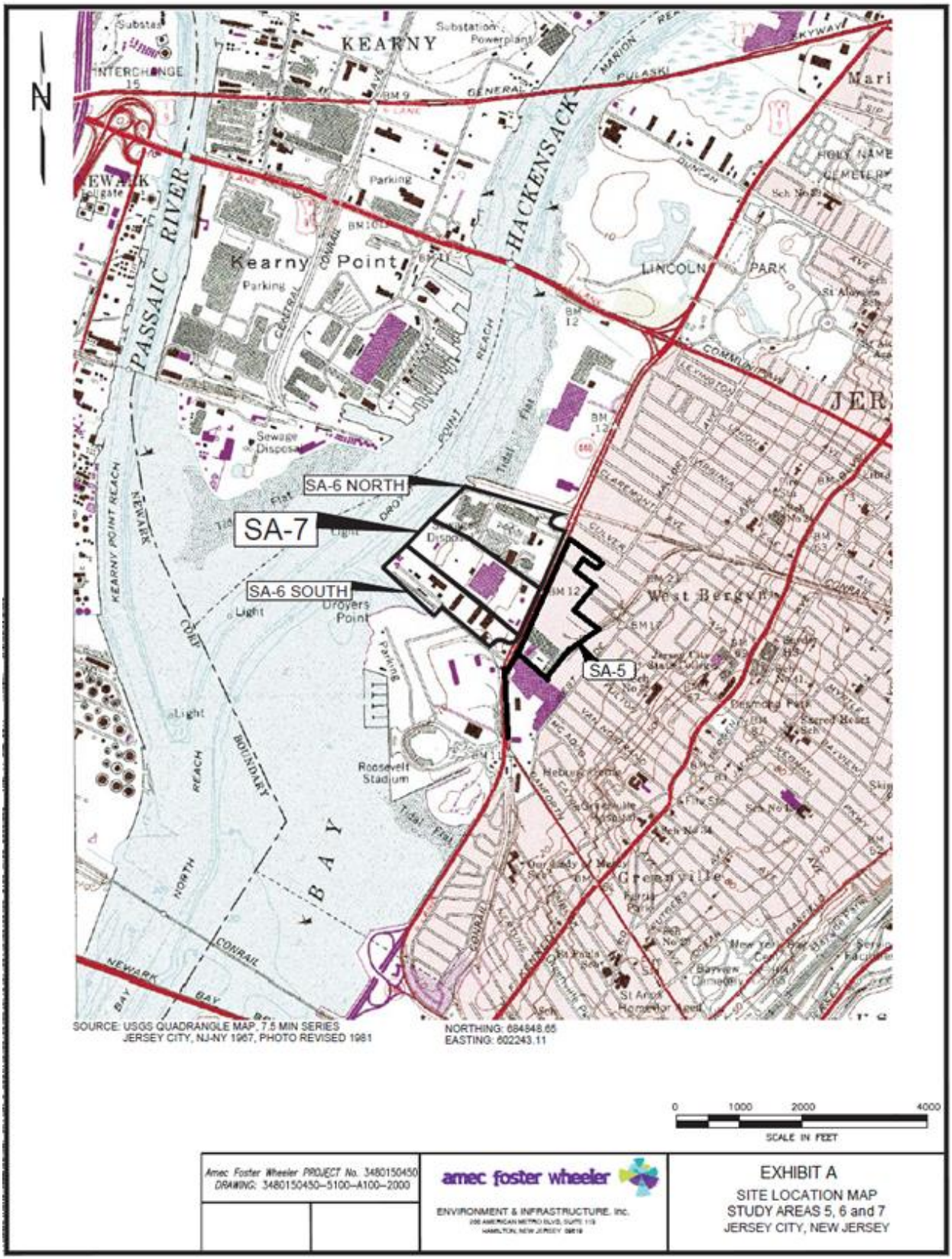


**Exhibit B1 – Fill**

# Honeywell Main Facility Shallow Overburden Aquifer - PI #008809; Subject Item ID 167476

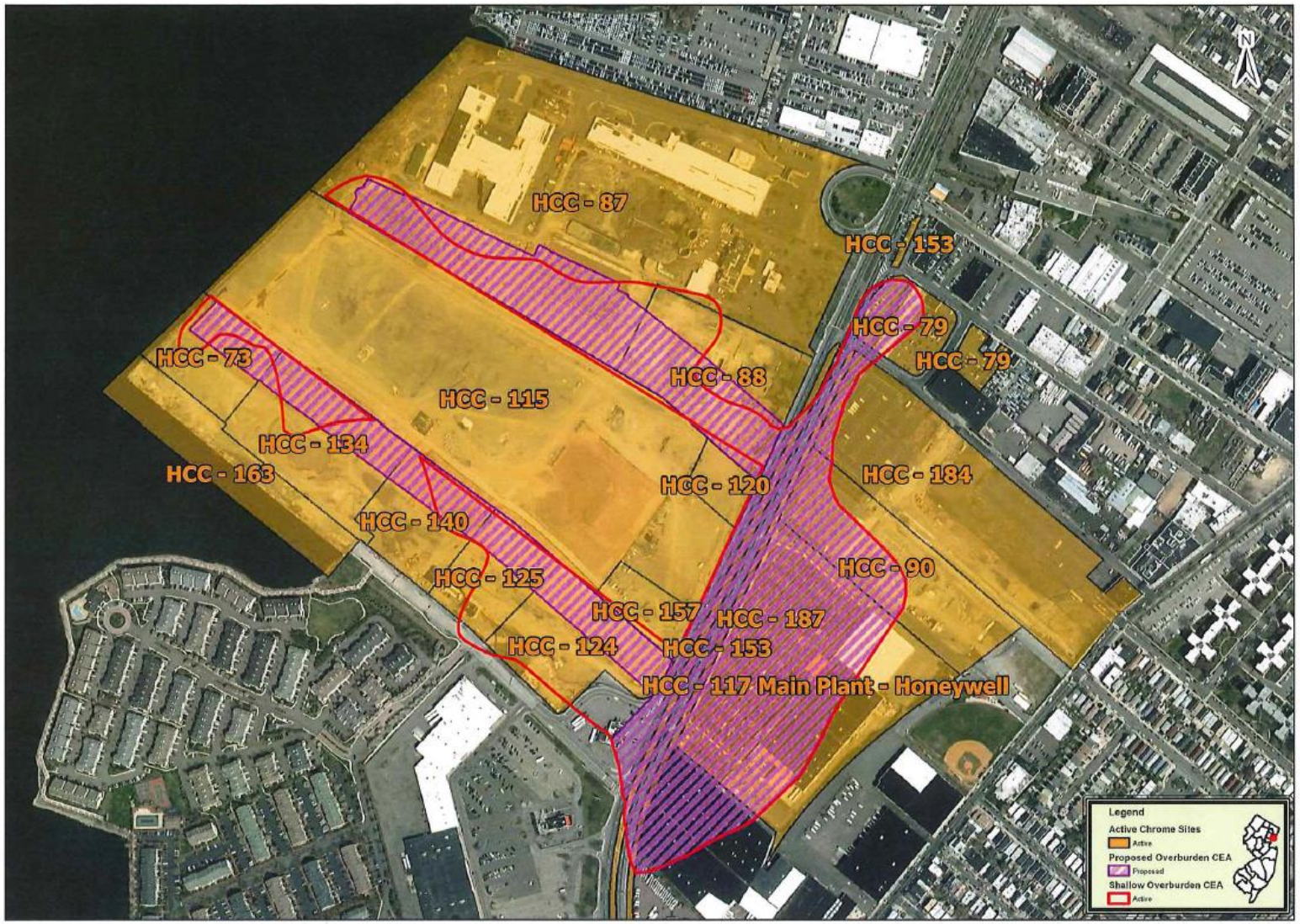


**Exhibit B2 – Glacial Till**

# Honeywell Main Facility Deep Overburden Aquifer - PI #008809; Subject Item ID 167477

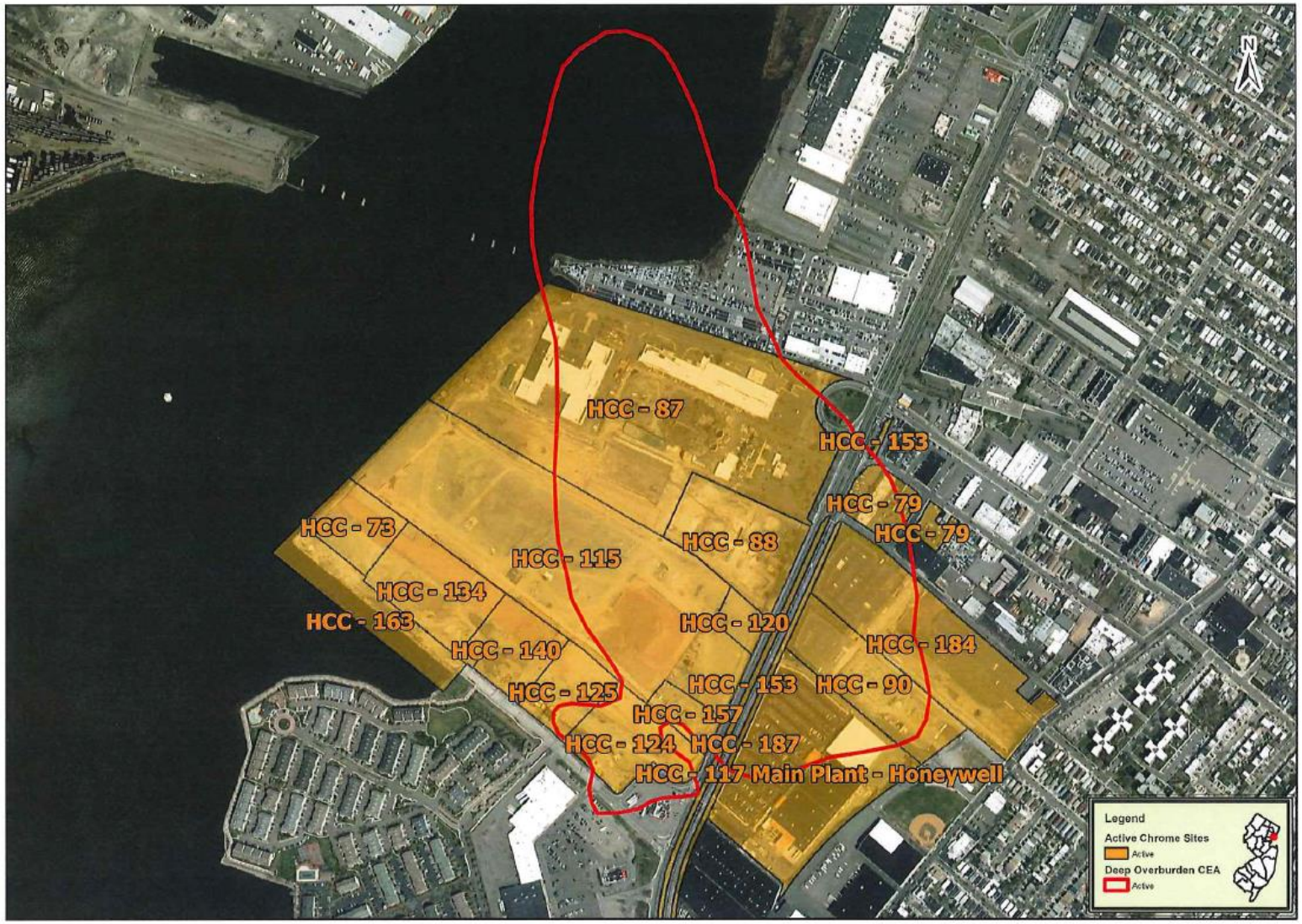


**Exhibit B3 – Passaic Formation**

# Honeywell Main Facility Bedrock Aquifer - PI #008809; Subject Item ID 167478

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION & SOLID WASTE MANAGEMENT PROGRAM
Mail Code 401-06
P. O. Box 420
Trenton, New Jersey 08625-0420
Tel. #: 609-292-1250
Fax. #: 609-777-1914

CHRIS CHRISTIE
*Governor*

KIM GUADAGNO
*Lt. Governor*

BOB MARTIN
*Commissioner*

Honeywell Inc.
Attn: Mr. William J. Hague
115 Tabor Road, 4-D4
Morris Plains, NJ 07950

Date: March 30, 2017

**Approval**

Re: Hudson County Chromate – Honeywell International Inc. (Allied)
Remedial Action Report - Study Area 6 South Chromium Remedy (dated February 2017)
Sites 073, 124, 125, 134, 140 and 163
Jersey City, Hudson County
SRP PI# G000000927, G000008741, G000008742, 033312, 003846, 010374
Activity Number Reference (RPC #): 030001, 920001, 930001, 050001, 930001, 050001
Case Name/Number: 032717_SA6S_RAR_Approval

Dear Mr. Hague:

The New Jersey Department of Environmental Protection (Department) has completed review of the Remedial Action Report – Chromium Remedy at Study Area 6 South (dated February 2017). The Department has determined that the document is in compliance with the Technical Requirements for Site Remediation, N.J.A.C. 7:26E, the Consent Judgment (dated September 7, 2011), and other applicable requirements. The Department hereby approves the document, effective the date of this letter.

The Department requests Honeywell submit copies of this letter to the appropriate parties. If you have any questions regarding this matter, please contact David Doyle at (609) 292-2173.

Sincerely,

Thomas J. Cozzi, Assistant Director
Site Remediation Program

c: David Doyle, NJDEP Kathleen Kunze, NJDEP David VanEck, NJDEP
John Morris, Honeywell Maria Kaouris, Honeywell

State of New Jersey
Department of Environmental Protection
*Site Remediation Program*
*Mailcode 401-06*
***P.O. Box 420***
***Trenton, NJ 08625-0420***

CHRIS CHRISTIE
*Governor*
KIM GUADAGNO
*Lt. Governor*

BOB MARTIN
*Commissioner*

Maria Kaouris, Remediation Manager
Honeywell International, Inc.
101 Columbia Road
Morristown, New Jersey 07962

Date: February 16, 2012

**Approval**

Re: Classification Exception Area
Study Areas 5, 6 and 7
Hudson County Chromate Sites 73, 87, 88, 90, 115, 117, 120, 124, 125, 134, 140, 153, 157, and 184
Jersey City, Hudson County
NJDEP PI # G000008789

Dear Ms. Kaouris:

The New Jersey Department of Environmental Protection (NJDEP) has reviewed the Groundwater Classification Exception Area (CEA) application dated 8 June 2009, prepared by HydroQual, Inc. The NJDEP has determined that the referenced document is in compliance with Section 7:26E-8.3 of the New Jersey Technical Requirements for Site Remediation, and the CEA Guidance Document (revised November 1998). NJDEP hereby approves the CEA request effective the date of this letter.

Honeywell is advised that the CEA does not specify monitoring requirements since it functions as a notification mechanism, not as a "stand alone" enforcement or regulatory document. The need and the extent of ground water monitoring required during the duration of the CEA will be determined as part of the Comprehensive Ground Water Monitoring Program. As specified in NJAC 7:26E-8.3(b)5, the Department will require Honeywell to notify external agencies/affected parties of the CEA designations according to the guidelines established in the CEA Guidance Document (11/98) which can be located at: http://www.nj.gov/dep/srp/guidance/cea/ceaguid2.pdf. Note that all property owners within the plume do not need to be notified as long as they are on public water. Honeywell must also comply with the Biennial Certification requirements at NJAC 7:26E-8.6.

The CEAs are for the ground water contamination in three distinct water bearing zones (Shallow, Deep Overburden, and Bedrock). Since the aerial extent of contamination is different for each of the three zones, three separate CEAs were prepared. Note that these

CEAs are only for total and hexavalent chromium. Any other ground water contamination areas within or nearby (e.g. organic compounds in Study Area 6 – North) will require a separate CEA.

If you have any questions, please contact Thomas J. Cozzi of the Site Remediation Program at (609) 984-2905.

Sincerely,

Thomas J. Cozzi, Assistant Director
NJDEP Site Remediation

C: Barbara A. Netchert, Hudson County Clerk
Hudson County Regional Health Commission (CEHA)
Robert Byrne, RMC, Jersey City Clerk
Robert Vogt, Jersey City Division of Health
Carol Ann Wilson, Hudson County Department of Health & Human Services
Stephen D. Marks PP, AICP, Hudson County Division of Planning
Bureau Chief, NJDEP Bureau of Safe Drinking Water
Bureau Chief, NJDEP Bureau of Water Systems and Well Permitting
David Doyle, NJDEP-SRP
David Van Eck, NJDEP-BGWPA

# APPENDIX B

# ELECTRONIC DATA DELIVERABLE

## Dunleavy, Timothy J

**From:** DEP SRPEDD <SRPEDD@dep.nj.gov>
**Sent:** Friday, June 01, 2018 2:31 PM
**To:** natalie.warner@woodplc.com
**Subject:** 003846, RPC930001, HCC140, HB226915, (Directory: 053118A) - Passed
**Attachments:** DTST.TXT; EDSA_Error_Log.html; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT; HZSAMPLE.TXT; rstp-7-1-8.txt; SampleLoc-7-1-8.KML

The EDD submission via email from (natalie.warner@woodplc.com) on (6/1/2018 11:40:56 AM) with the subjectline "03846, HCC140, RPC930001"

The following identifiers were in the DTST file:

- Directory: 053118A
- DESC: Honeywell SA-6 South
- SRPID: 3846
- Submit Date: 5/31/2018

This submission has been issued an SRP Catalog ID: HB226915

Submission status: Passed.

Please do **not** resubmit.

EDD data deliverable must be submitted only once.
- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

*Email ID: OEM_14395*
*Sub ID:SUB_58438*

## Dunleavy, Timothy J

**From:** DEP SRPEDD <SRPEDD@dep.nj.gov>
**Sent:** Friday, June 01, 2018 3:13 PM
**To:** natalie.warner@woodplc.com
**Subject:** 010374, RPC930001, 010374, HB226947, (Directory: 022118c) - Passed
**Attachments:** DTST.TXT; EDSA_Error_Log.html; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT; HZSAMPLE.TXT; SampleLoc-7-1-8.KML

The EDD submission via email from (natalie.warner@woodplc.com) on (6/1/2018 11:48:54 AM) with the subjectline "010374, HCC163, RPC930001"

The following identifiers were in the DTST file:

- Directory: 022118c
- DESC: Site 163
- SRPID: 010374
- Submit Date: 2/21/2018

This submission has been issued an SRP Catalog ID: HB226947

Submission status: Passed.

Please do **not** resubmit.

EDD data deliverable must be submitted only once.
- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

*Email ID: OEM_14427*
*Sub ID:SUB_58471*

## Dunleavy, Timothy J

**From:** DEP SRPEDD <SRPEDD@dep.nj.gov>
**Sent:** Friday, June 01, 2018 2:32 PM
**To:** natalie.warner@woodplc.com
**Subject:** 033312, RPC050001, HCC134, HB226916, (Directory: 022118b) - Passed
**Attachments:** DTST.TXT; EDSA_Error_Log.html; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT; HZSAMPLE.TXT; SampleLoc-7-1-8.KML

The EDD submission via email from (natalie.warner@woodplc.com) on (6/1/2018 11:37:53 AM) with the subjectline "03312, HCC134, RPC050001"

The following identifiers were in the DTST file:

- Directory: 022118b
- DESC: Site 134
- SRPID: HCC134
- Submit Date: 2/21/2018

This submission has been issued an SRP Catalog ID: HB226916

Submission status: Passed.

Please do **not** resubmit.

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*Email ID: OEM_14396*
*Sub ID:SUB_58439*

## Dunleavy, Timothy J

**From:** DEP SRPEDD <SRPEDD@dep.nj.gov>
**Sent:** Friday, June 01, 2018 2:34 PM
**To:** natalie.warner@woodplc.com
**Subject:** G000000927, RPC030001, G000000927, HB226917, (Directory: 022118d) - Passed
**Attachments:** DTST.TXT; EDSA_Error_Log.html; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT; HZSAMPLE.TXT; SampleLoc-7-1-8.KML

The EDD submission via email from (natalie.warner@woodplc.com) on (6/1/2018 11:35:26 AM) with the subjectline "G000000927, E20080042, RPC030001"

The following identifiers were in the DTST file:

- Directory: 022118d
- DESC: Site 073
- SRPID: E20080042
- Submit Date: 2/21/2018

This submission has been issued an SRP Catalog ID: HB226917

Submission status: Passed.

Please do **not** resubmit.

EDD data deliverable must be submitted only once.
- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
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*Email ID: OEM_14397*
*Sub ID:SUB_58440*

## Dunleavy, Timothy J

**From:** DEP SRPEDD <SRPEDD@dep.nj.gov>
**Sent:** Friday, June 01, 2018 3:19 PM
**To:** natalie.warner@woodplc.com
**Subject:** G000008741, RPC920001, G000008741, HB226951, (Directory: 022118a) - Passed
**Attachments:** DTST.TXT; EDSA_Error_Log.html; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT; HZSAMPLE.TXT; SampleLoc-7-1-8.KML

The EDD submission via email from (natalie.warner@woodplc.com) on (6/1/2018 11:44:46 AM) with the subjectline "G000008741, HCC124, RPC920001"

The following identifiers were in the DTST file:

- Directory: 022118a
- DESC: Site 124
- SRPID: HCC124
- Submit Date: 2/21/2018

This submission has been issued an SRP Catalog ID: HB226951

Submission status: Passed.

Please do **not** resubmit.

EDD data deliverable must be submitted only once.
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- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

*Email ID: OEM_14431*
*Sub ID:SUB_58475*

## Dunleavy, Timothy J

**From:** DEP SRPEDD <SRPEDD@dep.nj.gov>
**Sent:** Friday, June 01, 2018 2:30 PM
**To:** natalie.warner@woodplc.com
**Subject:** G000008742, RPC930001, G000008742, HB226914, (Directory: 022118e) - Passed
**Attachments:** DTST.TXT; EDSA_Error_Log.html; erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; HZRESULT.TXT; HZSAMPLE.TXT; SampleLoc-7-1-8.KML

The EDD submission via email from (natalie.warner@woodplc.com) on (6/1/2018 11:43:28 AM) with the subjectline "G000008742, HCC125, RPC930001"

The following identifiers were in the DTST file:

- Directory: 022118e
- DESC: Site 125
- SRPID: HCC125
- Submit Date: 2/21/2018

This submission has been issued an SRP Catalog ID: HB226914

Submission status: Passed.

Please do **not** resubmit.

EDD data deliverable must be submitted only once.
- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

*Email ID: OEM_14394*
*Sub ID:SUB_58437*

| | |
|---|---|
| **From:** | DEP SRPEDD |
| **To:** | natalie.warner@woodplc.com |
| **Subject:** | 003846, RPC930001, HCC140, HB228582, (Directory: 071618A) - Passed |
| **Date:** | Wednesday, July 18, 2018 3:34:28 PM |
| **Attachments:** | DTST.TXT<br>EDSA_Error_Log.html<br>erdtst-7-1-8.txt<br>erresult-7-1-8.txt<br>ersample-7-1-8.txt<br>HZRESULT.TXT<br>HZSAMPLE.TXT<br>rstp-7-1-8.txt<br>SampleLoc-7-1-8.KML |

---

The EDD submission via email from (natalie.warner@woodplc.com) on (7/16/2018 2:42:55 PM) with the subjectline "03846, HCC140, RPC920001"

The following identifiers were in the DTST file:

- Directory: 071618A
- DESC: Honeywell SA-6 South
- SRPID: 3846
- Submit Date: 7/16/2018

This submission has been issued an SRP Catalog ID: HB228582

Submission status: Passed.

Please do **not** resubmit.

EDD data deliverable must be submitted only once.
- To fulfill Key Document requirements attach only a copy of this email as an appendix to the document.
- Do **not** resubmit any approved EDD deliverable as part of a portal submission.

*Email ID: OEM_16339*
*Sub ID:SUB_60337*

# APPENDIX C

# GROUNDWATER SAMPLING FORMS

# Low Flow Ground Water Sampling Log

wood.

Project Name: HW SA-6S | Date: 6/7/2018 | Page: 1 of 1

Project Number: 3480170588.610001.610001 | Weather: 65°F; overcast, light wind

Monitoring Well: 140-MW-09 | Field Personnel: C. Radomski

Reported Well Depth (ft btoc): 15.70 | Screened/Open Interval (ft btoc):

Well Diameter (in): 2 | Depth to Water (ft btoc): 5.92

Well Condition: good; needs lock

PID Readings (ppm): Background: NM | Depth of Pump (ft btoc): 13.0

Beneath outer cap: NM | Purging Method: Low Flow

Beneath inner cap: NM

## WELL PURGING & SAMPLING:

| Time 5 minute intervals | Purging | Sampling | pH (units) | | Conductivity (us/cm) | | Turbidity (NTU) | | DO (mg/L) | | Temperature (°C) | | Salinity (%) | | REDOX (Eh-mV) | | Depth to Water (ft) | | Pumping Rate (ml/min) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | | |
| | | | 0.1 unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | 200-500 | |
| 11:40 | x | | 7.12 | - | 0.666 | - | 350 | - | 0.00 | - | 15.77 | - | 0.03 | - | -48 | - | 6.10 | - | 250 | |
| 11:45 | x | | 7.20 | 0.08 | 0.688 | 3.30 | 140 | 60.00 | 0.00 | 0.00 | 15.69 | 0.51 | 0.03 | 0.00 | -65 | 17 | 6.17 | 0.07 | 250 | |
| 11:50 | x | | 7.23 | 0.03 | 0.709 | 3.05 | 43.4 | 69.00 | 0.00 | 0.00 | 15.62 | 0.45 | 0.03 | 0.00 | -83 | 18 | 6.21 | 0.04 | 250 | |
| 11:55 | x | | 7.28 | 0.05 | 0.865 | 22.00 | 16.6 | 61.75 | 0.00 | 0.00 | 15.89 | 1.73 | 0.04 | 0.01 | -94 | 11 | 6.20 | 0.01 | 250 | |
| 12:00 | x | | 7.31 | 0.03 | 0.988 | 14.22 | 14.5 | 12.65 | 0.00 | 0.00 | 16.02 | 0.82 | 0.05 | 0.01 | -103 | 9 | 6.20 | 0.00 | 250 | |
| 12:05 | x | | 7.38 | 0.07 | 1.03 | 4.25 | 13.1 | 9.66 | 0.00 | 0.00 | 16.07 | 0.31 | 0.05 | 0.00 | -124 | 21 | 6.20 | 0.00 | 250 | |
| 12:10 | x | | 7.39 | 0.01 | 1.06 | 2.91 | 8.4 | 35.88 | 0.00 | 0.00 | 16.08 | 0.06 | 0.05 | 0.00 | -125 | 1 | 6.20 | 0.00 | 250 | |
| 12:15 | x | | 7.39 | 0.00 | 1.08 | 1.89 | 6.6 | 21.43 | 0.00 | 0.00 | 16.10 | 0.12 | 0.05 | 0.00 | -127 | 2 | 6.25 | 0.05 | 250 | |
| 12:20 | x | | 7.40 | 0.01 | 1.09 | 0.93 | 4.2 | 36.36 | 0.00 | 0.00 | 16.09 | 0.06 | 0.05 | 0.00 | -130 | 3 | 6.25 | 0.00 | 250 | |
| 12:25 | x | | 7.41 | 0.01 | 1.10 | 0.92 | 4.3 | 2.38 | 0.00 | 0.00 | 16.11 | 0.12 | 0.06 | 0.01 | -134 | 4 | 6.25 | 0.00 | 250 | |
| 12:30 | x | | 7.43 | 0.02 | 1.13 | 2.73 | 4.4 | 2.33 | 0.00 | 0.00 | 16.13 | 0.12 | 0.06 | 0.00 | -134 | 0 | 6.25 | 0.00 | 250 | |
| 12:35 | x | | 7.44 | 0.01 | 1.13 | 0.00 | 4.4 | 0.00 | 0.00 | 0.00 | 16.14 | 0.06 | 0.06 | 0.00 | -135 | 1 | 6.25 | 0.00 | 250 | |
| | | | | | | | | | | | | | | | | | | | | |
| 12:40 | | x | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

Volume Purged: 13.75 L | Final Water Level (ft): 5.92 | Final Well Depth (ft): 15.67 | Purged Dry: No

Sample Visual Appearance: Clear (Light brown in color) | If Purged Dry, Recovery Rate (ft/min):

Comments: 140-MW-09-060718 @ 12:40 | 140-MW-09-060718-DP @ 12:40 | 140-FB-060718 @ 11:30

140-MW-09-060718F @ 12:45 (0.45 micron filter) | 140-MW-09-060718F-DP @ 12:45 (0.45 micron filter)

140-MW-09-060718FA @ 12:50 (0.1 micron filter) | 140-MW-09-060718FA-DP @ 12:50 (0.1 micron filter)

# Low Flow Ground Water Sampling Log

wood.

Project Name: HW SA-6S | Date: 6/25/2018 | Page: 1 of 1

Project Number: | Weather: 70˚F; clear, light wind

Monitoring Well: 140-MW-09 | Field Personnel: C. Radomski

Reported Well Depth (ft btoc): 15.70 | Screened/Open Interval (ft btoc):

Well Diameter (in): 2 | Depth to Water (ft btoc): 6.32

Well Condition: good; needs lock

PID Readings (ppm): Background: NM | Depth of Pump (ft btoc): 13.0

Beneath outer cap: NM | Purging Method: Low Flow

Beneath inner cap: NM

## WELL PURGING & SAMPLING:

| Time 5 minute intervals | Purging | Sampling | pH (units) | | Conductivity (us/cm) | | Turbidity (NTU) | | DO (mg/L) | | Temperature (°C) | | Salinity (%) | | REDOX (Eh-mV) | | Depth to Water (ft) | | Pumping Rate (ml/min) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | | |
| | | | 0.1 unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | 200-500 | |
| 8:15 | x | | 7.15 | - | 0.621 | - | 38.4 | - | 0.00 | - | 18.76 | - | 0.03 | - | -89 | - | 6.35 | - | 250 | |
| 8:20 | x | | 7.13 | 0.02 | 0.695 | 11.92 | 18.7 | 51.30 | 0.00 | 0.00 | 18.30 | 2.45 | 0.03 | 0.00 | -97 | 8 | 6.38 | 0.03 | 250 | |
| 8:25 | x | | 7.14 | 0.01 | 0.730 | 5.04 | 14.5 | 22.46 | 0.00 | 0.00 | 17.95 | 1.91 | 0.04 | 0.01 | -104 | 7 | 6.40 | 0.02 | 250 | |
| 8:30 | x | | 7.11 | 0.03 | 0.755 | 3.42 | 11.7 | 19.31 | 0.00 | 0.00 | 17.66 | 1.62 | 0.04 | 0.00 | -125 | 21 | 6.41 | 0.01 | 250 | |
| 8:35 | x | | 7.11 | 0.00 | 0.870 | 15.23 | 9.5 | 18.80 | 0.00 | 0.00 | 17.74 | 0.45 | 0.04 | 0.00 | -134 | 9 | 6.41 | 0.00 | 250 | |
| 8:40 | x | | 7.17 | 0.06 | 0.997 | 14.60 | 7.0 | 26.32 | 0.00 | 0.00 | 18.00 | 1.48 | 0.05 | 0.01 | -145 | 11 | 6.41 | 0.00 | 250 | |
| 8:45 | x | | 7.25 | 0.08 | 1.10 | 10.33 | 6.0 | 14.29 | 0.00 | 0.00 | 18.06 | 0.32 | 0.05 | 0.00 | -157 | 12 | 6.41 | 0.00 | 250 | |
| 8:50 | x | | 7.31 | 0.06 | 1.25 | 13.64 | 5.9 | 1.67 | 0.00 | 0.00 | 18.15 | 0.50 | 0.06 | 0.01 | -166 | 9 | 6.41 | 0.00 | 250 | |
| 8:55 | x | | 7.36 | 0.05 | 1.33 | 6.40 | 5.8 | 1.69 | 0.00 | 0.00 | 18.25 | 0.55 | 0.07 | 0.01 | -173 | 7 | 6.41 | 0.00 | 250 | |
| 9:00 | x | | 7.40 | 0.04 | 1.31 | 1.50 | 5.7 | 1.72 | 0.00 | 0.00 | 18.30 | 0.27 | 0.08 | 0.01 | -180 | 7 | 6.41 | 0.00 | 250 | |
| 9:05 | x | | 7.41 | 0.01 | 1.32 | 0.76 | 5.6 | 1.75 | 0.00 | 0.00 | 18.33 | 0.16 | 0.08 | 0.00 | -182 | 2 | 6.41 | 0.00 | 250 | |
| | | | | | | | | | | | | | | | | | | | | |
| 9:10 | | x | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

Volume Purged: 12.5 L | Final Water Level (ft): 6.32 | Final Well Depth (ft): 15.67 | Purged Dry: No

Sample Visual Appearance: Clear (Light brown in color) | If Purged Dry, Recovery Rate (ft/min):

Comments: 140-MW-09-060718 @ 9:10 | 140-MW-09-060718-DP @ 9:15 | 140-FB-060718 @ 8:05

140-MW-09-060718F @ 9:20 (0.45 micron filter) | 140-MW-09-060718F-DP @ 9:30 (0.45 micron filter) | Strong sulfur-like odor in sample

140-MW-09-060718FA @ 9:40 (0.1 micron filter) | 140-MW-09-060718FA-DP @ 9:50 (0.1 micron filter) | bottles with preservative

# Low Flow Ground Water Sampling Log

wood.

Project Name: HW SA-6 Date: 3/23/2018 

Project Number: 3480170588 Weather: 37°F; clear

Monitoring Well: 140-MW-09 Field Personnel: C. Radomski

Reported Well Depth (ft btoc): 15.70 Screened/Open Interval (ft btoc):

Well Diameter (in): 2 Depth to Water (ft btoc): 5.10

Well Condition: good; needs lock

PID Readings (ppm): Background: 0.0 Depth of Pump (ft btoc): 13.0

Beneath outer cap: 0.0 Purging Method: Low Flow

Beneath inner cap: 0.0

## WELL PURGING & SAMPLING:

| Time 5 minute intervals | Purging | Sampling | pH (units) | | Conductivity (us/cm) | | Turbidity (NTU) | | DO (mg/L) | | Temperature (°C) | | Salinity (%) | | REDOX (Eh-mV) | | Depth to Water (ft) | | Pumping Rate (ml/min) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | | |
| | | | 0.1 unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | 200-500 | |
| 9:20 | x | | 7.43 | - | 0.831 | - | 31.8 | - | 0.00 | - | 12.49 | - | 0.04 | - | -98 | - | 5.25 | - | 200 | |
| 9:25 | x | | 7.43 | 0.00 | 0.833 | 0.24 | 27.4 | 13.84 | 0.00 | 0.0 | 12.46 | 0.24 | 0.04 | 0.00 | -114 | 16 | 5.40 | 0.15 | 200 | |
| 9:30 | x | | 7.53 | 0.10 | 1.03 | 23.65 | 28.7 | 4.74 | 0.00 | 0.0 | 12.46 | 0.00 | 0.05 | 0.01 | -137 | 23 | 5.40 | 0.00 | 200 | |
| 9:35 | x | | 7.56 | 0.03 | 1.11 | 7.77 | 27.7 | 3.48 | 0.00 | 0.0 | 12.26 | 1.61 | 0.05 | 0.00 | -143 | 6 | 5.40 | 0.00 | 200 | |
| 9:40 | x | | 7.60 | 0.04 | 1.25 | 12.61 | 24.4 | 11.91 | 0.00 | 0.0 | 12.18 | 0.65 | 0.06 | 0.01 | -153 | 10 | 5.40 | 0.00 | 200 | |
| 9:45 | x | | 7.64 | 0.04 | 1.43 | 14.40 | 21.2 | 13.11 | 0.00 | 0.0 | 12.13 | 0.41 | 0.06 | 0.00 | -157 | 4 | 5.40 | 0.00 | 200 | |
| 9:50 | x | | 7.70 | 0.06 | 1.50 | 4.90 | 18.7 | 11.79 | 0.00 | 0.0 | 12.1 | 0.25 | 0.07 | 0.01 | -160 | 3 | 5.40 | 0.00 | 200 | |
| 9:55 | x | | 7.77 | 0.07 | 1.70 | 13.33 | 17.9 | 4.28 | 0.00 | 0.0 | 12.09 | 0.08 | 0.07 | 0.00 | -163 | 3 | 5.40 | 0.00 | 200 | |
| 10:00 | x | | 7.80 | 0.03 | 1.74 | 2.35 | 17.1 | 4.47 | 0.00 | 0.0 | 12.08 | 0.08 | 0.08 | 0.01 | -172 | 9 | 5.40 | 0.00 | 200 | |
| 10:05 | x | | 7.82 | 0.02 | 1.77 | 1.72 | 16.8 | 1.75 | 0.00 | 0.0 | 12.04 | 0.33 | 0.08 | 0.00 | -178 | 6 | 5.40 | 0.00 | 200 | |
| 10:10 | x | | 7.83 | 0.01 | 1.78 | 0.56 | 16.6 | 1.19 | 0.00 | 0.0 | 12.07 | 0.25 | 0.09 | 0.01 | -180 | 2 | 5.40 | 0.00 | 200 | |
| 10:15 | x | | 7.84 | 0.01 | 1.79 | 0.56 | 16.5 | 0.60 | 0.00 | 0.0 | 12.05 | 0.17 | 0.09 | 0.00 | -181 | 1 | 5.40 | 0.00 | 200 | |
| 10:20 | x | | 7.84 | 0.00 | 1.81 | 1.12 | 16.4 | 0.61 | 0.00 | 0.0 | 12.06 | 0.08 | 0.09 | 0.00 | -183 | 2 | 5.40 | 0.00 | 200 | |
| 10:25 | x | | 7.85 | 0.01 | 1.81 | 0.00 | 16.3 | 0.61 | 0.00 | 0.0 | 12.03 | 0.25 | 0.09 | 0.00 | -184 | 1 | 5.40 | 0.00 | 200 | |
| 10:30 | x | | 7.85 | 0.00 | 1.80 | 0.55 | 16.4 | 0.61 | 0.00 | 0.0 | 12.04 | 0.08 | 0.09 | 0.00 | -183 | 1 | 5.40 | 0.00 | 200 | |
| | | | | | | | | | | | | | | | | | | | | |
| 10:35 | | x | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

Volume Purged: 14 L Final Water Level (ft): 5.15 Final Well Depth (ft): 15.70 Purged Dry:

Sample Visual Appearance: Clear If Purged Dry, Recovery Rate (ft/min):

Comments: 140-MW-09-032318 @ 10:35; 140-MW-09-032318-DP @ 10:40; Instructed to sample by A. Shust

140-MW-09-032318F @ 10:45; 140-MW-09-032318F-DP @ 10:50

140-MW-09-032318FA @ 10:55; 140-MW-09-032318FA-DP @ 11:00; 140-FB-032318 @ 11:10

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001

**Well Number:** 163-MW-02R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14.56

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.81 Time: 11:45 Date: 1/18/2017

Serial Number: KH32JANO Depth to Bottom of Well: 17 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Sean Rittinger Purge Start Time: 11:48

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:50 | 0.3 | 9.37 | - | 1.13 | - | 302.0 | - | 12.25 | - | 12.19 | - | 0.60 | - | 126 | - | 8.17 | - | |
| 11:55 | 0.3 | 8.43 | 0.94 | 1.14 | 0.9% | 254.0 | 15.9% | 11.78 | 3.8% | 12.98 | 6.5% | 0.60 | 0.00 | 133 | 7 | 8.34 | 0.17 | |
| 12:00 | 0.3 | 8.22 | 0.21 | 1.19 | 4.4% | 97.4 | 61.7% | 11.23 | 4.7% | 12.98 | 0.0% | 0.60 | 0.00 | 112 | 21 | 8.28 | 0.06 | |
| 12:05 | 0.3 | 8.07 | 0.15 | 1.26 | 5.9% | 63.2 | 35.1% | 10.49 | 6.6% | 13.08 | 0.8% | 0.60 | 0.00 | 67 | 45 | 8.26 | 0.02 | |
| 12:10 | 0.3 | 7.93 | 0.14 | 1.49 | 18.3% | 61.5 | 2.7% | 9.82 | 6.4% | 13.17 | 0.7% | 0.70 | 0.10 | 2 | 65 | 8.26 | 0.00 | |
| 12:15 | 0.3 | 7.95 | 0.02 | 1.58 | 6.0% | 68.9 | 12.0% | 9.16 | 6.7% | 13.29 | 0.9% | 0.80 | 0.10 | -30 | 32 | 8.26 | 0.00 | |
| 12:20 | 0.3 | 7.91 | 0.04 | 1.69 | 7.0% | 52.4 | 23.9% | 9.09 | 0.8% | 13.63 | 2.6% | 0.80 | 0.00 | -53 | 23 | 8.26 | 0.00 | |
| 12:25 | 0.3 | 7.91 | 0.00 | 1.76 | 4.1% | 41.7 | 20.4% | 9.00 | 1.0% | 13.67 | 0.3% | 0.90 | 0.10 | -66 | 13 | 8.26 | 0.00 | |
| 12:30 | 0.3 | 7.94 | 0.03 | 1.80 | 2.3% | 38.9 | 6.7% | 8.76 | 2.7% | 13.70 | 0.2% | 0.90 | 0.00 | -78 | 12 | 8.26 | 0.00 | |
| 12:35 | 0.3 | 7.93 | 0.01 | 1.84 | 2.2% | 34.7 | 10.8% | 8.49 | 3.1% | 13.72 | 0.1% | 0.90 | 0.00 | -86 | 8 | 8.26 | 0.00 | |
| 12:40 | 0.3 | 7.92 | 0.01 | 1.88 | 2.2% | 29.9 | 13.8% | 8.23 | 3.1% | 13.72 | 0.0% | 0.90 | 0.00 | -91 | 5 | 8.26 | 0.00 | |
| 12:45 | 0.3 | 7.92 | 0.00 | 1.9 | 1.1% | 26.4 | 11.7% | 8.17 | 0.7% | 13.72 | 0.0% | 1.00 | 0.10 | -98 | 7 | 8.26 | 0.00 | |
| 12:50 | 0.3 | 7.95 | 0.03 | 1.91 | 0.5% | 1.2 | 95.5% | 8.02 | 1.8% | 13.98 | 1.9% | 1.00 | 0.00 | -102 | 4 | 8.26 | 0.00 | |
| 12:55 | 0.3 | 7.89 | 0.06 | 1.94 | 1.6% | 0.9 | 25.0% | 7.89 | 1.6% | 13.99 | 0.1% | 1.00 | 0.00 | -107 | 5 | 8.26 | 0.00 | |
| 13:00 | 0.3 | 7.92 | 0.03 | 1.94 | 0.0% | 0.7 | 22.2% | 7.8 | 1.1% | 14 | 0.1% | 1.00 | 0.00 | -115 | 8 | 8.26 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 13:05 | Sample | 163-MW-02R | | | | | | | | | | | | | | | | |
| 13:10 | Sample | 163-MW-02R-F | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 7.71 Final Well Depth: 17.15

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 gals Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Clear

Sample ID: 163-MW-02R-011817 @13:05 Sample ID: 163-MW-02R-011817-F @13:10

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.4 Time: 11:55 Date: 1/18/2017

Serial Number: 21331 Depth to Bottom of Well: 13.52 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Ryan O'Leary Purge Start Time: 12:00

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 12:00 | **0.2** | **8.61** | **-** | **0.373** | **-** | **175.0** | **-** | **13.88** | **-** | **5.28** | **-** | **0.02** | **-** | **-50** | **-** | **4.65** | **-** | |
| 12:05 | **0.2** | **8.78** | **0.17** | **0.249** | **33.2%** | **131.0** | **25.1%** | **12.05** | **13.2%** | **5.08** | **3.8%** | **0.01** | **0.01** | **-7** | **43** | **4.73** | **0.08** | |
| 12:10 | **0.2** | **8.76** | **0.02** | **0.253** | **1.6%** | **189.0** | **44.3%** | **10.76** | **10.7%** | **5.17** | **1.8%** | **0.01** | **0.00** | **3** | **10** | **4.71** | **0.02** | |
| 12:15 | **0.2** | **8.76** | **0.00** | **0.251** | **0.8%** | **200.0** | **5.8%** | **10.44** | **3.0%** | **5.59** | **8.1%** | **0.01** | **0.00** | **11** | **8** | **4.68** | **0.03** | |
| 12:20 | **0.2** | **8.73** | **0.03** | **0.272** | **8.4%** | **220.0** | **10.0%** | **10.08** | **3.4%** | **5.23** | **6.4%** | **0.01** | **0.00** | **16** | **5** | **4.85** | **0.17** | |
| 12:25 | **0.2** | **8.74** | **0.01** | **0.290** | **6.6%** | **247.0** | **12.3%** | **8.95** | **11.2%** | **5.32** | **1.7%** | **0.01** | **0.00** | **18** | **2** | **4.87** | **0.02** | |
| 12:30 | **0.2** | **8.74** | **0.00** | **0.311** | **7.2%** | **223.0** | **9.7%** | **7.25** | **19.0%** | **5.35** | **0.6%** | **0.01** | **0.00** | **19** | **1** | **4.89** | **0.02** | |
| 12:35 | **0.2** | **8.74** | **0.00** | **0.339** | **9.0%** | **239.0** | **7.2%** | **6.08** | **16.1%** | **5.42** | **1.3%** | **0.02** | **0.01** | **19** | **0** | **4.85** | **0.04** | |
| 12:40 | **0.2** | **8.74** | **0.00** | **0.349** | **2.9%** | **229.0** | **4.2%** | **5.12** | **15.8%** | **5.47** | **0.9%** | **0.02** | **0.00** | **21** | **2** | **4.85** | **0.00** | |
| 12:45 | **0.2** | **8.71** | **0.03** | **0.354** | **1.4%** | **251.0** | **9.6%** | **6.66** | **30.1%** | **5.73** | **4.8%** | **0.02** | **0.00** | **26** | **5** | **4.81** | **0.04** | |
| 12:50 | **0.2** | **8.73** | **0.02** | **0.382** | **7.9%** | **170.0** | **32.3%** | **6.53** | **2.0%** | **5.46** | **4.7%** | **0.02** | **0.00** | **25** | **1** | **4.80** | **0.01** | |
| 12:55 | **0.2** | **8.74** | **0.01** | **0.413** | **8.1%** | **102.0** | **40.0%** | **6.51** | **0.3%** | **5.52** | **1.1%** | **0.02** | **0.00** | **22** | **3** | **4.76** | **0.04** | |
| 13:00 | **0.2** | **8.76** | **0.02** | **0.441** | **6.8%** | **20.1** | **80.3%** | **6.48** | **0.5%** | **5.63** | **2.0%** | **0.02** | **0.00** | **18** | **4** | **4.74** | **0.02** | |
| 13:05 | **0.2** | **8.76** | **0.00** | **0.446** | **1.1%** | **8.4** | **58.2%** | **6.43** | **0.8%** | **5.65** | **0.4%** | **0.02** | **0.00** | **17** | **1** | **4.70** | **0.04** | |
| 13:10 | **0.2** | **8.76** | **0.00** | **0.449** | **0.7%** | **8.3** | **1.2%** | **6.43** | **0.0%** | **5.67** | **0.4%** | **0.02** | **0.00** | **17** | **0** | **4.71** | **0.01** | |
| 13:15 | **0.2** | **8.78** | **0.02** | **0.449** | **0.0%** | **8.3** | **0.0%** | **6.41** | **0.3%** | **5.66** | **0.2%** | **0.02** | **0.00** | **17** | **0** | **4.73** | **0.02** | |
| | | | | | | | | | | | | | | | | | | |
| 13:20 | **Sample** | **124-MW-03** | | | | | | | | | | | | | | | | |
| 13:23 | **Sample** | **124-MW-03-F** | | | | | | | | | | | | | | | | |
| 13:32 | **Sample** | **124-MW-03-DP** | | | | | | | | | | | | | | | | |
| 13:35 | **Sample** | **124-MW-03-DPF** | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 4.51 Final Well Depth: 13.52

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 16 Liters Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Pale Yellow

Sample ID: 125-MW-03-011817 @13:20 Sample ID: 125-MW-03-011817-DP @13:32

Sample ID: 125-MW-03-011817-F @13:23 Sample ID: 125-MW-03-011817-DPF @13:35

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14.75

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.59 Time: 11:15 Date: 1/19/2017

Serial Number: 21331 Depth to Bottom of Well: 15.5 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Ryan O'Leary Purge Start Time: 11:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:20 | **0.2** | **7.90** | **-** | **0.859** | **-** | **63.2** | **-** | **0.03** | **-** | **12.62** | **-** | **0.04** | **-** | **19** | **-** | **5.72** | **-** | |
| 11:25 | **0.2** | **7.42** | **0.48** | **0.843** | **1.9%** | **59.8** | **5.4%** | **0.04** | **33.3%** | **12.59** | **0.2%** | **0.04** | **0.00** | **5** | **14** | **5.74** | **0.02** | |
| 11:30 | **0.2** | **7.31** | **0.11** | **0.833** | **1.2%** | **58.4** | **2.3%** | **0.04** | **0.0%** | **12.75** | **1.3%** | **0.04** | **0.00** | **-28** | **33** | **5.73** | **0.01** | |
| 11:35 | **0.2** | **7.32** | **0.01** | **0.826** | **0.8%** | **35.0** | **40.1%** | **0.00** | **100.0%** | **12.79** | **0.3%** | **0.04** | **0.00** | **-27** | **1** | **5.74** | **0.01** | |
| 11:40 | **0.2** | **7.33** | **0.01** | **0.820** | **0.7%** | **28.3** | **19.1%** | **0.00** | **0.0%** | **12.77** | **0.2%** | **0.04** | **0.00** | **-17** | **10** | **5.77** | **0.03** | |
| 11:45 | **0.2** | **7.34** | **0.01** | **0.816** | **0.5%** | **23.2** | **18.0%** | **0.00** | **0.0%** | **12.75** | **0.2%** | **0.04** | **0.00** | **-24** | **7** | **5.78** | **0.01** | |
| 11:50 | **0.2** | **7.35** | **0.01** | **0.814** | **0.2%** | **15.4** | **33.6%** | **0.00** | **0.0%** | **12.76** | **0.1%** | **0.04** | **0.00** | **-28** | **4** | **5.76** | **0.02** | |
| 11:55 | **0.2** | **7.37** | **0.02** | **0.811** | **0.4%** | **7.1** | **53.9%** | **0.00** | **0.0%** | **12.60** | **1.3%** | **0.04** | **0.00** | **-31** | **3** | **5.77** | **0.01** | |
| 12:00 | **0.2** | **7.37** | **0.00** | **0.808** | **0.4%** | **5.7** | **19.7%** | **0.00** | **0.0%** | **12.61** | **0.1%** | **0.04** | **0.00** | **-32** | **1** | **5.79** | **0.02** | |
| 12:05 | **0.2** | **7.38** | **0.01** | **0.798** | **1.2%** | **4.3** | **24.6%** | **0.00** | **0.0%** | **12.66** | **0.4%** | **0.04** | **0.00** | **-36** | **4** | **5.79** | **0.00** | |
| 12:10 | **0.2** | **7.39** | **0.01** | **0.799** | **0.1%** | **3.4** | **20.9%** | **0.00** | **0.0%** | **12.66** | **0.0%** | **0.04** | **0.00** | **-38** | **2** | **5.80** | **0.01** | |
| 12:15 | **0.2** | **7.41** | **0.02** | **0.795** | **0.5%** | **2.1** | **38.2%** | **0.00** | **0.0%** | **12.64** | **0.2%** | **0.04** | **0.00** | **-40** | **2** | **5.79** | **0.01** | |
| 12:20 | **0.2** | **7.41** | **0.00** | **0.793** | **0.3%** | **2.0** | **4.8%** | **0.00** | **0.0%** | **12.63** | **0.1%** | **0.04** | **0.00** | **-41** | **1** | **5.77** | **0.02** | |
| 12:25 | **0.2** | **7.43** | **0.02** | **0.792** | **0.1%** | **2.0** | **0.0%** | **0.00** | **0.0%** | **12.65** | **0.2%** | **0.04** | **0.00** | **-42** | **1** | **5.75** | **0.02** | |
| | | | | | | | | | | | | | | | | | | |
| 12:30 | **Sample** | **140-MW-09** | | | | | | | | | | | | | | | | |
| 12:35 | **Sample** | **104-MW-09-F** | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 5.61 Final Well Depth: 15.77

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 8 gals Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Clear

Sample ID: 140-MW-09-011917 @12:30 Sample ID: 140-MW-09-011917-F @12:35

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001

**Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14.00

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 3.02 Time: 11:45 Date: 1/17/2017

Serial Number: 21331 Depth to Bottom of Well: 13.19 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/17/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Ryan O'Leary Purge Start Time: 11:50

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:55 | 0.2 | 6.47 | - | 7.99 | - | 800.0 | - | 0.00 | - | 12.31 | - | 0.47 | - | -29 | - | 3.02 | - | |
| 12:00 | 0.2 | 6.43 | 0.04 | 7.40 | 7.4% | 800.0 | 0.0% | 0.00 | 0.0% | 13.35 | 8.4% | 0.41 | 0.06 | -46 | 17 | 3.09 | 0.07 | |
| 12:05 | 0.2 | 6.47 | 0.04 | 7.11 | 3.9% | 800.0 | 0.0% | 0.00 | 0.0% | 14.01 | 4.9% | 0.39 | 0.02 | -54 | 8 | 3.16 | 0.07 | |
| 12:10 | 0.2 | 6.48 | 0.01 | 7.14 | 0.4% | 740.0 | 7.5% | 0.00 | 0.0% | 13.27 | 5.3% | 0.39 | 0.00 | -61 | 7 | 3.25 | 0.09 | |
| 12:15 | 0.2 | 6.49 | 0.01 | 7.04 | 1.4% | 786.0 | 6.2% | 0.00 | 0.0% | 13.21 | 0.5% | 0.39 | 0.00 | -63 | 2 | 3.31 | 0.06 | |
| 12:20 | 0.2 | 6.53 | 0.04 | 7.09 | 0.7% | 800.0 | 1.8% | 0.00 | 0.0% | 13.54 | 2.5% | 0.39 | 0.00 | -55 | 8 | 3.41 | 0.10 | |
| 12:25 | 0.2 | 6.60 | 0.07 | 7.30 | 3.0% | 800.0 | 0.0% | 0.00 | 0.0% | 13.65 | 0.8% | 0.40 | 0.01 | -57 | 2 | 3.50 | 0.09 | |
| 12:30 | 0.2 | 6.51 | 0.09 | 7.12 | 2.5% | 648.0 | 19.0% | 0.00 | 0.0% | 13.67 | 0.1% | 0.39 | 0.01 | -60 | 3 | 3.51 | 0.01 | |
| 12:35 | 0.2 | 6.51 | 0.00 | 7.14 | 0.3% | 618.0 | 4.6% | 0.00 | 0.0% | 13.38 | 2.1% | 0.39 | 0.00 | -60 | 0 | 3.53 | 0.02 | |
| 12:40 | 0.2 | 6.52 | 0.01 | 6.43 | 9.9% | 580 | 6.1% | 0.00 | 0.0% | 13.03 | 2.6% | 0.37 | 0.02 | -60 | 0 | 3.55 | 0.02 | |
| 12:45 | 0.2 | 6.51 | 0.01 | 7.08 | 10.1% | 530 | 8.6% | 0.00 | 0.0% | 12.32 | 5.4% | 0.38 | 0.01 | -71 | 11 | 3.59 | 0.04 | |
| 12:50 | 0.2 | 6.71 | 0.20 | 7.06 | 0.3% | 421 | 20.6% | 0.00 | 0.0% | 11.42 | 7.3% | 0.37 | 0.01 | -52 | 19 | 3.62 | 0.03 | |
| 12:55 | 0.2 | 6.68 | 0.03 | 7.05 | 0.1% | 212 | 49.6% | 0.00 | 0.0% | 11.36 | 0.5% | 0.37 | 0.00 | -47 | 5 | 3.65 | 0.03 | |
| 13:00 | 0.2 | 6.5 | 0.18 | 7.05 | 0.0% | 111 | 47.6% | 0.00 | 0.0% | 13.85 | 21.9% | 0.37 | 0.00 | -56 | 9 | 3.69 | 0.04 | |
| 13:05 | 0.2 | 6.48 | 0.02 | 7.06 | 0.1% | 49.3 | 55.6% | 0.00 | 0.0% | 13.87 | 0.1% | 0.38 | 0.01 | -59 | 3 | 3.71 | 0.02 | |
| 13:10 | 0.2 | 6.49 | 0.01 | 7.06 | 0.0% | 48.5 | 1.6% | 0.00 | 0.0% | 13.88 | 0.1% | 0.38 | 0.00 | -61 | 2 | 3.74 | 0.03 | |
| 13:15 | 0.2 | 6.49 | 0.00 | 7.05 | 0.1% | 47.2 | 2.7% | 0.00 | 0.0% | 13.85 | 0.2% | 0.38 | 0.00 | -62 | 1 | 3.75 | 0.01 | |
| 13:20 | 0.2 | 6.49 | 0.00 | 7.05 | 0.0% | 47.6 | 0.8% | 0.00 | 0.0% | 13.83 | 0.1% | 0.38 | 0.00 | -63 | 1 | 3.77 | 0.02 | |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 3.04 Final Well Depth: 15.21

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 7 gals Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Grey

Sample ID: 125-MW-02-011717 @13:25 Sample ID: 125-MW-02-011717-F @13:30

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 13.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 9.01 Time: 8:30 Date: 1/18/2017

Serial Number: 21331 Depth to Bottom of Well: 14.7 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Ryan O'Leary Purge Start Time: 8:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:35 | **0.2** | **9.74** | **-** | **0.30** | **-** | **378.0** | **-** | **0.00** | **-** | **9.07** | **-** | **0.01** | **-** | **-1** | **-** | **9.35** | **-** | |
| 8:40 | **0.2** | **9.58** | **0.16** | **0.29** | **5.0%** | **278.0** | **26.5%** | **0.00** | **0.0%** | **9.15** | **0.9%** | **0.01** | **0.00** | **2** | **3** | **9.37** | **0.02** | |
| 8:45 | **0.2** | **9.45** | **0.13** | **0.28** | **0.4%** | **222.0** | **20.1%** | **0.00** | **0.0%** | **9.08** | **0.8%** | **0.01** | **0.00** | **5** | **3** | **9.34** | **0.03** | |
| 8:50 | **0.2** | **9.49** | **0.04** | **0.28** | **0.7%** | **190.0** | **14.4%** | **0.00** | **0.0%** | **9.05** | **0.3%** | **0.01** | **0.00** | **9** | **4** | **9.30** | **0.04** | |
| 8:55 | **0.2** | **9.43** | **0.06** | **0.28** | **2.5%** | **93.0** | **51.1%** | **0.00** | **0.0%** | **9.02** | **0.3%** | **0.01** | **0.00** | **18** | **9** | **9.28** | **0.02** | |
| 9:00 | **0.2** | **9.45** | **0.02** | **0.27** | **2.5%** | **51.2** | **44.9%** | **0.00** | **0.0%** | **9.04** | **0.2%** | **0.01** | **0.00** | **27** | **9** | **9.16** | **0.12** | |
| 9:05 | **0.2** | **9.53** | **0.08** | **0.27** | **1.1%** | **31.4** | **38.7%** | **0.00** | **0.0%** | **9.06** | **0.2%** | **0.01** | **0.00** | **25** | **2** | **9.15** | **0.01** | |
| 9:10 | **0.2** | **9.61** | **0.08** | **0.27** | **0.7%** | **10.1** | **67.8%** | **0.00** | **0.0%** | **9.27** | **2.3%** | **0.01** | **0.00** | **20** | **5** | **9.15** | **0.00** | |
| 9:15 | **0.2** | **9.63** | **0.02** | **0.28** | **0.7%** | **6.3** | **37.6%** | **0.00** | **0.0%** | **9.21** | **0.6%** | **0.01** | **0.00** | **19** | **1** | **9.14** | **0.01** | |
| 9:20 | **0.2** | **9.63** | **0** | **0.28** | **0.7%** | **6.4** | **1.6%** | **0.00** | **0.0%** | **9.20** | **0.1%** | **0.01** | **0.00** | **17** | **2** | **9.15** | **0.01** | |
| 9:25 | **0.2** | **9.65** | **0.02** | **0.277** | **0.0%** | **6.3** | **1.6%** | **0** | **0.0%** | **9.18** | **0.2%** | **0.01** | **0.00** | **15** | **2** | **9.16** | **0.01** | |
| | | | | | | | | | | | | | | | | | | |
| 9:30 | **Sample 124-MW-13** | | | | | | | | | | | | | | | | | |
| 9:33 | **Sample 124-MW-13-F** | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 9.02 Final Well Depth: 14.76

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 11 Liters Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Clear

Sample ID: 124-MW-13-011817 @09:30 Sample ID: 124-MW-13-011817-F @09:33

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001

**Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14.7

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.57 Time: 11:50 Date: 1/17/2017

Serial Number: KH32JANO Depth to Bottom of Well: 18.65 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/17/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Sean Rittinger Purge Start Time: 11:50

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:50 | 0.2 | 7.37 | - | 0.00 | - | 183 | - | 11.25 | - | 7.18 | - | 0 | - | 78 | - | 6.98 | - | |
| 11:55 | 0.2 | 7.28 | 0.09 | 0.00 | 0.0% | 187 | 2.2% | 10.25 | 8.9% | 7.17 | 0.1% | 0.00 | 0.00 | 85 | 7 | 6.89 | 0.09 | |
| 12:00 | 0.2 | 7.19 | 0.09 | 0.00 | 0.0% | 187 | 0.0% | 10.35 | 1.0% | 7.12 | 0.7% | 0.00 | 0.00 | 88 | 3 | 6.95 | 0.06 | |
| 12:05 | 0.2 | 7.23 | 0.04 | 0.00 | 0.0% | 183 | 2.1% | 10.27 | 0.8% | 7.09 | 0.4% | 0.00 | 0.00 | 73 | 15 | 6.95 | 0.00 | |
| 12:10 | 0.2 | 7.11 | 0.12 | 0.00 | 0.0% | 186 | 1.6% | 10.17 | 1.0% | 7.08 | 0.1% | 0.00 | 0.00 | 74 | 1 | 6.95 | 0.00 | |
| 12:15 | 0.2 | 7.18 | 0.07 | 0.00 | 0.0% | 187 | 0.5% | 9.74 | 4.2% | 7.08 | 0.0% | 0.00 | 0.00 | 74 | 0 | 6.95 | 0.00 | |
| 12:20 | 0.2 | 6.94 | 0.24 | 0.00 | 0.0% | 187 | 0.0% | 9.66 | 0.8% | 7.14 | 0.8% | 0.00 | 0.00 | 73 | 1 | 6.95 | 0.00 | |
| 12:25 | | **Missed Reading** | | | | | | | | | | | | | | | | |
| 12:30 | 0.2 | 7.30 | - | 0.657 | - | 32.8 | - | 0.87 | - | 9.80 | - | 0.03 | - | 45 | - | 6.95 | - | |
| 12:35 | 0.2 | 7.38 | 0.08 | 0.652 | 0.8% | 25.3 | 22.9% | 1.03 | 18.4% | 9.97 | 1.7% | 0.03 | 0.00 | 44 | 1 | 6.95 | 0.00 | |
| 12:40 | 0.2 | 7.32 | 0.06 | 0.652 | 0.0% | 20.6 | 18.6% | 0.89 | 13.6% | 10.09 | 1.2% | 0.03 | 0.00 | 43 | 1 | 6.95 | 0.00 | |
| 12:45 | 0.2 | 7.33 | 0.01 | 0.641 | 1.7% | 17.3 | 16.0% | 0.76 | 14.6% | 10.89 | 7.9% | 0.03 | 0.00 | 43 | 0 | 6.95 | 0.00 | |
| 12:50 | 0.2 | 7.35 | 0.02 | 0.641 | 0.0% | 14.8 | 14.5% | 0.79 | 3.9% | 10.93 | 0.4% | 0.03 | 0.00 | 43 | 0 | 6.95 | 0.00 | |
| 12:55 | 0.2 | 7.37 | 0.02 | 0.643 | 0.3% | 12.4 | 16.2% | 0.75 | 5.1% | 10.94 | 0.1% | 0.03 | 0.00 | 43 | 0 | 6.95 | 0.00 | |
| 13:00 | 0.2 | 7.39 | 0.02 | 0.643 | 0.0% | 10.7 | 13.7% | 0.85 | 13.3% | 10.97 | 0.3% | 0.03 | 0.00 | 44 | 1 | 6.95 | 0.00 | |
| 13:05 | 0.2 | 7.41 | 0.02 | 0.644 | 0.2% | 9.6 | 10.3% | 0.87 | 2.4% | 11.05 | 0.7% | 0.03 | 0.00 | 44 | 0 | 6.95 | 0.00 | |
| 13:10 | 0.2 | 7.43 | 0.02 | 0.646 | 0.3% | 9.1 | 5.2% | 0.92 | 5.7% | 10.95 | 0.9% | 0.03 | 0.00 | 45 | 1 | 6.95 | 0.00 | |
| 13:15 | 0.2 | 7.43 | 0.00 | 0.648 | 0.3% | 9.1 | 0.0% | 0.89 | 3.3% | 11.05 | 0.9% | 0.03 | 0.00 | 46 | 1 | 6.95 | 0.00 | |
| 13:20 | 0.2 | 7.43 | 0.00 | 0.648 | 0.0% | 8.8 | 3.3% | 0.86 | 3.4% | 11.12 | 0.6% | 0.03 | 0.00 | 46 | 0 | 6.95 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 6.58 Final Well Depth: 18.65

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 7.5 gallons Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Clear

Sample ID: 073-MW-07-011717 @13:20 Sample ID: 073-MW-07-011717-F @13:25

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged:

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC):

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Other ☑ On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5 ☐

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.13 Time: 10:05 Date: 1/17/2018

Serial Number: 21331 Depth to Bottom of Well: 14.35 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/17/2018

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Ryan O'Leary Purge Start Time: 10:10

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:10 | **0.2** | **7.39** | **-** | **1.62** | **-** | **326.0** | **-** | **0.00** | **-** | **12.19** | **-** | **0.08** | **-** | **-122** | **-** | **6.24** | **-** | |
| 10:15 | **0.2** | **1.02** | **6.37** | **1.65** | **1.9%** | **244.0** | **25.2%** | **0.00** | **0.0%** | **12.89** | **5.7%** | **0.08** | **0.00** | **-114** | **8** | **6.20** | **0.04** | |
| 10:20 | **0.2** | **6.94** | **5.92** | **1.63** | **1.2%** | **132.0** | **45.9%** | **0.00** | **0.0%** | **13.20** | **2.4%** | **0.08** | **0.00** | **-120** | **6** | **6.21** | **0.01** | |
| 10:25 | **0.2** | **6.92** | **0.02** | **1.60** | **1.8%** | **71.1** | **46.1%** | **0.00** | **0.0%** | **13.28** | **0.6%** | **0.08** | **0.00** | **-122** | **2** | **6.19** | **0.02** | |
| 10:30 | **0.2** | **6.92** | **0.00** | **1.61** | **0.6%** | **51.0** | **28.3%** | **0.00** | **0.0%** | **12.69** | **4.4%** | **0.08** | **0.00** | **-121** | **1** | **6.17** | **0.02** | |
| 10:35 | **0.2** | **6.90** | **0.02** | **1.57** | **2.5%** | **17.0** | **66.7%** | **0.00** | **0.0%** | **13.47** | **6.1%** | **0.08** | **0.00** | **-124** | **3** | **6.19** | **0.02** | |
| 10:40 | **0.2** | **6.89** | **0.01** | **1.57** | **0.0%** | **10.8** | **36.5%** | **0.00** | **0.0%** | **13.50** | **0.2%** | **0.08** | **0.00** | **-124** | **0** | **6.19** | **0.00** | |
| 10:45 | **0.2** | **6.88** | **0.01** | **1.57** | **0.0%** | **8.9** | **17.6%** | **0.00** | **0.0%** | **13.52** | **0.1%** | **0.08** | **0.00** | **-125** | **1** | **6.19** | **0.00** | |
| 10:50 | **0.2** | **6.88** | **0.00** | **1.56** | **0.6%** | **7.5** | **15.7%** | **0.00** | **0.0%** | **13.54** | **0.1%** | **0.08** | **0.00** | **-125** | **0** | **6.19** | **0.00** | |
| 10:55 | **0.2** | **6.88** | **0.00** | **1.56** | **0.0%** | **4.7** | **37.3%** | **0.00** | **0.0%** | **13.56** | **0.1%** | **0.08** | **0.00** | **-125** | **0** | **6.21** | **0.02** | |
| 11:00 | **0.2** | **6.87** | **0.01** | **1.56** | **0.0%** | **4.7** | **0.0%** | **0.00** | **0.0%** | **13.57** | **0.1%** | **0.08** | **0.00** | **-125** | **0** | **6.21** | **0.00** | |
| 11:05 | **0.2** | **6.87** | **0.00** | **1.56** | **0.0%** | **4.6** | **2.1%** | **0.00** | **0.0%** | **13.59** | **0.1%** | **0.08** | **0.00** | **-126** | **1** | **6.20** | **0.01** | |
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| 11:10 | **Sample** | **124-MW-12** | | | | | | | | | | | | | | | | |
| 11:15 | **Sample** | **124-MW-12-F** | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 6.13 Final Well Depth: 13.55

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 Liters Odor: None

Well Condition: See well inspection log Other:

Color of GW: Clear

Sample ID: 124-MW-12-011717 @11:10 Sample ID: 124-MW-12-011717-F @11:15

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC):
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ On site treatment system

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 18.83

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.02 Time: 8:20 Date: 1/18/2017
Serial Number: KH32JANO Depth to Bottom of Well: 21.53 PID Reading (inside of Casing): 0
For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean Rittinger Purge Start Time: 8:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:35 | 0.2 | 8.37 | - | 1.15 | - | 1000.0 | - | 8.54 | - | 14.15 | - | 0.6 | - | 191 | - | 8.07 | - | |
| 8:40 | 0.2 | 8.76 | 0.39 | 1.14 | 0.9% | 696.0 | 30.4% | 7.86 | 8.0% | 14.22 | 0.5% | 0.6 | 0.00 | 181 | 10 | 8.07 | 0.00 | |
| 8:45 | 0.2 | 8.97 | 0.21 | 1.15 | 0.9% | 429.0 | 38.4% | 7.20 | 8.4% | 13.99 | 1.6% | 0.60 | 0.00 | 174 | 7 | 8.07 | 0.00 | |
| 8:50 | 0.2 | 9.11 | 0.14 | 1.14 | 0.9% | 237.0 | 44.8% | 6.49 | 9.9% | 13.65 | 2.4% | 0.60 | 0.00 | 167 | 7 | 8.07 | 0.00 | |
| 8:55 | 0.2 | 9.25 | 0.14 | 1.14 | 0.0% | 145.0 | 38.8% | 5.31 | 18.2% | 13.59 | 0.4% | 0.60 | 0.00 | 157 | 10 | 8.07 | 0.00 | |
| 9:00 | 0.2 | 9.27 | 0.02 | 1.14 | 0.0% | 115.0 | 20.7% | 4.81 | 9.4% | 13.52 | 0.5% | 0.60 | 0.00 | 154 | 3 | 8.07 | 0.00 | |
| 9:05 | 0.2 | 9.28 | 0.01 | 1.14 | 0.0% | 91.1 | 20.8% | 4.32 | 10.2% | 13.53 | 0.1% | 0.60 | 0.00 | 150 | 4 | 8.07 | 0.00 | |
| 9:10 | 0.2 | 9.30 | 0.02 | 1.15 | 0.9% | 71.1 | 22.0% | 3.88 | 10.2% | 13.52 | 0.1% | 0.60 | 0.00 | 147 | 3 | 8.07 | 0.00 | |
| 9:15 | 0.2 | 9.30 | 0.00 | 1.15 | 0.0% | 57.5 | 19.1% | 3.54 | 8.8% | 13.51 | 0.1% | 0.60 | 0.00 | 145 | 2 | 8.07 | 0.00 | |
| 9:20 | 0.2 | 9.31 | 0.01 | 1.16 | 0.9% | 49.3 | 14.3% | 3.21 | 9.3% | 13.55 | 0.3% | 0.60 | 0.00 | 142 | 3 | 8.07 | 0.00 | |
| 9:25 | 0.2 | 9.33 | 0.02 | 1.16 | 0.0% | 39.8 | 19.3% | 2.85 | 11.2% | 13.51 | 0.3% | 0.60 | 0.00 | 138 | 4 | 8.07 | 0.00 | |
| 9:30 | 0.2 | 9.33 | 0.00 | 1.16 | 0.0% | 35.4 | 11.1% | 2.69 | 5.6% | 13.47 | 0.3% | 0.60 | 0.00 | 137 | 1 | 8.07 | 0.00 | |
| 9:35 | 0.2 | 9.34 | 0.01 | 1.17 | 0.9% | 30.0 | 15.3% | 2.41 | 10.4% | 13.40 | 0.5% | 0.60 | 0.00 | 135 | 2 | 8.07 | 0.00 | |
| 9:40 | 0.2 | 9.35 | 0.01 | 1.18 | 0.9% | 24.4 | 18.7% | 2.13 | 11.6% | 13.24 | 1.2% | 0.60 | 0.00 | 131 | 4 | 8.07 | 0.00 | |
| 9:45 | 0.2 | 9.37 | 0.02 | 1.18 | 0.0% | 23.3 | 4.5% | 1.92 | 9.9% | 13.27 | 0.2% | 0.60 | 0.00 | 128 | 3 | 8.07 | 0.00 | |
| 9:50 | 0.2 | 9.38 | 0.01 | 1.21 | 2.5% | 20.1 | 13.7% | 0.00 | 100.0% | 13.41 | 1.1% | 0.60 | 0.00 | 125 | 3 | 8.07 | 0.00 | |
| 9:55 | 0.2 | 9.39 | 0.01 | 1.21 | 0.0% | 20.8 | 3.5% | 0.00 | 0.0% | 13.53 | 0.9% | 0.60 | 0.00 | 123 | 2 | 8.07 | 0.00 | |
| 10:00 | 0.2 | 9.4 | 0.01 | 1.22 | 0.8% | 18.5 | 11.1% | 0.00 | 0.0% | 13.57 | 0.3% | 0.60 | 0.00 | 118 | 5 | 8.07 | 0.00 | |
| 10:05 | 0.2 | 9.41 | 0.01 | 1.23 | 0.8% | 16.8 | 9.2% | 0.00 | 0.0% | 13.55 | 0.1% | 0.60 | 0.00 | 116 | 2 | 8.07 | 0.00 | |
| 10:10 | 0.2 | 9.42 | 0.01 | 1.23 | 0.0% | 15.4 | 8.3% | 0.00 | 0.0% | 13.60 | 0.4% | 0.60 | 0.00 | 114 | 2 | 8.07 | 0.00 | |
| 10:15 | 0.2 | 9.44 | 0.02 | 1.23 | 0.0% | 15.4 | 0.0% | 0.00 | 0.0% | 13.69 | 0.7% | 0.60 | 0.00 | 111 | 3 | 8.07 | 0.00 | |
| 10:20 | 0.2 | 9.46 | 0.02 | 1.24 | 0.8% | 14.4 | 6.5% | 0.00 | 0.0% | 13.65 | 0.3% | 0.60 | 0.00 | 108 | 3 | 8.07 | 0.00 | |
| 10:25 | 0.2 | 9.47 | 0.01 | 1.25 | 0.8% | 11.6 | 19.4% | 0.00 | 0.0% | 13.61 | 0.3% | 0.60 | 0.00 | 106 | 2 | 8.07 | 0.00 | |
| 10:30 | 0.2 | 9.48 | 0.01 | 1.25 | 0.0% | 9.8 | 15.5% | 0.00 | 0.0% | 13.70 | 0.7% | 0.60 | 0.00 | 102 | 4 | 8.07 | 0.00 | |
| 10:35 | 0.2 | 9.49 | 0.01 | 1.26 | 0.8% | 9.9 | 1.0% | 0.00 | 0.0% | 13.66 | 0.3% | 0.60 | 0.00 | 100 | 2 | 8.07 | 0.00 | |
| 10:40 | 0.2 | 9.56 | 0.07 | 1.25 | 0.8% | 9.7 | 2.0% | 0.00 | 0.0% | 13.60 | 0.4% | 0.60 | 0.00 | 96 | 4 | 8.07 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 8.04 Final Well Depth: 21.51

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13 gallons Odor: None
Well Condition: See well inspection log Other:
Color of GW: Clear
Sample ID: 073-MW-06-011817 @10:45 Sample ID: 073-MW-06-011817 @10:50

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC):
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Other ☑ On site treatment system
Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.90 Time: 8:40 Date: 1/19/2017
Serial Number: 21331 Depth to Bottom of Well: 17.11 PID Reading (inside of Casing): 0
For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Ryan O'Leary Purge Start Time: 8:45

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:45 | 0.2 | 7.00 | - | 3.79 | - | 632.0 | - | 1.31 | - | 13.99 | - | 0.2 | - | 173 | - | 4.93 | - | |
| 8:50 | 0.2 | 7.01 | 0.01 | 3.79 | 0.0% | 674.0 | 6.6% | 0.68 | 48.1% | 14.01 | 0.1% | 0.2 | 0.00 | 174 | 1 | 4.95 | 0.02 | |
| 8:55 | 0.2 | 7.44 | 0.43 | 4.04 | 6.6% | 372.0 | 44.8% | 0.00 | 100.0% | 15.37 | 9.7% | 0.21 | 0.01 | 72 | 102 | 4.95 | 0.00 | |
| 9:00 | 0.2 | 7.61 | 0.17 | 4.09 | 1.2% | 333.0 | 10.5% | 0.00 | 0.0% | 15.32 | 0.3% | 0.22 | 0.01 | 35 | 37 | 4.95 | 0.00 | |
| 9:05 | 0.2 | 7.76 | 0.15 | 4.06 | 0.7% | 490.0 | 47.1% | 0.00 | 0.0% | 15.38 | 0.4% | 0.21 | 0.01 | -5 | 40 | 4.95 | 0.00 | |
| 9:10 | 0.2 | 7.84 | 0.08 | 4.10 | 1.0% | 261.0 | 46.7% | 0.00 | 0.0% | 15.39 | 0.1% | 0.22 | 0.01 | -25 | 20 | 4.93 | 0.02 | |
| 9:15 | 0.2 | 7.87 | 0.03 | 4.10 | 0.0% | 212.0 | 18.8% | 0.00 | 0.0% | 15.38 | 0.1% | 0.22 | 0.00 | -33 | 8 | 4.93 | 0.00 | |
| 9:20 | 0.2 | 7.90 | 0.03 | 4.10 | 0.0% | 180.0 | 15.1% | 0.00 | 0.0% | 15.33 | 0.3% | 0.22 | 0.00 | -43 | 10 | 4.93 | 0.00 | |
| 9:25 | 0.2 | 7.93 | 0.03 | 4.09 | 0.2% | 174.0 | 3.3% | 0.00 | 0.0% | 15.30 | 0.2% | 0.22 | 0.00 | -47 | 4 | 4.94 | 0.01 | |
| 9:30 | 0.2 | 7.95 | 0.02 | 4.10 | 0.2% | 138.0 | 20.7% | 0.00 | 0.0% | 15.23 | 0.5% | 0.22 | 0.00 | 29 | 76 | 4.95 | 0.01 | |
| 9:35 | 0.2 | 7.96 | 0.01 | 4.09 | 0.2% | 118.0 | 14.5% | 0.00 | 0.0% | 15.20 | 0.2% | 0.22 | 0.00 | -33 | 62 | 4.94 | 0.01 | |
| 9:40 | 0.2 | 7.97 | 0.01 | 4.06 | 0.7% | 98.3 | 16.7% | 0.00 | 0.0% | 15.47 | 1.8% | 0.21 | 0.01 | -45 | 12 | 4.93 | 0.01 | |
| 9:45 | 0.2 | 7.98 | 0.01 | 4.07 | 0.2% | 87.1 | 11.4% | 0.00 | 0.0% | 15.63 | 1.0% | 0.21 | 0.00 | -54 | 9 | 4.93 | 0.00 | |
| 9:50 | 0.2 | 7.97 | 0.01 | 4.13 | 1.5% | 30.3 | 65.2% | 0.00 | 0.0% | 15.79 | 1.0% | 0.22 | 0.01 | -60 | 6 | 4.91 | 0.02 | |
| 9:55 | 0.2 | 7.98 | 0.01 | 4.09 | 1.0% | 24.4 | 19.5% | 0.00 | 0.0% | 15.89 | 0.6% | 0.22 | 0.00 | -67 | 7 | 4.93 | 0.02 | |
| 10:00 | 0.2 | 7.98 | 0.00 | 4.11 | 0.5% | 19.0 | 22.1% | 0.00 | 0.0% | 15.89 | 0.0% | 0.22 | 0.00 | -63 | 4 | 4.95 | 0.02 | |
| 10:05 | 0.2 | 7.98 | 0.00 | 4.11 | 0.0% | 22.0 | 15.8% | 0.00 | 0.0% | 15.71 | 1.1% | 0.22 | 0.00 | -76 | 13 | 4.94 | 0.01 | |
| 10:10 | 0.2 | 7.98 | 0.00 | 4.07 | 1.0% | 24.2 | 10.0% | 0.00 | 0.0% | 15.81 | 0.6% | 0.22 | 0.00 | -78 | 2 | 4.95 | 0.01 | |
| 10:15 | 0.2 | 7.98 | 0.00 | 4.09 | 0.5% | 26.6 | 9.9% | 0.00 | 0.0% | 15.56 | 1.6% | 0.22 | 0.00 | -77 | 1 | 5.00 | 0.05 | |
| 10:20 | 0.2 | 7.98 | 0.00 | 4.06 | 0.7% | 37.2 | 39.8% | 0.00 | 0.0% | 15.49 | 0.4% | 0.22 | 0.00 | -76 | 1 | 5.00 | 0.00 | |
| 10:25 | 0.2 | 7.99 | 0.01 | 4.02 | 1.0% | 40.3 | 8.3% | 0.00 | 0.0% | 15.43 | 0.4% | 0.21 | 0.01 | -60 | 16 | 4.99 | 0.01 | |
| 10:30 | 0.2 | 7.98 | 0.01 | 4.02 | 0.0% | 18.2 | 54.8% | 0.00 | 0.0% | 15.76 | 2.1% | 0.21 | 0.00 | -71 | 11 | 4.97 | 0.02 | |
| 10:35 | 0.2 | 7.98 | 0.00 | 4.07 | 1.2% | 9.2 | 49.5% | 0.00 | 0.0% | 15.74 | 0.1% | 0.21 | 0.00 | -74 | 3 | 4.95 | 0.02 | |
| 10:40 | 0.2 | 7.98 | 0.00 | 4.07 | 0.0% | 9.0 | 2.2% | 0.00 | 0.0% | 15.74 | 0.0% | 0.21 | 0.00 | -73 | 1 | 4.95 | 0.00 | |
| 10:45 | 0.2 | 7.98 | 0.00 | 4.08 | 0.2% | 9.1 | 1.1% | 0.00 | 0.0% | 15.72 | 0.1% | 0.21 | 0.00 | -71 | 2 | 4.93 | 0.02 | |
| | | | | | | | | | | | | | | | | | | |
| 10:50 | Sample | 134-MW-04 | | | | | | | | | | | | | | | | |
| 10:53 | Sample | 134-MW-04-F | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 4.9 Final Well Depth: 17.1

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 Gallons Odor: None
Well Condition: See well inspection log Other:
Color of GW: Clear
Sample ID: 134-MW-04-011917 @10:50 Sample ID: 134-MW-04-011917-F @10:53

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.05 Time: 8:33 Date: 1/19/2017

Serial Number: KH32JANO Depth to Bottom of Well: 18.02 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Sean Rittinger Purge Start Time: 8:42

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:45 | 0.2 | 6.88 | - | 0.947 | - | 231.0 | - | 0.00 | - | 13.38 | - | 0.50 | - | -25 | - | 6.12 | - | |
| 8:50 | 0.2 | 6.92 | 0.04 | 0.933 | 1.5% | 459.0 | 98.7% | 0.00 | 0.0% | 13.51 | 1.0% | 0.50 | 0.00 | -49 | 24 | 6.20 | 0.08 | |
| 8:55 | 0.2 | 7.07 | 0.15 | 0.879 | 5.8% | 399.0 | 13.1% | 0.47 | 0.0% | 13.21 | 2.2% | 0.40 | 0.10 | -62 | 13 | 6.17 | 0.03 | |
| 9:00 | 0.2 | 7.21 | 0.14 | 0.815 | 7.3% | 284.0 | 28.8% | 1.31 | 178.7% | 13.00 | 1.6% | 0.40 | 0.00 | -68 | 6 | 6.16 | 0.01 | |
| 9:05 | 0.2 | 7.41 | 0.20 | 0.755 | 7.4% | 168.0 | 40.8% | 1.94 | 48.1% | 12.74 | 2.0% | 0.40 | 0.00 | -74 | 6 | 6.17 | 0.01 | |
| 9:10 | 0.2 | 7.58 | 0.17 | 0.741 | 1.9% | 110.0 | 34.5% | 1.99 | 2.6% | 12.61 | 1.0% | 0.40 | 0.00 | -82 | 8 | 6.17 | 0.00 | |
| 9:15 | 0.2 | 7.68 | 0.10 | 0.734 | 0.9% | 80.1 | 27.2% | 2.04 | 2.5% | 12.64 | 0.2% | 0.40 | 0.00 | -85 | 3 | 6.15 | 0.02 | |
| 9:20 | 0.2 | 7.78 | 0.10 | 3.745 | 410.2% | 59.5 | 25.7% | 1.91 | 6.4% | 12.63 | 0.1% | 0.40 | 0.00 | -94 | 9 | 6.15 | 0.00 | |
| 9:25 | 0.2 | 7.86 | 0.08 | 0.751 | 79.9% | 50.5 | 15.1% | 1.78 | 6.8% | 12.61 | 0.2% | 0.40 | 0.00 | -98 | 4 | 6.15 | 0.00 | |
| 9:30 | 0.2 | 7.92 | 0.06 | 0.760 | 1.2% | 38.6 | 23.6% | 1.66 | 6.7% | 12.70 | 0.7% | 0.40 | 0.00 | -102 | 4 | 6.15 | 0.00 | |
| 9:35 | 0.2 | 7.99 | 0.07 | 0.739 | 2.8% | 30.4 | 21.2% | 1.94 | 16.9% | 12.60 | 0.8% | 0.40 | 0.00 | -108 | 6 | 6.15 | 0.00 | |
| 9:40 | 0.2 | 8.08 | 0.09 | 0.726 | 1.8% | 23.5 | 22.7% | 2.12 | 9.3% | 12.51 | 0.7% | 0.40 | 0.00 | -113 | 5 | 6.15 | 0.00 | |
| 9:45 | 0.2 | 8.15 | 0.07 | 0.723 | 0.4% | 20.6 | 12.3% | 2.12 | 0.0% | 12.47 | 0.3% | 0.40 | 0.00 | -115 | 2 | 6.15 | 0.00 | |
| 9:50 | 0.2 | 8.21 | 0.06 | 0.737 | 1.9% | 18.1 | 12.1% | 1.99 | 6.1% | 12.57 | 0.8% | 0.40 | 0.00 | -114 | 1 | 6.15 | 0.00 | |
| 9:55 | 0.2 | 8.22 | 0.01 | 0.745 | 1.1% | 16 | 11.6% | 1.89 | 5.0% | 12.61 | 0.3% | 0.40 | 0.00 | -115 | 1 | 6.15 | 0.00 | |
| 10:00 | 0.2 | 8.22 | 0.00 | 0.745 | 0.0% | 14.8 | 7.5% | 1.85 | 2.1% | 12.66 | 0.4% | 0.40 | 0.00 | -115 | 0 | 6.15 | 0.00 | |
| 10:05 | 0.2 | 8.23 | 0.01 | 0.747 | 0.3% | 13.3 | 10.1% | 1.77 | 4.3% | 12.73 | 0.6% | 0.40 | 0.00 | -115 | 0 | 6.15 | 0.00 | |
| 10:10 | 0.2 | 8.27 | 0.04 | 0.752 | 0.7% | 13 | 2.3% | 1.79 | 1.1% | 12.63 | 0.8% | 0.40 | 0.00 | -117 | 2 | 6.15 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 10:15 | Sample | 073-MW-08 | | | | | | | | | | | | | | | | |
| 10:20 | Sample | 073-MW-08-F | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 6.06 Final Well Depth: 18.2

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 9 gals Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Clear

Sample ID: 073-MW-08-011917 @10:15 Sample ID: 073-MW-08-011917-F @10:20

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001

**Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ☐

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC):

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume (Gallons)

Purge Water Disposal: Drum ☐ Type Other ☑ On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.58 Time: 11:01 Date: 1/19/2017

Serial Number: KH32JANO Depth to Bottom of Well: 17.5 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean Rittinger Purge Start Time: 11:06

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:10 | 0.2 | 7.38 | - | 6.38 | - | 1000.0 | - | 11.62 | - | 15.22 | - | 3.40 | - | -56 | - | 5.63 | - | |
| 11:15 | 0.2 | 7.48 | 0.10 | 6.09 | 4.5% | 865.0 | 13.5% | 10.42 | 10.3% | 15.06 | 1.1% | 3.30 | 0.10 | -73 | 17 | 5.63 | 0.00 | |
| 11:20 | 0.2 | 7.57 | 0.09 | 5.86 | 3.8% | 889.0 | 2.8% | 9.41 | 9.7% | 15.27 | 1.4% | 3.20 | 0.10 | -81 | 8 | 5.63 | 0.00 | |
| 11:25 | 0.2 | 7.61 | 0.04 | 5.69 | 2.9% | 791.0 | 11.0% | 8.41 | 10.6% | 15.41 | 0.9% | 3.10 | 0.10 | -88 | 7 | 5.63 | 0.00 | |
| 11:30 | 0.2 | 7.67 | 0.06 | 5.56 | 2.3% | 693.0 | 12.4% | 7.62 | 9.4% | 15.53 | 0.8% | 3.00 | 0.10 | -92 | 4 | 5.63 | 0.00 | |
| 11:35 | 0.2 | 7.64 | 0.03 | 5.48 | 1.4% | 580.0 | 16.3% | 6.94 | 8.9% | 15.59 | 0.4% | 2.90 | 0.10 | -95 | 3 | 5.63 | 0.00 | |
| 11:40 | 0.2 | 7.62 | 0.02 | 5.41 | 1.3% | 512.0 | 11.7% | 6.29 | 9.4% | 15.54 | 0.3% | 2.90 | 0.00 | -98 | 3 | 5.63 | 0.00 | |
| 11:45 | 0.2 | 7.67 | 0.05 | 5.38 | 0.6% | 460.0 | 10.2% | 5.54 | 11.9% | 15.62 | 0.5% | 2.90 | 0.00 | -101 | 3 | 5.63 | 0.00 | |
| 11:50 | 0.2 | 7.72 | 0.05 | 5.34 | 0.7% | 419.0 | 8.9% | 5.08 | 8.3% | 15.64 | 0.1% | 2.90 | 0.00 | -103 | 2 | 5.63 | 0.00 | |
| 12:00 | 0.2 | 7.79 | 0.07 | 5.27 | 1.3% | 344.0 | 17.9% | 4.55 | 10.4% | 15.70 | 0.4% | 2.80 | 0.10 | -105 | 2 | 5.63 | 0.00 | |
| 12:05 | 0.2 | 7.80 | 0.01 | 5.22 | 0.9% | 263.0 | 23.5% | 4.03 | 11.4% | 15.70 | 0.0% | 2.80 | 0.00 | -108 | 3 | 5.63 | 0.00 | |
| 12:10 | 0.2 | 7.81 | 0.01 | 5.17 | 1.0% | 204.0 | 22.4% | 3.60 | 10.7% | 15.72 | 0.1% | 2.80 | 0.00 | -109 | 1 | 5.63 | 0.00 | |
| 12:15 | 0.2 | 7.86 | 0.05 | 5.15 | 0.4% | 163.0 | 20.1% | 3.18 | 11.7% | 15.77 | 0.3% | 2.80 | 0.00 | -111 | 2 | 5.63 | 0.00 | |
| 12:20 | 0.2 | 7.95 | 0.09 | 5.10 | 1.0% | 130.0 | 20.2% | 2.50 | 21.4% | 15.89 | 0.8% | 2.70 | 0.10 | -114 | 3 | 5.63 | 0.00 | |
| 12:25 | 0.2 | 7.96 | 0.01 | 5.16 | 1.2% | 147.0 | 13.1% | 0.00 | 100.0% | 15.74 | 0.9% | 2.80 | 0.10 | -115 | 1 | 5.63 | 0.00 | |
| 12:30 | 0.2 | 7.89 | 0.07 | 5.17 | 0.2% | 116.0 | 21.1% | 0.00 | 0.0% | 15.67 | 0.4% | 2.80 | 0.00 | -116 | 1 | 5.63 | 0.00 | |
| 12:35 | 0.2 | 7.98 | 0.09 | 5.11 | 1.2% | 99.4 | 14.3% | 0.00 | 0.0% | 15.59 | 0.5% | 2.70 | 0.10 | -117 | 1 | 5.63 | 0.00 | |
| 12:40 | 0.2 | 8.02 | 0.04 | 5.14 | 0.6% | 107.0 | 7.6% | 0.00 | 0.0% | 15.54 | 0.3% | 2.80 | 0.10 | -117 | 0 | 5.63 | 0.00 | |
| 12:45 | 0.2 | 8.06 | 0.04 | 5.16 | 0.4% | 79.5 | 25.7% | 0.00 | 0.0% | 15.46 | 0.5% | 2.80 | 0.00 | -116 | 1 | 5.63 | 0.00 | |
| 12:50 | 0.2 | 7.89 | 0.17 | 5.17 | 0.2% | 77.7 | 2.3% | 0.00 | 0.0% | 15.28 | 1.2% | 2.80 | 0.00 | -116 | 0 | 5.63 | 0.00 | |
| 12:55 | 0.2 | 7.89 | 0.00 | 5.11 | 1.2% | 71 | 8.6% | 0.00 | 0.0% | 15.52 | 1.6% | 2.70 | 0.10 | -114 | 2 | 5.63 | 0.00 | |
| 13:00 | 0.2 | 7.94 | 0.05 | 5.14 | 0.6% | 74.2 | 4.5% | 0.00 | 0.0% | 15.31 | 1.4% | 2.8 | 0.10 | -115 | 1 | 5.63 | 0.00 | |
| 13:05 | 0.2 | 8.01 | 0.07 | 5.17 | 0.6% | 71.6 | 3.5% | 0.00 | 0.0% | 15.07 | 1.6% | 2.8 | 0.00 | -117 | 2 | 5.63 | 0.00 | |
| 13:10 | 0.2 | 8.01 | 0.00 | 5.18 | 0.2% | 72.4 | 1.1% | 0.00 | 0.0% | 15.13 | 0.4% | 2.8 | 0.00 | -117 | 0 | 5.63 | 0.00 | |
| 13:15 | 0.2 | 8.02 | 0.01 | 5.18 | 0.0% | 70.6 | 2.5% | 0.00 | 0.0% | 15.17 | 0.3% | 2.8 | 0.00 | -117 | 0 | 5.63 | 0.00 | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 5.61 Final Well Depth: 17.68

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 14 gals

Well Condition: See well inspection log

Color of GW: Clear, Yellow/Brown Tint

Sample ID: 134-MW-03-011917 @13:20

Odor: None

Other: Sample by A. Shust Direction, Hard Bottom

Sample ID: 134-MW-03-011917-F @13:25

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515.6100.610001

**Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.86 Time: 13:20 Date: 1/19/2017

Serial Number: 21331 Depth to Bottom of Well: 13.7 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 1/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: ____ (Signature) Sampled By: Ryan O'Leary Purge Start Time: 13:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:25 | **0.2** | **8.94** | **-** | **0.663** | **-** | **22.2** | **-** | **7.99** | **-** | **9.88** | **-** | **0.03** | **-** | **27** | **-** | **5.60** | **-** | |
| 13:30 | **0.2** | **9.31** | **0.37** | **0.666** | **0.5%** | **8.4** | **62.2%** | **7.93** | **0.8%** | **10.21** | **3.3%** | **0.03** | **0.00** | **25** | **2** | **5.54** | **0.06** | |
| 13:35 | **0.2** | **9.37** | **0.06** | **0.663** | **0.5%** | **10.1** | **20.2%** | **5.66** | **28.6%** | **10.23** | **0.2%** | **0.03** | **0.00** | **26** | **1** | **5.51** | **0.03** | |
| 13:40 | **0.2** | **9.41** | **0.04** | **0.653** | **1.5%** | **4.9** | **51.5%** | **5.03** | **11.1%** | **10.29** | **0.6%** | **0.03** | **0.00** | **29** | **3** | **5.69** | **0.18** | |
| 13:45 | **0.2** | **9.40** | **0.01** | **0.655** | **0.3%** | **2.9** | **40.8%** | **4.29** | **14.7%** | **10.20** | **0.9%** | **0.03** | **0.00** | **32** | **3** | **5.72** | **0.03** | |
| 13:50 | **0.2** | **9.38** | **0.02** | **0.664** | **1.4%** | **2.5** | **13.8%** | **4.24** | **1.2%** | **10.21** | **0.1%** | **0.03** | **0.00** | **34** | **2** | **5.72** | **0.00** | |
| 13:55 | **0.2** | **9.40** | **0.02** | **0.664** | **0.0%** | **0.0** | **100.0%** | **4.23** | **0.2%** | **10.22** | **0.1%** | **0.03** | **0.00** | **33** | **1** | **5.69** | **0.03** | |
| 14:00 | **0.2** | **9.40** | **0.00** | **0.667** | **0.5%** | **0.0** | **0.0%** | **4.22** | **0.2%** | **10.22** | **0.0%** | **0.03** | **0.00** | **33** | **0** | **5.70** | **0.01** | |
| 14:05 | **0.2** | **9.42** | **0.02** | **0.668** | **0.1%** | **0.0** | **0.0%** | **4.21** | **0.2%** | **10.22** | **0.0%** | **0.03** | **0.00** | **32** | **1** | **5.67** | **0.03** | |
| | | | | | | | | | | | | | | | | | | |
| 14:10 | **Sample** | **140-MW-10** | | | | | | | | | | | | | | | | |
| 14:13 | **Sample** | **140-MW-10-F** | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Level: 5.73 Final Well Depth: 13.91

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 4 gals Odor: None

Well Condition: See well inspection log Other: ____

Color of GW: Clear

Sample ID: 140-MW-10-011917 @14:10 Sample ID: 140-MW-10-011917-F @14:13

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 21.50

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 19.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.90 Time: 8:20 Date: 12/27/2017

Serial Number: 21282 Depth to Bottom of Well: 21.50 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/27/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 8:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:30 | **0.25** | **7.87** | **-** | **2.10** | **-** | **274** | **-** | **0.00** | **-** | **13.57** | **-** | **0.11** | **-** | **-41** | **-** | **9.30** | **-** | |
| 8:35 | **0.25** | **7.82** | **0.05** | **2.37** | **12.9%** | **126** | **54.0%** | **0.00** | **0.0%** | **13.36** | **1.5%** | **0.12** | **0.01** | **-41** | **0** | **9.30** | **0.00** | |
| 8:40 | **0.25** | **7.73** | **0.09** | **3.15** | **32.9%** | **70.3** | **44.2%** | **0.00** | **0.0%** | **13.42** | **0.4%** | **0.15** | **0.03** | **-60** | **19** | **9.35** | **0.05** | |
| 8:45 | **0.25** | **7.68** | **0.05** | **2.30** | **27.0%** | **54.1** | **23.0%** | **0.00** | **0.0%** | **13.58** | **1.2%** | **0.17** | **0.02** | **-70** | **10** | **9.35** | **0.00** | |
| 8:50 | **0.25** | **7.67** | **0.01** | **3.60** | **56.5%** | **36.5** | **32.5%** | **0.00** | **0.0%** | **13.31** | **2.0%** | **0.18** | **0.01** | **-74** | **4** | **9.35** | **0.00** | |
| 8:55 | **0.25** | **7.65** | **0.02** | **3.94** | **9.4%** | **23.4** | **35.9%** | **0.00** | **0.0%** | **13.05** | **2.0%** | **0.19** | **0.01** | **-76** | **2** | **9.35** | **0.00** | |
| 9:00 | **0.25** | **7.64** | **0.01** | **4.15** | **5.3%** | **17.8** | **23.9%** | **0.00** | **0.0%** | **12.98** | **0.5%** | **0.21** | **0.02** | **-79** | **3** | **9.35** | **0.00** | |
| 9:05 | **0.25** | **7.64** | **0.00** | **4.20** | **1.2%** | **12.4** | **30.3%** | **0.00** | **0.0%** | **12.96** | **0.2%** | **0.22** | **0.01** | **-79** | **0** | **9.35** | **0.00** | |
| 9:10 | **0.25** | **7.63** | **0.01** | **4.32** | **2.9%** | **10.1** | **18.5%** | **0.00** | **0.0%** | **12.93** | **0.2%** | **0.23** | **0.01** | **-81** | **2** | **9.35** | **0.00** | |
| 9:15 | **0.25** | **7.64** | **0.01** | **4.37** | **1.2%** | **8.4** | **16.8%** | **0.00** | **0.0%** | **13.13** | **1.5%** | **0.23** | **0.00** | **-82** | **1** | **9.35** | **0.00** | |
| 9:20 | **0.25** | **7.64** | **0.00** | **4.36** | **0.2%** | **8.1** | **3.6%** | **0.00** | **0.0%** | **13.13** | **0.0%** | **0.23** | **0.00** | **-84** | **2** | **9.35** | **0.00** | |
| 9:25 | **0.25** | **7.64** | **0.00** | **4.35** | **0.2%** | **8.2** | **1.2%** | **0.00** | **0.0%** | **13.09** | **0.3%** | **0.23** | **0.00** | **-85** | **1** | **9.35** | **0.00** | |
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| 9:30 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.75 L Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 073-MW-06-122717 @ 9:30 Sample ID: 073-MW-06-122717F @ 9:35

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.45

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ ² x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.92 Time: 10:15 Date: 12/27/2017

Serial Number: 21282 Depth to Bottom of Well: 18.45 PID Reading (inside of Casing): 50.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/27/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 10:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:25 | **0.25** | **7.16** | **-** | **0.270** | **-** | **345** | **-** | **0.00** | **-** | **11.41** | **-** | **0.01** | **-** | **154** | **-** | **7.45** | **-** | |
| 10:30 | **0.25** | **7.04** | **0.12** | **0.271** | **0.4%** | **140** | **59.4%** | **0.00** | **0.0%** | **11.40** | **0.1%** | **0.01** | **0.00** | **156** | **2** | **7.45** | **0.00** | |
| 10:35 | **0.25** | **6.91** | **0.13** | **0.273** | **0.7%** | **87.5** | **37.5%** | **0.00** | **0.0%** | **11.37** | **0.3%** | **0.01** | **0.00** | **160** | **4** | **7.45** | **0.00** | |
| 10:40 | **0.25** | **6.85** | **0.06** | **0.274** | **0.4%** | **79.5** | **9.1%** | **0.00** | **0.0%** | **11.36** | **0.1%** | **0.01** | **0.00** | **165** | **5** | **7.45** | **0.00** | |
| 10:45 | **0.25** | **6.83** | **0.02** | **0.276** | **0.7%** | **68.1** | **14.3%** | **0.00** | **0.0%** | **11.33** | **0.3%** | **0.01** | **0.00** | **165** | **0** | **7.45** | **0.00** | |
| 10:50 | **0.25** | **6.82** | **0.01** | **0.277** | **0.4%** | **44.3** | **34.9%** | **0.00** | **0.0%** | **11.29** | **0.4%** | **0.01** | **0.00** | **164** | **1** | **7.45** | **0.00** | |
| 10:55 | **0.25** | **6.78** | **0.04** | **0.279** | **0.7%** | **36.8** | **16.9%** | **0.00** | **0.0%** | **11.25** | **0.4%** | **0.01** | **0.00** | **164** | **0** | **7.55** | **0.10** | |
| 11:00 | **0.25** | **6.79** | **0.01** | **0.280** | **0.4%** | **24.8** | **32.6%** | **0.00** | **0.0%** | **11.20** | **0.4%** | **0.01** | **0.00** | **160** | **4** | **7.60** | **0.05** | |
| 11:05 | **0.25** | **6.80** | **0.01** | **0.282** | **0.7%** | **12.5** | **49.6%** | **0.00** | **0.0%** | **11.14** | **0.5%** | **0.01** | **0.00** | **159** | **1** | **7.65** | **0.05** | |
| 11:10 | **0.25** | **6.80** | **0.00** | **0.284** | **0.7%** | **11.4** | **8.8%** | **0.00** | **0.0%** | **11.09** | **0.4%** | **0.01** | **0.00** | **158** | **1** | **7.75** | **0.10** | |
| 11:15 | **0.25** | **6.80** | **0.00** | **0.285** | **0.4%** | **10.2** | **10.5%** | **0.00** | **0.0%** | **10.85** | **2.2%** | **0.01** | **0.00** | **157** | **1** | **7.75** | **0.00** | |
| 11:20 | **0.25** | **6.81** | **0.01** | **0.286** | **0.4%** | **9.0** | **11.8%** | **0.00** | **0.0%** | **10.76** | **0.8%** | **0.01** | **0.00** | **155** | **2** | **7.80** | **0.05** | |
| 11:25 | **0.25** | **6.81** | **0.00** | **0.287** | **0.3%** | **9.1** | **1.1%** | **0.00** | **0.0%** | **10.69** | **0.7%** | **0.01** | **0.00** | **154** | **1** | **7.80** | **0.00** | |
| 11:30 | **0.25** | **6.81** | **0.00** | **0.287** | **0.0%** | **9.4** | **3.3%** | **0.00** | **0.0%** | **10.65** | **0.4%** | **0.01** | **0.00** | **154** | **0** | **7.80** | **0.00** | |
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| 11:35 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 16.25 L Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 073-MW-07-122717 @ 11:35 Sample ID: 073-MW-07-122717F @ 11:40

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.20

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.15 Time: 12:20 Date: 12/27/2017

Serial Number: 21282 Depth to Bottom of Well: 18.20 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/27/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 12:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 12:30 | **0.25** | **7.14** | **-** | **0.737** | **-** | **200** | **-** | **0.00** | **-** | **12.25** | **-** | **0.04** | **-** | **-58** | **-** | **7.22** | **-** | |
| 12:35 | **0.25** | **7.09** | **0.05** | **0.674** | **8.5%** | **130** | **35.0%** | **0.00** | **0.0%** | **12.91** | **5.4%** | **0.04** | **0.00** | **-54** | **4** | **7.25** | **0.03** | |
| 12:40 | **0.25** | **7.14** | **0.05** | **0.655** | **2.8%** | **84.5** | **35.0%** | **0.00** | **0.0%** | **12.40** | **4.0%** | **0.03** | **0.01** | **-67** | **13** | **7.25** | **0.00** | |
| 12:45 | **0.25** | **7.23** | **0.09** | **0.637** | **2.7%** | **67.5** | **20.1%** | **0.00** | **0.0%** | **12.02** | **3.1%** | **0.03** | **0.00** | **-78** | **11** | **7.30** | **0.05** | |
| 12:50 | **0.25** | **7.32** | **0.09** | **0.624** | **2.0%** | **27.9** | **58.7%** | **0.00** | **0.0%** | **12.86** | **7.0%** | **0.03** | **0.00** | **-119** | **41** | **7.30** | **0.00** | |
| 12:55 | **0.25** | **7.39** | **0.07** | **0.625** | **0.2%** | **21.4** | **23.3%** | **0.00** | **0.0%** | **12.78** | **0.6%** | **0.03** | **0.00** | **-136** | **17** | **7.30** | **0.00** | |
| 13:00 | **0.25** | **7.48** | **0.09** | **0.627** | **0.3%** | **14.1** | **34.1%** | **0.00** | **0.0%** | **12.72** | **0.5%** | **0.03** | **0.00** | **-150** | **14** | **7.30** | **0.00** | |
| 13:05 | **0.25** | **7.52** | **0.04** | **0.629** | **0.3%** | **11.3** | **19.9%** | **0.00** | **0.0%** | **12.69** | **0.2%** | **0.03** | **0.00** | **-159** | **9** | **7.30** | **0.00** | |
| 13:10 | **0.25** | **7.53** | **0.01** | **0.626** | **0.5%** | **7.8** | **31.0%** | **0.00** | **0.0%** | **12.59** | **0.8%** | **0.03** | **0.00** | **-177** | **18** | **7.35** | **0.05** | |
| 13:15 | **0.25** | **7.54** | **0.01** | **0.624** | **0.3%** | **7.4** | **5.1%** | **0.00** | **0.0%** | **12.53** | **0.5%** | **0.03** | **0.00** | **-180** | **3** | **7.35** | **0.00** | |
| 13:20 | **0.25** | **7.56** | **0.02** | **0.625** | **0.2%** | **7.3** | **1.4%** | **0.00** | **0.0%** | **12.55** | **0.2%** | **0.03** | **0.00** | **-184** | **4** | **7.35** | **0.00** | |
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| 13:25 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12.5 L Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 073-MW-08-122717 @ 13:25 Sample ID: 073-MW-08-122717F @ 13:30

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.58

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.95 Time: 8:52 Date: 12/26/2017

Serial Number: 21364 Depth to Bottom of Well: 13.58 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/28/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 9:32

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:40 | **0.25** | **6.90** | **-** | **1.26** | **-** | **173** | **-** | **0.00** | **-** | **13.11** | **-** | **0.60** | **-** | **-136** | **-** | **7.09** | **-** | |
| 9:45 | **0.25** | **6.89** | **0.01** | **1.28** | **1.6%** | **229** | **32.4%** | **0.00** | **0.0%** | **13.32** | **1.6%** | **0.60** | **0.00** | **-139** | **3** | **7.06** | **0.03** | |
| 9:50 | **0.25** | **6.86** | **0.03** | **1.44** | **12.5%** | **113** | **50.7%** | **0.00** | **0.0%** | **13.40** | **0.6%** | **0.70** | **0.10** | **-138** | **1** | **7.06** | **0.00** | |
| 9:55 | **0.25** | **6.83** | **0.03** | **1.46** | **1.4%** | **127** | **12.4%** | **0.00** | **0.0%** | **13.36** | **0.3%** | **0.70** | **0.00** | **-137** | **1** | **7.06** | **0.00** | |
| 10:00 | **0.25** | **6.82** | **0.01** | **1.47** | **0.7%** | **57.4** | **54.8%** | **0.00** | **0.0%** | **13.47** | **0.8%** | **0.70** | **0.00** | **-137** | **0** | **7.06** | **0.00** | |
| 10:05 | **0.25** | **6.81** | **0.01** | **1.47** | **0.0%** | **35.6** | **38.0%** | **0.00** | **0.0%** | **13.41** | **0.4%** | **0.70** | **0.00** | **-137** | **0** | **7.06** | **0.00** | |
| 10:10 | **0.25** | **6.80** | **0.01** | **1.47** | **0.0%** | **17.2** | **51.7%** | **0.00** | **0.0%** | **13.39** | **0.1%** | **0.70** | **0.00** | **-137** | **0** | **7.06** | **0.00** | |
| 10:15 | **0.25** | **6.80** | **0.00** | **1.46** | **0.7%** | **18.0** | **4.7%** | **0.00** | **0.0%** | **13.49** | **0.7%** | **0.70** | **0.00** | **-137** | **0** | **7.06** | **0.00** | |
| 10:20 | **0.25** | **6.80** | **0.00** | **1.46** | **0.0%** | **8.9** | **50.6%** | **0.00** | **0.0%** | **13.46** | **0.2%** | **0.70** | **0.00** | **-139** | **2** | **7.06** | **0.00** | |
| 10:25 | **0.25** | **6.80** | **0.00** | **1.46** | **0.0%** | **8.2** | **7.9%** | **0.00** | **0.0%** | **13.53** | **0.5%** | **0.70** | **0.00** | **-140** | **1** | **7.06** | **0.00** | |
| 10:30 | **0.25** | **6.80** | **0.00** | **1.45** | **0.7%** | **4.5** | **45.1%** | **0.00** | **0.0%** | **13.48** | **0.4%** | **0.70** | **0.00** | **-141** | **1** | **7.06** | **0.00** | |
| 10:35 | **0.25** | **6.80** | **0.00** | **1.45** | **0.0%** | **5.2** | **15.6%** | **0.00** | **0.0%** | **13.48** | **0.0%** | **0.70** | **0.00** | **-141** | **0** | **7.06** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 9 gal Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 124-MW-12-122817 @ 10:40 Sample ID: 124-MW-12-122817F @ 10:45

amec foster wheeler

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.00

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 13.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.52 Time: 8:49 Date: 12/26/2017

Serial Number: 21364 Depth to Bottom of Well: 15.00 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/27/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 13:00

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:05 | **0.25** | **12.43** | **-** | **5.06** | **-** | **112** | **-** | **2.54** | **-** | **10.50** | **-** | **2.7** | **-** | **-234** | **-** | **5.69** | **-** | |
| 13:10 | **0.25** | **12.04** | **0.39** | **2.22** | **56.1%** | **92.9** | **17.1%** | **2.12** | **16.5%** | **10.76** | **2.5%** | **1.0** | **1.70** | **-185** | **49** | **5.69** | **0.00** | |
| 13:15 | **0.25** | **11.43** | **0.61** | **1.12** | **49.5%** | **44.9** | **51.7%** | **2.19** | **3.3%** | **10.54** | **2.0%** | **0.6** | **0.40** | **-145** | **40** | **5.68** | **0.01** | |
| 13:20 | **0.25** | **11.27** | **0.16** | **1.10** | **1.8%** | **21.5** | **52.1%** | **1.50** | **31.5%** | **10.64** | **0.9%** | **0.5** | **0.10** | **-142** | **3** | **5.68** | **0.00** | |
| 13:25 | **0.25** | **11.16** | **0.11** | **1.09** | **0.9%** | **15.1** | **29.8%** | **1.22** | **18.7%** | **10.68** | **0.4%** | **0.5** | **0.00** | **-140** | **2** | **5.76** | **0.08** | |
| 13:30 | **0.25** | **11.12** | **0.04** | **1.01** | **7.3%** | **9.9** | **34.4%** | **1.01** | **17.2%** | **10.69** | **0.1%** | **0.5** | **0.00** | **-138** | **2** | **5.83** | **0.07** | |
| 13:35 | **0.25** | **11.03** | **0.09** | **1.07** | **5.9%** | **7.9** | **20.2%** | **0.83** | **17.8%** | **10.78** | **0.8%** | **0.5** | **0.00** | **-135** | **3** | **5.87** | **0.04** | |
| 13:40 | **0.25** | **10.96** | **0.07** | **1.06** | **0.9%** | **7.7** | **2.5%** | **0.78** | **6.0%** | **10.69** | **0.8%** | **0.5** | **0.00** | **-131** | **4** | **5.91** | **0.04** | |
| 13:45 | **0.25** | **10.92** | **0.04** | **1.06** | **0.0%** | **6.0** | **22.1%** | **0.72** | **7.7%** | **10.78** | **0.8%** | **0.5** | **0.00** | **-130** | **1** | **5.92** | **0.01** | |
| 13:50 | **0.25** | **10.91** | **0.01** | **1.05** | **0.9%** | **5.6** | **6.7%** | **0.69** | **4.2%** | **10.79** | **0.1%** | **0.5** | **0.00** | **-130** | **0** | **5.93** | **0.01** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 4.5 gal Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 124-MW-13-122717 @ 13:55 Sample ID: 124-MW-13-122717F @ 14:00

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.10

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ ² x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 11.8

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 3.70 Time: 9:35 Date: 12/26/2017

Serial Number: 21282 Depth to Bottom of Well: 13.10 PID Reading (inside of Casing): 0.3

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/26/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 9:40

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:45 | 0.2 | 6.51 | - | 4.37 | - | 200 | - | 0.00 | - | 15.21 | - | 0.23 | - | -48 | - | 3.80 | - | |
| 9:50 | 0.2 | 6.50 | 0.01 | 4.02 | 8.0% | 59.2 | 70.4% | 0.00 | 0.0% | 15.70 | 3.2% | 0.21 | 0.02 | -71 | 23 | 3.80 | 0.00 | |
| 9:55 | 0.2 | 6.52 | 0.02 | 4.35 | 8.2% | 41.4 | 30.1% | 0.00 | 0.0% | 14.60 | 7.0% | 0.22 | 0.01 | -67 | 4 | 3.80 | 0.00 | |
| 10:00 | 0.2 | 6.55 | 0.03 | 4.52 | 3.9% | 32.7 | 21.0% | 0.00 | 0.0% | 14.14 | 3.2% | 0.24 | 0.02 | -64 | 3 | 3.80 | 0.00 | |
| 10:05 | 0.2 | 6.51 | 0.04 | 4.57 | 1.1% | 19.8 | 39.4% | 0.00 | 0.0% | 14.50 | 2.5% | 0.25 | 0.01 | -59 | 5 | 3.80 | 0.00 | |
| 10:10 | 0.2 | 6.48 | 0.03 | 4.63 | 1.3% | 11.4 | 42.4% | 0.00 | 0.0% | 14.75 | 1.7% | 0.25 | 0.00 | -55 | 4 | 3.80 | 0.00 | |
| 10:15 | 0.2 | 6.49 | 0.01 | 4.73 | 2.2% | 10.1 | 11.4% | 0.00 | 0.0% | 13.93 | 5.6% | 0.25 | 0.00 | -51 | 4 | 3.80 | 0.00 | |
| 10:20 | 0.2 | 6.50 | 0.01 | 4.67 | 1.3% | 8.8 | 12.9% | 0.00 | 0.0% | 14.30 | 2.7% | 0.24 | 0.01 | -50 | 1 | 3.80 | 0.00 | |
| 10:25 | 0.2 | 6.50 | 0.00 | 4.63 | 0.9% | 8.4 | 4.5% | 0.00 | 0.0% | 14.95 | 4.5% | 0.24 | 0.00 | -49 | 1 | 3.80 | 0.00 | |
| 10:30 | 0.2 | 6.53 | 0.03 | 4.61 | 0.4% | 8.2 | 2.4% | 0.00 | 0.0% | 15.01 | 0.4% | 0.24 | 0.00 | -53 | 4 | 3.80 | 0.00 | |
| 10:35 | 0.2 | 6.52 | 0.01 | 4.62 | 0.2% | 8.3 | 1.2% | 0.00 | 0.0% | 15.15 | 0.9% | 0.24 | 0.00 | -56 | 3 | 3.80 | 0.00 | |
| 10:40 | 0.2 | 6.53 | 0.01 | 4.60 | 0.4% | 8.1 | 2.4% | 0.00 | 0.0% | 14.96 | 1.3% | 0.24 | 0.00 | -55 | 1 | 3.80 | 0.00 | |
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| 10:45 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 11 L Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 125-MW-02-122617 @ 10:45 125-MW-02-122617F @ 10:50 Sample ID: 125-FB-122617 @ 9:30

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 13.50
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ On site treatment facility

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.60 Time: 8:54 Date: 12/26/2017
Serial Number: 21364 Depth to Bottom of Well: 13.50 PID Reading (inside of Casing): 23.7
For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/26/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 9:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:30 | **0.25** | **8.34** | **-** | **0.274** | **-** | **34.7** | **-** | **7.34** | **-** | **6.92** | **-** | **0.1** | **-** | **223** | **-** | **5.79** | **-** | |
| 9:35 | **0.25** | **8.39** | **0.05** | **0.291** | **6.2%** | **32.5** | **6.3%** | **6.52** | **11.2%** | **6.57** | **5.1%** | **0.1** | **0.00** | **234** | **11** | **5.79** | **0.00** | |
| 9:40 | **0.25** | **8.35** | **0.04** | **0.341** | **17.2%** | **19.3** | **40.6%** | **5.71** | **12.4%** | **6.56** | **0.2%** | **0.2** | **0.10** | **224** | **10** | **5.79** | **0.00** | |
| 9:45 | **0.25** | **8.32** | **0.03** | **0.355** | **4.1%** | **17.4** | **9.8%** | **5.31** | **7.0%** | **6.35** | **3.2%** | **0.2** | **0.00** | **223** | **1** | **5.79** | **0.00** | |
| 9:50 | **0.25** | **8.29** | **0.03** | **0.363** | **2.3%** | **9.2** | **47.1%** | **5.44** | **2.4%** | **7.81** | **23.0%** | **0.2** | **0.00** | **223** | **0** | **5.79** | **0.00** | |
| 9:55 | **0.25** | **8.29** | **0.00** | **0.404** | **11.3%** | **5.6** | **39.1%** | **5.03** | **7.5%** | **7.50** | **4.0%** | **0.2** | **0.00** | **216** | **7** | **5.79** | **0.00** | |
| 10:00 | **0.25** | **8.26** | **0.03** | **0.411** | **1.7%** | **4.3** | **23.2%** | **4.44** | **11.7%** | **7.30** | **2.7%** | **0.2** | **0.00** | **215** | **1** | **5.79** | **0.00** | |
| 10:05 | **0.25** | **8.27** | **0.01** | **0.420** | **2.2%** | **3.1** | **27.9%** | **4.14** | **6.8%** | **7.38** | **1.1%** | **0.2** | **0.00** | **209** | **6** | **5.79** | **0.00** | |
| 10:10 | **0.25** | **8.27** | **0.00** | **0.431** | **2.6%** | **2.5** | **19.4%** | **3.95** | **4.6%** | **7.39** | **0.1%** | **0.2** | **0.00** | **202** | **7** | **5.79** | **0.00** | |
| 10:15 | **0.25** | **8.28** | **0.01** | **0.440** | **2.1%** | **2.5** | **0.0%** | **3.65** | **7.6%** | **7.41** | **0.3%** | **0.2** | **0.00** | **200** | **2** | **5.79** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 5 gal
Well Condition: See well inspection log
Color of GW: Clear
Sample ID: 125-MW-03-122617 @ 10:20 125-MW-03-122617F @ 10:25
125-MW-03-122617FA @ 10:30 125-MW-03-122617DP @10:20

Odor: None
Other: -
Sample ID: 125-MW-03-122617FDP @ 10:25
125-MW-03-122617FADP @ 10:30

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.40

Screen Interval in Feet (BTOC) from 2 to 17

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.74 Time: 9:01 Date: 12/26/2017

Serial Number: 21364 Depth to Bottom of Well: 17.40 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/27/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 8:40

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:00 | 0.3 | 6.88 | - | 5.38 | - | 546 | - | 0.00 | - | 13.33 | - | 2.9 | - | -117 | - | 6.78 | - | |
| 9:05 | 0.3 | 6.87 | 0.01 | 5.47 | 1.7% | 300 | 45.1% | 0.00 | 0.0% | 13.75 | 3.2% | 2.9 | 0.00 | -131 | 14 | 6.78 | 0.00 | |
| 9:10 | 0.3 | 6.86 | 0.01 | 5.53 | 1.1% | 217 | 27.7% | 0.00 | 0.0% | 13.91 | 1.2% | 3.0 | 0.10 | -138 | 7 | 6.78 | 0.00 | |
| 9:15 | 0.3 | 6.86 | 0.00 | 5.58 | 0.9% | 191 | 12.0% | 0.00 | 0.0% | 13.74 | 1.2% | 3.0 | 0.00 | -141 | 3 | 6.78 | 0.00 | |
| 9:20 | 0.3 | 6.86 | 0.00 | 5.58 | 0.0% | 187 | 2.1% | 0.00 | 0.0% | 13.89 | 1.1% | 3.0 | 0.00 | -145 | 4 | 6.78 | 0.00 | |
| 9:25 | 0.3 | 6.86 | 0.00 | 5.63 | 0.9% | 195 | 4.3% | 0.00 | 0.0% | 13.80 | 0.6% | 3.0 | 0.00 | -146 | 1 | 6.78 | 0.00 | |
| 9:30 | 0.3 | 6.87 | 0.01 | 5.66 | 0.5% | 196 | 0.5% | 0.00 | 0.0% | 14.03 | 1.7% | 3.0 | 0.00 | -149 | 3 | 6.78 | 0.00 | |
| 9:35 | 0.3 | 6.88 | 0.01 | 5.65 | 0.2% | 140 | 28.6% | 0.00 | 0.0% | 14.18 | 1.1% | 3.0 | 0.00 | -151 | 2 | 6.78 | 0.00 | |
| 9:40 | 0.3 | 6.89 | 0.01 | 5.68 | 0.5% | 160 | 14.3% | 0.00 | 0.0% | 13.99 | 1.3% | 3.1 | 0.10 | -153 | 2 | 6.78 | 0.00 | |
| 9:45 | 0.3 | 6.91 | 0.02 | 5.67 | 0.2% | 139 | 13.1% | 0.00 | 0.0% | 14.11 | 0.9% | 3.1 | 0.00 | -157 | 4 | 6.78 | 0.00 | |
| 9:50 | 0.3 | 6.92 | 0.01 | 5.61 | 1.1% | 115 | 17.3% | 0.00 | 0.0% | 14.10 | 0.1% | 3.0 | 0.10 | -159 | 2 | 6.78 | 0.00 | |
| 9:55 | 0.3 | 6.93 | 0.01 | 5.65 | 0.7% | 94.6 | 17.7% | 0.00 | 0.0% | 14.11 | 0.1% | 3.0 | 0.00 | -160 | 1 | 6.78 | 0.00 | |
| 10:00 | 0.3 | 6.94 | 0.01 | 5.62 | 0.5% | 102 | 7.8% | 0.00 | 0.0% | 13.94 | 1.2% | 3.0 | 0.00 | -163 | 3 | 6.78 | 0.00 | |
| 10:05 | 0.3 | 6.95 | 0.01 | 5.62 | 0.0% | 135 | 32.4% | 0.00 | 0.0% | 13.81 | 0.9% | 3.0 | 0.00 | -163 | 0 | 6.78 | 0.00 | |
| 10:10 | 0.3 | 6.97 | 0.02 | 5.58 | 0.7% | 151 | 11.9% | 0.00 | 0.0% | 12.61 | 8.7% | 3.0 | 0.00 | -163 | 0 | 6.78 | 0.00 | |
| 10:15 | 0.3 | 6.97 | 0.00 | 5.62 | 0.7% | 147 | 2.6% | 0.00 | 0.0% | 11.5 | 8.8% | 3.0 | 0.00 | -161 | 2 | 6.78 | 0.00 | |
| 10:20 | 0.3 | 6.97 | 0.00 | 5.57 | 0.9% | 235 | 59.9% | 0.00 | 0.0% | 11.7 | 1.7% | 3.0 | 0.00 | -159 | 2 | 6.78 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 gal Odor: None

Well Condition: See well inspection log Other: Instructed to sample by A. Shust

Color of GW: Clear, brown tint

Sample ID: 134-MW-03-122717 @ 10:25 Sample ID: 134-MW-03-122717F @ 10:30

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 16.90

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.01 Time: 8:43 Date: 12/26/2017

Serial Number: 21364 Depth to Bottom of Well: 16.90 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/27/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 10:50

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:00 | 0.35 | 7.79 | - | 3.41 | - | 205 | - | 1.23 | - | 14.15 | - | 1.8 | - | -65 | - | 6.03 | - | |
| 11:05 | 0.35 | 7.83 | 0.04 | 3.35 | 1.8% | 261 | 27.3% | 0.00 | 100.0% | 14.51 | 2.5% | 1.7 | 0.10 | -101 | 36 | 6.03 | 0.00 | |
| 11:10 | 0.35 | 7.87 | 0.04 | 3.33 | 0.6% | 317 | 21.5% | 0.00 | 0.0% | 14.92 | 2.8% | 1.7 | 0.00 | -119 | 18 | 6.03 | 0.00 | |
| 11:15 | 0.35 | 7.90 | 0.03 | 3.34 | 0.3% | 320 | 0.9% | 0.00 | 0.0% | 15.25 | 2.2% | 1.7 | 0.00 | -126 | 7 | 6.03 | 0.00 | |
| 11:20 | 0.35 | 7.91 | 0.01 | 3.33 | 0.3% | 287 | 10.3% | 0.00 | 0.0% | 15.38 | 0.9% | 1.7 | 0.00 | -129 | 3 | 6.03 | 0.00 | |
| 11:25 | 0.35 | 7.92 | 0.01 | 3.33 | 0.0% | 239 | 16.7% | 0.00 | 0.0% | 15.35 | 0.2% | 1.7 | 0.00 | -138 | 9 | 6.03 | 0.00 | |
| 11:30 | 0.35 | 7.92 | 0.00 | 3.33 | 0.0% | 206 | 13.8% | 0.00 | 0.0% | 15.26 | 0.6% | 1.7 | 0.00 | -141 | 3 | 6.03 | 0.00 | |
| 11:35 | 0.35 | 7.93 | 0.01 | 3.34 | 0.3% | 174 | 15.5% | 0.00 | 0.0% | 15.29 | 0.2% | 1.7 | 0.00 | -143 | 2 | 6.03 | 0.00 | |
| 11:40 | 0.35 | 7.93 | 0.00 | 3.34 | 0.0% | 145 | 16.7% | 0.00 | 0.0% | 15.37 | 0.5% | 1.7 | 0.00 | -145 | 2 | 6.03 | 0.00 | |
| 11:45 | 0.35 | 7.92 | 0.01 | 3.35 | 0.3% | 146 | 0.7% | 0.00 | 0.0% | 15.17 | 1.3% | 1.7 | 0.00 | -143 | 2 | 6.03 | 0.00 | |
| 11:50 | 0.35 | 7.92 | 0.00 | 3.36 | 0.3% | 116 | 20.5% | 0.00 | 0.0% | 15.38 | 1.4% | 1.7 | 0.00 | -146 | 3 | 6.03 | 0.00 | |
| 11:55 | 0.35 | 7.92 | 0.00 | 3.37 | 0.3% | 91.2 | 21.4% | 0.00 | 0.0% | 15.47 | 0.6% | 1.7 | 0.00 | -149 | 3 | 6.03 | 0.00 | |
| 12:00 | 0.35 | 7.92 | 0.00 | 3.36 | 0.3% | 72.9 | 20.1% | 0.00 | 0.0% | 15.6 | 0.8% | 1.7 | 0.00 | -150 | 1 | 6.03 | 0.00 | |
| 12:05 | 0.35 | 7.92 | 0.00 | 3.37 | 0.3% | 55.0 | 24.6% | 0.00 | 0.0% | 15.54 | 0.4% | 1.8 | 0.10 | -153 | 3 | 6.03 | 0.00 | |
| 12:10 | 0.35 | 7.93 | 0.01 | 3.37 | 0.0% | 56.3 | 2.4% | 0.00 | 0.0% | 15.48 | 0.4% | 1.8 | 0.00 | -155 | 2 | 6.03 | 0.00 | |
| 12:15 | 0.35 | 7.93 | 0.00 | 3.37 | 0.0% | 60.5 | 7.5% | 0.00 | 0.0% | 15.42 | 0.4% | 1.8 | 0.00 | -156 | 1 | 6.03 | 0.00 | |
| 12:20 | 0.35 | 7.93 | 0.00 | 3.37 | 0.0% | 48.7 | 19.5% | 0.00 | 0.0% | 15.45 | 0.2% | 1.8 | 0.00 | -158 | 2 | 6.03 | 0.00 | |
| 12:25 | 0.35 | 7.93 | 0.00 | 3.37 | 0.0% | 54.5 | 11.9% | 0.00 | 0.0% | 15.39 | 0.4% | 1.8 | 0.00 | -159 | 1 | 6.03 | 0.00 | |
| 12:30 | 0.35 | 7.93 | 0.00 | 3.37 | 0.0% | 55.4 | 1.7% | 0.00 | 0.0% | 15.40 | 0.1% | 1.8 | 0.00 | -160 | 1 | 6.03 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 7 gal Odor: None

Well Condition: See well inspection log Other: Instructed to sample by A. Shust

Color of GW: Clear, slight yellow tint

Sample ID: 134-MW-04-122717 @ 12:35 Sample ID: 134-MW-04-122717F @ 12:40

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.70

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ ² x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.71 Time: 8:59 Date: 12/26/2017

Serial Number: 21364 Depth to Bottom of Well: 15.70 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/26/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 11:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:35 | **0.35** | **7.06** | **-** | **5.34** | **-** | **438** | **-** | **0.26** | **-** | **13.53** | **-** | **2.9** | **-** | **-136** | **-** | **6.78** | **-** | |
| 11:40 | **0.35** | **7.07** | **0.01** | **5.60** | **4.9%** | **261** | **40.4%** | **0.00** | **100.0%** | **14.00** | **3.5%** | **3.0** | **0.10** | **-156** | **20** | **6.76** | **0.02** | |
| 11:45 | **0.35** | **7.10** | **0.03** | **5.52** | **1.4%** | **131** | **49.8%** | **0.00** | **0.0%** | **13.40** | **4.3%** | **3.0** | **0.00** | **-167** | **11** | **6.76** | **0.00** | |
| 11:50 | **0.35** | **7.09** | **0.01** | **5.64** | **2.2%** | **127** | **3.1%** | **0.00** | **0.0%** | **13.49** | **0.7%** | **3.0** | **0.00** | **-171** | **4** | **6.76** | **0.00** | |
| 11:55 | **0.35** | **7.09** | **0.00** | **5.62** | **0.4%** | **50.9** | **59.9%** | **0.00** | **0.0%** | **13.50** | **0.1%** | **3.0** | **0.00** | **-162** | **9** | **6.76** | **0.00** | |
| 12:00 | **0.35** | **7.16** | **0.07** | **5.68** | **1.1%** | **50.9** | **0.0%** | **0.00** | **0.0%** | **13.48** | **0.1%** | **3.0** | **0.00** | **-116** | **46** | **6.76** | **0.00** | |
| 12:05 | **0.35** | **7.10** | **0.06** | **5.77** | **1.6%** | **46.4** | **8.8%** | **0.00** | **0.0%** | **13.59** | **0.8%** | **3.1** | **0.10** | **-154** | **38** | **6.76** | **0.00** | |
| 12:10 | **0.35** | **7.10** | **0.00** | **5.68** | **1.6%** | **36.1** | **22.2%** | **0.00** | **0.0%** | **13.78** | **1.4%** | **3.1** | **0.00** | **-107** | **47** | **6.76** | **0.00** | |
| 12:15 | **0.35** | **7.11** | **0.01** | **5.72** | **0.7%** | **37.7** | **4.4%** | **0.00** | **0.0%** | **13.98** | **1.5%** | **3.1** | **0.00** | **-112** | **5** | **6.76** | **0.00** | |
| 12:20 | **0.35** | **7.11** | **0.00** | **5.68** | **0.7%** | **36.9** | **2.1%** | **0.00** | **0.0%** | **14.25** | **1.9%** | **3.1** | **0.00** | **-115** | **3** | **6.76** | **0.00** | |
| 12:25 | **0.35** | **7.12** | **0.01** | **5.67** | **0.2%** | **27.7** | **24.9%** | **0.00** | **0.0%** | **14.16** | **0.6%** | **3.0** | **0.10** | **-122** | **7** | **6.76** | **0.00** | |
| 12:30 | **0.35** | **7.12** | **0.00** | **5.68** | **0.2%** | **21.6** | **22.0%** | **0.00** | **0.0%** | **14.01** | **1.1%** | **3.0** | **0.00** | **-120** | **2** | **6.76** | **0.00** | |
| 12:35 | **0.35** | **7.13** | **0.01** | **5.59** | **1.6%** | **36.6** | **69.4%** | **0.00** | **0.0%** | **13.69** | **2.3%** | **3.0** | **0.00** | **-116** | **4** | **6.76** | **0.00** | |
| 12:40 | **0.35** | **7.13** | **0.00** | **5.58** | **0.2%** | **35.5** | **3.0%** | **0.00** | **0.0%** | **13.41** | **2.0%** | **3.0** | **0.00** | **-114** | **2** | **6.76** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: ____

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 140-MW-09-122617 @12:45 140-MW-09-122617F @ 12:50

Odor: None

Other: Instructed to sample by A. Shust

Sample ID: 140-MW-09-122617FA @ 12:55

amec foster wheeler

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.94

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.20 Time: 12:50 Date: 12/26/2017

Serial Number: 21282 Depth to Bottom of Well: 13.94 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/26/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 12:55

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:00 | **0.25** | **7.34** | **-** | **0.701** | **-** | **68.5** | **-** | **3.06** | **-** | **9.78** | **-** | **0.03** | **-** | **84** | **-** | **7.05** | **-** | |
| 13:05 | **0.25** | **7.34** | **0.00** | **0.704** | **0.4%** | **36.8** | **46.3%** | **2.62** | **14.4%** | **10.05** | **2.8%** | **0.03** | **0.00** | **87** | **3** | **7.10** | **0.05** | |
| 13:10 | **0.25** | **7.37** | **0.03** | **0.710** | **0.9%** | **24.1** | **34.5%** | **1.31** | **50.0%** | **10.16** | **1.1%** | **0.03** | **0.00** | **86** | **1** | **7.10** | **0.00** | |
| 13:15 | **0.25** | **7.41** | **0.04** | **0.715** | **0.7%** | **11.8** | **51.0%** | **0.02** | **98.5%** | **10.22** | **0.6%** | **0.03** | **0.00** | **84** | **2** | **7.10** | **0.00** | |
| 13:20 | **0.25** | **7.44** | **0.03** | **0.717** | **0.3%** | **8.2** | **30.5%** | **0.00** | **100.0%** | **10.55** | **3.2%** | **0.03** | **0.00** | **80** | **4** | **7.15** | **0.05** | |
| 13:25 | **0.25** | **7.46** | **0.02** | **0.716** | **0.1%** | **6.5** | **20.7%** | **0.00** | **0.0%** | **10.61** | **0.6%** | **0.03** | **0.00** | **77** | **3** | **7.15** | **0.00** | |
| 13:30 | **0.25** | **7.48** | **0.02** | **0.711** | **0.7%** | **6.3** | **3.1%** | **0.00** | **0.0%** | **10.82** | **2.0%** | **0.03** | **0.00** | **71** | **6** | **7.15** | **0.00** | |
| 13:35 | **0.25** | **7.48** | **0.00** | **0.713** | **0.3%** | **6.3** | **0.0%** | **0.00** | **0.0%** | **10.84** | **0.2%** | **0.03** | **0.00** | **73** | **2** | **7.15** | **0.00** | |
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| 13:40 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 8.75 L Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 140-MW-10-122617 @ 13:40 Sample ID: 140-MW-10-122617F @ 13:45

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480170582.610001.H1 **Well Number:** 163-MW-02R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.15

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ ² x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment facility

Size ____

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.92 Time: 11:20 Date: 12/26/2017

Serial Number: 21282 Depth to Bottom of Well: 17.15 PID Reading (inside of Casing): 2.8

For Calibration Information, See Instrument Calibration Record Sheet Dated: 12/26/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 11:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:30 | **0.25** | **6.70** | **-** | **1.30** | **-** | **40.9** | **-** | **0.00** | **-** | **13.30** | **-** | **0.06** | **-** | **-18** | **-** | **9.30** | **-** | |
| 11:35 | **0.25** | **6.70** | **0.00** | **1.29** | **0.8%** | **9.7** | **76.3%** | **0.00** | **0.0%** | **13.52** | **1.7%** | **0.06** | **0.00** | **-32** | **14** | **9.30** | **0.00** | |
| 11:40 | **0.25** | **6.73** | **0.03** | **1.47** | **14.0%** | **4.7** | **51.5%** | **0.00** | **0.0%** | **13.69** | **1.3%** | **0.07** | **0.01** | **-44** | **12** | **9.30** | **0.00** | |
| 11:45 | **0.25** | **6.74** | **0.01** | **1.49** | **1.4%** | **3.1** | **34.0%** | **0.00** | **0.0%** | **13.41** | **2.0%** | **0.07** | **0.00** | **-60** | **16** | **9.30** | **0.00** | |
| 11:50 | **0.25** | **6.77** | **0.03** | **1.54** | **3.4%** | **2.7** | **12.9%** | **0.00** | **0.0%** | **13.48** | **0.5%** | **0.08** | **0.01** | **-76** | **16** | **9.40** | **0.10** | |
| 11:55 | **0.25** | **6.78** | **0.01** | **1.56** | **1.3%** | **2.3** | **14.8%** | **0.00** | **0.0%** | **13.68** | **1.5%** | **0.08** | **0.00** | **-79** | **3** | **9.45** | **0.05** | |
| 12:00 | **0.25** | **6.78** | **0.00** | **1.57** | **0.6%** | **2.2** | **4.3%** | **0.00** | **0.0%** | **13.91** | **1.7%** | **0.08** | **0.00** | **-84** | **5** | **9.45** | **0.00** | |
| 12:05 | **0.25** | **6.78** | **0.00** | **1.59** | **1.3%** | **2.1** | **4.5%** | **0.00** | **0.0%** | **13.78** | **0.9%** | **0.08** | **0.00** | **-88** | **4** | **9.50** | **0.05** | |
| | | | | | | | | | | | | | | | | | | |
| 12:10 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 8.75 L Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 163-MW-02R-122617 @ 12:10 Sample ID: 163-MW-02R-122617F @ 12:15

# Low Flow Ground Water Sampling Log

| | | | |
|---|---|---|---|
| Project Name: | HW SA-6 | Date: | 3/23/2018 |
| Project Number: | 3480170588 | Weather: | 37°F; clear |
| Monitoring Well: | 140-MW-09 | Field Personnel: | C. Radomski |
| Reported Well Depth (ft btoc): | 15.70 | Screened/Open Interval (ft btoc): | |
| Well Diameter (in): | 2 | Depth to Water (ft btoc): | 5.10 |
| Well Condition: | good; needs lock | | |
| PID Readings (ppm): Background: | 0.0 | Depth of Pump (ft btoc): | 13.0 |
| Beneath outer cap: | 0.0 | Purging Method: | Low Flow |
| Beneath inner cap: | 0.0 | | |

## WELL PURGING & SAMPLING:

| Time 5 minute intervals | Purging | Sampling | pH (units) | | Conductivity (us/cm) | | Turbidity (NTU) | | DO (mg/L) | | Temperature (°C) | | Salinity (%) | | REDOX (Eh-mV) | | Depth to Water (ft) | | Pumping Rate (ml/min) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | | 0.1 unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | 200-500 |
| 9:20 | x | | 7.43 | - | 0.831 | - | 31.8 | - | 0.00 | - | 12.49 | - | 0.04 | - | -98 | - | 5.25 | - | 200 |
| 9:25 | x | | 7.43 | 0.00 | 0.833 | 0.24 | 27.4 | 13.84 | 0.00 | 0.0 | 12.46 | 0.24 | 0.04 | 0.00 | -114 | 16 | 5.40 | 0.15 | 200 |
| 9:30 | x | | 7.53 | 0.10 | 1.03 | 23.65 | 28.7 | 4.74 | 0.00 | 0.0 | 12.46 | 0.00 | 0.05 | 0.01 | -137 | 23 | 5.40 | 0.00 | 200 |
| 9:35 | x | | 7.56 | 0.03 | 1.11 | 7.77 | 27.7 | 3.48 | 0.00 | 0.0 | 12.26 | 1.61 | 0.05 | 0.00 | -143 | 6 | 5.40 | 0.00 | 200 |
| 9:40 | x | | 7.60 | 0.04 | 1.25 | 12.61 | 24.4 | 11.91 | 0.00 | 0.0 | 12.18 | 0.65 | 0.06 | 0.01 | -153 | 10 | 5.40 | 0.00 | 200 |
| 9:45 | x | | 7.64 | 0.04 | 1.43 | 14.40 | 21.2 | 13.11 | 0.00 | 0.0 | 12.13 | 0.41 | 0.06 | 0.00 | -157 | 4 | 5.40 | 0.00 | 200 |
| 9:50 | x | | 7.70 | 0.06 | 1.50 | 4.90 | 18.7 | 11.79 | 0.00 | 0.0 | 12.1 | 0.25 | 0.07 | 0.01 | -160 | 3 | 5.40 | 0.00 | 200 |
| 9:55 | x | | 7.77 | 0.07 | 1.70 | 13.33 | 17.9 | 4.28 | 0.00 | 0.0 | 12.09 | 0.08 | 0.07 | 0.00 | -163 | 3 | 5.40 | 0.00 | 200 |
| 10:00 | x | | 7.80 | 0.03 | 1.74 | 2.35 | 17.1 | 4.47 | 0.00 | 0.0 | 12.08 | 0.08 | 0.08 | 0.01 | -172 | 9 | 5.40 | 0.00 | 200 |
| 10:05 | x | | 7.82 | 0.02 | 1.77 | 1.72 | 16.8 | 1.75 | 0.00 | 0.0 | 12.04 | 0.33 | 0.08 | 0.00 | -178 | 6 | 5.40 | 0.00 | 200 |
| 10:10 | x | | 7.83 | 0.01 | 1.78 | 0.56 | 16.6 | 1.19 | 0.00 | 0.0 | 12.07 | 0.25 | 0.09 | 0.01 | -180 | 2 | 5.40 | 0.00 | 200 |
| 10:15 | x | | 7.84 | 0.01 | 1.79 | 0.56 | 16.5 | 0.60 | 0.00 | 0.0 | 12.05 | 0.17 | 0.09 | 0.00 | -181 | 1 | 5.40 | 0.00 | 200 |
| 10:20 | x | | 7.84 | 0.00 | 1.81 | 1.12 | 16.4 | 0.61 | 0.00 | 0.0 | 12.06 | 0.08 | 0.09 | 0.00 | -183 | 2 | 5.40 | 0.00 | 200 |
| 10:25 | x | | 7.85 | 0.01 | 1.81 | 0.00 | 16.3 | 0.61 | 0.00 | 0.0 | 12.03 | 0.25 | 0.09 | 0.00 | -184 | 1 | 5.40 | 0.00 | 200 |
| 10:30 | x | | 7.85 | 0.00 | 1.80 | 0.55 | 16.4 | 0.61 | 0.00 | 0.0 | 12.04 | 0.08 | 0.09 | 0.00 | -183 | 1 | 5.40 | 0.00 | 200 |
| | | | | | | | | | | | | | | | | | | | |
| 10:35 | | x | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |

Volume Purged: 14 L Final Water Level (ft): 5.15 Final Well Depth (ft): 15.70 Purged Dry:

Sample Visual Appearance: Clear If Purged Dry, Recovery Rate (ft/min):

Comments: 140-MW-09-032318 @ 10:35 140-MW-09-032318-DP @ 10:40 Instructed to sample by

140-MW-09-032318F @ 10:45 140-MW-09-032318F-DP @ 10:50

140-MW-09-032318FA @ 10:55 140-MW-09-032318FA-DP @ 11:00 140-FB-032318 @ 11:1

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ on site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.53 Time: 8:30 Date: 4/6/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 8:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:40 | 0.2 | 8.53 | - | 2.05 | - | 435.0 | - | 0.81 | - | 13.87 | - | 0.10 | - | 186 | - | 8.55 | - | |
| 8:45 | 0.2 | 8.59 | 0.06 | 2.06 | 0.5% | 390.0 | 10.3% | 0.63 | 22.2% | 13.80 | 0.5% | 0.10 | 0.00 | 161 | 25 | 8.55 | 0.00 | |
| 8:50 | 0.2 | 8.59 | 0.00 | 2.07 | 0.5% | 323.0 | 17.2% | 0.43 | 31.7% | 13.54 | 1.9% | 0.10 | 0.00 | 148 | 13 | 8.55 | 0.00 | |
| 8:55 | 0.2 | 8.61 | 0.02 | 2.08 | 0.5% | 267.0 | 17.3% | 0.34 | 20.9% | 13.65 | 0.8% | 0.11 | 0.01 | 132 | 16 | 8.55 | 0.00 | |
| 9:00 | 0.2 | 8.61 | 0.00 | 2.12 | 1.9% | 246.0 | 7.9% | 0.25 | 26.5% | 14.00 | 2.6% | 0.11 | 0.00 | 125 | 7 | 8.55 | 0.00 | |
| 9:05 | 0.2 | 8.61 | 0.00 | 2.13 | 0.5% | 235.0 | 4.5% | 0.18 | 28.0% | 14.05 | 0.4% | 0.11 | 0.00 | 116 | 9 | 8.55 | 0.00 | |
| 9:10 | 0.2 | 8.61 | 0.00 | 2.14 | 0.5% | 186.0 | 20.9% | 0.16 | 11.1% | 14.10 | 0.4% | 0.11 | 0.00 | 109 | 7 | 8.55 | 0.00 | |
| 9:15 | 0.2 | 8.60 | 0.01 | 2.16 | 0.9% | 150.0 | 19.4% | 0.14 | 12.5% | 14.15 | 0.4% | 0.11 | 0.00 | 107 | 2 | 8.55 | 0.00 | |
| 9:20 | 0.2 | 8.60 | 0.00 | 2.19 | 1.4% | 123.0 | 18.0% | 0.11 | 21.4% | 14.19 | 0.3% | 0.11 | 0.00 | 102 | 5 | 8.55 | 0.00 | |
| 9:25 | 0.2 | 8.60 | 0.00 | 2.20 | 0.5% | 98.1 | 20.2% | 0.08 | 27.3% | 14.25 | 0.4% | 0.11 | 0.00 | 86 | 16 | 8.55 | 0.00 | |
| 9:30 | 0.2 | 8.60 | 0.00 | 2.21 | 0.5% | 88.4 | 9.9% | 0.00 | 100.0% | 14.28 | 0.2% | 0.11 | 0.00 | 56 | 30 | 8.55 | 0.00 | |
| 9:35 | 0.2 | 8.59 | 0.01 | 2.22 | 0.5% | 62.5 | 29.3% | 0.00 | 0.0% | 14.30 | 0.1% | 0.11 | 0.00 | 1 | 55 | 8.55 | 0.00 | |
| 9:40 | 0.2 | 8.60 | 0.01 | 2.23 | 0.5% | 55.2 | 11.7% | 0.00 | 0.0% | 14.34 | 0.3% | 0.11 | 0.00 | -7 | 8 | 8.55 | 0.00 | |
| 9:45 | 0.2 | 8.60 | 0.00 | 2.24 | 0.4% | 51.2 | 7.2% | 0.00 | 0.0% | 14.34 | 0.0% | 0.11 | 0.00 | -12 | 5 | 8.55 | 0.00 | |
| 9:50 | 0.2 | 8.60 | 0.00 | 2.26 | 0.9% | 43.2 | 15.6% | 0.00 | 0.0% | 14.40 | 0.4% | 0.11 | 0.00 | -15 | 3 | 8.55 | 0.00 | |
| 9:55 | 0.2 | 8.60 | 0.00 | 2.28 | 0.9% | 38.3 | 11.3% | 0.00 | 0.0% | 14.42 | 0.1% | 0.11 | 0.00 | -18 | 3 | 8.55 | 0.00 | |
| 10:00 | 0.2 | 8.60 | 0.00 | 2.30 | 0.9% | 30.4 | 20.6% | 0.00 | 0.0% | 14.45 | 0.2% | 0.11 | 0.00 | -24 | 6 | 8.55 | 0.00 | |
| 10:05 | 0.2 | 8.60 | 0.00 | 2.31 | 0.4% | 25.8 | 15.1% | 0.00 | 0.0% | 14.49 | 0.3% | 0.11 | 0.00 | -28 | 4 | 8.55 | 0.00 | |
| 10:10 | 0.2 | 8.60 | 0.00 | 2.32 | 0.4% | 19.3 | 25.2% | 0.00 | 0.0% | 14.51 | 0.1% | 0.11 | 0.00 | -31 | 3 | 8.55 | 0.00 | |
| 10:15 | 0.2 | 8.60 | 0.00 | 2.33 | 0.4% | 19.1 | 1.0% | 0.00 | 0.0% | 14.52 | 0.1% | 0.11 | 0.00 | -34 | 3 | 8.55 | 0.00 | |
| 10:20 | 0.2 | 8.60 | 0.00 | 2.34 | 0.4% | 18.9 | 1.0% | 0.00 | 0.0% | 14.53 | 0.1% | 0.11 | 0.00 | -36 | 2 | 8.55 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 10:25 | Sample | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 20 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 073-MW-06-040616 @ 10:25

Odor: None

Other: -

Sample ID: FB-040616 @ 8:20

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ - ___ ) x ___ $^2$ x ___ x 0.0408 = ___ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.26 Time: 10:40 Date: 4/6/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 10:45

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:50 | 0.2 | 6.99 | - | 0.674 | - | 1000.0 | - | 0.00 | - | 13.95 | - | 0.03 | - | -125 | - | 7.33 | - | |
| 10:55 | 0.2 | 6.99 | 0.00 | 0.670 | 0.6% | 1000.0 | 0.0% | 0.00 | 0.0% | 13.91 | 0.3% | 0.03 | 0.00 | -124 | 1 | 7.37 | 0.04 | |
| 11:00 | 0.2 | 6.99 | 0.00 | 0.665 | 0.7% | 970.0 | 3.0% | 0.00 | 0.0% | 13.97 | 0.4% | 0.03 | 0.00 | -125 | 1 | 7.37 | 0.00 | |
| 11:05 | 0.2 | 6.99 | 0.00 | 0.663 | 0.3% | 860.0 | 11.3% | 0.00 | 0.0% | 13.95 | 0.1% | 0.03 | 0.00 | -126 | 1 | 7.37 | 0.00 | |
| 11:10 | 0.2 | 6.99 | 0.00 | 0.690 | 4.1% | 800.0 | 7.0% | 0.00 | 0.0% | 13.73 | 1.6% | 0.03 | 0.00 | -127 | 1 | 7.37 | 0.00 | |
| 11:15 | 0.2 | 7.01 | 0.02 | 0.739 | 7.1% | 405.0 | 49.4% | 0.00 | 0.0% | 13.80 | 0.5% | 0.03 | 0.00 | -129 | 2 | 7.37 | 0.00 | |
| 11:20 | 0.2 | 7.02 | 0.01 | 0.743 | 0.5% | 312.0 | 23.0% | 0.00 | 0.0% | 13.82 | 0.1% | 0.04 | 0.01 | -129 | 0 | 7.37 | 0.00 | |
| 11:25 | 0.2 | 7.02 | 0.00 | 0.760 | 2.3% | 219.0 | 29.8% | 0.00 | 0.0% | 13.77 | 0.4% | 0.04 | 0.00 | -130 | 1 | 7.39 | 0.02 | |
| 11:30 | 0.2 | 7.00 | 0.02 | 0.765 | 0.7% | 176.0 | 19.6% | 0.00 | 0.0% | 13.77 | 0.0% | 0.04 | 0.00 | -129 | 1 | 7.39 | 0.00 | |
| 11:35 | 0.2 | 7.01 | 0.01 | 0.771 | 0.8% | 117.0 | 33.5% | 0.00 | 0.0% | 13.78 | 0.1% | 0.04 | 0.00 | -130 | 1 | 7.39 | 0.00 | |
| 11:40 | 0.2 | 7.02 | 0.01 | 0.778 | 0.9% | 72.7 | 37.9% | 0.00 | 0.0% | 13.71 | 0.5% | 0.04 | 0.00 | -131 | 1 | 7.39 | 0.00 | |
| 11:45 | 0.2 | 7.02 | 0.00 | 0.779 | 0.1% | 53.5 | 26.4% | 0.00 | 0.0% | 13.72 | 0.1% | 0.04 | 0.00 | -132 | 1 | 7.39 | 0.00 | |
| 11:50 | 0.2 | 7.02 | 0.00 | 0.781 | 0.3% | 41.0 | 23.4% | 0.00 | 0.0% | 13.72 | 0.0% | 0.04 | 0.00 | -132 | 0 | 7.39 | 0.00 | |
| 11:55 | 0.2 | 7.02 | 0.00 | 0.785 | 0.5% | 37.3 | 9.0% | 0.00 | 0.0% | 13.70 | 0.1% | 0.04 | 0.00 | -132 | 0 | 7.39 | 0.00 | |
| 12:00 | 0.2 | 7.02 | 0.00 | 0.780 | 0.6% | 32.4 | 13.1% | 0.00 | 0.0% | 13.73 | 0.2% | 0.04 | 0.00 | -133 | 1 | 7.39 | 0.00 | |
| 12:05 | 0.2 | 7.02 | 0.00 | 0.783 | 0.4% | 30.2 | 6.8% | 0.00 | 0.0% | 13.79 | 0.4% | 0.04 | 0.00 | -134 | 1 | 7.39 | 0.00 | |
| 12:10 | 0.2 | 7.02 | 0.00 | 0.786 | 0.4% | 29.8 | 1.3% | 0.00 | 0.0% | 13.79 | 0.0% | 0.04 | 0.00 | -135 | 1 | 7.39 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 12:15 | Sample unfiltered + DUP | | | | | | | | | | | | | | | | | |
| 12:25 | Sample filtered + DUP | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 16 Liters

Well Condition: See well inspection log

Color of GW: Light grayish brown

Sample ID: 073-MW-07-040616

Odor: Hydrocarbon-like

Other: -

Sample ID: 073-MW-07-DP-040616

Groundwater Sampling Form

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ - ___ ) x ___ $^2$ x ___ x 0.0408 = ___ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.70 Time: 9:05 Date: 4/7/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 9:15

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:20 | 0.25 | 7.49 | - | 1.71 | - | 806.0 | - | 0.00 | - | 14.86 | - | 0.08 | - | -114 | - | 7.02 | - | |
| 9:25 | 0.25 | 7.66 | 0.17 | 1.35 | 21.1% | 513.0 | 36.4% | 0.00 | 0.0% | 14.68 | 1.2% | 0.07 | 0.01 | -135 | 21 | 7.06 | 0.04 | |
| 9:30 | 0.25 | 7.70 | 0.04 | 1.32 | 2.2% | 448.0 | 12.7% | 0.00 | 0.0% | 14.67 | 0.1% | 0.07 | 0.00 | -138 | 3 | 7.07 | 0.01 | |
| 9:35 | 0.25 | 7.75 | 0.05 | 1.30 | 1.5% | 247.0 | 44.9% | 0.00 | 0.0% | 14.63 | 0.3% | 0.06 | 0.01 | -149 | 11 | 7.07 | 0.00 | |
| 9:40 | 0.25 | 7.77 | 0.02 | 1.30 | 0.0% | 156.0 | 36.8% | 0.00 | 0.0% | 14.65 | 0.1% | 0.06 | 0.00 | -155 | 6 | 7.07 | 0.00 | |
| 9:45 | 0.25 | 7.77 | 0.00 | 1.30 | 0.0% | 131.0 | 16.0% | 0.00 | 0.0% | 14.69 | 0.3% | 0.06 | 0.00 | -159 | 4 | 7.07 | 0.00 | |
| 9:50 | 0.25 | 7.80 | 0.03 | 1.27 | 2.3% | 83.1 | 36.6% | 0.00 | 0.0% | 14.75 | 0.4% | 0.06 | 0.00 | -166 | 7 | 7.07 | 0.00 | |
| 9:55 | 0.25 | 7.80 | 0.00 | 1.24 | 2.4% | 69.8 | 16.0% | 0.00 | 0.0% | 14.79 | 0.3% | 0.06 | 0.00 | -168 | 2 | 7.07 | 0.00 | |
| 10:00 | 0.25 | 7.83 | 0.03 | 1.22 | 1.6% | 52.6 | 24.6% | 0.00 | 0.0% | 14.83 | 0.3% | 0.06 | 0.00 | -173 | 5 | 7.07 | 0.00 | |
| 10:05 | 0.25 | 7.85 | 0.02 | 1.19 | 2.5% | 46.5 | 11.6% | 0.00 | 0.0% | 14.81 | 0.1% | 0.06 | 0.00 | -176 | 3 | 7.07 | 0.00 | |
| 10:10 | 0.25 | 7.87 | 0.02 | 1.17 | 1.7% | 40.1 | 13.8% | 0.00 | 0.0% | 14.78 | 0.2% | 0.06 | 0.00 | -181 | 5 | 7.07 | 0.00 | |
| 10:15 | 0.25 | 7.90 | 0.03 | 1.14 | 2.6% | 32.0 | 20.2% | 0.00 | 0.0% | 14.71 | 0.5% | 0.06 | 0.00 | -183 | 2 | 7.07 | 0.00 | |
| 10:20 | 0.25 | 7.96 | 0.06 | 1.10 | 3.5% | 24.7 | 22.8% | 0.00 | 0.0% | 14.69 | 0.1% | 0.06 | 0.00 | -187 | 4 | 7.07 | 0.00 | |
| 10:25 | 0.25 | 7.96 | 0.00 | 1.09 | 0.9% | 22.5 | 8.9% | 0.00 | 0.0% | 14.66 | 0.2% | 0.06 | 0.00 | -188 | 1 | 7.07 | 0.00 | |
| 10:30 | 0.25 | 7.96 | 0.00 | 1.07 | 1.8% | 22.3 | 0.9% | 0.00 | 0.0% | 14.67 | 0.1% | 0.06 | 0.00 | -184 | 4 | 7.07 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 10:35 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 17.5 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 073-MW-08 @10:35

Odor: None

Other: -

Sample ID: FB-040716 @ 8:45

Groundwater Sampling Form

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☐ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): _____

Well Depth (ft BTOC): 13.55

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.75 Time: 7:35 Date: 4/8/2016

Serial Number: 21103 Depth to Bottom of Well: 13.55 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/8/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Steven Polansky (Signature) Sampled By: SP Purge Start Time: 9:30

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:35 | 0.3 | 6.90 | - | 2.01 | - | 67.2 | - | 0.00 | - | 13.38 | - | 0.10 | - | -172 | - | 6.81 | - | |
| 9:40 | 0.3 | 6.91 | 0.01 | 1.99 | 1.0% | 43.1 | 35.9% | 0.00 | 0.0% | 13.29 | 0.7% | 0.10 | 0.00 | -174 | 2 | 6.80 | 0.01 | |
| 9:45 | 0.3 | 6.93 | 0.02 | 1.94 | 2.5% | 22.1 | 48.7% | 0.00 | 0.0% | 12.98 | 2.3% | 0.10 | 0.00 | -174 | 0 | 6.80 | 0.00 | |
| 9:50 | 0.3 | 6.93 | 0.00 | 1.90 | 2.1% | 15.7 | 29.0% | 0.00 | 0.0% | 12.78 | 1.5% | 0.10 | 0.00 | -174 | 0 | 6.80 | 0.00 | |
| 9:55 | 0.3 | 6.93 | 0.00 | 1.88 | 1.1% | 11.5 | 26.8% | 0.00 | 0.0% | 12.90 | 0.9% | 0.09 | 0.01 | -174 | 0 | 6.80 | 0.00 | |
| 10:00 | 0.3 | 6.93 | 0.00 | 1.88 | 0.0% | 6.8 | 40.9% | 0.00 | 0.0% | 12.60 | 2.3% | 0.09 | 0.00 | -173 | 1 | 6.80 | 0.00 | |
| 10:05 | 0.3 | 6.92 | 0.01 | 1.86 | 1.1% | 4.9 | 27.9% | 0.00 | 0.0% | 12.71 | 0.9% | 0.09 | 0.00 | -172 | 1 | 6.80 | 0.00 | |
| 10:10 | 0.3 | 6.93 | 0.01 | 1.87 | 0.5% | 4.7 | 4.1% | 0.00 | 0.0% | 12.69 | 0.2% | 0.09 | 0.00 | -170 | 2 | 6.80 | 0.00 | |
| 10:15 | 0.3 | 6.92 | 0.01 | 1.83 | 2.1% | 4.5 | 4.3% | 0.00 | 0.0% | 12.63 | 0.5% | 0.09 | 0.00 | -170 | 0 | 6.80 | 0.00 | |
| 10:20 | 0.3 | 6.92 | 0.00 | 1.84 | 0.5% | 4.2 | 6.7% | 0.00 | 0.0% | 12.65 | 0.2% | 0.09 | 0.00 | -169 | 1 | 6.80 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 10:20 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.5 Liters

Well Condition: See well inspection log

Color of GW: _____

Sample ID: 124-MW-12 @ 10:20

Odor: None

Other: -

Sample ID: -

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type _____ Size _____ Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.10 Time: 8:15 Date: 4/8/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/8/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 8:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:25 | 0.2 | 12.36 | - | 2.78 | - | 121.0 | - | 0.64 | - | 11.61 | - | 0.14 | - | -242 | - | 6.30 | - | |
| 8:30 | 0.2 | 12.32 | 0.04 | 2.54 | 8.6% | 115.0 | 5.0% | 0.41 | 35.9% | 11.65 | 0.3% | 0.13 | 0.01 | -251 | 9 | 6.30 | 0.00 | |
| 8:35 | 0.2 | 12.30 | 0.02 | 2.37 | 6.7% | 106.0 | 7.8% | 0.28 | 31.7% | 11.46 | 1.6% | 0.12 | 0.01 | -261 | 10 | 6.30 | 0.00 | |
| 8:40 | 0.2 | 12.31 | 0.01 | 2.36 | 0.4% | 99.4 | 6.2% | 0.17 | 39.3% | 11.52 | 0.5% | 0.12 | 0.00 | -273 | 12 | 6.30 | 0.00 | |
| 8:45 | 0.2 | 12.30 | 0.01 | 2.31 | 2.1% | 86.4 | 13.1% | 0.10 | 41.2% | 11.57 | 0.4% | 0.12 | 0.00 | -278 | 5 | 6.30 | 0.00 | |
| 8:50 | 0.2 | 12.27 | 0.03 | 2.23 | 3.5% | 85.0 | 1.6% | 0.02 | 80.0% | 11.83 | 2.2% | 0.11 | 0.01 | -276 | 2 | 6.30 | 0.00 | |
| 8:55 | 0.2 | 12.18 | 0.09 | 1.94 | 13.0% | 32.5 | 61.8% | 0.12 | 500.0% | 11.75 | 0.7% | 0.10 | 0.01 | -258 | 18 | 6.30 | 0.00 | |
| 9:00 | 0.2 | 12.06 | 0.12 | 1.63 | 16.0% | 21.4 | 34.2% | 0.08 | 33.3% | 11.41 | 2.9% | 0.08 | 0.02 | -219 | 39 | 6.37 | 0.07 | |
| 9:05 | 0.2 | 12.06 | 0.00 | 1.61 | 1.2% | 14.5 | 32.2% | 0.04 | 50.0% | 11.50 | 0.8% | 0.08 | 0.00 | -215 | 4 | 6.40 | 0.03 | |
| 9:10 | 0.2 | 12.06 | 0.00 | 1.64 | 1.9% | 7.0 | 51.7% | 0.00 | 100.0% | 11.47 | 0.3% | 0.08 | 0.00 | -215 | 0 | 6.45 | 0.05 | |
| 9:15 | 0.2 | 12.09 | 0.03 | 1.69 | 3.0% | 6.9 | 1.4% | 0.00 | 0.0% | 11.42 | 0.4% | 0.08 | 0.00 | -217 | 2 | 6.47 | 0.02 | |
| 9:20 | 0.2 | 12.08 | 0.01 | 1.69 | 0.0% | 6.5 | 5.8% | 0.00 | 0.0% | 11.43 | 0.1% | 0.08 | 0.00 | -217 | 0 | 6.49 | 0.02 | |
| | | | | | | | | | | | | | | | | | | |
| 9:25 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 11 Liters

Well Condition: See well inspection log

Color of GW: _____

Sample ID: 124-MW-13 @ 9:25

Odor: None

Other: High pH

Sample ID: FB-040816 @ 8:00

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ ($^2$) (D) x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 3.40 Time: 10:15 Date: 4/8/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/8/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 10:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:25 | 0.3 | 6.52 | - | 7.53 | - | 358.0 | - | 0.00 | - | 13.79 | - | 0.41 | - | -77 | - | 3.40 | - | |
| 10:30 | 0.3 | 6.51 | 0.01 | 7.53 | 0.0% | 184.0 | 48.6% | 0.00 | 0.0% | 13.93 | 1.0% | 0.41 | 0.00 | -77 | 0 | 3.43 | 0.03 | |
| 10:35 | 0.3 | 6.51 | 0.00 | 7.55 | 0.3% | 123.0 | 33.2% | 0.00 | 0.0% | 14.01 | 0.6% | 0.41 | 0.00 | -76 | 1 | 3.49 | 0.06 | |
| 10:40 | 0.3 | 6.51 | 0.00 | 7.57 | 0.3% | 89.9 | 26.9% | 0.00 | 0.0% | 13.95 | 0.4% | 0.42 | 0.01 | -76 | 0 | 3.50 | 0.01 | |
| 10:45 | 0.3 | 6.50 | 0.01 | 7.59 | 0.3% | 69.7 | 22.5% | 0.00 | 0.0% | 13.91 | 0.3% | 0.42 | 0.00 | -75 | 1 | 3.52 | 0.02 | |
| 10:50 | 0.3 | 6.50 | 0.00 | 7.69 | 1.3% | 55.4 | 20.5% | 0.00 | 0.0% | 13.89 | 0.1% | 0.42 | 0.00 | -74 | 1 | 3.55 | 0.03 | |
| 10:55 | 0.3 | 6.50 | 0.00 | 7.59 | 1.3% | 41.9 | 24.4% | 0.00 | 0.0% | 13.93 | 0.3% | 0.42 | 0.00 | -74 | 0 | 3.55 | 0.00 | |
| 11:00 | 0.3 | 6.50 | 0.00 | 7.55 | 0.5% | 41.4 | 1.2% | 0.00 | 0.0% | 14.03 | 0.7% | 0.42 | 0.00 | -74 | 0 | 3.57 | 0.02 | |
| 11:05 | 0.3 | 6.50 | 0.00 | 7.58 | 0.4% | 35.0 | 15.5% | 0.00 | 0.0% | 14.05 | 0.1% | 0.41 | 0.01 | -73 | 1 | 3.57 | 0.00 | |
| 11:10 | 0.3 | 6.50 | 0.00 | 7.57 | 0.1% | 30.8 | 12.0% | 0.00 | 0.0% | 14.04 | 0.1% | 0.41 | 0.00 | -73 | 0 | 3.57 | 0.00 | |
| 11:15 | 0.3 | 6.50 | 0.00 | 7.62 | 0.7% | 23.0 | 25.3% | 0.00 | 0.0% | 14.00 | 0.3% | 0.42 | 0.01 | -72 | 1 | 3.57 | 0.00 | |
| 11:20 | 0.3 | 6.50 | 0.00 | 7.68 | 0.8% | 24.7 | 7.4% | 0.00 | 0.0% | 14.00 | 0.0% | 0.42 | 0.00 | -72 | 0 | 3.57 | 0.00 | |
| 11:25 | 0.3 | 6.50 | 0.00 | 7.63 | 0.7% | 24.1 | 2.4% | 0.00 | 0.0% | 14.00 | 0.0% | 0.42 | 0.00 | -72 | 0 | 3.57 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 11:30 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 18 Liters

Well Condition: See well inspection log

Color of GW: _____

Sample ID: 125-MW-02 @ 11:30

Odor: None

Other: High conductivity

Sample ID: -

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): 13.55

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ___ - ___ ) x ___ $^2$ x ___ x 0.0408 = ___ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.98 Time: 10:47 Date: 4/8/2016

Serial Number: 21103 Depth to Bottom of Well: 13.55 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/8/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Steven Polansky (Signature) Sampled By: SP Purge Start Time: 11:05

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:10 | 0.3 | 10.54 | - | 1.10 | - | 62.6 | - | 9.11 | - | 11.74 | - | 0.05 | - | -194 | - | 5.16 | - | |
| 11:15 | 0.3 | 10.44 | 0.10 | 1.09 | 0.9% | 30.0 | 52.1% | 6.22 | 31.7% | 11.68 | 0.5% | 0.05 | 0.00 | -188 | 6 | 5.16 | 0.00 | |
| 11:20 | 0.3 | 10.28 | 0.16 | 1.08 | 0.9% | 19.2 | 36.0% | 5.15 | 17.2% | 11.75 | 0.6% | 0.05 | 0.00 | -180 | 8 | 5.16 | 0.00 | |
| 11:25 | 0.3 | 10.22 | 0.06 | 1.08 | 0.0% | 21.4 | 11.5% | 1.10 | 78.6% | 11.81 | 0.5% | 0.05 | 0.00 | -176 | 4 | 5.16 | 0.00 | |
| 11:30 | 0.3 | 10.07 | 0.15 | 1.07 | 0.9% | 8.4 | 60.7% | 0.00 | 100.0% | 11.89 | 0.7% | 0.05 | 0.00 | -168 | 8 | 5.15 | 0.01 | |
| 11:35 | 0.3 | 9.95 | 0.12 | 1.06 | 0.9% | 6.7 | 20.2% | 0.00 | 0.0% | 11.86 | 0.3% | 0.05 | 0.00 | -162 | 6 | 5.16 | 0.01 | |
| 11:40 | 0.3 | 9.95 | 0.00 | 1.06 | 0.0% | 3.2 | 52.2% | 0.00 | 0.0% | 11.90 | 0.3% | 0.05 | 0.00 | -162 | 0 | 5.16 | 0.00 | |
| 11:45 | 0.3 | 9.93 | 0.02 | 1.06 | 0.0% | 1.8 | 43.8% | 0.00 | 0.0% | 12.00 | 0.8% | 0.05 | 0.00 | -161 | 1 | 5.16 | 0.00 | |
| 11:50 | 0.3 | 9.92 | 0.01 | 1.06 | 0.0% | 1.7 | 5.6% | 0.00 | 0.0% | 11.98 | 0.2% | 0.05 | 0.00 | -161 | 0 | 5.16 | 0.00 | |
| 11:55 | 0.3 | 9.88 | 0.04 | 1.06 | 0.0% | 1.6 | 5.9% | 0.00 | 0.0% | 11.95 | 0.3% | 0.05 | 0.00 | -159 | 2 | 5.16 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 11:55 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.5 Liters Odor: None

Well Condition: See well inspection log Other: -

Color of GW: _____

Sample ID: 125-MW-03 @ 11:55 Sample ID: -

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.00 Time: 9:25 Date: 4/7/2016

Serial Number: 21103 Depth to Bottom of Well: 16.70 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Steven Polansky (Signature) Sampled By: SP Purge Start Time: 9:30

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:45 | 0.3 | 7.53 | - | 5.66 | - | 77.3 | - | 5.77 | - | 14.20 | - | 0.30 | - | -203 | - | 6.10 | - | |
| 9:55 | 0.3 | 7.59 | 0.06 | 5.46 | 3.5% | 259.0 | 235.1% | 3.96 | 31.4% | 14.30 | 0.7% | 0.29 | 0.01 | -207 | 4 | 6.10 | 0.00 | |
| 10:05 | 0.3 | 7.72 | 0.13 | 5.22 | 4.4% | 192.0 | 25.9% | 0.00 | 100.0% | 14.35 | 0.3% | 0.28 | 0.01 | -216 | 9 | 6.10 | 0.00 | |
| 10:10 | 0.3 | 7.73 | 0.01 | 5.20 | 0.4% | 216.0 | 12.5% | 0.00 | 0.0% | 14.32 | 0.2% | 0.28 | 0.00 | -217 | 1 | 6.10 | 0.00 | |
| 10:15 | 0.3 | 7.74 | 0.01 | 5.17 | 0.6% | 179.0 | 17.1% | 0.00 | 0.0% | 14.32 | 0.0% | 0.28 | 0.00 | -218 | 1 | 6.10 | 0.00 | |
| 10:20 | 0.3 | 7.75 | 0.01 | 5.15 | 0.4% | 140.0 | 21.8% | 0.00 | 0.0% | 14.29 | 0.2% | 0.28 | 0.00 | -218 | 0 | 6.10 | 0.00 | |
| 10:25 | 0.3 | 7.79 | 0.04 | 5.08 | 1.4% | 111.0 | 20.7% | 0.00 | 0.0% | 14.25 | 0.3% | 0.27 | 0.01 | -221 | 3 | 6.10 | 0.00 | |
| 10:30 | 0.3 | 7.82 | 0.03 | 5.07 | 0.2% | 67.9 | 38.8% | 0.00 | 0.0% | 14.26 | 0.1% | 0.27 | 0.00 | -222 | 1 | 6.10 | 0.00 | |
| 10:35 | 0.3 | 7.82 | 0.00 | 5.03 | 0.8% | 78.4 | 15.5% | 0.00 | 0.0% | 14.27 | 0.1% | 0.27 | 0.00 | -222 | 0 | 6.11 | 0.01 | |
| 10:40 | 0.3 | 7.83 | 0.01 | 4.99 | 0.8% | 68.1 | 13.1% | 0.00 | 0.0% | 14.31 | 0.3% | 0.27 | 0.00 | -222 | 0 | 6.13 | 0.02 | |
| 10:45 | 0.3 | 7.84 | 0.01 | 4.99 | 0.0% | 66.5 | 2.3% | 0.00 | 0.0% | 14.34 | 0.2% | 0.27 | 0.00 | -222 | 0 | 6.13 | 0.00 | |
| 10:50 | 0.3 | 7.84 | 0.00 | 4.99 | 0.0% | 60.3 | 9.3% | 0.00 | 0.0% | 14.35 | 0.1% | 0.27 | 0.00 | -221 | 1 | 6.13 | 0.00 | |
| 10:55 | 0.3 | 7.84 | 0.00 | 4.98 | 0.2% | 55.4 | 8.1% | 0.00 | 0.0% | 14.38 | 0.2% | 0.27 | 0.00 | -221 | 0 | 6.13 | 0.00 | |
| 11:00 | 0.3 | 7.85 | 0.01 | 4.95 | 0.6% | 55.3 | 0.2% | 0.00 | 0.0% | 14.43 | 0.3% | 0.26 | 0.01 | -220 | 1 | 6.13 | 0.00 | |
| 11:05 | 0.3 | 7.88 | 0.03 | 4.94 | 0.2% | 55.8 | 0.9% | 0.00 | 0.0% | 14.44 | 0.1% | 0.26 | 0.00 | -220 | 0 | 6.13 | 0.00 | |
| 11:10 | 0.3 | 7.87 | 0.01 | 4.95 | 0.2% | 55.6 | 0.4% | 0.00 | 0.0% | 14.43 | 0.1% | 0.27 | 0.01 | -220 | 0 | 6.13 | 0.00 | |
| 11:15 | 0.3 | 7.87 | 0.00 | 5.01 | 1.2% | 51.9 | 6.7% | 0.00 | 0.0% | 14.39 | 0.3% | 0.27 | 0.00 | -220 | 0 | 6.13 | 0.00 | |
| 11:20 | 0.3 | 7.89 | 0.02 | 5.02 | 0.2% | 23.2 | 55.3% | 0.00 | 0.0% | 14.38 | 0.1% | 0.27 | 0.00 | -221 | 1 | 6.13 | 0.00 | |
| 11:25 | 0.3 | 7.87 | 0.02 | 5.02 | 0.0% | 21.1 | 9.1% | 0.00 | 0.0% | 14.38 | 0.0% | 0.27 | 0.00 | -220 | 1 | 6.13 | 0.00 | |
| 11:30 | 0.3 | 7.88 | 0.01 | 5.01 | 0.2% | 22.6 | 7.1% | 0.00 | 0.0% | 14.39 | 0.1% | 0.27 | 0.00 | -220 | 0 | 6.31 | 0.18 | |
| | | | | | | | | | | | | | | | | | | |
| 11:30 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 31.5 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 134-MW-03 @ 11:30

Odor: None

Other: -

Sample ID: -

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ - ___ ) x ___ $^2$ x ___ x 0.0408 = ___ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.20 Time: 11:20 Date: 4/7/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 11:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:30 | 0.2 | 8.47 | - | 3.61 | - | 757.0 | - | 0.00 | - | 14.99 | - | 0.19 | - | -57 | - | 5.20 | - | |
| 11:35 | 0.2 | 8.46 | 0.01 | 3.59 | 0.6% | 191.0 | 74.8% | 0.00 | 0.0% | 15.25 | 1.7% | 0.19 | 0.00 | -64 | 7 | 5.20 | 0.00 | |
| 11:40 | 0.2 | 8.46 | 0.00 | 3.57 | 0.6% | 64.9 | 66.0% | 0.00 | 0.0% | 15.27 | 0.1% | 0.19 | 0.00 | -66 | 2 | 5.20 | 0.00 | |
| 11:45 | 0.2 | 8.48 | 0.02 | 3.53 | 1.1% | 0.0 | 100.0% | 0.00 | 0.0% | 15.25 | 0.1% | 0.19 | 0.00 | -69 | 3 | 5.20 | 0.00 | |
| 11:50 | 0.2 | 8.49 | 0.01 | 3.50 | 0.8% | 0.0 | 0.0% | 0.00 | 0.0% | 15.21 | 0.3% | 0.19 | 0.00 | -72 | 3 | 5.20 | 0.00 | |
| 11:55 | 0.2 | 8.49 | 0.00 | 3.48 | 0.6% | 0.0 | 0.0% | 0.00 | 0.0% | 15.17 | 0.3% | 0.19 | 0.00 | -74 | 2 | 5.20 | 0.00 | |
| 12:00 | 0.2 | 8.49 | 0.00 | 3.48 | 0.0% | 0.0 | 0.0% | 0.00 | 0.0% | 15.16 | 0.1% | 0.19 | 0.00 | -74 | 0 | 5.20 | 0.00 | |
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| 12:05 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 6 Liters

Well Condition: See well inspection log

Color of GW: Gray to clear

Sample ID: 134-MW-04 @ 12:05

Odor: None

Other: Turbidity reading strange; possible equipment failure. Water appears clear. May need resampling pending results

Sample ID: -

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☐ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): _____

Well Depth (ft BTOC): 15.68

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.02 Time: 12:17 Date: 4/7/2016

Serial Number: 21103 Depth to Bottom of Well: 15.68 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Steven Polansky (Signature) Sampled By: SP Purge Start Time: 12:40

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 12:45 | 0.35 | 8.23 | - | 0.863 | - | 48.4 | - | 0.00 | - | 14.65 | - | 0.04 | - | -116 | - | 6.15 | - | |
| 12:50 | 0.35 | 8.38 | 0.15 | 1.00 | 15.9% | 30.5 | 37.0% | 0.00 | 0.0% | 14.60 | 0.3% | 0.05 | 0.01 | -158 | 42 | 6.15 | 0.00 | |
| 12:55 | 0.35 | 8.50 | 0.12 | 1.23 | 23.0% | 19.9 | 34.8% | 0.00 | 0.0% | 14.46 | 1.0% | 0.06 | 0.01 | -180 | 22 | 6.14 | 0.01 | |
| 13:00 | 0.35 | 8.58 | 0.08 | 1.55 | 26.0% | 12.7 | 36.2% | 0.00 | 0.0% | 14.37 | 0.6% | 0.08 | 0.02 | -203 | 23 | 6.15 | 0.01 | |
| 13:05 | 0.35 | 8.65 | 0.07 | 1.78 | 14.8% | 12.9 | 1.6% | 0.00 | 0.0% | 14.45 | 0.6% | 0.09 | 0.01 | -217 | 14 | 6.15 | 0.00 | |
| 13:10 | 0.35 | 8.67 | 0.02 | 1.86 | 4.5% | 10.5 | 18.6% | 0.00 | 0.0% | 14.43 | 0.1% | 0.09 | 0.00 | -224 | 7 | 6.15 | 0.00 | |
| 13:15 | 0.35 | 8.71 | 0.04 | 1.95 | 4.8% | 10.4 | 1.0% | 0.00 | 0.0% | 14.87 | 3.0% | 0.10 | 0.01 | -230 | 6 | 6.15 | 0.00 | |
| 13:20 | 0.35 | 8.73 | 0.02 | 2.06 | 5.6% | 9.5 | 8.7% | 0.00 | 0.0% | 14.52 | 2.4% | 0.10 | 0.00 | -246 | 16 | 6.15 | 0.00 | |
| 13:25 | 0.35 | 8.74 | 0.01 | 2.08 | 1.0% | 9.7 | 2.1% | 0.00 | 0.0% | 14.55 | 0.2% | 0.11 | 0.01 | -251 | 5 | 6.15 | 0.00 | |
| 13:30 | 0.35 | 8.75 | 0.01 | 2.10 | 1.0% | 9.3 | 4.1% | 0.00 | 0.0% | 14.60 | 0.3% | 0.11 | 0.00 | -255 | 4 | 6.15 | 0.00 | |
| 13:35 | 0.35 | 8.78 | 0.03 | 2.13 | 1.4% | 10.1 | 8.6% | 0.00 | 0.0% | 14.56 | 0.3% | 0.11 | 0.00 | -260 | 5 | 6.15 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
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| 13:35 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 17.5 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 140-MW-09 @ 13:35

Odor: None

Other: -

Sample ID: -

Groundwater Sampling Form

amec foster wheeler

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type _____ Size _____ Other ☑ on site treatment system

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.55 Time: 12:35 Date: 4/7/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 12:40

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 12:45 | 0.2 | 12.29 | - | 5.39 | - | 101.0 | - | 0.02 | - | 12.69 | - | 0.28 | - | -187 | - | 5.59 | - | |
| 12:50 | 0.2 | 12.29 | 0.00 | 5.39 | 0.0% | 63.6 | 37.0% | 0.02 | 0.0% | 12.68 | 0.1% | 0.28 | 0.00 | -193 | 6 | 5.60 | 0.01 | |
| 12:55 | 0.2 | 12.29 | 0.00 | 5.39 | 0.0% | 63.4 | 0.3% | 0.00 | 100.0% | 12.65 | 0.2% | 0.28 | 0.00 | -196 | 3 | 5.61 | 0.01 | |
| 13:00 | 0.2 | 12.30 | 0.01 | 5.41 | 0.4% | 56.4 | 11.0% | 0.00 | 0.0% | 12.64 | 0.1% | 0.28 | 0.00 | -199 | 3 | 5.61 | 0.00 | |
| 13:05 | 0.2 | 12.30 | 0.00 | 5.43 | 0.4% | 46.5 | 17.6% | 0.00 | 0.0% | 12.63 | 0.1% | 0.28 | 0.00 | -204 | 5 | 5.61 | 0.00 | |
| 13:10 | 0.2 | 12.29 | 0.01 | 5.44 | 0.2% | 31.3 | 32.7% | 0.00 | 0.0% | 12.71 | 0.6% | 0.28 | 0.00 | -209 | 5 | 5.62 | 0.01 | |
| 13:15 | 0.2 | 12.30 | 0.01 | 5.45 | 0.2% | 28.9 | 7.7% | 0.00 | 0.0% | 12.73 | 0.2% | 0.28 | 0.00 | -211 | 2 | 5.62 | 0.00 | |
| 13:20 | 0.2 | 12.30 | 0.00 | 5.46 | 0.2% | 26.4 | 8.7% | 0.00 | 0.0% | 12.77 | 0.3% | 0.29 | 0.01 | -214 | 3 | 5.62 | 0.00 | |
| 13:25 | 0.2 | 12.31 | 0.01 | 5.45 | 0.2% | 21.3 | 19.3% | 0.00 | 0.0% | 12.74 | 0.2% | 0.29 | 0.00 | -214 | 0 | 5.62 | 0.00 | |
| 13:30 | 0.2 | 12.30 | 0.01 | 5.44 | 0.2% | 13.4 | 37.1% | 0.00 | 0.0% | 12.79 | 0.4% | 0.29 | 0.00 | -217 | 3 | 5.63 | 0.01 | |
| 13:35 | 0.2 | 12.30 | 0.00 | 5.44 | 0.0% | 11.0 | 17.9% | 0.00 | 0.0% | 12.81 | 0.2% | 0.29 | 0.00 | -218 | 1 | 5.63 | 0.00 | |
| 13:40 | 0.2 | 12.30 | 0.00 | 5.45 | 0.2% | 11.2 | 1.8% | 0.00 | 0.0% | 12.83 | 0.2% | 0.29 | 0.00 | -219 | 1 | 5.63 | 0.00 | |
| 13:45 | 0.2 | 12.30 | 0.00 | 5.45 | 0.0% | 11.4 | 1.8% | 0.00 | 0.0% | 12.82 | 0.1% | 0.29 | 0.00 | -220 | 1 | 5.63 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
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| 13:50 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 140-MW-10 @ 13:50

Odor: None

Other: High pH

Sample ID: -

Groundwater Sampling Form

**Job Name:** SA-6S

**Job Number:** 3480150488.6100.610001

**Well Number:** 163-MW-2R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: _____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2 "

Well Depth (ft BTOC): _____

Screen Interval in Feet (BTOC) from _____ to _____

**PURGE METHOD**

Bailer - Type: _____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum ☐ Type _____ Other ☑ on site treatment system

Size _____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.35 Time: 13:05 Date: 4/6/2016

Serial Number: 21330 Depth to Bottom of Well: - PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: John Alexander (Signature) Sampled By: JA Purge Start Time: 13:10

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:15 | 0.3 | 7.15 | - | 2.87 | - | 82.3 | - | 0.00 | - | 14.06 | - | 0.15 | - | -72 | - | 8.45 | - | |
| 13:20 | 0.3 | 7.17 | 0.02 | 2.70 | 5.9% | 38.8 | 52.9% | 0.00 | 0.0% | 14.11 | 0.4% | 0.14 | 0.01 | -84 | 12 | 8.56 | 0.11 | |
| 13:25 | 0.3 | 7.20 | 0.03 | 2.50 | 7.4% | 21.1 | 45.6% | 0.00 | 0.0% | 14.11 | 0.0% | 0.13 | 0.01 | -96 | 12 | 8.69 | 0.13 | |
| 13:30 | 0.3 | 7.22 | 0.02 | 2.42 | 3.2% | 18.3 | 13.3% | 0.00 | 0.0% | 14.14 | 0.2% | 0.12 | 0.01 | -103 | 7 | 8.61 | 0.08 | |
| 13:35 | 0.3 | 7.25 | 0.03 | 2.40 | 0.8% | 11.7 | 36.1% | 0.00 | 0.0% | 14.16 | 0.1% | 0.12 | 0.00 | -109 | 6 | 8.58 | 0.03 | |
| 13:40 | 0.3 | 7.27 | 0.02 | 2.37 | 1.2% | 10.1 | 13.7% | 0.00 | 0.0% | 14.18 | 0.1% | 0.12 | 0.00 | -116 | 7 | 8.58 | 0.00 | |
| 13:45 | 0.3 | 7.29 | 0.02 | 2.31 | 2.5% | 4.4 | 56.4% | 0.00 | 0.0% | 14.18 | 0.0% | 0.11 | 0.01 | -122 | 6 | 8.58 | 0.00 | |
| 13:50 | 0.3 | 7.30 | 0.01 | 2.29 | 0.9% | 4.2 | 4.5% | 0.00 | 0.0% | 14.18 | 0.0% | 0.11 | 0.00 | -129 | 7 | 8.58 | 0.00 | |
| 13:55 | 0.3 | 7.31 | 0.01 | 2.27 | 0.9% | 3.9 | 7.1% | 0.00 | 0.0% | 14.18 | 0.0% | 0.11 | 0.00 | -131 | 2 | 8.58 | 0.00 | |
| 14:00 | 0.3 | 7.31 | 0.00 | 2.23 | 1.8% | 3.6 | 7.7% | 0.00 | 0.0% | 14.18 | 0.0% | 0.11 | 0.00 | -136 | 5 | 8.58 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 14:05 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.5 Liters

Well Condition: See well inspection log

Color of GW: Light gray to clear

Sample ID: 163-MW-2R @ 14:05

Odor: None

Other: -

Sample ID: -

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 21.5

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 20.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.09 Time: 9:03 Date: 4/18/2017

Serial Number: 25311 Depth to Bottom of Well: 21.50 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/20/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 10:20

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:25 | **0.3** | **12.64** | **-** | **8.57** | **-** | **97** | **-** | **1.08** | **-** | **1000.0** | **-** | **0.00** | **-** | **0.03** | **-** | **8.19** | **-** | NTU Max |
| 10:30 | **0.3** | **12.36** | **2.2** | **8.57** | **0.00** | **83** | **14** | **1.06** | **1.9** | **1000.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 10:35 | **0.3** | **12.25** | **0.9** | **8.57** | **0.00** | **81** | **2** | **1.05** | **0.9** | **800.0** | **20.0** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 10:40 | **0.3** | **11.99** | **2.1** | **8.60** | **-0.03** | **80** | **1** | **1.07** | **-1.9** | **509.0** | **36.4** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 10:45 | **0.3** | **11.96** | **0.3** | **8.61** | **-0.01** | **80** | **0** | **1.09** | **-1.9** | **319.0** | **37.3** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 10:50 | **0.3** | **11.56** | **3.3** | **8.63** | **-0.02** | **80** | **0** | **1.09** | **0.0** | **111.0** | **65.2** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 10:55 | **0.3** | **11.49** | **0.6** | **8.63** | **0.00** | **80** | **0** | **1.10** | **-0.9** | **58.7** | **47.1** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:00 | **0.3** | **11.48** | **0.1** | **8.64** | **-0.01** | **84** | **-4** | **1.10** | **0.0** | **53.1** | **9.5** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:05 | **0.3** | **11.46** | **0.2** | **8.63** | **0.01** | **84** | **0** | **1.11** | **-0.9** | **45.7** | **13.9** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:10 | **0.3** | **11.33** | **1.1** | **8.63** | **0.00** | **83** | **1** | **1.10** | **0.9** | **40.1** | **12.3** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:15 | **0.3** | **11.39** | **-0.5** | **8.64** | **-0.01** | **89** | **-6** | **1.09** | **0.9** | **35.6** | **11.2** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:20 | **0.3** | **11.49** | **-0.9** | **8.65** | **-0.01** | **89** | **0** | **1.10** | **-0.9** | **29.7** | **16.6** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:25 | **0.3** | **11.56** | **-0.6** | **8.65** | **0.00** | **88** | **1** | **1.10** | **0.0** | **25.2** | **15.2** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | Clean Horiba |
| 11:30 | **0.3** | **11.62** | **-0.5** | **8.66** | **-0.01** | **87** | **1** | **1.11** | **-0.9** | **12.6** | **50.0** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:35 | **0.3** | **11.71** | **-0.8** | **8.65** | **0.01** | **86** | **1** | **1.11** | **0.0** | **9.6** | **23.8** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:40 | **0.3** | **11.86** | **-1.3** | **8.66** | **-0.01** | **85** | **1** | **1.10** | **0.9** | **7.4** | **22.9** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:45 | **0.3** | **11.94** | **-0.7** | **8.66** | **0.00** | **85** | **0** | **1.10** | **0.0** | **6.9** | **6.8** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
| 11:50 | **0.3** | **11.88** | **0.5** | **8.67** | **-0.01** | **85** | **0** | **1.11** | **-0.9** | **4.2** | **39.1** | **0.00** | **0.0** | **0.03** | **0.00** | **8.19** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 10 Final Water Level: 8.62 Final Well Depth: 22.50

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 073-MW-06-042017 @11:55 Sample ID: 073-MW-06-042017F @12:00

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.4

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.7

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.47/6.59 Time: 9:01 Date: 4/18/2017

Serial Number: 33115 Depth to Bottom of Well: 18.40 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/20/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Dan Berkowitz (Signature) Sampled By: Dan Berkowitz Purge Start Time: 10:00

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:10 | **0.30** | **10.37** | **-** | **6.70** | **-** | **-83** | **-** | **0.416** | **-** | **372.0** | **-** | **0.00** | **-** | **0.02** | **-** | **7.71** | **-** | Cloudy |
| 10:15 | **0.40** | **10.39** | **-0.2** | **6.68** | **0.02** | **-83** | **0** | **0.430** | **-3.4** | **335.0** | **9.9** | **0.00** | **0.0** | **0.02** | **0.00** | **7.65** | **0.06** | |
| 10:20 | **0.40** | **10.34** | **0.5** | **6.74** | **-0.06** | **-76** | **-7** | **0.415** | **3.5** | **319.0** | **4.8** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **-0.19** | |
| 10:25 | **0.40** | **10.28** | **0.6** | **6.73** | **0.01** | **-75** | **-1** | **0.426** | **-2.7** | **204.0** | **36.1** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | |
| 10:30 | **0.40** | **10.16** | **1.2** | **6.77** | **-0.04** | **-70** | **-5** | **0.425** | **0.2** | **126.0** | **38.2** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | |
| 10:35 | **0.40** | **10.17** | **-0.1** | **6.79** | **-0.02** | **-65** | **-5** | **0.433** | **-1.9** | **58.3** | **53.7** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 10:40 | **0.40** | **10.16** | **0.1** | **6.80** | **-0.01** | **-63** | **-2** | **0.434** | **-0.2** | **35.9** | **38.4** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 10:45 | **0.40** | **10.14** | **0.2** | **6.82** | **-0.02** | **-62** | **-1** | **0.434** | **0.0** | **21.6** | **39.8** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | |
| 10:50 | **0.40** | **10.15** | **-0.1** | **6.83** | **-0.01** | **-61** | **-1** | **0.434** | **0.0** | **16.2** | **25.0** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 10:55 | **0.40** | **10.14** | **0.1** | **6.84** | **-0.01** | **-61** | **0** | **0.434** | **0.0** | **12.1** | **25.3** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 11:00 | **0.30** | **10.13** | **0.1** | **6.85** | **-0.01** | **-60** | **-1** | **0.435** | **-0.2** | **9.1** | **24.8** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 11:05 | **0.35** | **10.15** | **-0.2** | **6.85** | **0.00** | **-60** | **0** | **0.435** | **0.0** | **8.6** | **5.5** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 11:10 | **0.40** | **10.15** | **0.0** | **6.85** | **0.00** | **-59** | **-1** | **0.435** | **0.0** | **8.1** | **5.8** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
| 11:15 | **0.40** | **10.12** | **0.3** | **6.86** | **-0.01** | **-56** | **-3** | **0.435** | **0.0** | **7.2** | **11.1** | **0.00** | **0.0** | **0.02** | **0.00** | **7.84** | **0.00** | Clear |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 9 Final Water Level: 7.84 Final Well Depth: 18.50

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 073-MW-07-042017 @11:15

Odor: None

Other: Soft Bottom of Well, Slight Sheen on first Bucket

Sample ID: 073-MW-07-042017F @11:20

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.4

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.13/6.06 Time: 8:57 Date: 4/18/2017

Serial Number: 33115 Depth to Bottom of Well: 18.40 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/20/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Dan Berkowitz (Signature) Sampled By: Dan Berkowitz Purge Start Time: 8:00

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:10 | **0.35** | **12.95** | **-** | **7.12** | **-** | **140** | **-** | **0.541** | **-** | **492.0** | **-** | **11.93** | **-** | **0.03** | **-** | **6.17** | **-** | Clearing |
| 8:15 | **0.40** | **12.12** | **6.4** | **7.19** | **-0.07** | **-74** | **214** | **0.533** | **1.5** | **308.0** | **37.4** | **8.31** | **30.3** | **0.03** | **0.00** | **6.17** | **0.00** | Clearing |
| 8:20 | **0.40** | **11.90** | **1.8** | **7.29** | **-0.10** | **-90** | **16** | **0.514** | **3.6** | **116.0** | **62.3** | **7.41** | **10.8** | **0.02** | **0.01** | **6.15** | **0.02** | Clearing |
| 8:25 | **0.35** | **11.45** | **3.8** | **7.53** | **-0.24** | **-105** | **15** | **0.487** | **5.3** | **29.6** | **74.5** | **6.29** | **15.1** | **0.02** | **0.00** | **6.15** | **0.00** | Clear |
| 8:30 | **0.30** | **11.27** | **1.6** | **7.67** | **-0.14** | **-117** | **12** | **0.479** | **1.6** | **15.7** | **47.0** | **5.59** | **11.1** | **0.02** | **0.00** | **6.15** | **0.00** | Clear |
| 8:35 | **0.30** | **11.18** | **0.8** | **7.78** | **-0.11** | **-123** | **6** | **0.478** | **0.2** | **12.8** | **18.5** | **5.01** | **10.4** | **0.02** | **0.00** | **6.15** | **0.00** | Clear |
| 8:40 | **0.35** | **11.18** | **0.0** | **7.80** | **-0.02** | **-131** | **8** | **0.486** | **-1.7** | **11.3** | **11.7** | **4.45** | **11.2** | **0.02** | **0.00** | **6.18** | **-0.03** | Clear |
| 8:45 | **0.30** | **11.12** | **0.5** | **7.81** | **-0.01** | **-134** | **3** | **0.488** | **-0.4** | **10.4** | **8.0** | **3.62** | **18.7** | **0.02** | **0.00** | **6.19** | **-0.01** | Clear |
| 8:50 | **0.30** | **11.10** | **0.2** | **7.83** | **-0.02** | **-136** | **2** | **0.489** | **-0.2** | **9.8** | **5.8** | **3.24** | **10.5** | **0.02** | **0.00** | **6.19** | **0.00** | Clear |
| 8:55 | **0.30** | **11.09** | **0.1** | **7.86** | **-0.03** | **-138** | **2** | **0.489** | **0.0** | **9.9** | **-1.0** | **3.18** | **1.9** | **0.02** | **0.00** | **6.20** | **-0.01** | Clear |
| 9:00 | **0.30** | **11.10** | **-0.1** | **7.89** | **-0.03** | **-140** | **2** | **0.490** | **-0.2** | **9.6** | **3.0** | **3.06** | **3.8** | **0.02** | **0.00** | **6.22** | **-0.02** | Clear |
| 9:05 | **0.30** | **11.07** | **0.3** | **7.90** | **-0.01** | **-140** | **0** | **0.492** | **-0.4** | **9.3** | **3.1** | **3.02** | **1.3** | **0.02** | **0.00** | **6.23** | **-0.01** | Clear |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 8 Final Water Level: 6.22 Final Well Depth: 18.40

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 073-MW-08-042017 @09:05

Odor: None

Other: -

Sample ID: 073-MW-08-042017F @09:10

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.6

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.21 Time: 8:42 Date: 4/18/2017

Serial Number: 25311 Depth to Bottom of Well: 13.60 PID Reading (inside of Casing): 0.4

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 12:25

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:30 | **0.3** | **13.01** | **-** | **7.63** | **-** | **-160** | **-** | **1.56** | **-** | **632.0** | **-** | **18.11** | **-** | **0.05** | **-** | **6.42** | **-** | Slight Odor |
| 12:35 | **0.3** | **10.92** | **16.1** | **7.15** | **0.48** | **-162** | **2** | **1.51** | **3.2** | **166.0** | **73.7** | **11.17** | **38.3** | **0.04** | **0.01** | **6.43** | **-0.01** | |
| 12:40 | **0.3** | **10.86** | **0.5** | **7.12** | **0.03** | **-159** | **-3** | **1.49** | **1.3** | **63.6** | **61.7** | **9.93** | **11.1** | **0.04** | **0.00** | **6.44** | **-0.01** | |
| 12:45 | **0.3** | **11.04** | **-1.7** | **7.09** | **0.03** | **-159** | **0** | **1.49** | **0.0** | **34.8** | **45.3** | **9.21** | **7.3** | **0.04** | **0.00** | **6.44** | **0.00** | |
| 12:50 | **0.3** | **11.14** | **-0.9** | **7.07** | **0.02** | **-154** | **-5** | **1.49** | **0.0** | **20.0** | **42.5** | **8.76** | **4.9** | **0.04** | **0.00** | **6.44** | **0.00** | |
| 12:55 | **0.3** | **11.06** | **0.7** | **7.05** | **0.02** | **-152** | **-2** | **1.50** | **-0.7** | **12.1** | **39.5** | **8.44** | **3.7** | **0.04** | **0.00** | **6.44** | **0.00** | |
| 13:00 | **0.3** | **10.89** | **1.5** | **7.05** | **0.00** | **-151** | **-1** | **1.50** | **0.0** | **9.4** | **22.3** | **8.11** | **3.9** | **0.04** | **0.00** | **6.44** | **0.00** | |
| 13:05 | **0.3** | **10.94** | **-0.5** | **7.05** | **0.00** | **-149** | **-2** | **1.49** | **0.7** | **7.0** | **25.5** | **7.69** | **5.2** | **0.04** | **0.00** | **6.44** | **0.00** | |
| 13:10 | **0.3** | **10.91** | **0.3** | **7.05** | **0.00** | **-146** | **-3** | **1.48** | **0.7** | **4.8** | **31.4** | **7.35** | **4.4** | **0.04** | **0.00** | **6.44** | **0.00** | |
| 13:15 | **0.3** | **10.80** | **1.0** | **7.05** | **0.00** | **-146** | **0** | **1.47** | **0.7** | **4.5** | **6.3** | **7.16** | **2.6** | **0.04** | **0.00** | **6.44** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 7 Final Water Level: 6.20 Final Well Depth: 13.58

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 124-MW-12-041817 @13:20

Odor: Slight Odor at Start of Purge, No Odor at Sample

Other: -

Sample ID: 124-MW-12-041817F @13:25

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.0

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 13.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.12 Time: 8:44 Date: 4/18/2017

Serial Number: 33115 Depth to Bottom of Well: 15.00 PID Reading (inside of Casing): 2.6

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Dan Berkowitz (Signature) Sampled By: Dan Berkowitz Purge Start Time: 12:10

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:15 | **0.30** | **11.47** | **-** | **11.22** | **-** | **-132** | **-** | **0.638** | **-** | **389.0** | **-** | **0.00** | **-** | **0.03** | **-** | **6.39** | **-** | Cloudy |
| 12:20 | **0.30** | **11.09** | **3.3** | **10.65** | **0.57** | **-144** | **12** | **0.574** | **10.0** | **103.0** | **73.5** | **0.00** | **0.0** | **0.03** | **0.00** | **6.39** | **0.00** | Clearing |
| 12:25 | **0.30** | **11.18** | **-0.8** | **10.60** | **0.05** | **-142** | **-2** | **0.580** | **-1.0** | **47.6** | **53.8** | **0.00** | **0.0** | **0.03** | **0.00** | **6.39** | **0.00** | Clearing |
| 12:30 | **0.30** | **11.37** | **-1.7** | **10.51** | **0.09** | **-139** | **-3** | **0.571** | **1.6** | **34.7** | **27.1** | **0.00** | **0.0** | **0.03** | **0.00** | **6.39** | **0.00** | Clear |
| 12:35 | **0.30** | **11.23** | **1.2** | **10.71** | **-0.20** | **-146** | **7** | **0.598** | **-4.7** | **18.9** | **45.5** | **0.00** | **0.0** | **0.03** | **0.00** | **6.39** | **0.00** | Clear |
| 12:40 | **0.30** | **11.23** | **0.0** | **10.37** | **0.34** | **-138** | **-8** | **0.576** | **3.7** | **14.5** | **23.3** | **0.00** | **0.0** | **0.03** | **0.00** | **6.41** | **-0.02** | Clear |
| 12:45 | **0.35** | **11.26** | **-0.3** | **10.25** | **0.12** | **-138** | **0** | **0.553** | **4.0** | **15.8** | **-9.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.40** | **0.01** | Clear |
| 12:50 | **0.30** | **11.28** | **-0.2** | **10.44** | **-0.19** | **-137** | **-1** | **0.574** | **-3.8** | **0.8** | **94.9** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **-0.02** | Clear |
| 12:55 | **0.35** | **11.16** | **1.1** | **10.49** | **-0.05** | **-139** | **2** | **0.571** | **0.5** | **0.0** | **100.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.44** | **-0.02** | Clear |
| 13:00 | **0.40** | **11.09** | **0.6** | **10.26** | **0.23** | **-139** | **0** | **0.561** | **1.8** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.45** | **-0.01** | Clear |
| 13:05 | **0.30** | **11.02** | **0.6** | **10.23** | **0.03** | **-128** | **-11** | **0.547** | **2.5** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.49** | **-0.04** | Clear |
| 13:10 | **0.30** | **10.95** | **0.6** | **10.51** | **-0.28** | **-153** | **25** | **0.549** | **-0.4** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.51** | **-0.02** | Clear |
| 13:15 | **0.30** | **10.97** | **-0.2** | **10.34** | **0.17** | **-149** | **-4** | **0.553** | **-0.7** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.52** | **-0.01** | Clear |
| 13:20 | **0.30** | **10.91** | **0.5** | **10.34** | **0.00** | **-146** | **-3** | **0.550** | **0.5** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.52** | **0.00** | Clear |
| 13:25 | **0.30** | **10.98** | **-0.6** | **10.32** | **0.02** | **-139** | **-7** | **0.555** | **-0.9** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.53** | **-0.01** | Clear |
| 13:30 | **0.30** | **10.96** | **0.2** | **10.38** | **-0.06** | **-141** | **2** | **0.553** | **0.4** | **0.0** | **0.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.55** | **-0.02** | Clear |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 10 Final Water Level: 6.55 Final Well Depth: 14.90

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 124-MW-13-041817 @13:30 Sample ID: 124-MW-13-041817F @13:35

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.3

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 11.8

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 3.02/3.07 Time: 9:20 Date: 4/18/2017

Serial Number: 33115 Depth to Bottom of Well: 13.3 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Dan Berkowitz (Signature) Sampled By: Dan Berkowitz Purge Start Time: 8:30

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:35 | **0.30** | **15.06** | **-** | **6.67** | **-** | **225** | **-** | **5.44** | **-** | **231.0** | **-** | **1.71** | **-** | **0.30** | **-** | **3.22** | **-** | Cloudy |
| 8:40 | **0.30** | **12.85** | **14.7** | **6.49** | **0.18** | **-65** | **290** | **4.64** | **14.7** | **128.0** | **44.6** | **0.00** | **100** | **0.25** | **0.05** | **3.23** | **-0.01** | Clearing |
| 8:45 | **0.30** | **13.07** | **-1.7** | **6.46** | **0.03** | **-59** | **-6** | **4.94** | **-6.5** | **98.7** | **22.9** | **0.00** | **0.0** | **0.25** | **0.00** | **3.22** | **0.01** | Clearing |
| 8:50 | **0.30** | **13.06** | **0.1** | **6.48** | **-0.02** | **-60** | **1** | **4.69** | **5.1** | **104.0** | **-5.4** | **0.00** | **0.0** | **0.25** | **0.00** | **3.22** | **0.00** | Clear |
| 8:55 | **0.30** | **12.97** | **0.7** | **6.44** | **0.04** | **-55** | **-5** | **5.24** | **-11.7** | **50.3** | **51.6** | **0.00** | **0.0** | **0.28** | **-0.03** | **3.22** | **0.00** | Clear |
| 9:00 | **0.30** | **13.00** | **-0.2** | **6.44** | **0.00** | **-53** | **-2** | **5.22** | **0.4** | **49.2** | **2.2** | **0.00** | **0.0** | **0.28** | **0.00** | **3.22** | **0.00** | Clear |
| 9:05 | **0.35** | **12.96** | **0.3** | **6.45** | **-0.01** | **-50** | **-3** | **5.23** | **-0.2** | **44.1** | **10.4** | **0.00** | **0.0** | **0.28** | **0.00** | **3.22** | **0.00** | Clear |
| 9:10 | **0.30** | **12.92** | **0.3** | **6.46** | **-0.01** | **-49** | **-1** | **5.24** | **-0.2** | **33.3** | **24.5** | **0.00** | **0.0** | **0.28** | **0.00** | **3.22** | **0.00** | Clear |
| 9:15 | **0.30** | **12.92** | **0.0** | **6.46** | **0.00** | **-45** | **-4** | **5.27** | **-0.6** | **31.1** | **6.6** | **0.00** | **0.0** | **0.28** | **0.00** | **3.22** | **0.00** | Clear |
| 9:20 | **0.30** | **12.93** | **-0.1** | **6.47** | **-0.01** | **-46** | **1** | **5.23** | **0.8** | **26.2** | **15.8** | **0.00** | **0.0** | **0.28** | **0.00** | **3.22** | **0.00** | Clear |
| 9:25 | **0.30** | **12.82** | **0.9** | **6.47** | **0.00** | **-48** | **2** | **5.32** | **-1.7** | **22.1** | **15.6** | **0.00** | **0.0** | **0.28** | **0.00** | **3.22** | **0.00** | Clear |
| 9:30 | **0.40** | **12.81** | **0.1** | **6.47** | **0.00** | **-48** | **0** | **5.34** | **-0.4** | **16.4** | **25.8** | **0.00** | **0.0** | **0.29** | **-0.01** | **3.22** | **0.00** | Clear |
| 9:35 | **0.40** | **12.80** | **0.1** | **6.47** | **0.00** | **-48** | **0** | **5.39** | **-0.9** | **17.6** | **-7.3** | **0.00** | **0.0** | **0.29** | **0.00** | **3.22** | **0.00** | Clear |
| 9:40 | **0.40** | **12.73** | **0.5** | **6.48** | **-0.01** | **-45** | **-3** | **5.51** | **-2.2** | **20.3** | **-15.3** | **0.00** | **0.0** | **0.29** | **0.00** | **3.23** | **-0.01** | Clear |
| 9:45 | **0.40** | **12.81** | **-0.6** | **6.48** | **0.00** | **-45** | **0** | **5.48** | **0.5** | **12.1** | **40.4** | **0.00** | **0.0** | **0.27** | **0.02** | **3.23** | **0.00** | Clear |
| 9:50 | **0.40** | **12.76** | **0.4** | **6.51** | **-0.03** | **-46** | **1** | **5.46** | **0.4** | **9.6** | **20.7** | **0.00** | **0.0** | **0.27** | **0.00** | **3.23** | **0.00** | Clear |
| 9:55 | **0.40** | **12.75** | **0.1** | **6.53** | **-0.02** | **-45** | **-1** | **5.46** | **0.0** | **8.4** | **12.5** | **0.00** | **0.0** | **0.27** | **0.00** | **3.23** | **0.00** | Clear |
| 10:00 | **0.40** | **12.76** | **-0.1** | **6.53** | **0.00** | **-46** | **1** | **5.43** | **0.5** | **7.2** | **14.3** | **0.00** | **0.0** | **0.27** | **0.00** | **3.22** | **0.01** | Clear |
| 10:05 | **0.40** | **12.75** | **0.1** | **6.53** | **0.00** | **-46** | **0** | **5.43** | **0.0** | **6.1** | **15.3** | **0.00** | **0.0** | **0.27** | **0.00** | **3.22** | **0.00** | Clear |
| 10:10 | **0.40** | **12.76** | **-0.1** | **6.52** | **0.01** | **-46** | **0** | **5.42** | **0.2** | **6.0** | **1.6** | **0.00** | **0.0** | **0.28** | **-0.01** | **3.22** | **0.00** | Clear |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 11 Final Water Level: 3.22 Final Well Depth: 13.30

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 125-MW-02-041917 @10:10 Sample ID: 125-MW-02-041917F @10:15

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.55

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.24 Time: 8:38 Date: 4/18/2017

Serial Number: 25311 Depth to Bottom of Well: 13.55 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 10:08

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:13 | 0.2 | 11.80 | - | 12.17 | - | 157 | - | 2.16 | - | 95.1 | - | 0.00 | - | 0.07 | - | 5.49 | - | |
| 10:18 | 0.2 | 11.57 | 1.9 | 12.18 | -0.01 | 77 | 80 | 2.35 | -8.8 | 77.2 | 18.8 | 0.00 | 0.0 | 0.08 | -0.01 | 5.49 | 0.00 | |
| 10:23 | 0.2 | 11.46 | 1.0 | 12.25 | -0.07 | 18 | 59 | 2.50 | -6.4 | 86.0 | -11.4 | 0.00 | 0.0 | 0.08 | 0.00 | 5.49 | 0.00 | |
| 10:28 | 0.2 | 11.43 | 0.3 | 12.30 | -0.05 | -33 | 51 | 2.60 | -4.0 | 67.9 | 21.0 | 0.00 | 0.0 | 0.09 | -0.01 | 5.49 | 0.00 | |
| 10:33 | 0.2 | 11.28 | 1.3 | 12.33 | -0.03 | -66 | 33 | 2.64 | -1.5 | 67.4 | -0.7 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
| 10:38 | 0.2 | 11.20 | 0.7 | 12.34 | -0.01 | -86 | 20 | 2.65 | -0.4 | 63.5 | 5.8 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
| 10:43 | 0.2 | 11.32 | -1.1 | 12.35 | -0.01 | -103 | 17 | 2.66 | -0.4 | 62.7 | 1.3 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | Clean Horiba |
| 10:48 | 0.2 | 11.29 | 0.3 | 12.36 | -0.01 | -110 | 7 | 2.65 | 0.4 | 1.4 | 97.8 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
| 10:53 | 0.2 | 11.30 | -0.1 | 12.37 | -0.01 | -123 | 13 | 2.65 | 0.0 | 1.0 | 28.6 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
| 10:58 | 0.2 | 11.31 | -0.1 | 12.37 | 0.00 | -130 | 7 | 2.64 | 0.4 | 1.1 | -10.0 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
| 11:03 | 0.2 | 11.39 | -0.7 | 12.37 | 0.00 | -137 | 7 | 2.63 | 0.4 | 0.7 | 36.4 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
| 11:08 | 0.2 | 11.55 | -1.4 | 12.36 | 0.01 | -140 | 3 | 2.61 | 0.8 | 0.2 | 71.4 | 0.00 | 0.0 | 0.09 | 0.00 | 5.49 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 5 Final Water Level: 5.29 Final Well Depth: 13.55

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 125-MW-03-041817 @1118

Sample ID: 125-MW-03-041817F @1128

Sample ID: 125-MW-03-041817FA @1138

Odor: None

Other: Metals, Hex Chrom

Sample ID: 125-MW-03-041817DP @1118

Sample ID: 125-MW-03-041817FDP @1128

Sample ID: 125-MW-03-041817FADP @1138

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.8

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.70 Time: 8:54 Date: 4/18/2017

Serial Number: 25311 Depth to Bottom of Well: 17.80 PID Reading (inside of Casing): 1.5

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 10:48

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:53 | 0.2 | 11.02 | - | 6.85 | - | -108 | - | 9.05 | - | 800.0 | - | 4.61 | - | 0.39 | - | 5.79 | - | Max NTU |
| 10:58 | 0.2 | 11.04 | -0.2 | 6.87 | -0.02 | -115 | 7 | 8.15 | 9.9 | 800.0 | 0.0 | 0.00 | 100 | 0.34 | 0.05 | 5.79 | 0.00 | Max NTU |
| 11:03 | 0.2 | 11.18 | -1.3 | 6.88 | -0.01 | -116 | 1 | 7.84 | 3.8 | 800.0 | 0.0 | 0.00 | 0.0 | 0.33 | 0.01 | 5.79 | 0.00 | Max NTU |
| 11:08 | 0.2 | 11.25 | -0.6 | 6.89 | -0.01 | -117 | 1 | 7.62 | 2.8 | 800.0 | 0.0 | 0.00 | 0.0 | 0.31 | 0.02 | 5.79 | 0.00 | Max NTU |
| 11:13 | 0.2 | 11.36 | -1.0 | 6.90 | -0.01 | -118 | 1 | 7.42 | 2.6 | 800.0 | 0.0 | 0.00 | 0.0 | 0.30 | 0.01 | 5.79 | 0.00 | Max NTU |
| 11:18 | 0.2 | 11.41 | -0.4 | 6.91 | -0.01 | -117 | -1 | 7.28 | 1.9 | 745.0 | 6.9 | 0.00 | 0.0 | 0.30 | 0.00 | 5.79 | 0.00 | |
| 11:23 | 0.2 | 11.52 | -1.0 | 6.92 | -0.01 | -118 | 1 | 7.14 | 1.9 | 663.0 | 11.0 | 0.00 | 0.0 | 0.29 | 0.01 | 5.79 | 0.00 | |
| 11:28 | 0.2 | 11.54 | -0.2 | 6.93 | -0.01 | -119 | 1 | 7.02 | 1.7 | 559.0 | 15.7 | 0.00 | 0.0 | 0.29 | 0.00 | 5.79 | 0.00 | |
| 11:33 | 0.2 | 11.55 | -0.1 | 6.94 | -0.01 | -119 | 0 | 6.86 | 2.3 | 445.0 | 20.4 | 0.00 | 0.0 | 0.28 | 0.01 | 5.79 | 0.00 | |
| 11:38 | 0.2 | 11.51 | 0.3 | 6.95 | -0.01 | -120 | 1 | 6.78 | 1.2 | 400.0 | 10.1 | 0.00 | 0.0 | 0.27 | 0.01 | 5.79 | 0.00 | |
| 11:43 | 0.2 | 11.45 | 0.5 | 6.95 | 0.00 | -120 | 0 | 6.75 | 0.4 | 365.0 | 8.8 | 0.00 | 0.0 | 0.27 | 0.00 | 5.79 | 0.00 | |
| 11:48 | 0.2 | 11.49 | -0.3 | 6.96 | -0.01 | -120 | 0 | 6.72 | 0.4 | 337.0 | 7.7 | 0.00 | 0.0 | 0.27 | 0.00 | 5.79 | 0.00 | |
| 11:53 | 0.2 | 11.52 | -0.3 | 6.97 | -0.01 | -120 | 0 | 6.65 | 1.0 | 307.0 | 8.9 | 0.00 | 0.0 | 0.27 | 0.00 | 5.79 | 0.00 | |
| 11:58 | 0.2 | 11.66 | -1.2 | 6.97 | 0.00 | -120 | 0 | 6.62 | 0.5 | 298.0 | 2.9 | 0.00 | 0.0 | 0.27 | 0.00 | 5.79 | 0.00 | |
| 12:03 | 0.2 | 11.69 | -0.3 | 6.97 | 0.00 | -121 | 1 | 6.59 | 0.5 | 281.0 | 5.7 | 0.00 | 0.0 | 0.26 | 0.01 | 5.79 | 0.00 | |
| 12:08 | 0.2 | 11.65 | 0.3 | 6.98 | -0.01 | -121 | 0 | 6.53 | 0.9 | 241.0 | 14.2 | 0.00 | 0.0 | 0.26 | 0.00 | 5.79 | 0.00 | |
| 12:13 | 0.2 | 11.54 | 0.9 | 6.98 | 0.00 | -121 | 0 | 6.52 | 0.2 | 215.0 | 10.8 | 0.00 | 0.0 | 0.26 | 0.00 | 5.79 | 0.00 | |
| 12:18 | 0.2 | 11.57 | -0.3 | 6.99 | -0.01 | -121 | 0 | 6.45 | 1.1 | 167.0 | 22.3 | 0.00 | 0.0 | 0.26 | 0.00 | 5.79 | 0.00 | |
| 12:23 | 0.2 | 11.50 | 0.6 | 7.00 | -0.01 | -121 | 0 | 6.41 | 0.6 | 151.0 | 9.6 | 0.00 | 0.0 | 0.26 | 0.00 | 5.79 | 0.00 | |
| 12:28 | 0.2 | 11.57 | -0.6 | 7.00 | 0.00 | -120 | -1 | 6.38 | 0.5 | 135.0 | 10.6 | 0.00 | 0.0 | 0.26 | 0.00 | 5.79 | 0.00 | |
| 12:33 | 0.2 | 11.66 | -0.8 | 7.00 | 0.00 | -121 | 1 | 6.33 | 0.8 | 123.0 | 8.9 | 0.00 | 0.0 | 0.26 | 0.00 | 5.79 | 0.00 | |
| 12:38 | 0.2 | 11.72 | -0.5 | 7.00 | 0.00 | -121 | 0 | 6.30 | 0.5 | 108.0 | 12.2 | 0.00 | 0.0 | 0.25 | 0.01 | 5.79 | 0.00 | |
| 12:43 | 0.2 | 11.79 | -0.6 | 7.01 | -0.01 | -122 | 1 | 6.28 | 0.3 | 99.0 | 8.3 | 0.00 | 0.0 | 0.25 | 0.00 | 5.79 | 0.00 | |
| 12:48 | 0.2 | 11.81 | -0.2 | 7.01 | 0.00 | -122 | 0 | 6.24 | 0.6 | 90.0 | 9.1 | 0.00 | 0.0 | 0.25 | 0.00 | 5.79 | 0.00 | |
| 12:53 | 0.2 | 11.90 | -0.8 | 7.02 | -0.01 | -123 | 1 | 6.17 | 1.1 | 77.9 | 13.4 | 0.00 | 0.0 | 0.24 | 0.01 | 5.79 | 0.00 | |
| 12:58 | 0.2 | 11.90 | 0.0 | 7.02 | 0.00 | -123 | 0 | 6.16 | 0.2 | 73.5 | 5.6 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:03 | 0.2 | 11.93 | -0.3 | 7.03 | -0.01 | -123 | 0 | 6.14 | 0.3 | 64.6 | 12.1 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:08 | 0.2 | 12.09 | -1.3 | 7.03 | 0.00 | -122 | -1 | 6.09 | 0.8 | 58.6 | 9.3 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:13 | 0.2 | 12.08 | 0.1 | 7.03 | 0.00 | -121 | -1 | 6.09 | 0.0 | 59.6 | -1.7 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:18 | 0.2 | 12.07 | 0.1 | 7.04 | -0.01 | -123 | 2 | 6.04 | 0.8 | 52.6 | 11.7 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:23 | 0.2 | 12.03 | 0.3 | 7.04 | 0.00 | -123 | 0 | 6.02 | 0.3 | 47.9 | 8.9 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:28 | 0.2 | 11.97 | 0.5 | 7.04 | 0.00 | -124 | 1 | 5.99 | 0.5 | 42.3 | 11.7 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:33 | 0.2 | 11.94 | 0.3 | 7.05 | -0.01 | -124 | 0 | 5.96 | 0.5 | 39.1 | 7.6 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:38 | 0.2 | 11.97 | -0.3 | 7.05 | 0.00 | -125 | 1 | 5.92 | 0.7 | 34.4 | 12.0 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:43 | 0.2 | 11.95 | 0.2 | 7.05 | 0.00 | -125 | 0 | 5.89 | 0.5 | 32.6 | 5.2 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:48 | 0.2 | 11.97 | -0.2 | 7.05 | 0.00 | -126 | 1 | 5.87 | 0.3 | 31.9 | 2.1 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |
| 13:53 | 0.2 | 11.94 | 0.3 | 7.06 | -0.01 | -126 | 0 | 5.86 | 0.2 | 30.9 | 3.1 | 0.00 | 0.0 | 0.24 | 0.00 | 5.79 | 0.00 | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 14 Final Water Level: 5.72 Final Well Depth: 17.61

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear Brown Tint = UF, Clear Slight Brown Tint = F

Sample ID: 134-MW-03-041917 @13:58

Odor: None

Other: Sample by Direction of A. Shust

Sample ID: 134-MW-03-041917F @14:03

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 16.9

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.06/5.08 Time: 9:08 Date: 4/18/2017

Serial Number: 33115 Depth to Bottom of Well: 16.90 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 10:50

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 11:00 | **0.40** | **12.51** | **-** | **7.77** | **-** | **39** | **-** | **3.88** | **-** | **1000.0** | **-** | **0.00** | **-** | **0.20** | **-** | **5.14** | **-** | Very Turbid |
| 11:05 | **0.40** | **12.55** | **-0.3** | **7.90** | **-0.13** | **-68** | **107** | **3.81** | **1.8** | **1000.0** | **0.0** | **0.00** | **0.0** | **0.20** | **0.00** | **5.14** | **0.00** | Very Turbid |
| 11:10 | **0.40** | **12.56** | **-0.1** | **7.89** | **0.01** | **-74** | **6** | **3.80** | **0.26** | **622.0** | **37.8** | **0.00** | **0.0** | **0.20** | **0.00** | **5.14** | **0.00** | Very Turbid |
| 11:15 | **0.40** | **12.60** | **-0.3** | **7.88** | **0.01** | **-79** | **5** | **3.77** | **0.79** | **1000.0** | **-60.8** | **0.00** | **0.0** | **0.20** | **0.00** | **5.14** | **0.00** | Very Turbid |
| 11:20 | **0.40** | **12.62** | **-0.2** | **7.88** | **0.00** | **-81** | **2** | **3.75** | **0.53** | **792.0** | **20.8** | **0.00** | **0.0** | **0.19** | **0.01** | **5.14** | **0.00** | Very Turbid |
| 11:25 | **0.40** | **12.71** | **-0.7** | **7.87** | **0.01** | **-84** | **3** | **3.70** | **1.33** | **599.0** | **24.4** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Very Turbid |
| 11:30 | **0.40** | **12.71** | **0.0** | **7.86** | **0.01** | **-85** | **1** | **3.69** | **0.27** | **423.0** | **29.4** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 11:35 | **0.40** | **12.72** | **-0.1** | **7.86** | **0.00** | **-87** | **2** | **3.67** | **0.54** | **273.0** | **35.5** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 11:40 | **0.35** | **12.62** | **0.8** | **7.86** | **0.00** | **-88** | **1** | **3.65** | **0.54** | **221.0** | **19.0** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 11:45 | **0.40** | **12.71** | **-0.7** | **7.88** | **-0.02** | **-84** | **-4** | **3.64** | **0.27** | **191.0** | **13.6** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 11:50 | **0.40** | **12.80** | **-0.7** | **7.89** | **-0.01** | **-79** | **-5** | **3.63** | **0.27** | **180.0** | **5.8** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 11:55 | **0.30** | **12.81** | **-0.1** | **7.86** | **0.03** | **-83** | **4** | **3.63** | **0.00** | **121.0** | **32.8** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 12:00 | **0.30** | **12.85** | **-0.3** | **7.86** | **0.00** | **-83** | **0** | **3.61** | **0.55** | **93.3** | **22.9** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 12:05 | **0.30** | **12.80** | **0.4** | **7.85** | **0.01** | **-82** | **-1** | **3.60** | **0.28** | **81.6** | **12.5** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 12:10 | **0.30** | **12.79** | **0.1** | **7.85** | **0.00** | **-82** | **0** | **3.59** | **0.28** | **82.3** | **-0.9** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clearing |
| 12:15 | **0.40** | **12.79** | **0.0** | **7.85** | **0.00** | **-83** | **1** | **3.57** | **0.56** | **84.9** | **-3.2** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clean Horiba |
| 12:20 | **0.40** | **12.73** | **0.5** | **7.82** | **0.03** | **-82** | **-1** | **3.56** | **0.28** | **89.7** | **-5.7** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clear |
| 12:25 | **0.40** | **12.79** | **-0.5** | **7.83** | **-0.01** | **-81** | **-1** | **3.55** | **0.28** | **81.6** | **9.0** | **0.00** | **0.0** | **0.19** | **0.00** | **5.14** | **0.00** | Clear |
| 12:30 | **0.40** | **12.81** | **-0.2** | **7.83** | **0.00** | **-80** | **-1** | **3.55** | **0.00** | **68.3** | **16.3** | **0.00** | **0.0** | **0.18** | **0.01** | **5.14** | **0.00** | Clear |
| 12:35 | **0.40** | **12.84** | **-0.2** | **7.83** | **0.00** | **-80** | **0** | **3.55** | **0.00** | **53.3** | **22.0** | **0.00** | **0.0** | **0.18** | **0.00** | **5.14** | **0.00** | Clear |
| 12:40 | **0.40** | **12.84** | **0.0** | **7.83** | **0.00** | **-80** | **0** | **3.54** | **0.28** | **45.2** | **15.2** | **0.00** | **0.0** | **0.18** | **0.00** | **5.14** | **0.00** | Clear |
| 12:45 | **0.40** | **12.84** | **0.0** | **7.83** | **0.00** | **-82** | **2** | **3.54** | **0.00** | **39.9** | **11.7** | **0.00** | **0.0** | **0.18** | **0.00** | **5.12** | **0.02** | Clear |
| 12:50 | **0.40** | **12.86** | **-0.2** | **7.84** | **-0.01** | **-83** | **1** | **3.55** | **-0.28** | **29.6** | **25.8** | **0.00** | **0.0** | **0.18** | **0.00** | **5.12** | **0.00** | Clear |
| 12:55 | **0.40** | **12.82** | **0.3** | **7.84** | **0.00** | **-82** | **-1** | **3.56** | **-0.28** | **44.2** | **-49.3** | **0.00** | **0.0** | **0.19** | **-0.01** | **5.12** | **0.00** | Clear |
| 13:00 | **0.40** | **12.91** | **-0.7** | **7.84** | **0.00** | **-82** | **0** | **3.56** | **0.00** | **36.4** | **17.6** | **0.00** | **0.0** | **0.19** | **0.00** | **5.11** | **0.01** | Clear |
| 13:05 | **0.30** | **12.87** | **0.3** | **7.83** | **0.01** | **-83** | **1** | **3.56** | **0.00** | **31.1** | **14.6** | **0.00** | **0.0** | **0.19** | **0.00** | **5.11** | **0.00** | Clear |
| 13:10 | **0.30** | **12.93** | **-0.5** | **7.83** | **0.00** | **-83** | **0** | **3.52** | **1.12** | **22.1** | **28.9** | **0.00** | **0.0** | **0.19** | **0.00** | **5.11** | **0.00** | Clear |
| 13:15 | **0.40** | **12.94** | **-0.1** | **7.83** | **0.00** | **-83** | **0** | **3.54** | **-0.57** | **21.9** | **0.9** | **0.00** | **0.0** | **0.19** | **0.00** | **5.11** | **0.00** | Clear |
| 13:20 | **0.40** | **12.90** | **0.3** | **7.83** | **0.00** | **-82** | **-1** | **3.56** | **-0.56** | **20.6** | **5.9** | **0.00** | **0.0** | **0.19** | **0.00** | **5.11** | **0.00** | Clear |
| 13:25 | **0.40** | **12.90** | **0.0** | **7.83** | **0.00** | **-81** | **-1** | **3.55** | **0.28** | **19.9** | **3.4** | **0.00** | **0.0** | **0.19** | **0.00** | **5.11** | **0.00** | Clear |
| 13:30 | **0.40** | **12.88** | **0.2** | **7.83** | **0.00** | **-81** | **0** | **3.56** | **-0.28** | **19.8** | **0.5** | **0.00** | **0.0** | **0.19** | **0.00** | **5.10** | **0.01** | Clear |
| 13:35 | **0.40** | **12.91** | **-0.2** | **7.83** | **0.00** | **-81** | **0** | **3.55** | **0.28** | **19.9** | **-0.5** | **0.00** | **0.0** | **0.19** | **0.00** | **5.10** | **0.00** | Clear |
| 13:40 | **0.40** | **12.93** | **-0.2** | **7.83** | **0.00** | **-80** | **-1** | **3.55** | **0.00** | **20.0** | **-0.5** | **0.00** | **0.0** | **0.19** | **0.00** | **5.10** | **0.00** | Clear |

Final Water Purged (gal): 14 Final Water Level: 5.10 Final Well Depth: 16.90

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 134-MW-04-041917 @13:40

Odor: None

Other: Sample by Direction of A. Shust

Sample ID: 134-MW-04-041917F @13:45

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.7

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.16 Time: 8:30 Date: 4/18/2017

Serial Number: 33115 Depth to Bottom of Well: 15.70 PID Reading (inside of Casing): 1.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Dan Berkowitz (Signature) Sampled By: Dan Berkowitz Purge Start Time: 10:00

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:05 | **0.3** | **12.54** | **-** | **7.04** | **-** | **-14** | **-** | **0.648** | **-** | **59.3** | **-** | **0.00** | **-** | **0.03** | **-** | **6.31** | **-** | Clear |
| 10:10 | **0.3** | **11.61** | **7.4** | **7.24** | **-0.20** | **-105** | **91** | **0.610** | **5.9** | **22.3** | **62.4** | **0.00** | **0.0** | **0.03** | **0.00** | **6.38** | **-0.07** | Clear |
| 10:15 | **0.3** | **11.51** | **0.9** | **7.28** | **-0.04** | **-110** | **5** | **0.596** | **2.3** | **14.6** | **34.5** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **-0.04** | Clear |
| 10:20 | **0.3** | **11.27** | **2.1** | **7.34** | **-0.06** | **-121** | **11** | **0.611** | **-2.5** | **29.3** | **50.2** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **0.00** | Clear |
| 10:25 | **0.3** | **11.39** | **-1.1** | **7.35** | **-0.01** | **-124** | **3** | **0.638** | **-4.4** | **21.2** | **-38.2** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **0.00** | Clear |
| 10:30 | **0.3** | **11.69** | **-2.6** | **7.32** | **0.03** | **-122** | **-2** | **0.662** | **-3.8** | **18.7** | **11.8** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **0.00** | Clear |
| 10:35 | **0.35** | **11.39** | **2.6** | **7.42** | **-0.10** | **-119** | **-3** | **0.677** | **-2.3** | **11.6** | **38.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **0.00** | Clear |
| 10:40 | **0.3** | **11.47** | **-0.7** | **7.42** | **0.00** | **-123** | **4** | **0.688** | **-1.6** | **3.6** | **69.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.41** | **0.01** | Clear |
| 10:45 | **0.3** | **11.56** | **-0.8** | **7.44** | **-0.02** | **-133** | **10** | **0.716** | **-4.1** | **3.8** | **-5.6** | **0.00** | **0.0** | **0.03** | **0.00** | **6.41** | **0.00** | Clear |
| 10:50 | **0.3** | **11.67** | **-1.0** | **7.45** | **-0.01** | **-136** | **3** | **0.721** | **-0.7** | **2.0** | **47.4** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **-0.01** | Clear |
| 10:55 | **0.3** | **11.76** | **-0.8** | **7.46** | **-0.01** | **-136** | **0** | **0.717** | **0.6** | **2.3** | **-15.0** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **0.00** | Clear |
| 11:00 | **0.3** | **11.78** | **-0.2** | **7.45** | **0.01** | **-135** | **-1** | **0.718** | **-0.1** | **1.9** | **17.4** | **0.00** | **0.0** | **0.03** | **0.00** | **6.42** | **0.00** | Clear |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 8 Final Water Level: 6.42 Final Well Depth: 15.70

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 140-MW-09-041817 @11:00

Sample ID: 140-MW-09-041817FA @11:10

Odor: None

Other: -

Sample ID: 140-MW-09-041817F @11:05

Sample ID: -

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 14.0

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.20 Time: 8:32 Date: 4/18/2017

Serial Number: 25311 Depth to Bottom of Well: 14.00 PID Reading (inside of Casing): 0.3

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/19/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Dan Berkowitz (Signature) Sampled By: Dan Berkowitz Purge Start Time: 8:23

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:25 | **0.25** | **10.46** | **-** | **7.75** | **-** | **235** | **-** | **0.946** | **-** | **306.0** | **-** | **1.32** | **-** | **0.02** | **-** | **5.77** | **-** | |
| 8:30 | **0.25** | **9.86** | **5.7** | **8.23** | **-0.48** | **214** | **21** | **0.897** | **5.2** | **234.0** | **23.5** | **0.00** | **100** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 8:35 | **0.25** | **9.64** | **2.2** | **8.26** | **-0.03** | **194** | **20** | **0.911** | **-1.6** | **84.2** | **64.0** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 8:40 | **0.25** | **9.51** | **1.3** | **8.27** | **-0.01** | **183** | **11** | **0.922** | **-1.2** | **31.9** | **62.1** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 8:45 | **0.25** | **9.52** | **-0.1** | **8.29** | **-0.02** | **170** | **13** | **0.929** | **-0.8** | **19.6** | **38.6** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 8:50 | **0.25** | **9.49** | **0.3** | **8.31** | **-0.02** | **164** | **6** | **0.931** | **-0.2** | **17.0** | **13.3** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 8:55 | **0.25** | **9.47** | **0.2** | **8.36** | **-0.05** | **149** | **15** | **0.930** | **0.1** | **12.1** | **28.8** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 9:00 | **0.25** | **9.45** | **0.2** | **8.40** | **-0.04** | **133** | **16** | **0.930** | **0.0** | **9.3** | **23.1** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 9:05 | **0.25** | **9.40** | **0.5** | **8.46** | **-0.06** | **120** | **13** | **0.924** | **0.6** | **6.4** | **31.2** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 9:10 | **0.25** | **9.39** | **0.1** | **8.48** | **-0.02** | **111** | **9** | **0.927** | **-0.3** | **6.3** | **1.6** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 9:15 | **0.25** | **9.47** | **-0.9** | **8.50** | **-0.02** | **106** | **5** | **0.929** | **-0.2** | **5.1** | **19.0** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 9:20 | **0.25** | **9.46** | **0.1** | **8.51** | **-0.01** | **101** | **5** | **0.929** | **0.0** | **4.4** | **13.7** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
| 9:25 | **0.25** | **9.45** | **0.1** | **8.53** | **-0.02** | **95** | **6** | **0.929** | **0.0** | **3.9** | **11.4** | **0.00** | **0.0** | **0.02** | **0.00** | **5.77** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 5.5 Final Water Level: 6.25 Final Well Depth: 13.85

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 140-MW-10-041917 @09:30 Sample ID: 140-MW-10-041917F @09:35

Groundwater Sampling Form **Job Name:** HW SA-6S Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 163-MW-02R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.3

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15.0

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.17 Time: 9:00 Date: 4/18/2017

Serial Number: 25311 Depth to Bottom of Well: 17.30 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/20/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 8:10

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:15 | 0.2 | 11.64 | - | 7.10 | - | 217 | - | 0.499 | - | 117.0 | - | 0.77 | - | 0.01 | - | 8.38 | - | |
| 8:20 | 0.2 | 10.97 | 5.8 | 7.11 | -0.01 | 196 | 21 | 0.501 | -0.4 | 87.8 | 25.0 | 0.00 | 100 | 0.01 | 0.00 | 8.41 | -0.03 | |
| 8:25 | 0.2 | 10.82 | 1.4 | 7.09 | 0.02 | 173 | 23 | 0.516 | -3.0 | 68.2 | 22.3 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 8:30 | 0.2 | 10.71 | 1.0 | 7.06 | 0.03 | 143 | 30 | 0.542 | -5.0 | 43.8 | 35.8 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 8:35 | 0.2 | 10.67 | 0.4 | 7.04 | 0.02 | 117 | 26 | 0.564 | -4.1 | 29.4 | 32.9 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 8:40 | 0.2 | 10.68 | -0.1 | 7.03 | 0.01 | 97 | 20 | 0.595 | -5.5 | 22.5 | 23.5 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 8:45 | 0.2 | 10.72 | -0.4 | 7.02 | 0.01 | 87 | 10 | 0.608 | -2.2 | 18.1 | 19.6 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 8:50 | 0.2 | 10.75 | -0.3 | 7.01 | 0.01 | 76 | 11 | 0.627 | -3.1 | 14.5 | 19.9 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 8:55 | 0.2 | 10.77 | -0.2 | 7.00 | 0.01 | 67 | 9 | 0.658 | -4.9 | 10.0 | 31.0 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 9:00 | 0.2 | 10.85 | -0.7 | 7.00 | 0.00 | 62 | 5 | 0.678 | -3.0 | 8.2 | 18.0 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 9:05 | 0.2 | 10.86 | -0.1 | 6.99 | 0.01 | 57 | 5 | 0.702 | -3.5 | 6.1 | 25.6 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 9:10 | 0.2 | 10.89 | -0.3 | 6.99 | 0.00 | 54 | 3 | 0.725 | -3.3 | 4.9 | 19.7 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 9:15 | 0.2 | 10.93 | -0.4 | 6.99 | 0.00 | 52 | 2 | 0.744 | -2.6 | 4.5 | 8.2 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 9:20 | 0.2 | 11.00 | -0.6 | 6.99 | 0.00 | 49 | 3 | 0.761 | -2.3 | 3.2 | 28.9 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
| 9:25 | 0.2 | 11.03 | -0.3 | 6.99 | 0.00 | 50 | -1 | 0.776 | -2.0 | 2.9 | 9.4 | 0.00 | 0.0 | 0.01 | 0.00 | 8.41 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 4.5 Final Water Level: 8.11 Final Well Depth: 17.16

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 163-MW-02R-042017 @09:30 Sample ID: 163-MW-02R-042017F @09:35

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged:

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.19

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 3.97 Time: 10:20 Date: 7/5/2016

Serial Number: 34032 Depth to Bottom of Well: 13.19 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 10:26

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:26 | 0.2 | 6.51 | - | 5.13 | - | 245 | - | 4.48 | - | 24.26 | - | 3.4 | - | -96 | - | 4.03 | - | |
| 10:31 | 0.2 | 6.47 | 0.04 | 6.06 | 18.1% | 101 | 58.8% | 0.00 | 100.0% | 19.49 | 19.7% | 3.4 | 0.0 | -94 | 2 | 4.22 | 0.19 | |
| 10:36 | 0.2 | 6.44 | 0.03 | 6.29 | 3.8% | 53.6 | 46.9% | 0.00 | 0.0% | 20.74 | 6.4% | 3.4 | 0.0 | -95 | 1 | 4.13 | 0.09 | |
| 10:41 | 0.2 | 6.44 | 0.00 | 6.07 | 3.5% | 45.1 | 15.9% | 0.00 | 0.0% | 21.18 | 2.1% | 3.3 | 0.1 | -95 | 0 | 4.10 | 0.03 | |
| 10:46 | 0.2 | 6.45 | 0.01 | 5.94 | 2.1% | 50.7 | 12.4% | 0.00 | 0.0% | 21.21 | 0.1% | 3.2 | 0.1 | -96 | 1 | 4.08 | 0.02 | |
| 10:51 | 0.2 | 6.44 | 0.01 | 6.00 | 1.0% | 37.3 | 26.4% | 0.00 | 0.0% | 21.41 | 0.9% | 3.3 | 0.1 | -95 | 1 | 4.08 | 0.00 | |
| 10:56 | 0.2 | 6.46 | 0.02 | 5.94 | 1.0% | 26.8 | 28.2% | 0.00 | 0.0% | 20.87 | 2.5% | 3.2 | 0.1 | -97 | 2 | 4.08 | 0.00 | |
| 11:01 | 0.2 | 6.45 | 0.01 | 6.03 | 1.5% | 23.1 | 13.8% | 0.00 | 0.0% | 21.11 | 1.1% | 3.3 | 0.1 | -96 | 1 | 4.08 | 0.00 | |
| 11:06 | 0.2 | 6.45 | 0.00 | 5.96 | 1.2% | 21.8 | 5.6% | 0.00 | 0.0% | 21.43 | 1.5% | 3.2 | 0.1 | -97 | 1 | 4.08 | 0.00 | |
| 11:11 | 0.2 | 6.46 | 0.01 | 5.92 | 0.7% | 17.2 | 21.1% | 0.00 | 0.0% | 21.47 | 0.2% | 3.2 | 0.0 | -97 | 0 | 4.08 | 0.00 | |
| 11:16 | 0.2 | 6.46 | 0.00 | 5.92 | 0.0% | 15.8 | 8.1% | 0.00 | 0.0% | 21.07 | 1.9% | 3.2 | 0.0 | -97 | 0 | 4.08 | 0.00 | |
| 11:21 | 0.2 | 6.45 | 0.01 | 5.95 | 0.5% | 15.3 | 3.2% | 0.00 | 0.0% | 21.19 | 0.6% | 3.2 | 0.0 | -95 | 2 | 4.08 | 0.00 | |
| 11:26 | 0.2 | 6.44 | 0.01 | 6.07 | 2.0% | 14.7 | 3.9% | 0.00 | 0.0% | 20.96 | 1.1% | 3.4 | 0.2 | -93 | 2 | 4.08 | 0.00 | |
| 11:31 | 0.2 | 6.45 | 0.01 | 6.11 | 0.7% | 7.3 | 50.3% | 0.00 | 0.0% | 20.80 | 0.8% | 3.3 | 0.1 | -95 | 2 | 4.08 | 0.00 | |
| 11:36 | 0.2 | 6.45 | 0.00 | 6.06 | 0.8% | 6.5 | 11.0% | 0.00 | 0.0% | 20.72 | 0.4% | 3.3 | 0.0 | -92 | 3 | 4.08 | 0.00 | |
| 11:41 | 0.2 | 6.45 | 0.00 | 6.02 | 0.7% | 5.0 | 23.1% | 0.00 | 0.0% | 20.41 | 1.5% | 3.3 | 0.0 | -95 | 3 | 4.08 | 0.00 | |
| 11:46 | 0.2 | 6.48 | 0.03 | 5.84 | 3.0% | 5.6 | 12.0% | 0.00 | 0.0% | 20.63 | 1.1% | 3.1 | 0.2 | -86 | 9 | 4.08 | 0.00 | |
| 11:51 | 0.2 | 6.46 | 0.02 | 5.92 | 1.4% | 5.8 | 3.6% | 0.00 | 0.0% | 20.64 | 0.0% | 3.2 | 0.1 | -89 | 3 | 4.08 | 0.00 | |
| 11:56 | 0.2 | 6.46 | 0.00 | 5.92 | 0.0% | 5.8 | 0.0% | 0.00 | 0.0% | 21.20 | 2.7% | 3.2 | 0.0 | -90 | 1 | 4.08 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 18 Liters Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 125-MW-02-070516 @ 11:56 Sample ID: 125-MW-02-070516F @ 11:56

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 15.5
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.82 Time: 10:30 Date: 7/5/2016
Serial Number: 21315 Depth to Bottom of Well: 15.50 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 10:30

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:35 | 0.3 | 8.35 | - | 0.93 | - | 36.5 | - | 0.00 | - | 22.30 | - | 0.05 | - | -144 | - | 6.97 | - | |
| 10:40 | 0.3 | 8.68 | 0.33 | 1.65 | 77.2% | 26.5 | 27.4% | 0.00 | 0.0% | 21.21 | 4.9% | 0.08 | 0.03 | -114 | 30 | 6.95 | 0.02 | |
| 10:45 | 0.3 | 8.56 | 0.12 | 1.13 | 31.5% | 15.8 | 40.4% | 0.00 | 0.0% | 21.43 | 1.0% | 0.09 | 0.01 | -133 | 19 | 6.95 | 0.00 | |
| 10:50 | 0.3 | 8.69 | 0.13 | 1.91 | 69.0% | 15.5 | 1.9% | 0.00 | 0.0% | 21.13 | 1.4% | 0.10 | 0.01 | -142 | 9 | 6.95 | 0.00 | |
| 10:55 | 0.3 | 8.75 | 0.06 | 2.14 | 12.0% | 12.0 | 22.6% | 0.00 | 0.0% | 20.88 | 1.2% | 0.11 | 0.01 | -159 | 17 | 6.95 | 0.00 | |
| 11:00 | 0.3 | 8.78 | 0.03 | 2.31 | 7.9% | 9.9 | 17.5% | 0.00 | 0.0% | 20.79 | 0.4% | 0.12 | 0.01 | -169 | 10 | 6.97 | 0.02 | |
| 11:05 | 0.3 | 8.81 | 0.03 | 2.34 | 1.3% | 8.8 | 11.1% | 0.00 | 0.0% | 20.69 | 0.5% | 0.13 | 0.01 | -177 | 8 | 7.00 | 0.03 | |
| 11:10 | 0.3 | 8.80 | 0.01 | 2.35 | 0.4% | 8.9 | 1.1% | 0.00 | 0.0% | 20.58 | 0.5% | 0.13 | 0.00 | -178 | 1 | 7.00 | 0.00 | |
| 11:15 | 0.3 | 8.82 | 0.02 | 2.37 | 0.9% | 8.8 | 1.1% | 0.00 | 0.0% | 20.62 | 0.2% | 0.13 | 0.00 | -180 | 2 | 7.01 | 0.01 | |
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| 11:20 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 Liters Odor: None
Well Condition: See well inspection log Other: -
Color of GW: Light brown to clear
Sample ID: 140-MW-09-070516 @ 11:20 Sample ID: 140-MW-09-070516F @ 11:20

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 163-MW-2R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 17.00
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.22 Time: 13:00 Date: 7/5/2016
Serial Number: 21315 Depth to Bottom of Well: 17.00 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 13:05

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:10 | 0.3 | 7.45 | - | 2.08 | - | 105.0 | - | 3.12 | - | 20.32 | - | 0.11 | - | -144 | - | 8.40 | - | |
| 13:15 | 0.3 | 7.44 | 0.01 | 2.07 | 0.5% | 36.5 | 65.2% | 2.83 | 9.3% | 20.08 | 1.2% | 0.11 | 0.00 | -149 | 5 | 8.45 | 0.05 | |
| 13:20 | 0.3 | 7.40 | 0.04 | 2.07 | 0.0% | 23.8 | 34.8% | 2.09 | 26.1% | 19.98 | 0.5% | 0.11 | 0.00 | -147 | 2 | 8.45 | 0.00 | |
| 13:25 | 0.3 | 7.32 | 0.08 | 2.07 | 0.0% | 20.4 | 14.3% | 1.45 | 30.6% | 20.06 | 0.4% | 0.11 | 0.00 | -133 | 14 | 8.45 | 0.00 | |
| 13:30 | 0.3 | 7.28 | 0.04 | 2.08 | 0.5% | 16.6 | 18.6% | 0.97 | 33.1% | 20.57 | 2.5% | 0.11 | 0.00 | -127 | 6 | 8.45 | 0.00 | |
| 13:35 | 0.3 | 7.24 | 0.04 | 2.08 | 0.0% | 12.5 | 24.7% | 0.72 | 25.8% | 20.01 | 2.7% | 0.11 | 0.00 | -128 | 1 | 8.45 | 0.00 | |
| 13:40 | 0.3 | 7.19 | 0.05 | 2.09 | 0.5% | 7.4 | 40.8% | 0.59 | 18.1% | 20.58 | 2.8% | 0.11 | 0.00 | -126 | 2 | 8.47 | 0.02 | |
| 13:45 | 0.3 | 7.16 | 0.03 | 2.08 | 0.5% | 7.6 | 2.7% | 0.51 | 13.6% | 20.56 | 0.1% | 0.11 | 0.00 | -122 | 4 | 8.45 | 0.02 | |
| 13:50 | 0.3 | 7.16 | 0.00 | 2.08 | 0.0% | 7.7 | 1.3% | 0.50 | 2.0% | 20.60 | 0.2% | 0.11 | 0.00 | -122 | 0 | 8.45 | 0.00 | |
| 13:55 | 0.3 | 7.16 | 0.00 | 2.08 | 0.0% | 7.6 | 1.3% | 0.49 | 2.0% | 20.60 | 0.0% | 0.11 | 0.00 | -122 | 0 | 8.45 | 0.00 | |
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| 14:00 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.5 Liters Odor: None
Well Condition: See well inspection log Other: -
Color of GW: Clear
Sample ID: 163-MW-2R-070516 @ 14:00 Sample ID: 163-MW-2R-070516F @ 14:00

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged:

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.65

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.26 Time: 13:00 Date: 7/5/2016

Serial Number: 34032 Depth to Bottom of Well: 18.65 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 13:02

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:02 | 0.3 | 6.89 | - | 1.84 | - | 0.0 | - | 17.61 | - | 20.59 | - | 0.9 | - | -113 | - | 7.28 | - | |
| 13:07 | 0.3 | 6.85 | 0.04 | 1.62 | 12.0% | 0.0 | 0.0% | 3.44 | 80.5% | 20.03 | 2.7% | 0.8 | 0.1 | -126 | 13 | 7.43 | 0.15 | |
| 13:12 | 0.3 | 6.78 | 0.07 | 1.10 | 32.1% | 0.0 | 0.0% | 0.00 | 100.0% | 19.34 | 3.4% | 0.5 | 0.3 | -121 | 5 | 7.48 | 0.05 | |
| 13:17 | 0.3 | 6.80 | 0.02 | 1.11 | 0.9% | 0.0 | 0.0% | 0.00 | 0.0% | 18.43 | 4.7% | 0.6 | 0.1 | -125 | 4 | 7.41 | 0.07 | |
| 13:22 | 0.3 | 6.81 | 0.01 | 1.31 | 18.0% | 1000 | 100% | 0.00 | 0.0% | 18.95 | 2.8% | 0.7 | 0.1 | -115 | 10 | 7.43 | 0.02 | |
| 13:27 | 0.3 | 6.81 | 0.00 | 1.41 | 7.6% | 600 | 40.0% | 0.00 | 0.0% | 19.86 | 4.8% | 0.7 | 0.0 | -124 | 9 | 7.36 | 0.07 | |
| 13:32 | 0.3 | 6.85 | 0.04 | 1.28 | 9.2% | 374 | 37.7% | 0.00 | 0.0% | 19.85 | 0.1% | 0.7 | 0.0 | -129 | 5 | 7.39 | 0.03 | |
| 13:37 | 0.3 | 6.82 | 0.03 | 1.08 | 15.6% | 163 | 56.4% | 0.00 | 0.0% | 17.76 | 10.5% | 0.5 | 0.2 | -127 | 2 | 7.46 | 0.07 | |
| 13:42 | 0.3 | 6.87 | 0.05 | 1.39 | 28.7% | 65.5 | 59.8% | 0.00 | 0.0% | 17.56 | 1.1% | 0.7 | 0.2 | -133 | 6 | 7.71 | 0.25 | |
| 13:47 | 0.3 | 6.88 | 0.01 | 1.35 | 2.9% | 54.8 | 16.3% | 0.00 | 0.0% | 17.57 | 0.1% | 0.7 | 0.0 | -136 | 3 | 7.60 | 0.11 | |
| 13:52 | 0.3 | 6.87 | 0.01 | 1.73 | 28.1% | 39.8 | 27.4% | 0.00 | 0.0% | 18.01 | 2.5% | 0.7 | 0.0 | -137 | 1 | 7.47 | 0.13 | |
| 13:57 | 0.3 | 6.90 | 0.03 | 1.42 | 17.9% | 45.6 | 14.6% | 0.00 | 0.0% | 18.70 | 3.8% | 0.7 | 0.0 | -142 | 5 | 7.40 | 0.07 | |
| 14:02 | 0.3 | 6.88 | 0.02 | 1.46 | 2.8% | 36.5 | 20.0% | 0.00 | 0.0% | 19.36 | 3.5% | 0.7 | 0.0 | -142 | 0 | 7.40 | 0.00 | |
| 14:07 | 0.3 | 6.87 | 0.01 | 1.13 | 22.6% | 32.3 | 11.5% | 0.00 | 0.0% | 18.27 | 5.6% | 0.6 | 0.1 | -139 | 3 | 7.46 | 0.06 | |
| 14:12 | 0.3 | 6.88 | 0.01 | 1.25 | 10.6% | 30.3 | 6.2% | 0.00 | 0.0% | 18.33 | 0.3% | 0.6 | 0.0 | -140 | 1 | 7.49 | 0.03 | |
| 14:17 | 0.3 | 6.88 | 0.00 | 1.30 | 4.0% | 25.3 | 16.5% | 0.00 | 0.0% | 18.52 | 1.0% | 0.6 | 0.0 | -141 | 1 | 7.50 | 0.01 | |
| 14:22 | 0.3 | 6.92 | 0.04 | 1.64 | 26.2% | 34.1 | 34.8% | 0.00 | 0.0% | 19.11 | 3.2% | 0.8 | 0.2 | -147 | 6 | 7.51 | 0.01 | |
| 14:27 | 0.3 | 6.89 | 0.03 | 1.25 | 23.8% | 16.9 | 50.4% | 0.00 | 0.0% | 18.73 | 2.0% | 0.6 | 0.2 | -144 | 3 | 7.45 | 0.06 | |
| 14:32 | 0.3 | 6.87 | 0.02 | 1.37 | 9.6% | 20.0 | 18.3% | 0.00 | 0.0% | 18.70 | 0.2% | 0.7 | 0.1 | -144 | 0 | 7.47 | 0.02 | |
| 14:37 | 0.3 | 6.90 | 0.03 | 1.41 | 2.9% | 19.1 | 4.5% | 0.00 | 0.0% | 18.67 | 0.2% | 0.7 | 0.0 | -147 | 3 | 7.49 | 0.02 | |
| 14:42 | 0.3 | 6.89 | 0.01 | 1.38 | 2.1% | 13.7 | 28.3% | 0.00 | 0.0% | 18.65 | 0.1% | 0.7 | 0.0 | -147 | 0 | 7.51 | 0.02 | |
| 14:47 | 0.3 | 6.90 | 0.01 | 1.36 | 1.4% | 10.7 | 21.9% | 0.00 | 0.0% | 18.54 | 0.6% | 0.7 | 0.0 | -148 | 1 | 7.44 | 0.07 | |
| 14:52 | 0.3 | 6.92 | 0.02 | 1.39 | 2.2% | 11.0 | 2.8% | 0.00 | 0.0% | 18.67 | 0.7% | 0.7 | 0.0 | -148 | 0 | 7.49 | 0.05 | |
| 14:57 | 0.3 | 6.90 | 0.02 | 1.39 | 0.0% | 10.8 | 1.8% | 0.00 | 0.0% | 18.76 | 0.5% | 0.7 | 0.0 | -150 | 2 | 7.41 | 0.08 | |
| 15:02 | 0.3 | 6.90 | 0.00 | 1.40 | 0.7% | 11.3 | 4.6% | 0.00 | 0.0% | 18.62 | 0.7% | 0.7 | 0.0 | -153 | 3 | 7.49 | 0.08 | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 36 Liters Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 073-MW-07-070516 @ 15:02 073-MW-07-070516F @ 15:02 Sample ID: 073-MW-07-070516DP @ 15:02 073-MW-07-070516DPF @ 15:02

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 18.02
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.67 Time: 9:30 Date: 7/6/2016
Serial Number: 34032 Depth to Bottom of Well: 18.02 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 9:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:35 | 0.3 | 7.14 | - | 1.59 | - | 352 | - | 5.21 | - | 21.31 | - | 0.8 | - | -98 | - | 7.71 | - | |
| 9:40 | 0.3 | 7.32 | 0.18 | 1.48 | 6.9% | 295 | 16.2% | 0.88 | 83.1% | 22.06 | 3.5% | 0.7 | 0.1 | -135 | 37 | 7.58 | 0.13 | |
| 9:45 | 0.3 | 7.45 | 0.13 | 1.38 | 6.8% | 170 | 42.4% | 0.00 | 100.0% | 21.89 | 0.8% | 0.7 | 0.0 | -156 | 21 | 7.58 | 0.00 | |
| 9:50 | 0.3 | 7.54 | 0.09 | 1.34 | 2.9% | 114 | 32.9% | 0.00 | 0.0% | 22.37 | 2.2% | 0.7 | 0.0 | -178 | 22 | 7.58 | 0.00 | |
| 9:55 | 0.3 | 7.57 | 0.03 | 1.32 | 1.5% | 69.4 | 39.1% | 0.00 | 0.0% | 21.87 | 2.2% | 0.7 | 0.0 | -190 | 12 | 7.58 | 0.00 | |
| 10:00 | 0.3 | 7.61 | 0.04 | 1.31 | 0.8% | 36.4 | 47.6% | 0.00 | 0.0% | 22.29 | 1.9% | 0.6 | 0.1 | -207 | 17 | 7.58 | 0.00 | |
| 10:05 | 0.3 | 7.68 | 0.07 | 1.23 | 6.1% | 25.4 | 30.2% | 0.00 | 0.0% | 22.14 | 0.7% | 0.6 | 0.0 | -217 | 10 | 7.58 | 0.00 | |
| 10:10 | 0.3 | 7.72 | 0.04 | 1.21 | 1.6% | 19.6 | 22.8% | 0.00 | 0.0% | 23.25 | 5.0% | 0.6 | 0.0 | -223 | 6 | 7.58 | 0.00 | |
| 10:15 | 0.3 | 7.74 | 0.02 | 1.19 | 1.7% | 15.9 | 18.9% | 0.00 | 0.0% | 23.12 | 0.6% | 0.6 | 0.0 | -223 | 0 | 7.58 | 0.00 | |
| 10:20 | 0.3 | 7.75 | 0.01 | 1.18 | 0.8% | 15.4 | 3.1% | 0.00 | 0.0% | 23.58 | 2.0% | 0.6 | 0.0 | -224 | 1 | 7.58 | 0.00 | |
| 10:25 | 0.3 | 7.72 | 0.03 | 1.16 | 1.7% | 14.9 | 3.2% | 0.00 | 0.0% | 23.82 | 1.0% | 0.6 | 0.0 | -220 | 4 | 7.58 | 0.00 | |
| 10:30 | 0.3 | 7.76 | 0.04 | 1.16 | 0.0% | 14.4 | 3.4% | 0.00 | 0.0% | 22.40 | 6.0% | 0.6 | 0.0 | -219 | 1 | 7.58 | 0.00 | |
| 10:35 | 0.3 | 7.82 | 0.06 | 1.12 | 3.4% | 13.3 | 7.6% | 0.00 | 0.0% | 23.10 | 3.1% | 0.6 | 0.0 | -222 | 3 | 7.58 | 0.00 | |
| 10:40 | 0.3 | 7.83 | 0.01 | 1.14 | 1.8% | 12.6 | 5.3% | 0.00 | 0.0% | 22.85 | 1.1% | 0.6 | 0.0 | -224 | 2 | 7.58 | 0.00 | |
| 10:45 | 0.3 | 7.87 | 0.04 | 1.11 | 2.6% | 12.8 | 1.6% | 0.00 | 0.0% | 23.05 | 0.9% | 0.5 | 0.1 | -226 | 2 | 7.58 | 0.00 | |
| 10:50 | 0.3 | 7.88 | 0.01 | 1.11 | 0.0% | 12.6 | 1.6% | 0.00 | 0.0% | 23.11 | 0.3% | 0.5 | 0.0 | -226 | 0 | 7.58 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 22.5 Liters Odor: None
Well Condition: See well inspection log Other: -
Color of GW: Clear
Sample ID: 073-MW-08-070616 @ 10:50 Sample ID: 073-MW-08-070616F @ 10:50

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 21.53
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size
Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.5 Time: 9:30 Date: 7/6/2016
Serial Number: 21315 Depth to Bottom of Well: 21.53 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 9:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:40 | 0.3 | 7.86 | - | 10.50 | - | 554 | - | 5.67 | - | 22.50 | - | 0.59 | - | 206 | - | 8.50 | - | |
| 9:45 | 0.3 | 7.95 | 0.09 | 8.96 | 14.7% | 434 | 21.7% | 4.68 | 17.5% | 22.09 | 1.8% | 0.50 | 0.09 | 188 | 18 | 8.50 | 0.00 | |
| 9:50 | 0.3 | 7.98 | 0.03 | 9.00 | 0.4% | 155 | 64.3% | 4.08 | 12.8% | 21.59 | 2.3% | 0.50 | 0.00 | 184 | 4 | 8.50 | 0.00 | |
| 9:55 | 0.3 | 8.00 | 0.02 | 9.56 | 6.2% | 116 | 25.2% | 0.00 | 100.0% | 22.44 | 3.9% | 0.54 | 0.04 | 179 | 5 | 8.50 | 0.00 | |
| 10:00 | 0.3 | 8.00 | 0.00 | 9.65 | 0.9% | 112 | 3.4% | 0.00 | 0.0% | 22.08 | 1.6% | 0.55 | 0.01 | 177 | 2 | 8.50 | 0.00 | |
| 10:05 | 0.3 | 8.00 | 0.00 | 9.72 | 0.7% | 104 | 7.1% | 0.00 | 0.0% | 21.97 | 0.5% | 0.55 | 0.00 | 176 | 1 | 8.50 | 0.00 | |
| 10:10 | 0.3 | 8.00 | 0.00 | 9.93 | 2.2% | 78.3 | 24.7% | 0.00 | 0.0% | 21.52 | 2.0% | 0.56 | 0.01 | 164 | 12 | 8.60 | 0.10 | |
| 10:15 | 0.3 | 7.99 | 0.01 | 10.20 | 2.7% | 70.5 | 10.0% | 0.00 | 0.0% | 20.99 | 2.5% | 0.57 | 0.01 | 135 | 29 | 8.60 | 0.00 | |
| 10:20 | 0.3 | 7.98 | 0.01 | 10.00 | 2.0% | 67.0 | 5.0% | 0.00 | 0.0% | 22.33 | 6.4% | 0.56 | 0.01 | 86 | 49 | 8.60 | 0.00 | |
| 10:25 | 0.3 | 7.99 | 0.01 | 9.91 | 0.9% | 60.6 | 9.6% | 0.00 | 0.0% | 22.54 | 0.9% | 0.56 | 0.00 | 72 | 14 | 8.60 | 0.00 | |
| 10:30 | 0.3 | 7.99 | 0.00 | 9.91 | 0.0% | 52.5 | 13.4% | 0.00 | 0.0% | 23.13 | 2.6% | 0.56 | 0.00 | 45 | 27 | 8.60 | 0.00 | |
| 10:35 | 0.3 | 8.00 | 0.01 | 9.97 | 0.6% | 36.5 | 30.5% | 0.00 | 0.0% | 22.58 | 2.4% | 0.56 | 0.00 | 45 | 0 | 8.60 | 0.00 | |
| 10:40 | 0.3 | 8.02 | 0.02 | 10.10 | 1.3% | 21.0 | 42.5% | 0.00 | 0.0% | 22.64 | 0.3% | 0.57 | 0.01 | 46 | 1 | 8.60 | 0.00 | |
| 10:45 | 0.3 | 7.99 | 0.03 | 10.10 | 0.0% | 19.2 | 8.6% | 0.00 | 0.0% | 23.53 | 3.9% | 0.57 | 0.00 | 28 | 18 | 8.60 | 0.00 | |
| 10:50 | 0.3 | 7.99 | 0.00 | 10.10 | 0.0% | 10.4 | 45.8% | 0.00 | 0.0% | 23.55 | 0.1% | 0.57 | 0.00 | 17 | 11 | 8.60 | 0.00 | |
| 10:55 | 0.3 | 7.99 | 0.00 | 10.20 | 1.0% | 8.7 | 16.3% | 0.00 | 0.0% | 23.53 | 0.1% | 0.57 | 0.00 | 15 | 2 | 8.60 | 0.00 | |
| 11:00 | 0.3 | 7.99 | 0.00 | 10.30 | 1.0% | 5.2 | 40.2% | 0.00 | 0.0% | 22.50 | 4.4% | 0.58 | 0.01 | -2 | 17 | 8.60 | 0.00 | |
| 11:05 | 0.3 | 7.98 | 0.01 | 10.30 | 0.0% | 5.1 | 1.9% | 0.00 | 0.0% | 22.65 | 0.7% | 0.58 | 0.00 | -3 | 1 | 8.60 | 0.00 | |
| 11:10 | 0.3 | 7.98 | 0.00 | 10.30 | 0.0% | 5.2 | 2.0% | 0.00 | 0.0% | 22.61 | 0.2% | 0.58 | 0.00 | -4 | 1 | 8.60 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 11:15 | Sample | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 27 Liters Odor: None
Well Condition: See well inspection log Other: -
Color of GW: Clear
Sample ID: 073-MW-06-0701616 @ 11:15 073-MW-06-070616F @ 11:15 Sample ID: FB-070616 @ 9:20

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 17.50
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size
Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.80 Time: 12:00 Date: 7/6/2016
Serial Number: 21315 Depth to Bottom of Well: 17.50 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 12:00

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 12:05 | 0.3 | 7.23 | - | 6.40 | - | 648.0 | - | 1.45 | - | 20.53 | - | 0.36 | - | -121 | - | 6.85 | - | |
| 12:10 | 0.3 | 7.25 | 0.02 | 6.37 | 0.5% | 645.0 | 0.5% | 1.40 | 3.4% | 20.50 | 0.1% | 0.35 | 0.01 | -120 | 1 | 6.90 | 0.05 | |
| 12:15 | 0.3 | 7.25 | 0.00 | 6.25 | 1.9% | 420.0 | 34.9% | 1.25 | 10.7% | 20.30 | 1.0% | 0.30 | 0.05 | -118 | 2 | 6.90 | 0.00 | |
| 12:20 | 0.3 | 7.28 | 0.03 | 6.00 | 4.0% | 315.0 | 25.0% | 1.05 | 16.0% | 20.05 | 1.2% | 0.30 | 0.00 | -117 | 1 | 6.90 | 0.00 | |
| 12:25 | 0.3 | 7.30 | 0.02 | 5.97 | 0.5% | 270.0 | 14.3% | 0.50 | 52.4% | 19.55 | 2.5% | 0.30 | 0.00 | -118 | 1 | 6.95 | 0.05 | |
| 12:30 | 0.3 | 7.30 | 0.00 | 5.75 | 3.7% | 256.0 | 5.2% | 0.30 | 40.0% | 19.18 | 1.9% | 0.30 | 0.00 | -115 | 3 | 6.95 | 0.00 | |
| 12:35 | 0.3 | 7.34 | 0.04 | 5.65 | 1.7% | 205.0 | 19.9% | 0.28 | 6.7% | 19.17 | 0.1% | 0.31 | 0.01 | -114 | 1 | 6.95 | 0.00 | |
| 12:40 | 0.3 | 7.35 | 0.01 | 5.63 | 0.4% | 190.0 | 7.3% | 0.25 | 10.7% | 19.19 | 0.1% | 0.30 | 0.01 | -112 | 2 | 6.95 | 0.00 | |
| 12:45 | 0.3 | 7.35 | 0.00 | 5.63 | 0.0% | 185.0 | 2.6% | 0.25 | 0.0% | 19.35 | 0.8% | 0.30 | 0.00 | -112 | 0 | 6.95 | 0.00 | |
| 12:50 | 0.3 | 7.34 | 0.01 | 5.61 | 0.4% | 170.0 | 8.1% | 0.25 | 0.0% | 19.39 | 0.2% | 0.30 | 0.00 | -113 | 1 | 6.95 | 0.00 | |
| 12:55 | 0.3 | 7.34 | 0.00 | 5.60 | 0.2% | 155.0 | 8.8% | 0.24 | 4.0% | 19.48 | 0.5% | 0.30 | 0.00 | -112 | 1 | 7.00 | 0.05 | |
| 13:00 | 0.3 | 7.34 | 0.00 | 5.60 | 0.0% | 105.0 | 32.3% | 0.25 | 4.2% | 19.50 | 0.1% | 0.30 | 0.00 | -112 | 0 | 7.00 | 0.00 | |
| 13:05 | 0.3 | 7.34 | 0.00 | 5.56 | 0.7% | 85.0 | 19.0% | 0.23 | 8.0% | 19.70 | 1.0% | 0.30 | 0.00 | -113 | 1 | 7.00 | 0.00 | |
| 13:10 | 0.3 | 7.35 | 0.01 | 5.58 | 0.4% | 50.0 | 41.2% | 0.23 | 0.0% | 19.70 | 0.0% | 0.30 | 0.00 | -112 | 1 | 7.00 | 0.00 | |
| 13:15 | 0.3 | 7.34 | 0.01 | 5.56 | 0.4% | 45.0 | 10.0% | 0.22 | 4.3% | 19.72 | 0.1% | 0.30 | 0.00 | -112 | 0 | 7.00 | 0.00 | |
| 13:20 | 0.3 | 7.35 | 0.01 | 5.53 | 0.5% | 30.0 | 33.3% | 0.11 | 50.0% | 19.70 | 0.1% | 0.30 | 0.00 | -115 | 3 | 7.00 | 0.00 | |
| 13:25 | 0.3 | 7.36 | 0.01 | 5.50 | 0.5% | 21.4 | 28.7% | 0.11 | 0.0% | 19.65 | 0.3% | 0.30 | 0.00 | -119 | 4 | 7.00 | 0.00 | |
| 13:30 | 0.3 | 7.37 | 0.01 | 5.41 | 1.6% | 10.5 | 50.9% | 0.00 | 100.0% | 19.70 | 0.3% | 0.30 | 0.00 | -120 | 1 | 7.00 | 0.00 | |
| 13:35 | 0.3 | 7.38 | 0.01 | 5.40 | 0.2% | 10.4 | 1.0% | 0.00 | 0.0% | 19.75 | 0.3% | 0.30 | 0.00 | -124 | 4 | 7.00 | 0.00 | |
| 13:40 | 0.3 | 7.38 | 0.00 | 5.40 | 0.0% | 10.5 | 1.0% | 0.00 | 0.0% | 19.74 | 0.1% | 0.30 | 0.00 | -126 | 2 | 7.00 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 13:45 | Sample | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 28.5 Liters
Well Condition: See well inspection log
Color of GW: Clear
Sample ID: 134-MW-03-070616 @ 13:45

Odor: None
Other: -
Sample ID: 134-MW-03-070616F @ 13:45

Groundwater Sampling Form **Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged:

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.11

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D² x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.11 Time: 12:00 Date: 7/6/2016

Serial Number: 34032 Depth to Bottom of Well: 17.11 PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 12:03

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 12:03 | 0.3 | 8.25 | - | 5.52 | - | 507.0 | - | 5.19 | - | 20.70 | - | 1.3 | - | -35 | - | 6.18 | - | |
| 12:08 | 0.3 | 8.24 | 0.01 | 2.80 | 49.3% | 391.0 | 22.9% | 0.00 | 100.0% | 19.40 | 6.3% | 1.4 | 0.1 | -87 | 52 | 6.18 | 0.00 | |
| 12:13 | 0.3 | 8.19 | 0.05 | 2.97 | 6.1% | 378.0 | 3.3% | 0.00 | 0.0% | 19.51 | 0.6% | 1.5 | 0.1 | -94 | 7 | 6.18 | 0.00 | |
| 12:18 | 0.3 | 8.16 | 0.03 | 3.05 | 2.7% | 357.0 | 5.6% | 0.00 | 0.0% | 20.02 | 2.6% | 1.6 | 0.1 | -98 | 4 | 6.18 | 0.00 | |
| 12:23 | 0.3 | 8.16 | 0.00 | 3.05 | 0.0% | 656.0 | 83.8% | 0.00 | 0.0% | 20.73 | 3.5% | 1.6 | 0.0 | -100 | 2 | 6.18 | 0.00 | |
| 12:28 | 0.3 | 8.19 | 0.03 | 3.14 | 3.0% | 234.0 | 64.3% | 0.00 | 0.0% | 19.25 | 7.1% | 1.6 | 0.0 | -110 | 10 | 6.18 | 0.00 | |
| 12:33 | 0.3 | 8.17 | 0.02 | 3.13 | 0.3% | 242.0 | 3.4% | 0.00 | 0.0% | 20.10 | 4.4% | 1.6 | 0.0 | -110 | 0 | 6.18 | 0.00 | |
| 12:38 | 0.3 | 8.18 | 0.01 | 3.11 | 0.6% | 234.0 | 3.3% | 0.00 | 0.0% | 19.44 | 3.3% | 1.6 | 0.0 | -109 | 1 | 6.18 | 0.00 | |
| 12:43 | 0.3 | 8.17 | 0.01 | 3.17 | 1.9% | 83.7 | 64.2% | 0.00 | 0.0% | 19.80 | 1.9% | 1.7 | 0.1 | -110 | 1 | 6.18 | 0.00 | |
| 12:48 | 0.3 | 8.13 | 0.04 | 3.14 | 0.9% | 110.0 | 31.4% | 0.00 | 0.0% | 23.29 | 17.6% | 1.6 | 0.1 | -107 | 3 | 6.18 | 0.00 | |
| 12:53 | 0.3 | 8.16 | 0.03 | 3.15 | 0.3% | 241.0 | 119.1% | 0.00 | 0.0% | 20.30 | 12.8% | 1.6 | 0.0 | -104 | 3 | 6.18 | 0.00 | |
| 12:58 | 0.3 | 8.15 | 0.01 | 3.25 | 3.2% | 93.6 | 61.2% | 0.00 | 0.0% | 19.24 | 5.2% | 1.7 | 0.1 | -109 | 5 | 6.18 | 0.00 | |
| 13:03 | 0.3 | 8.15 | 0.00 | 3.18 | 2.2% | 56.1 | 40.1% | 0.00 | 0.0% | 19.77 | 2.8% | 1.7 | 0.0 | -117 | 8 | 6.18 | 0.00 | |
| 13:08 | 0.3 | 8.14 | 0.01 | 3.10 | 2.5% | 39.6 | 29.4% | 0.00 | 0.0% | 22.41 | 13.4% | 1.6 | 0.1 | -109 | 8 | 6.18 | 0.00 | |
| 13:23 | 0.3 | 8.13 | 0.01 | 3.19 | 2.9% | 87.0 | 119.7% | 0.00 | 0.0% | 21.40 | 4.5% | 1.7 | 0.1 | -98 | 11 | 6.18 | 0.00 | |
| 13:28 | 0.3 | 8.11 | 0.02 | 3.17 | 0.6% | 69.1 | 20.6% | 0.00 | 0.0% | 22.44 | 4.9% | 1.7 | 0.0 | -96 | 2 | 6.18 | 0.00 | |
| 13:33 | 0.3 | 8.15 | 0.04 | 3.14 | 0.9% | 46.1 | 33.3% | 0.00 | 0.0% | 20.52 | 8.6% | 1.6 | 0.1 | -94 | 2 | 6.18 | 0.00 | |
| 13:38 | 0.3 | 8.14 | 0.01 | 3.19 | 1.6% | 23.7 | 48.6% | 0.00 | 0.0% | 21.15 | 3.1% | 1.7 | 0.1 | -96 | 2 | 6.18 | 0.00 | |
| 13:43 | 0.3 | 8.10 | 0.04 | 3.20 | 0.3% | 25.2 | 6.3% | 0.00 | 0.0% | 22.01 | 4.1% | 1.7 | 0.0 | -96 | 0 | 6.18 | 0.00 | |
| 13:48 | 0.3 | 8.12 | 0.02 | 3.12 | 2.5% | 36.2 | 43.7% | 0.00 | 0.0% | 22.31 | 1.4% | 1.6 | 0.1 | -92 | 4 | 6.18 | 0.00 | |
| 13:58 | 0.3 | 8.14 | 0.02 | 3.10 | 0.6% | 113.0 | 212.2% | 0.00 | 0.0% | 21.09 | 5.5% | 1.6 | 0.0 | -78 | 14 | 6.17 | 0.01 | |
| 14:03 | 0.3 | 8.14 | 0.00 | 3.14 | 1.3% | 58.0 | 48.7% | 0.00 | 0.0% | 21.33 | 1.1% | 1.6 | 0.0 | -85 | 7 | 6.17 | 0.00 | |
| 14:08 | 0.3 | 8.14 | 0.00 | 3.15 | 0.3% | 26.4 | 54.5% | 0.00 | 0.0% | 20.15 | 5.5% | 1.6 | 0.0 | -91 | 6 | 6.17 | 0.00 | |
| 14:13 | 0.3 | 8.14 | 0.00 | 3.16 | 0.3% | 19.9 | 24.6% | 0.00 | 0.0% | 20.55 | 2.0% | 1.6 | 0.0 | -95 | 4 | 6.17 | 0.00 | |
| 14:18 | 0.3 | 8.13 | 0.01 | 3.15 | 0.3% | 15.4 | 22.6% | 0.00 | 0.0% | 20.69 | 0.7% | 1.6 | 0.0 | -96 | 1 | 6.17 | 0.00 | |
| 14:23 | 0.3 | 8.13 | 0.00 | 3.13 | 0.6% | 7.1 | 53.9% | 0.00 | 0.0% | 21.17 | 2.3% | 1.6 | 0.0 | -97 | 1 | 6.17 | 0.00 | |
| 14:28 | 0.3 | 8.13 | 0.00 | 3.05 | 2.6% | 8.0 | 12.7% | 0.00 | 0.0% | 21.49 | 1.5% | 1.6 | 0.0 | -97 | 0 | 6.17 | 0.00 | |
| 14:33 | 0.3 | 8.13 | 0.00 | 3.14 | 3.0% | 4.5 | 43.8% | 0.00 | 0.0% | 21.24 | 1.2% | 1.6 | 0.0 | -97 | 0 | 6.17 | 0.00 | |
| 14:38 | 0.3 | 8.13 | 0.00 | 3.19 | 1.6% | 4.9 | 8.9% | 0.00 | 0.0% | 24.17 | 13.8% | 1.7 | 0.1 | -94 | 3 | 6.17 | 0.00 | |
| 14:43 | 0.3 | 8.09 | 0.04 | 3.07 | 3.8% | 4.6 | 6.1% | 0.00 | 0.0% | 24.70 | 2.2% | 1.6 | 0.1 | -91 | 3 | 6.17 | 0.00 | |
| 14:48 | 0.3 | 8.04 | 0.05 | 3.09 | 0.7% | 4.8 | 4.3% | 0.00 | 0.0% | 24.22 | 1.9% | 1.6 | 0.0 | -88 | 3 | 6.17 | 0.00 | |
| 14:53 | 0.3 | 8.06 | 0.02 | 3.11 | 0.6% | 4.6 | 4.2% | 0.00 | 0.0% | 24.11 | 0.5% | 1.6 | 0.0 | -86 | 2 | 6.17 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 51 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 134-MW-04-070616 @ 14:53

Odor: None

Other: Missed readings at 13:13 and 13:18 to clean the Horiba; Missed readings at 13:53 to switch out control box

Sample ID: 134-MW-04-070616F @ 14:53

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 14.70
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.70 Time: 8:25 Date: 7/7/2016
Serial Number: 21315 Depth to Bottom of Well: 14.70 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 8:26

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:30 | 0.3 | 11.85 | - | 3.06 | - | 74.9 | - | 0.00 | - | 23.10 | - | 0.16 | - | -221 | - | 6.70 | - | |
| 8:35 | 0.3 | 11.75 | 0.10 | 2.54 | 17.0% | 38.5 | 48.6% | 0.00 | 0.0% | 23.85 | 3.2% | 0.13 | 0.03 | -205 | 16 | 6.75 | 0.05 | |
| 8:40 | 0.3 | 11.68 | 0.07 | 2.37 | 6.7% | 24.3 | 36.9% | 0.00 | 0.0% | 24.42 | 2.4% | 0.12 | 0.01 | -186 | 19 | 6.75 | 0.00 | |
| 8:45 | 0.3 | 11.73 | 0.05 | 1.98 | 16.5% | 10.9 | 55.1% | 0.00 | 0.0% | 22.27 | 8.8% | 0.10 | 0.02 | -229 | 43 | 6.75 | 0.00 | |
| 8:50 | 0.3 | 11.71 | 0.02 | 1.80 | 9.1% | 8.4 | 22.9% | 0.00 | 0.0% | 22.28 | 0.0% | 0.08 | 0.02 | -221 | 8 | 6.75 | 0.00 | |
| 8:55 | 0.3 | 11.69 | 0.02 | 1.65 | 8.3% | 7.9 | 6.0% | 0.00 | 0.0% | 22.35 | 0.3% | 0.08 | 0.00 | -219 | 2 | 6.80 | 0.05 | |
| 9:00 | 0.3 | 11.65 | 0.04 | 1.57 | 4.8% | 7.8 | 1.3% | 0.00 | 0.0% | 22.49 | 0.6% | 0.08 | 0.00 | -211 | 8 | 6.80 | 0.00 | |
| 9:05 | 0.3 | 11.59 | 0.06 | 1.48 | 5.7% | 5.0 | 35.9% | 0.00 | 0.0% | 22.38 | 0.5% | 0.07 | 0.01 | -215 | 4 | 6.80 | 0.00 | |
| 9:10 | 0.3 | 11.58 | 0.01 | 1.45 | 2.0% | 4.9 | 2.0% | 0.00 | 0.0% | 22.36 | 0.1% | 0.07 | 0.00 | -214 | 1 | 6.80 | 0.00 | |
| 9:15 | 0.3 | 11.58 | 0.00 | 1.45 | 0.0% | 4.8 | 2.0% | 0.00 | 0.0% | 22.34 | 0.1% | 0.07 | 0.00 | -215 | 1 | 6.80 | 0.00 | |
| 9:20 | 0.3 | 11.58 | 0.00 | 1.46 | 0.7% | 4.8 | 0.0% | 0.00 | 0.0% | 22.35 | 0.0% | 0.07 | 0.00 | -215 | 0 | 6.80 | 0.00 | |
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| 9:25 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 15 Liters
Well Condition: See well inspection log
Color of GW: Clear
Sample ID: 124-MW-13-070716 @ 9:25 124-MW-13-070716F @ 9:25

Odor: None
Other: -
Sample ID: FB-070716 @ 8:15

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 14.35
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.35 Time: 9:58 Date: 7/7/2016
Serial Number: 21315 Depth to Bottom of Well: 14.35 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 10:00

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 10:05 | 0.3 | 7.10 | - | 1.65 | - | 660.0 | - | 1.00 | - | 22.70 | - | 0.09 | - | -127 | - | 7.40 | - | |
| 10:10 | 0.3 | 7.10 | 0.00 | 1.68 | 1.8% | 650.0 | 1.5% | 0.95 | 5.0% | 22.65 | 0.2% | 0.09 | 0.00 | -125 | 2 | 7.40 | 0.00 | |
| 10:15 | 0.3 | 7.06 | 0.04 | 1.73 | 3.0% | 549.0 | 15.5% | 0.84 | 11.6% | 22.74 | 0.4% | 0.09 | 0.00 | -127 | 2 | 7.40 | 0.00 | |
| 10:20 | 0.3 | 6.95 | 0.11 | 1.74 | 0.6% | 230.0 | 58.1% | 0.64 | 23.8% | 22.45 | 1.3% | 0.09 | 0.00 | -126 | 1 | 7.40 | 0.00 | |
| 10:25 | 0.3 | 6.90 | 0.05 | 1.76 | 1.1% | 115.0 | 50.0% | 0.40 | 37.5% | 22.16 | 1.3% | 0.09 | 0.00 | -125 | 1 | 7.40 | 0.00 | |
| 10:30 | 0.3 | 6.87 | 0.03 | 1.80 | 2.3% | 45.0 | 60.9% | 0.25 | 37.5% | 22.15 | 0.0% | 0.09 | 0.00 | -122 | 3 | 7.40 | 0.00 | |
| 10:35 | 0.3 | 6.82 | 0.05 | 1.79 | 0.6% | 8.4 | 81.3% | 0.15 | 40.0% | 22.00 | 0.7% | 0.09 | 0.00 | -120 | 2 | 7.40 | 0.00 | |
| 10:40 | 0.3 | 6.81 | 0.01 | 1.80 | 0.6% | 8.1 | 3.6% | 0.11 | 26.7% | 21.99 | 0.0% | 0.09 | 0.00 | -120 | 0 | 7.40 | 0.00 | |
| 10:45 | 0.3 | 6.82 | 0.01 | 1.80 | 0.0% | 2.1 | 74.1% | 0.00 | 100.0% | 21.85 | 0.6% | 0.09 | 0.00 | -114 | 6 | 7.40 | 0.00 | |
| 10:50 | 0.3 | 6.83 | 0.01 | 1.80 | 0.0% | 1.3 | 38.1% | 0.00 | 0.0% | 21.94 | 0.4% | 0.09 | 0.00 | -116 | 2 | 7.40 | 0.00 | |
| 10:55 | 0.3 | 6.83 | 0.00 | 1.80 | 0.0% | 0.7 | 46.2% | 0.00 | 0.0% | 21.96 | 0.1% | 0.09 | 0.00 | -117 | 1 | 7.40 | 0.00 | |
| 11:00 | 0.3 | 6.83 | 0.00 | 1.80 | 0.0% | 0.7 | 0.0% | 0.00 | 0.0% | 21.98 | 0.1% | 0.09 | 0.00 | -117 | 0 | 7.40 | 0.00 | |
| 11:05 | 0.3 | 6.83 | 0.00 | 1.80 | 0.0% | 0.7 | 0.0% | 0.00 | 0.0% | 21.97 | 0.0% | 0.09 | 0.00 | -119 | 2 | 7.40 | 0.00 | |
| | | | | | | | | | | | | | | | | | | |
| 11:10 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 18 Liters
Well Condition: See well inspection log
Color of GW: Clear
Sample ID: 124-MW-12-070716 @ 11:10

Odor: None
Other: -
Sample ID: 124-MW-12-070716F @ 11:10

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 13.70
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.55 Time: 11:30 Date: 7/7/2016
Serial Number: 21315 Depth to Bottom of Well: 13.70 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Chris Radomski Purge Start Time: 11:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:40 | 0.3 | 12.03 | - | 5.65 | - | 175.0 | - | 0.00 | - | 24.40 | - | 0.30 | - | -138 | - | 6.90 | - | |
| 11:45 | 0.3 | 12.08 | 0.05 | 5.54 | 1.9% | 67.5 | 61.4% | 0.00 | 0.0% | 24.40 | 0.0% | 0.30 | 0.00 | -117 | 21 | 6.90 | 0.00 | |
| 11:50 | 0.3 | 12.11 | 0.03 | 5.53 | 0.2% | 51.5 | 23.7% | 0.00 | 0.0% | 23.70 | 2.9% | 0.30 | 0.00 | -120 | 3 | 6.90 | 0.00 | |
| 11:55 | 0.3 | 12.13 | 0.02 | 5.52 | 0.2% | 38.5 | 25.2% | 0.00 | 0.0% | 23.28 | 1.8% | 0.30 | 0.00 | -120 | 0 | 6.90 | 0.00 | |
| 12:00 | 0.3 | 12.17 | 0.04 | 5.63 | 2.0% | 29.8 | 22.6% | 0.00 | 0.0% | 22.15 | 4.9% | 0.30 | 0.00 | -103 | 17 | 6.90 | 0.00 | |
| 12:05 | 0.3 | 12.14 | 0.03 | 5.63 | 0.0% | 10.5 | 64.8% | 0.00 | 0.0% | 22.55 | 1.8% | 0.30 | 0.00 | -103 | 0 | 6.90 | 0.00 | |
| 12:10 | 0.3 | 12.13 | 0.01 | 5.63 | 0.0% | 7.7 | 26.7% | 0.00 | 0.0% | 22.80 | 1.1% | 0.30 | 0.00 | -102 | 1 | 6.90 | 0.00 | |
| 12:15 | 0.3 | 12.15 | 0.02 | 5.65 | 0.4% | 7.5 | 2.6% | 0.00 | 0.0% | 22.73 | 0.3% | 0.31 | 0.01 | -110 | 8 | 6.90 | 0.00 | |
| 12:20 | 0.3 | 12.14 | 0.01 | 5.63 | 0.4% | 7.6 | 1.3% | 0.00 | 0.0% | 22.75 | 0.1% | 0.30 | 0.01 | -115 | 5 | 6.90 | 0.00 | |
| 12:25 | 0.3 | 12.14 | 0.00 | 5.64 | 0.2% | 7.7 | 1.3% | 0.00 | 0.0% | 22.76 | 0.0% | 0.30 | 0.00 | -114 | 1 | 6.90 | 0.00 | |
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| 12:30 | Sample | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.5 Liters
Well Condition: See well inspection log
Color of GW: Clear
Sample ID: 140-MW-10-070716 @ 12:30

Odor: None
Other: -
Sample ID: 140-MW-10-070716F @ 12:30

Groundwater Sampling Form

**Job Name:** SA-6 South

**Job Number:** 3480150488.6100.610001 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged:
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): 13.52
Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D² x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ on site treatment system

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.44 Time: 8:20 Date: 7/7/2016
Serial Number: 34032 Depth to Bottom of Well: 13.52 PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/7/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Sean Rittinger (Signature) Sampled By: Sean Rittinger Purge Start Time: 8:23

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:23 | 0.3 | 7.86 | - | 1.56 | - | 101.0 | - | 0.00 | - | 24.64 | - | 0.8 | - | 211 | - | 6.71 | - | |
| 8:28 | 0.3 | 8.93 | 1.07 | 1.48 | 5.1% | 536.0 | 430.7% | 0.00 | 0.0% | 24.45 | 0.8% | 0.7 | 0.1 | 163 | 48 | 6.74 | 0.03 | |
| 8:33 | 0.3 | 9.05 | 0.12 | 1.46 | 1.4% | 101.0 | 81.2% | 0.00 | 0.0% | 24.34 | 0.4% | 0.7 | 0.0 | 128 | 35 | 6.74 | 0.00 | |
| 8:38 | 0.3 | 9.20 | 0.15 | 1.43 | 2.1% | 23.3 | 76.9% | 0.00 | 0.0% | 23.83 | 2.1% | 0.7 | 0.0 | 112 | 16 | 6.74 | 0.00 | |
| 8:43 | 0.3 | 9.37 | 0.17 | 1.40 | 2.1% | 90.1 | 286.7% | 0.00 | 0.0% | 23.75 | 0.3% | 0.7 | 0.0 | 75 | 37 | 6.74 | 0.00 | |
| 8:48 | 0.3 | 9.39 | 0.02 | 1.37 | 2.1% | 163.0 | 80.9% | 0.00 | 0.0% | 23.96 | 0.9% | 0.7 | 0.0 | 57 | 18 | 6.74 | 0.00 | |
| 8:53 | 0.3 | 9.41 | 0.02 | 1.34 | 2.2% | 120.0 | 26.4% | 0.00 | 0.0% | 23.41 | 2.3% | 0.7 | 0.0 | 47 | 10 | 6.74 | 0.00 | |
| 8:58 | 0.3 | 9.52 | 0.11 | 1.33 | 0.7% | 203.0 | 69.2% | 0.00 | 0.0% | 23.16 | 1.1% | 0.7 | 0.0 | 26 | 21 | 6.74 | 0.00 | |
| 9:03 | 0.3 | 9.59 | 0.07 | 1.33 | 0.0% | 324.0 | 59.6% | 0.00 | 0.0% | 23.14 | 0.1% | 0.7 | 0.0 | 15 | 11 | 6.74 | 0.00 | |
| 9:13 | 0.3 | 9.54 | 0.05 | 1.30 | 2.3% | 478.0 | 47.5% | 0.00 | 0.0% | 23.10 | 0.2% | 0.6 | 0.1 | 14 | 1 | 6.74 | 0.00 | |
| 9:18 | 0.3 | 9.51 | 0.03 | 1.30 | 0.0% | 404.0 | 15.5% | 0.00 | 0.0% | 23.13 | 0.1% | 0.6 | 0.0 | 8 | 6 | 6.74 | 0.00 | |
| 9:23 | 0.3 | 9.42 | 0.09 | 1.30 | 0.0% | 343.0 | 15.1% | 0.00 | 0.0% | 23.59 | 2.0% | 0.6 | 0.0 | 5 | 3 | 6.74 | 0.00 | |
| 9:28 | 0.3 | 9.46 | 0.04 | 1.29 | 0.8% | 293.0 | 14.6% | 0.00 | 0.0% | 23.81 | 0.9% | 0.6 | 0.0 | -1 | 6 | 6.74 | 0.00 | |
| 9:33 | 0.3 | 9.40 | 0.06 | 1.29 | 0.0% | 217.0 | 25.9% | 0.00 | 0.0% | 23.27 | 2.3% | 0.6 | 0.0 | 14 | 15 | 6.74 | 0.00 | |
| 9:43 | 0.3 | 9.30 | 0.10 | 1.23 | 4.7% | 481.0 | 121.7% | 0.00 | 0.0% | 25.67 | 10.3% | 0.6 | 0.0 | 46 | 32 | 6.74 | 0.00 | |
| 9:48 | 0.3 | 9.27 | 0.03 | 1.27 | 3.3% | 310.0 | 35.6% | 0.00 | 0.0% | 22.58 | 12.0% | 0.6 | 0.0 | 25 | 21 | 6.74 | 0.00 | |
| 9:53 | 0.3 | 9.45 | 0.18 | 1.27 | 0.0% | 301.0 | 2.9% | 0.00 | 0.0% | 23.13 | 2.4% | 0.6 | 0.0 | 19 | 6 | 6.74 | 0.00 | |
| 9:58 | 0.3 | 9.32 | 0.13 | 1.27 | 0.0% | 225.0 | 25.2% | 0.00 | 0.0% | 23.19 | 0.3% | 0.6 | 0.0 | 16 | 3 | 6.74 | 0.00 | |
| 10:03 | 0.3 | 9.29 | 0.03 | 1.27 | 0.0% | 101.0 | 55.1% | 0.00 | 0.0% | 23.59 | 1.7% | 0.6 | 0.0 | 15 | 1 | 6.74 | 0.00 | |
| 10:08 | 0.3 | 9.30 | 0.01 | 1.27 | 0.0% | 54.1 | 46.4% | 0.00 | 0.0% | 23.37 | 0.9% | 0.6 | 0.0 | 13 | 2 | 6.74 | 0.00 | |
| 10:13 | 0.3 | 9.30 | 0.00 | 1.27 | 0.0% | 40.0 | 26.1% | 0.00 | 0.0% | 23.18 | 0.8% | 0.6 | 0.0 | 9 | 4 | 6.74 | 0.00 | |
| 10:18 | 0.3 | 9.40 | 0.10 | 1.28 | 0.8% | 112.0 | 180.0% | 0.00 | 0.0% | 22.81 | 1.6% | 0.6 | 0.0 | 2 | 7 | 6.74 | 0.00 | |
| 10:28 | 0.3 | 9.28 | 0.12 | 1.28 | 0.0% | 102.0 | 8.9% | 0.00 | 0.0% | 22.37 | 1.9% | 0.6 | 0.0 | 17 | 15 | 6.74 | 0.00 | |
| 10:33 | 0.3 | 9.27 | 0.01 | 1.28 | 0.0% | 65.8 | 35.5% | 0.00 | 0.0% | 23.18 | 3.6% | 0.6 | 0.0 | 12 | 5 | 6.74 | 0.00 | |
| 10:38 | 0.3 | 9.31 | 0.04 | 1.28 | 0.0% | 51.9 | 21.1% | 0.00 | 0.0% | 23.26 | 0.3% | 0.6 | 0.0 | 6 | 6 | 6.74 | 0.00 | |
| 10:43 | 0.3 | 9.33 | 0.02 | 1.28 | 0.0% | 42.3 | 18.5% | 0.00 | 0.0% | 23.25 | 0.0% | 0.6 | 0.0 | 5 | 1 | 6.74 | 0.00 | |
| 10:48 | 0.3 | 9.32 | 0.01 | 1.28 | 0.0% | 37.0 | 12.5% | 0.00 | 0.0% | 23.39 | 0.6% | 0.6 | 0.0 | 3 | 2 | 6.74 | 0.00 | |
| 10:53 | 0.3 | 9.30 | 0.02 | 1.27 | 0.8% | 29.3 | 20.8% | 0.00 | 0.0% | 23.52 | 0.6% | 0.6 | 0.0 | 3 | 0 | 6.74 | 0.00 | |
| 10:58 | 0.3 | 9.36 | 0.06 | 1.27 | 0.0% | 27.9 | 4.8% | 0.00 | 0.0% | 23.07 | 1.9% | 0.6 | 0.0 | 0 | 3 | 6.74 | 0.00 | |
| 11:03 | 0.3 | 9.41 | 0.05 | 1.27 | 0.0% | 90.5 | 224.4% | 0.00 | 0.0% | 22.71 | 1.6% | 0.6 | 0.0 | 4 | 4 | 6.74 | 0.00 | |
| 11:18 | 0.3 | 9.34 | 0.07 | 1.27 | 0.0% | 80.5 | 11.0% | 0.00 | 0.0% | 23.20 | 2.2% | 0.6 | 0.0 | 1 | 3 | 6.74 | 0.00 | |
| 11:23 | 0.3 | 9.34 | 0.00 | 1.26 | 0.8% | 75.6 | 6.1% | 0.00 | 0.0% | 23.24 | 0.2% | 0.6 | 0.0 | -1 | 2 | 6.74 | 0.00 | |
| 11:28 | 0.3 | 9.38 | 0.04 | 1.27 | 0.8% | 56.5 | 25.3% | 0.00 | 0.0% | 22.79 | 1.9% | 0.6 | 0.0 | -3 | 2 | 6.74 | 0.00 | |
| 11:33 | 0.3 | 9.35 | 0.03 | 1.26 | 0.8% | 56.0 | 0.9% | 0.00 | 0.0% | 22.76 | 0.1% | 0.6 | 0.0 | -3 | 0 | 6.74 | 0.00 | |
| 11:38 | 0.3 | 9.30 | 0.05 | 1.26 | 0.0% | 59.1 | 5.5% | 0.00 | 0.0% | 22.64 | 0.5% | 0.6 | 0.0 | -4 | 1 | 6.74 | 0.00 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 58.5 L
Well Condition: See well inspection log
Color of GW: Clear/light brown

Odor: None
Other: Missed readings at 9:08, 9:38, and 10:23 to clean the Horiba; Missed readings at 11:08 and 11:13 to call project manager to discuss turbidity

Sample ID: 125-MW-03-070716 @ 11:38

Sample ID: 125-MW-03-070716F @ 11:38

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 21.50

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 20

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.69 Time: 8:20 Date: 7/12/2017

Serial Number: 21413 Depth to Bottom of Well: 21.50 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/12/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: D. Berkowitz (Signature) Sampled By: D. Berkowitz Purge Start Time: 8:30

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:30 | **0.3** | **16.99** | **-** | **9.36** | **-** | **44** | **-** | **1.100** | **-** | **651.0** | **-** | **0.00** | **-** | **0.05** | **-** | **7.74** | **-** | |
| 8:35 | **0.3** | **16.00** | **5.8** | **8.43** | **0.93** | **45** | **-1** | **0.945** | **14.1** | **264.0** | **59.4** | **0.00** | **0.0** | **0.05** | **0.00** | **7.75** | **-0.01** | |
| 8:40 | **0.3** | **16.66** | **-4.1** | **8.37** | **0.06** | **40** | **5** | **0.867** | **8.3** | **115.0** | **56.4** | **0.00** | **0.0** | **0.04** | **0.01** | **7.78** | **-0.03** | |
| 8:45 | **0.3** | **17.05** | **-2.3** | **8.32** | **0.05** | **42** | **-2** | **0.891** | **-2.8** | **64.5** | **43.9** | **0.00** | **0.0** | **0.04** | **0.00** | **7.79** | **-0.01** | |
| 8:50 | **0.3** | **17.44** | **-2.3** | **8.32** | **0.00** | **44** | **-2** | **0.895** | **-0.4** | **19.5** | **69.8** | **0.00** | **0.0** | **0.04** | **0.00** | **7.79** | **0.00** | |
| 8:55 | **0.3** | **17.71** | **-1.5** | **8.33** | **-0.01** | **41** | **3** | **0.890** | **0.6** | **11.6** | **40.5** | **0.00** | **0.0** | **0.04** | **0.00** | **7.79** | **0.00** | |
| 9:00 | **0.3** | **17.79** | **-0.5** | **8.35** | **-0.02** | **37** | **4** | **0.895** | **-0.6** | **8.6** | **25.9** | **0.00** | **0.0** | **0.04** | **0.00** | **7.79** | **0.00** | |
| 9:05 | **0.3** | **17.77** | **0.1** | **8.36** | **-0.01** | **35** | **2** | **0.891** | **0.4** | **6.0** | **30.2** | **0.00** | **0.0** | **0.04** | **0.00** | **7.80** | **-0.01** | |
| 9:10 | **0.3** | **17.79** | **-0.1** | **8.37** | **-0.01** | **33** | **2** | **0.901** | **-1.1** | **6.1** | **-1.7** | **0.00** | **0.0** | **0.04** | **0.00** | **7.80** | **0.00** | |
| 9:15 | **0.3** | **17.81** | **-0.1** | **8.38** | **-0.01** | **33** | **0** | **0.900** | **0.1** | **5.1** | **16.4** | **0.00** | **0.0** | **0.04** | **0.00** | **7.80** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 8 Final Water Level: 7.80 Final Well Depth: 21.50

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 073-MW-06-071217 @09:20 Sample ID: 073-MW-06-071217F @09:25

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.40

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.7

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.93 Time: 12:15 Date: 7/12/2017

Serial Number: 21413 Depth to Bottom of Well: 18.50 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/12/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: D. Berkowitz (Signature) Sampled By: D. Berkowitz Purge Start Time: 12:20

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:20 | **0.3** | **21.19** | **-** | **7.82** | **-** | **127** | **-** | **0.228** | **-** | **621.0** | **-** | **3.80** | **-** | **0.01** | **-** | **7.03** | **-** | |
| 12:25 | **0.3** | **20.43** | **3.6** | **7.61** | **0.21** | **91** | **36** | **0.221** | **3.1** | **187.0** | **69.9** | **2.25** | **40.8** | **0.01** | **0.00** | **6.58** | **0.45** | |
| 12:30 | **0.3** | **20.32** | **0.5** | **7.57** | **0.04** | **92** | **-1** | **0.220** | **0.5** | **111.0** | **40.6** | **2.24** | **0.4** | **0.01** | **0.00** | **6.49** | **0.09** | |
| 12:35 | **0.3** | **20.15** | **0.8** | **7.59** | **-0.02** | **99** | **-7** | **0.220** | **0.0** | **75.0** | **32.4** | **1.93** | **13.8** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 12:40 | **0.3** | **20.13** | **0.1** | **7.51** | **0.08** | **68** | **31** | **0.220** | **0.0** | **48.6** | **35.2** | **1.27** | **34.2** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 12:45 | **0.3** | **20.10** | **0.1** | **7.50** | **0.01** | **35** | **33** | **0.222** | **-0.9** | **46.6** | **4.1** | **0.00** | **100.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 12:50 | **0.3** | **20.08** | **0.1** | **7.53** | **-0.03** | **22** | **13** | **0.220** | **0.9** | **38.8** | **16.7** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 12:55 | **0.3** | **20.19** | **-0.5** | **7.50** | **0.03** | **29** | **-7** | **0.220** | **0.0** | **22.8** | **41.2** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 13:00 | **0.3** | **20.08** | **0.5** | **7.56** | **-0.06** | **26** | **3** | **0.219** | **0.5** | **13.1** | **42.5** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 13:05 | **0.3** | **20.00** | **0.4** | **7.54** | **0.02** | **19** | **7** | **0.219** | **0.0** | **11.6** | **11.5** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 13:10 | **0.3** | **20.06** | **-0.3** | **7.52** | **0.02** | **26** | **-7** | **0.219** | **0.0** | **9.1** | **21.6** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 13:15 | **0.3** | **20.06** | **0.0** | **7.51** | **0.01** | **30** | **-4** | **0.219** | **0.0** | **8.6** | **5.5** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 13:20 | **0.3** | **20.00** | **0.3** | **7.52** | **-0.01** | **32** | **-2** | **0.219** | **0.0** | **6.8** | **20.9** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
| 13:25 | **0.3** | **19.90** | **0.5** | **7.52** | **0.00** | **34** | **-2** | **0.219** | **0.0** | **7.2** | **-5.9** | **0.00** | **0.0** | **0.01** | **0.00** | **6.49** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 9 Final Water Level: 6.49 Final Well Depth: 18.50

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 073-MW-07-071217 @ 13:30 Sample ID: 073-MW-07-071217F @ 13:35

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.40

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.53 Time: 11:10 Date: 7/11/2017

Serial Number: 21413 Depth to Bottom of Well: 18.40 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/11/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: D. Berkowitz (Signature) Sampled By: D. Berkowitz Purge Start Time: 11:15

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 11:15 | **0.3** | **17.28** | **-** | **8.69** | **-** | **73** | **-** | **0.375** | **-** | **158.0** | **-** | **4.60** | **-** | **0.02** | **-** | **5.68** | **-** | |
| 11:20 | **0.3** | **18.01** | **-4.2** | **8.64** | **0.05** | **43** | **30** | **0.360** | **4.0** | **171.0** | **-8.2** | **2.10** | **54.3** | **0.02** | **0.00** | **5.68** | **0.00** | |
| 11:25 | **0.3** | **18.31** | **-1.7** | **8.63** | **0.01** | **31** | **12** | **0.382** | **-6.1** | **74.7** | **56.3** | **0.91** | **56.7** | **0.02** | **0.00** | **5.68** | **0.00** | |
| 11:30 | **0.3** | **18.47** | **-0.9** | **8.72** | **-0.09** | **1** | **30** | **0.389** | **-1.8** | **24.7** | **66.9** | **0.24** | **73.6** | **0.02** | **0.00** | **5.68** | **0.00** | |
| 11:35 | **0.3** | **18.57** | **-0.5** | **8.72** | **0.00** | **-12** | **13** | **0.389** | **0.0** | **19.6** | **20.6** | **0.00** | **100.0** | **0.02** | **0.00** | **5.69** | **-0.01** | |
| 11:40 | **0.3** | **18.56** | **0.1** | **8.76** | **-0.04** | **-25** | **13** | **0.393** | **-1.0** | **16.6** | **15.3** | **0.00** | **0.0** | **0.02** | **0.00** | **5.70** | **-0.01** | |
| 11:45 | **0.3** | **18.52** | **0.2** | **8.79** | **-0.03** | **-29** | **4** | **0.394** | **-0.3** | **14.2** | **14.5** | **0.00** | **0.0** | **0.02** | **0.00** | **5.70** | **0.00** | |
| 11:50 | **0.3** | **18.55** | **-0.2** | **8.79** | **0.00** | **-33** | **4** | **0.393** | **0.3** | **9.6** | **32.4** | **0.00** | **0.0** | **0.02** | **0.00** | **5.70** | **0.00** | |
| 11:55 | **0.3** | **18.56** | **-0.1** | **8.81** | **-0.02** | **-36** | **3** | **0.392** | **0.3** | **9.0** | **6.3** | **0.00** | **0.0** | **0.02** | **0.00** | **5.70** | **0.00** | |
| 12:00 | **0.3** | **18.58** | **-0.1** | **8.83** | **-0.02** | **-38** | **2** | **0.392** | **0.0** | **8.6** | **4.4** | **0.00** | **0.0** | **0.02** | **0.00** | **5.70** | **0.00** | |
| 12:05 | **0.3** | **18.55** | **0.2** | **8.85** | **-0.02** | **-39** | **1** | **0.396** | **-1.0** | **8.8** | **-2.3** | **0.00** | **0.0** | **0.02** | **0.00** | **5.70** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 7 Final Water Level: 5.70 Final Well Depth: 18.38

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 073-MW-08-071117 @12:10 Sample ID: 073-MW-08-071117F @12:15

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.60

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.11 Time: 9:31 Date: 7/10/2017

Serial Number: 21261 Depth to Bottom of Well: 13.60 PID Reading (inside of Casing): 0.3

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/10/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: S. Rittinger (Signature) Sampled By: S. Rittinger Purge Start Time: 12:30

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:35 | **0.2** | **28.90** | **-** | **7.06** | **-** | **-72** | **-** | **1.24** | **-** | **293.0** | **-** | **0.18** | **-** | **0.06** | **-** | **6.02** | **-** | |
| 12:40 | **0.2** | **25.83** | **10.6** | **7.02** | **0.04** | **-78** | **6** | **1.26** | **-1.6** | **179.0** | **38.9** | **0.00** | **100.0** | **0.06** | **0.00** | **6.20** | **-0.18** | |
| 12:45 | **0.2** | **23.67** | **8.4** | **6.99** | **0.03** | **-81** | **3** | **1.30** | **-3.2** | **81.8** | **54.3** | **0.00** | **0.0** | **0.06** | **0.00** | **6.20** | **0.00** | |
| 12:50 | **0.2** | **23.52** | **0.6** | **6.99** | **0.00** | **-83** | **2** | **1.31** | **-0.8** | **52.7** | **35.6** | **0.00** | **0.0** | **0.06** | **0.00** | **6.20** | **0.00** | |
| 12:55 | **0.2** | **23.28** | **1.0** | **6.98** | **0.01** | **-85** | **2** | **1.31** | **0.0** | **34.1** | **35.3** | **0.00** | **0.0** | **0.06** | **0.00** | **6.20** | **0.00** | |
| 13:00 | **0.2** | **22.87** | **1.8** | **6.98** | **0.00** | **-85** | **0** | **1.32** | **-0.8** | **24.7** | **27.6** | **0.00** | **0.0** | **0.07** | **-0.01** | **6.20** | **0.00** | |
| 13:05 | **0.2** | **23.38** | **-2.2** | **6.97** | **0.01** | **-86** | **1** | **1.31** | **0.8** | **16.4** | **33.6** | **0.00** | **0.0** | **0.07** | **0.00** | **6.20** | **0.00** | |
| 13:10 | **0.2** | **23.50** | **-0.5** | **6.97** | **0.00** | **-86** | **0** | **1.31** | **0.0** | **9.9** | **39.6** | **0.00** | **0.0** | **0.07** | **0.00** | **6.20** | **0.00** | |
| 13:15 | **0.2** | **23.61** | **-0.5** | **6.97** | **0.00** | **-87** | **1** | **1.31** | **0.0** | **6.3** | **36.4** | **0.00** | **0.0** | **0.07** | **0.00** | **6.20** | **0.00** | |
| 13:20 | **0.2** | **23.50** | **0.5** | **6.97** | **0.00** | **-86** | **-1** | **1.31** | **0.0** | **4.2** | **33.3** | **0.00** | **0.0** | **0.07** | **0.00** | **6.20** | **0.00** | |
| 13:25 | **0.2** | **23.01** | **2.1** | **6.97** | **0.00** | **-85** | **-1** | **1.31** | **0.0** | **2.7** | **35.7** | **0.00** | **0.0** | **0.07** | **0.00** | **6.20** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 3.5 Final Water Level: 6.13 Final Well Depth: 13.58

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 124-MW-12-071017 @13:30 Sample ID: 124-MW-12-071017F @13:35

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.00

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 13.5

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.43 Time: 9:34 Date: 7/10/2017

Serial Number: 21413 Depth to Bottom of Well: 15.00 PID Reading (inside of Casing): 34.2

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/10/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: N. Sozio (Signature) Sampled By: N. Sozio Purge Start Time: 12:25

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:30 | **0.20** | **23.04** | **-** | **11.61** | **-** | **-63** | **-** | **0.708** | **-** | **306.0** | **-** | **1.86** | **-** | **0.03** | **-** | **5.42** | **-** | |
| 12:35 | **0.20** | **21.05** | **8.6** | **11.29** | **0.32** | **-37** | **-26** | **0.469** | **33.8** | **196.0** | **35.9** | **1.67** | **10.2** | **0.02** | **0.01** | **5.64** | **-0.22** | |
| 12:40 | **0.20** | **20.90** | **0.7** | **10.48** | **0.81** | **7** | **-44** | **0.297** | **36.7** | **85.3** | **56.5** | **0.68** | **59.3** | **0.01** | **0.01** | **5.66** | **-0.02** | |
| 12:45 | **0.25** | **20.44** | **2.2** | **10.46** | **0.02** | **-12** | **19** | **0.298** | **-0.3** | **77.7** | **8.9** | **0.35** | **48.5** | **0.01** | **0.00** | **5.64** | **0.02** | |
| 12:50 | **0.25** | **21.06** | **-3.0** | **10.33** | **0.13** | **-4** | **-8** | **0.276** | **7.4** | **42.0** | **45.9** | **0.13** | **62.9** | **0.01** | **0.00** | **5.64** | **0.00** | |
| 12:55 | **0.20** | **21.02** | **0.2** | **10.20** | **0.13** | **3** | **-7** | **0.262** | **5.1** | **31.6** | **24.8** | **0.00** | **100.0** | **0.01** | **0.00** | **5.67** | **-0.03** | |
| 13:00 | **0.20** | **21.00** | **0.1** | **10.15** | **0.05** | **6** | **-3** | **0.259** | **1.1** | **30.2** | **4.4** | **0.00** | **0.0** | **0.01** | **0.00** | **5.66** | **0.01** | |
| 13:05 | **0.25** | **20.77** | **1.1** | **10.06** | **0.09** | **18** | **-12** | **0.251** | **3.1** | **24.9** | **17.5** | **0.00** | **0.0** | **0.01** | **0.00** | **5.62** | **0.04** | |
| 13:10 | **0.25** | **20.59** | **0.9** | **10.07** | **-0.01** | **14** | **4** | **0.252** | **-0.4** | **21.7** | **12.9** | **0.00** | **0.0** | **0.01** | **0.00** | **5.68** | **-0.06** | |
| 13:15 | **0.25** | **20.40** | **0.9** | **10.07** | **0.00** | **13** | **1** | **0.252** | **0.0** | **20.4** | **6.0** | **0.00** | **0.0** | **0.01** | **0.00** | **5.69** | **-0.01** | |
| 13:20 | **0.25** | **20.50** | **-0.5** | **10.08** | **-0.01** | **12** | **1** | **0.253** | **-0.4** | **18.7** | **8.3** | **0.00** | **0.0** | **0.01** | **0.00** | **5.70** | **-0.01** | |
| 13:25 | **0.20** | **20.61** | **-0.5** | **10.07** | **0.01** | **16** | **-4** | **0.253** | **0.0** | **16.9** | **9.6** | **0.00** | **0.0** | **0.01** | **0.00** | **5.70** | **0.00** | |
| 13:30 | **0.20** | **20.73** | **-0.6** | **10.08** | **-0.01** | **17** | **-1** | **0.253** | **0.0** | **15.6** | **7.7** | **0.00** | **0.0** | **0.01** | **0.00** | **5.71** | **-0.01** | |
| 13:35 | **0.20** | **20.80** | **-0.3** | **10.08** | **0.00** | **18** | **-1** | **0.253** | **0.0** | **15.9** | **-1.9** | **0.00** | **0.0** | **0.01** | **0.00** | **5.71** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 6.5 Final Water Level: 5.62 Final Well Depth: 14.90

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 124-MW-13-071017 @13:35 Sample ID: 124-MW-13-071017F @13:40

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.30

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 11.8

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 2.92 Time: 9:45 Date: 7/10/2017

Serial Number: 21413 Depth to Bottom of Well: 13.30 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/11/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: D. Berkowitz (Signature) Sampled By: D. Berkowitz Purge Start Time: 12:55

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 13:00 | **0.3** | **22.09** | **-** | **7.08** | **-** | **-47** | **-** | **4.00** | **-** | **185.0** | **-** | **0.93** | **-** | **0.21** | **-** | **3.05** | **-** | |
| 13:05 | **0.3** | **20.78** | **5.9** | **6.92** | **0.16** | **-62** | **15** | **3.70** | **7.5** | **84.5** | **54.3** | **0.00** | **100.0** | **0.20** | **0.01** | **3.05** | **0.00** | |
| 13:10 | **0.3** | **20.23** | **2.6** | **6.78** | **0.14** | **-64** | **2** | **4.01** | **-8.4** | **58.2** | **31.1** | **0.00** | **0.0** | **0.21** | **-0.01** | **3.05** | **0.00** | |
| 13:15 | **0.3** | **20.21** | **0.1** | **6.75** | **0.03** | **-64** | **0** | **4.08** | **-1.7** | **42.8** | **26.5** | **0.00** | **0.0** | **0.21** | **0.00** | **3.05** | **0.00** | |
| 13:20 | **0.3** | **20.30** | **-0.4** | **6.73** | **0.02** | **-64** | **0** | **4.17** | **-2.2** | **36.0** | **15.9** | **0.00** | **0.0** | **0.22** | **-0.01** | **3.05** | **0.00** | |
| 13:25 | **0.3** | **20.93** | **-3.1** | **6.70** | **0.03** | **-64** | **0** | **4.28** | **-2.6** | **24.8** | **31.1** | **0.00** | **0.0** | **0.23** | **-0.01** | **3.05** | **0.00** | |
| 13:30 | **0.3** | **20.46** | **2.2** | **6.78** | **-0.08** | **-65** | **1** | **4.30** | **-0.5** | **16.9** | **31.9** | **0.00** | **0.0** | **0.24** | **-0.01** | **3.05** | **0.00** | |
| 13:35 | **0.3** | **20.33** | **0.6** | **6.73** | **0.05** | **-65** | **0** | **4.35** | **-1.2** | **14.0** | **17.2** | **0.00** | **0.0** | **0.23** | **0.01** | **3.04** | **0.01** | |
| 13:40 | **0.3** | **20.36** | **-0.1** | **6.73** | **0.00** | **-65** | **0** | **4.38** | **-0.7** | **11.2** | **20.0** | **0.00** | **0.0** | **0.23** | **0.00** | **3.04** | **0.00** | |
| 13:45 | **0.3** | **20.40** | **-0.2** | **6.72** | **0.01** | **-65** | **0** | **4.39** | **-0.2** | **9.2** | **17.9** | **0.00** | **0.0** | **0.24** | **-0.01** | **3.04** | **0.00** | |
| 13:50 | **0.3** | **20.38** | **0.1** | **6.74** | **-0.02** | **-62** | **-3** | **4.40** | **-0.2** | **7.7** | **16.3** | **0.00** | **0.0** | **0.25** | **-0.01** | **3.04** | **0.00** | |
| 13:55 | **0.3** | **20.37** | **0.0** | **6.70** | **0.04** | **-61** | **-1** | **4.42** | **-0.5** | **7.9** | **-2.6** | **0.00** | **0.0** | **0.25** | **0.00** | **3.04** | **0.00** | |
| 14:00 | **0.3** | **20.39** | **-0.1** | **6.72** | **-0.02** | **-63** | **2** | **4.46** | **-0.9** | **6.6** | **16.5** | **0.00** | **0.0** | **0.24** | **0.01** | **3.04** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 9 Final Water Level: 3.04 Final Well Depth: 13.30

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 125-MW-02-071117 @14:05 Sample ID: 125-MW-02-071117F @14:10

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.55

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.93 Time: 9:28 Date: 7/10/2017

Serial Number: 21261 Depth to Bottom of Well: 13.55 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/10/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: S. Rittinger (Signature) Sampled By: S. Rittinger Purge Start Time: 10:13

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:15 | **0.25** | **24.35** | **-** | **12.02** | **-** | **-49** | **-** | **2.110** | **-** | **119.0** | **-** | **0.31** | **-** | **0.10** | **-** | **5.85** | **-** | |
| 10:20 | **0.25** | **21.78** | **10.6** | **10.42** | **1.60** | **-44** | **-5** | **0.357** | **83.1** | **45.0** | **62.2** | **0.00** | **100.0** | **0.02** | **0.08** | **5.88** | **-0.03** | |
| 10:25 | **0.25** | **21.38** | **1.8** | **10.42** | **0.00** | **-24** | **-20** | **0.400** | **-12.0** | **6.4** | **85.8** | **0.00** | **0.0** | **0.02** | **0.00** | **5.88** | **0.00** | |
| 10:30 | **0.25** | **21.11** | **1.3** | **10.74** | **-0.32** | **-27** | **3** | **0.511** | **-27.8** | **2.6** | **59.4** | **0.00** | **0.0** | **0.02** | **0.00** | **5.88** | **0.00** | |
| 10:35 | **0.25** | **21.13** | **-0.1** | **10.92** | **-0.18** | **-32** | **5** | **0.588** | **-15.1** | **1.2** | **53.8** | **0.00** | **0.0** | **0.03** | **-0.01** | **5.88** | **0.00** | |
| 10:40 | **0.25** | **20.92** | **1.0** | **11.01** | **-0.09** | **-36** | **4** | **0.659** | **-12.1** | **1.1** | **8.3** | **0.00** | **0.0** | **0.03** | **0.00** | **5.88** | **0.00** | |
| 10:45 | **0.25** | **20.95** | **-0.1** | **11.04** | **-0.03** | **-38** | **2** | **0.733** | **-11.2** | **2.7** | **59.3** | **0.00** | **0.0** | **0.03** | **0.00** | **5.88** | **0.00** | |
| 10:50 | **0.25** | **20.88** | **0.3** | **11.06** | **-0.02** | **-42** | **4** | **0.820** | **-11.9** | **2.4** | **11.1** | **0.00** | **0.0** | **0.03** | **0.00** | **5.88** | **0.00** | |
| 10:55 | **0.25** | **20.68** | **1.0** | **11.14** | **-0.08** | **-51** | **9** | **0.821** | **-0.1** | **5.2** | **53.8** | **0.00** | **0.0** | **0.04** | **-0.01** | **5.88** | **0.00** | |
| 11:00 | **0.25** | **20.80** | **-0.6** | **11.15** | **-0.01** | **-59** | **8** | **0.860** | **-4.8** | **5.7** | **-9.6** | **0.00** | **0.0** | **0.04** | **0.00** | **5.88** | **0.00** | |
| 11:05 | **0.25** | **20.70** | **0.5** | **11.17** | **-0.02** | **-68** | **9** | **0.890** | **-3.5** | **7.2** | **-26.3** | **0.00** | **0.0** | **0.04** | **0.00** | **5.88** | **0.00** | |
| 11:10 | **0.25** | **20.74** | **-0.2** | **11.19** | **-0.02** | **-72** | **4** | **0.902** | **-1.3** | **6.7** | **6.9** | **0.00** | **0.0** | **0.04** | **0.00** | **5.88** | **0.00** | |
| 11:15 | **0.25** | **20.74** | **0.0** | **11.20** | **-0.01** | **-70** | **-2** | **0.921** | **-2.1** | **5.9** | **11.9** | **0.00** | **0.0** | **0.05** | **-0.01** | **5.88** | **0.00** | |
| 11:20 | **0.25** | **20.78** | **-0.2** | **11.23** | **-0.03** | **-76** | **6** | **0.932** | **-1.2** | **5.4** | **8.5** | **0.00** | **0.0** | **0.05** | **0.00** | **5.88** | **0.00** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 11 Final Water Level: 5.04 Final Well Depth: 13.58

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 125-MW-03-071017 @11:25

Sample ID: 125-MW-03-071017F @11:35

Sample ID: 125-MW-03-071017FA @11:45

Odor: NONE

Other: -

Sample ID: 125-MW-03-071017DP @11:25

Sample ID: 125-MW-03-071017FDP @11:35

Sample ID: 125-MW-03-071017FADP @11:45

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.80

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.31 Time: 9:20 Date: 7/10/2017

Serial Number: 21261 Depth to Bottom of Well: 17.80 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/11/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: S. Rittinger (Signature) Sampled By: S. Rittinger Purge Start Time: 11:14

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 11:20 | 0.2 | 24.13 | - | 6.85 | - | -112 | - | 5.47 | - | 670.0 | - | 0.10 | - | 0.30 | - | 5.38 | - | |
| 11:25 | 0.2 | 20.71 | 14.2 | 6.84 | 0.01 | -117 | 5 | 5.75 | -5.1 | 525.0 | 21.6 | 0.00 | 100.0 | 0.31 | -0.01 | 5.37 | 0.01 | |
| 11:30 | 0.2 | 20.25 | 2.2 | 6.84 | 0.00 | -119 | 2 | 5.77 | -0.3 | 479.0 | 8.8 | 0.00 | 0.0 | 0.31 | 0.00 | 5.37 | 0.00 | |
| 11:35 | 0.2 | 19.39 | 4.2 | 6.84 | 0.00 | -120 | 1 | 5.76 | 0.2 | 466.0 | 2.7 | 0.00 | 0.0 | 0.31 | 0.00 | 5.37 | 0.00 | |
| 11:40 | 0.2 | 19.21 | 0.9 | 6.84 | 0.00 | -123 | 3 | 5.60 | 2.8 | 388.0 | 16.7 | 0.00 | 0.0 | 0.30 | 0.01 | 5.38 | -0.01 | |
| 11:45 | 0.2 | 18.53 | 3.5 | 6.85 | -0.01 | -125 | 2 | 5.47 | 2.3 | 298.0 | 23.2 | 0.00 | 0.0 | 0.29 | 0.01 | 5.38 | 0.00 | |
| 11:50 | 0.2 | 18.28 | 1.3 | 6.96 | -0.11 | -125 | 0 | 5.44 | 0.5 | 266.0 | 10.7 | 0.00 | 0.0 | 0.29 | 0.00 | 5.38 | 0.00 | |
| 11:55 | 0.2 | 17.21 | 5.9 | 6.85 | 0.11 | -124 | -1 | 5.58 | -2.6 | 262.0 | 1.5 | 0.00 | 0.0 | 0.30 | -0.01 | 5.38 | 0.00 | |
| 12:00 | 0.2 | 16.75 | 2.7 | 6.86 | -0.01 | -125 | 1 | 5.58 | 0.0 | 234.0 | 10.7 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:05 | 0.2 | 16.78 | -0.2 | 6.86 | 0.00 | -126 | 1 | 5.56 | 0.4 | 213.0 | 9.0 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:10 | 0.2 | 16.76 | 0.1 | 6.87 | -0.01 | -127 | 1 | 5.50 | 1.1 | 191.0 | 10.3 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:15 | 0.2 | 16.81 | -0.3 | 6.87 | 0.00 | -126 | -1 | 5.49 | 0.2 | 157.0 | 17.8 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:20 | 0.2 | 16.74 | 0.4 | 6.89 | -0.02 | -126 | 0 | 5.44 | 0.9 | 146.0 | 7.0 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:25 | 0.2 | 16.84 | -0.6 | 6.89 | 0.00 | -127 | 1 | 5.41 | 0.6 | 136.0 | 6.8 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:30 | 0.2 | 16.75 | 0.5 | 6.91 | -0.02 | -127 | 0 | 5.33 | 1.5 | 131.0 | 3.7 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:35 | 0.2 | 16.69 | 0.4 | 6.92 | -0.01 | -129 | 2 | 5.36 | -0.6 | 98.4 | 24.9 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:40 | 0.2 | 17.59 | -5.4 | 6.91 | 0.01 | -126 | -3 | 5.29 | 1.3 | 91.0 | 7.5 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:45 | 0.2 | 17.72 | -0.7 | 6.91 | 0.00 | -127 | 1 | 5.25 | 0.8 | 81.7 | 10.2 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:50 | 0.2 | 17.93 | -1.2 | 6.92 | -0.01 | -128 | 1 | 5.22 | 0.6 | 77.2 | 5.5 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 12:55 | 0.2 | 17.96 | -0.2 | 6.97 | -0.05 | -127 | -1 | 5.22 | 0.0 | 71.0 | 8.0 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 13:00 | 0.2 | 18.15 | -1.1 | 6.92 | 0.05 | -128 | 1 | 5.18 | 0.8 | 69.2 | 2.5 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 13:05 | 0.2 | 18.31 | -0.9 | 6.92 | 0.00 | -127 | -1 | 5.19 | -0.2 | 71.6 | -3.5 | 0.00 | 0.0 | 0.30 | 0.00 | 5.38 | 0.00 | |
| 13:10 | 0.2 | 18.39 | -0.4 | 6.91 | 0.01 | -132 | 5 | 5.23 | -0.8 | 79.2 | -10.6 | 0.00 | 0.0 | 0.29 | 0.01 | 5.38 | 0.00 | |
| 13:15 | 0.2 | 18.53 | -0.8 | 6.92 | -0.01 | -128 | -4 | 5.19 | 0.8 | 71.6 | 9.6 | 0.00 | 0.0 | 0.28 | 0.01 | 5.38 | 0.00 | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 12.5 Final Water Level: 5.33 Final Well Depth: 17.61

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear, Green Brown Tint

Sample ID: 134-MW-03-071117 @ 13:25

Odor: None

Other: Advised by A. Shust to Sample, Soft Bottom

Sample ID: 134-MW-03-071117F @ 13:30

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 16.90

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.58 Time: 8:25 Date: 7/11/2017

Serial Number: 21413 Depth to Bottom of Well: 17.15 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/11/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: D. Berkowitz (Signature) Sampled By: D. Berkowitz Purge Start Time: 8:30

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:30 | 0.3 | 17.49 | - | 7.86 | - | 21 | - | 2.95 | - | 175.0 | - | 7.91 | - | 0.15 | - | 4.64 | - | |
| 8:35 | 0.3 | 17.49 | 0.0 | 7.95 | -0.09 | -63 | 84 | 2.81 | 4.7 | 180.0 | -2.9 | 5.77 | 27.1 | 0.15 | 0.00 | 4.64 | 0.00 | |
| 8:40 | 0.3 | 17.11 | 2.2 | 7.98 | -0.03 | -81 | 18 | 2.90 | -3.2 | 136.0 | 24.4 | 2.09 | 63.8 | 0.15 | 0.00 | 4.64 | 0.00 | |
| 8:45 | 0.3 | 17.02 | 0.5 | 8.00 | -0.02 | -100 | 19 | 3.02 | -4.1 | 120.0 | 11.8 | 1.15 | 45.0 | 0.16 | -0.01 | 4.64 | 0.00 | |
| 8:50 | 0.3 | 17.09 | -0.4 | 8.01 | -0.01 | -110 | 10 | 3.04 | -0.7 | 98.8 | 17.7 | 0.57 | 50.4 | 0.16 | 0.00 | 4.65 | -0.01 | |
| 8:55 | 0.3 | 17.23 | -0.8 | 8.02 | -0.01 | -115 | 5 | 3.05 | -0.3 | 91.6 | 7.3 | 0.12 | 78.9 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:00 | 0.3 | 17.30 | -0.4 | 8.02 | 0.00 | -116 | 1 | 3.05 | 0.0 | 92.7 | -1.2 | 0.00 | 100.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:05 | 0.3 | 17.32 | -0.1 | 8.03 | -0.01 | -118 | 2 | 3.05 | 0.0 | 84.2 | 9.2 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:10 | 0.3 | 17.20 | 0.7 | 8.02 | 0.01 | -120 | 2 | 3.06 | -0.3 | 68.1 | 19.1 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:15 | 0.3 | 17.21 | -0.1 | 8.03 | -0.01 | -122 | 2 | 3.06 | 0.0 | 58.1 | 14.7 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:20 | 0.3 | 17.42 | -1.2 | 8.03 | 0.00 | -124 | 2 | 3.06 | 0.0 | 52.2 | 10.2 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:25 | 0.3 | 17.50 | -0.5 | 8.03 | 0.00 | -125 | 1 | 3.06 | 0.0 | 51.7 | 1.0 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:30 | 0.3 | 17.45 | 0.3 | 8.03 | 0.00 | -126 | 1 | 3.07 | -0.3 | 43.9 | 15.1 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:35 | 0.3 | 17.04 | 2.3 | 8.06 | -0.03 | -125 | -1 | 3.11 | -1.3 | 38.9 | 11.4 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:40 | 0.3 | 16.96 | 0.5 | 8.06 | 0.00 | -120 | -5 | 3.11 | 0.0 | 29.2 | 24.9 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:45 | 0.3 | 16.74 | 1.3 | 8.06 | 0.00 | -118 | -2 | 3.13 | -0.6 | 23.2 | 20.5 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:50 | 0.3 | 16.66 | 0.5 | 8.06 | 0.00 | -120 | 2 | 3.12 | 0.3 | 22.8 | 1.7 | 0.00 | 0.0 | 0.16 | 0.00 | 4.65 | 0.00 | |
| 9:55 | 0.3 | 16.67 | -0.1 | 8.06 | 0.00 | -121 | 1 | 3.12 | 0.0 | 23.4 | -2.6 | 0.00 | 0.0 | 0.16 | 0.00 | 4.66 | -0.01 | |
| 10:00 | 0.3 | 16.71 | -0.2 | 8.05 | 0.01 | -120 | -1 | 3.13 | -0.3 | 22.9 | 2.1 | 0.00 | 0.0 | 0.16 | 0.00 | 4.66 | 0.00 | |
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Final Water Purged (gal): 15 Final Water Level: 4.66 Final Well Depth: 17.15

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 134-MW-04-071117 @10:05

Odor: None

Other: -

Sample ID: 134-MW-04-071117F @10:10

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.70

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 5.62 Time: 9:25 Date: 7/10/2017

Serial Number: 21261 Depth to Bottom of Well: 15.70 PID Reading (inside of Casing): 1.3

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/11/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: S. Rittinger (Signature) Sampled By: S. Rittinger Purge Start Time: 8:35

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 8:40 | 0.2 | 25.36 | - | 7.13 | - | 209 | - | 0.615 | - | 399.0 | - | 0.93 | - | 0.03 | - | 5.81 | - | |
| 8:45 | 0.2 | 21.33 | 15.9 | 7.29 | -0.16 | -127 | 336 | 0.541 | 12.0 | 197.0 | 50.6 | 0.31 | 66.7 | 0.03 | 0.00 | 5.83 | -0.02 | |
| 8:50 | 0.2 | 20.42 | 4.3 | 7.33 | -0.04 | -148 | 21 | 0.533 | 1.5 | 97.8 | 50.4 | 0.20 | 35.5 | 0.03 | 0.00 | 5.88 | -0.05 | |
| 8:55 | 0.2 | 20.13 | 1.4 | 7.35 | -0.02 | -155 | 7 | 0.520 | 2.4 | 56.6 | 42.1 | 0.17 | 15.0 | 0.03 | 0.00 | 5.90 | -0.02 | |
| 9:00 | 0.2 | 20.05 | 0.4 | 7.37 | -0.02 | -158 | 3 | 0.520 | 0.0 | 40.2 | 29.0 | 0.24 | -41.2 | 0.03 | 0.00 | 5.89 | 0.01 | |
| 9:05 | 0.2 | 20.00 | 0.2 | 7.37 | 0.00 | -159 | 1 | 0.520 | 0.0 | 37.1 | 7.7 | 0.17 | 29.2 | 0.03 | 0.00 | 5.90 | -0.01 | |
| 9:10 | 0.2 | 20.27 | -1.4 | 7.38 | -0.01 | -160 | 1 | 0.526 | -1.2 | 30.6 | 17.5 | 0.17 | 0.0 | 0.03 | 0.00 | 5.92 | -0.02 | |
| 9:15 | 0.2 | 20.15 | 0.6 | 7.48 | -0.10 | -164 | 4 | 0.540 | -2.7 | 20.7 | 32.4 | 0.24 | -41.2 | 0.03 | 0.00 | 5.94 | -0.02 | |
| 9:20 | 0.2 | 20.05 | 0.5 | 7.41 | 0.07 | -165 | 1 | 0.549 | -1.7 | 14.7 | 29.0 | 0.18 | 25.0 | 0.03 | 0.00 | 5.95 | -0.01 | |
| 9:25 | 0.2 | 20.04 | 0.0 | 7.41 | 0.00 | -167 | 2 | 0.558 | -1.6 | 9.8 | 33.3 | 0.18 | 0.0 | 0.03 | 0.00 | 5.98 | -0.03 | |
| 9:30 | 0.2 | 20.01 | 0.1 | 7.42 | -0.01 | -169 | 2 | 0.570 | -2.2 | 7.1 | 27.6 | 0.17 | 5.6 | 0.03 | 0.00 | 6.00 | -0.02 | |
| 9:35 | 0.2 | 19.94 | 0.3 | 7.43 | -0.01 | -170 | 1 | 0.578 | -1.4 | 5.5 | 22.5 | 0.18 | -5.9 | 0.03 | 0.00 | 6.01 | -0.01 | |
| 9:40 | 0.2 | 19.91 | 0.2 | 7.43 | 0.00 | -171 | 1 | 0.581 | -0.5 | 5.1 | 7.3 | 0.19 | -5.6 | 0.03 | 0.00 | 6.03 | -0.02 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 8 Final Water Level: 5.76 Final Well Depth: 15.70

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear, Brown Tint

Sample ID: 140-MW-09-071117 @ 09:45

Sample ID: 140-MW-09-071117F @ 09:50

Odor: None

Other: -

Sample ID: 140-MW-09-071117FA @ 09:55

Sample ID:

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 14.00

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.82 Time: 9:20 Date: 7/10/2017

Serial Number: 21413 Depth to Bottom of Well: 14.00 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/10/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: N. Sozio (Signature) Sampled By: N. Sozio Purge Start Time: 10:20

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:20 | 0.25 | 20.46 | - | 6.09 | - | 332 | - | 0.000 | - | 145.0 | - | 11.27 | - | 0.00 | - | 5.32 | - | |
| 10:25 | 0.25 | 22.21 | -8.6 | 6.15 | -0.06 | 328 | 4 | 0.000 | 0.0 | 149.0 | -2.8 | 9.88 | 12.3 | 0.00 | 0.00 | 5.32 | 0.00 | |
| 10:30 | 0.20 | 21.86 | 1.6 | 6.07 | 0.08 | 318 | 10 | 0.000 | 0.0 | 154.0 | -3.4 | 9.89 | -0.1 | 0.00 | 0.00 | 5.46 | -0.14 | Horiba Seal Not Tight Had to stop and fix |
| 10:35 | 0.20 | 21.49 | 1.7 | 7.90 | -1.83 | 312 | 6 | 0.776 | 100.0 | 16.5 | 89.3 | 1.33 | 86.6 | 0.04 | -0.04 | 5.59 | -0.13 | |
| 10:40 | 0.25 | 21.84 | -1.6 | 7.82 | 0.08 | 306 | 6 | 0.775 | 0.1 | 13.6 | 17.6 | 0.19 | 85.7 | 0.04 | 0.00 | 5.60 | -0.01 | |
| 10:45 | 0.25 | 21.86 | -0.1 | 7.79 | 0.03 | 289 | 17 | 0.781 | -0.8 | 9.7 | 28.7 | 0.00 | 100.0 | 0.04 | 0.00 | 5.60 | 0.00 | |
| 10:50 | 0.25 | 21.84 | 0.1 | 7.81 | -0.02 | 276 | 13 | 0.778 | 0.4 | 3.7 | 61.9 | 0.00 | 0.0 | 0.04 | 0.00 | 5.62 | -0.02 | |
| 10:55 | 0.25 | 21.78 | 0.3 | 7.80 | 0.01 | 264 | 12 | 0.780 | -0.3 | 6.2 | -67.6 | 0.00 | 0.0 | 0.04 | 0.00 | 5.64 | -0.02 | |
| 11:00 | 0.25 | 21.63 | 0.7 | 7.81 | -0.01 | 249 | 15 | 0.776 | 0.5 | 2.5 | 59.7 | 0.00 | 0.0 | 0.04 | 0.00 | 5.68 | -0.04 | |
| 11:05 | 0.25 | 21.66 | -0.1 | 7.88 | -0.07 | 242 | 7 | 0.775 | 0.1 | 2.1 | 16.0 | 0.00 | 0.0 | 0.04 | 0.00 | 5.69 | -0.01 | |
| 11:10 | 0.20 | 21.65 | 0.0 | 7.90 | -0.02 | 234 | 8 | 0.775 | 0.0 | 1.9 | 9.5 | 0.00 | 0.0 | 0.04 | 0.00 | 5.70 | -0.01 | |
| 11:15 | 0.20 | 21.65 | 0.0 | 7.92 | -0.02 | 225 | 9 | 0.773 | 0.3 | 1.7 | 10.5 | 0.00 | 0.0 | 0.04 | 0.00 | 5.72 | -0.02 | |
| 11:20 | 0.20 | 21.65 | 0.0 | 7.94 | -0.02 | 218 | 7 | 0.772 | 0.1 | 1.3 | 23.5 | 0.00 | 0.0 | 0.04 | 0.00 | 5.73 | -0.01 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 5 Final Water Level: 5.72 Final Well Depth: 13.83

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 140-MW-10-071017 @11:20

Odor: None

Other: CR, XCR7199

Sample ID: 140-MW-10-071017F @11:25

Groundwater Sampling Form **Job Name:** HW SA-7 Page: 1 of 1

**Job Number:** 3480160515.6100.610001 **Well Number:** 163-MW-02R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.30

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.51 Time: 10:00 Date: 7/12/2017

Serial Number: 21413 Depth to Bottom of Well: 17.30 PID Reading (inside of Casing): 0.0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 7/12/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: D. Berkowitz (Signature) Sampled By: D. Berkowitz Purge Start Time: 10:05

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:05 | 0.3 | 18.72 | - | 7.30 | - | 139 | - | 0.469 | - | 22.5 | - | 0.00 | - | 0.02 | - | 7.81 | - | |
| 10:10 | 0.3 | 18.78 | -0.3 | 7.12 | 0.18 | 82 | 57 | 0.479 | -2.1 | 52.6 | 57.2 | 0.00 | 0.0 | 0.02 | 0.00 | 7.96 | -0.15 | |
| 10:15 | 0.3 | 18.60 | 1.0 | 7.10 | 0.02 | 64 | 18 | 0.476 | 0.6 | 30.7 | 41.6 | 0.00 | 0.0 | 0.02 | 0.00 | 8.25 | -0.44 | |
| 10:20 | 0.3 | 18.60 | 0.0 | 7.08 | 0.02 | 72 | -8 | 0.477 | -0.2 | 29.2 | 4.9 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:25 | 0.3 | 18.55 | 0.3 | 7.09 | -0.01 | 78 | -6 | 0.477 | 0.0 | 21.4 | 26.7 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:30 | 0.3 | 18.48 | 0.4 | 7.09 | 0.00 | 75 | 3 | 0.477 | 0.0 | 18.6 | 13.1 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:35 | 0.3 | 18.43 | 0.3 | 7.09 | 0.00 | 79 | -4 | 0.479 | -0.4 | 14.3 | 23.1 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:40 | 0.3 | 18.39 | 0.2 | 7.07 | 0.02 | 92 | -13 | 0.478 | 0.2 | 8.1 | 43.4 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:45 | 0.3 | 18.42 | -0.2 | 7.09 | -0.02 | 83 | 9 | 0.477 | 0.2 | 6.4 | 21.0 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:50 | 0.3 | 18.36 | 0.3 | 7.07 | 0.02 | 71 | 12 | 0.476 | 0.2 | 0.8 | 87.5 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 10:55 | 0.3 | 18.29 | 0.4 | 7.09 | -0.02 | 74 | -3 | 0.480 | -0.8 | 0.9 | -12.5 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 11:00 | 0.3 | 18.26 | 0.2 | 7.09 | 0.00 | 81 | -7 | 0.481 | -0.2 | 0.6 | 33.3 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
| 11:05 | 0.3 | 18.23 | 0.2 | 7.09 | 0.00 | 84 | -3 | 0.479 | 0.4 | 0.8 | -33.3 | 0.00 | 0.0 | 0.02 | 0.00 | 7.95 | -0.14 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 6 Final Water Level: 7.95 Final Well Depth: 17.29

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: -

Sample ID: 163-MW-02R-071217 @11:10 Sample ID: 163-MW-02R-071217F @11:15

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.79 Time: 9:05 Date: 10/4/2016

Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 9:25

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:25 | **0.2** | **7.23** | **-** | **0.876** | **-** | **338.0** | **-** | **2.30** | **-** | **18.51** | **-** | **0.04** | **-** | **202** | **-** | **7.03** | **-** | |
| 9:30 | **0.2** | **7.81** | **0.58** | **0.888** | **1.4%** | **259.0** | **23.4%** | **1.13** | **50.9%** | **18.43** | **0.4%** | **0.04** | **0.00** | **183** | **19** | **6.96** | **0.07** | |
| 9:35 | **0.2** | **8.01** | **0.20** | **0.921** | **3.7%** | **171.0** | **34.0%** | **1.18** | **4.4%** | **18.31** | **0.7%** | **0.04** | **0.00** | **189** | **6** | **6.95** | **0.01** | |
| 9:40 | **0.2** | **8.50** | **0.49** | **0.981** | **6.5%** | **60.6** | **64.6%** | **0.00** | **100.0%** | **18.64** | **1.8%** | **0.05** | **0.01** | **169** | **20** | **6.95** | **0.00** | |
| 9:45 | **0.2** | **8.58** | **0.08** | **0.999** | **1.8%** | **62.8** | **3.6%** | **0.00** | **0.0%** | **18.63** | **0.1%** | **0.05** | **0.00** | **161** | **8** | **6.95** | **0.00** | |
| 9:50 | **0.2** | **8.64** | **0.06** | **1.010** | **1.1%** | **67.0** | **6.7%** | **0.00** | **0.0%** | **18.62** | **0.1%** | **0.05** | **0.00** | **157** | **4** | **7.00** | **0.05** | |
| 9:55 | **0.2** | **8.68** | **0.04** | **1.020** | **1.0%** | **54.1** | **19.3%** | **0.00** | **0.0%** | **18.65** | **0.2%** | **0.05** | **0.00** | **141** | **16** | **6.86** | **0.14** | |
| 10:00 | **0.2** | **8.13** | **0.55** | **1.020** | **0.0%** | **108.0** | **99.6%** | **0.00** | **0.0%** | **18.56** | **0.5%** | **0.04** | **0.01** | **155** | **14** | **6.95** | **0.09** | |
| 10:05 | **0.2** | **8.52** | **0.39** | **1.010** | **1.0%** | **14.3** | **86.8%** | **0.00** | **0.0%** | **18.73** | **0.9%** | **0.05** | **0.01** | **133** | **22** | **7.00** | **0.05** | |
| 10:10 | **0.2** | **8.77** | **0.25** | **1.020** | **1.0%** | **8.8** | **38.5%** | **0.00** | **0.0%** | **18.88** | **0.8%** | **0.05** | **0.00** | **127** | **6** | **7.03** | **0.03** | |
| 10:15 | **0.2** | **8.81** | **0.04** | **1.020** | **0.0%** | **8.3** | **5.7%** | **0.00** | **0.0%** | **18.81** | **0.4%** | **0.05** | **0.00** | **127** | **0** | **7.00** | **0.03** | |
| 10:20 | **0.2** | **8.79** | **0.02** | **1.010** | **1.0%** | **8.1** | **2.4%** | **0.00** | **0.0%** | **18.79** | **0.1%** | **0.05** | **0.00** | **125** | **2** | **6.98** | **0.02** | |
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| 10:22 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 11 Liters Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 125-MW-03-100416 @ 10:22 125-MW-03-100416DP @ 10:26 Sample ID: 125-MW-03-100416FA @ 10:36

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged: ____
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): ____
Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons
TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system
Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.69 Time: 11:07 Date: 10/4/2016
Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 11:10

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:10 | **0.2** | **8.00** | **-** | **4.50** | **-** | **152.0** | **-** | **2.28** | **-** | **20.35** | **-** | **0.24** | **-** | **89** | **-** | **7.11** | **-** | |
| 11:15 | **0.2** | **7.84** | **0.16** | **4.56** | **1.3%** | **143.0** | **5.9%** | **0.00** | **100.0%** | **20.42** | **0.3%** | **0.24** | **0.00** | **82** | **7** | **7.06** | **0.05** | |
| 11:20 | **0.2** | **7.77** | **0.07** | **4.60** | **0.9%** | **58.3** | **59.2%** | **0.00** | **0.0%** | **20.58** | **0.8%** | **0.25** | **0.01** | **76** | **6** | **7.14** | **0.08** | |
| 11:25 | **0.2** | **7.82** | **0.05** | **4.58** | **0.4%** | **40.4** | **30.7%** | **0.00** | **0.0%** | **20.61** | **0.1%** | **0.24** | **0.01** | **67** | **9** | **7.18** | **0.04** | |
| 11:30 | **0.2** | **7.86** | **0.04** | **4.55** | **0.7%** | **32.4** | **19.8%** | **0.00** | **0.0%** | **20.59** | **0.1%** | **0.24** | **0.00** | **59** | **8** | **7.27** | **0.09** | |
| 11:35 | **0.2** | **7.89** | **0.03** | **4.56** | **0.2%** | **96.3** | **197.2%** | **0.00** | **0.0%** | **20.56** | **0.1%** | **0.24** | **0.00** | **67** | **8** | **7.31** | **0.04** | |
| 11:40 | **0.2** | **8.10** | **0.21** | **4.53** | **0.7%** | **63.8** | **33.7%** | **0.00** | **0.0%** | **20.59** | **0.1%** | **0.24** | **0.00** | **51** | **16** | **7.47** | **0.16** | |
| 11:45 | **0.2** | **8.36** | **0.26** | **4.50** | **0.7%** | **24.9** | **61.0%** | **0.00** | **0.0%** | **20.58** | **0.0%** | **0.24** | **0.00** | **29** | **22** | **7.49** | **0.02** | |
| 11:50 | **0.2** | **8.60** | **0.24** | **4.47** | **0.7%** | **13.3** | **46.6%** | **0.00** | **0.0%** | **20.57** | **0.0%** | **0.24** | **0.00** | **12** | **17** | **7.45** | **0.04** | |
| 11:55 | **0.2** | **8.90** | **0.30** | **4.45** | **0.4%** | **8.9** | **33.1%** | **0.00** | **0.0%** | **20.65** | **0.4%** | **0.24** | **0.00** | **-9** | **21** | **7.48** | **0.03** | |
| 12:00 | **0.2** | **8.92** | **0.02** | **4.45** | **0.0%** | **9.6** | **7.9%** | **0.00** | **0.0%** | **20.64** | **0.0%** | **0.24** | **0.00** | **-11** | **2** | **7.46** | **0.02** | |
| 12:05 | **0.2** | **8.94** | **0.02** | **4.43** | **0.4%** | **8.4** | **12.5%** | **0.00** | **0.0%** | **20.64** | **0.0%** | **0.24** | **0.00** | **-27** | **16** | **7.50** | **0.04** | |
| 12:10 | **0.2** | **8.99** | **0.05** | **4.41** | **0.5%** | **8.8** | **4.8%** | **0.00** | **0.0%** | **20.74** | **0.5%** | **0.24** | **0.00** | **-29** | **2** | **7.51** | **0.01** | |
| 12:15 | **0.2** | **9.02** | **0.03** | **4.40** | **0.2%** | **8.4** | **4.5%** | **0.00** | **0.0%** | **20.74** | **0.0%** | **0.24** | **0.00** | **-32** | **3** | **7.48** | **0.03** | |
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| 12:20 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13 Liters
Well Condition: See well inspection log
Color of GW: Clear
Sample ID: 140-MW-10-100416 @ 12:20

Odor: None
Other: Note higher conductivity
Sample ID: 140-MW-10-100416F @ 12:25

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged: ____
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): ____
Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons
TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system
Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.13 Time: 13:15 Date: 10/4/2016
Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 13:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:20 | **0.2** | **6.87** | **-** | **9.60** | **-** | **432.0** | **-** | **5.44** | **-** | **22.28** | **-** | **0.53** | **-** | **-104** | **-** | **4.13** | **-** | |
| 13:25 | **0.2** | **6.68** | **0.19** | **8.85** | **7.8%** | **295.0** | **31.7%** | **3.04** | **44.1%** | **22.85** | **2.6%** | **0.49** | **0.04** | **-112** | **8** | **4.26** | **0.13** | |
| 13:30 | **0.2** | **6.67** | **0.01** | **8.75** | **1.1%** | **225.0** | **23.7%** | **2.46** | **19.1%** | **23.04** | **0.8%** | **0.49** | **0.00** | **-116** | **4** | **4.36** | **0.10** | |
| 13:35 | **0.2** | **6.74** | **0.07** | **8.50** | **2.9%** | **250.0** | **11.1%** | **0.00** | **100.0%** | **23.58** | **2.3%** | **0.47** | **0.02** | **-106** | **10** | **4.17** | **0.19** | |
| 13:40 | **0.2** | **6.71** | **0.03** | **8.44** | **0.7%** | **200.0** | **20.0%** | **0.00** | **0.0%** | **23.55** | **0.1%** | **0.47** | **0.00** | **-112** | **6** | **4.15** | **0.02** | |
| 13:45 | **0.2** | **6.72** | **0.01** | **8.39** | **0.6%** | **125.0** | **37.5%** | **0.00** | **0.0%** | **23.51** | **0.2%** | **0.47** | **0.00** | **-115** | **3** | **4.18** | **0.03** | |
| 13:50 | **0.2** | **6.73** | **0.01** | **8.33** | **0.7%** | **110.0** | **12.0%** | **0.00** | **0.0%** | **23.50** | **0.0%** | **0.46** | **0.01** | **-117** | **2** | **4.20** | **0.02** | |
| 13:55 | **0.2** | **6.73** | **0.00** | **8.33** | **0.0%** | **63.2** | **42.5%** | **0.00** | **0.0%** | **23.56** | **0.3%** | **0.46** | **0.00** | **-117** | **0** | **4.16** | **0.04** | |
| 14:00 | **0.2** | **6.74** | **0.01** | **8.36** | **0.4%** | **29.3** | **53.6%** | **0.00** | **0.0%** | **23.61** | **0.2%** | **0.46** | **0.00** | **-116** | **1** | **4.20** | **0.04** | |
| 14:05 | **0.2** | **6.74** | **0.00** | **8.37** | **0.1%** | **31.2** | **6.5%** | **0.00** | **0.0%** | **23.76** | **0.6%** | **0.46** | **0.00** | **-116** | **0** | **4.20** | **0.00** | |
| 14:10 | **0.2** | **6.76** | **0.02** | **8.34** | **0.4%** | **14.8** | **52.6%** | **0.00** | **0.0%** | **23.82** | **0.3%** | **0.46** | **0.00** | **-114** | **2** | **4.20** | **0.00** | |
| 14:15 | **0.2** | **6.76** | **0.00** | **8.31** | **0.4%** | **7.8** | **47.3%** | **0.00** | **0.0%** | **23.86** | **0.2%** | **0.46** | **0.00** | **-114** | **0** | **4.20** | **0.00** | |
| 14:20 | **0.2** | **6.75** | **0.01** | **8.31** | **0.0%** | **8.1** | **3.8%** | **0.00** | **0.0%** | **23.81** | **0.2%** | **0.46** | **0.00** | **-114** | **0** | **4.20** | **0.00** | |
| 14:25 | **0.2** | **6.75** | **0.00** | **8.33** | **0.2%** | **7.6** | **6.2%** | **0.00** | **0.0%** | **23.78** | **0.1%** | **0.46** | **0.00** | **-112** | **2** | **4.20** | **0.00** | |
| 14:30 | **0.2** | **6.76** | **0.01** | **8.31** | **0.2%** | **7.5** | **1.3%** | **0.00** | **0.0%** | **23.78** | **0.0%** | **0.46** | **0.00** | **-112** | **0** | **4.20** | **0.00** | |
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| 14:32 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 14 Liters
Well Condition: See well inspection log
Color of GW: Gray
Sample ID: 125-MW-02-100416 @ 14:32

Odor: Slight organic-like odor
Other: Note high conductivity
Sample ID: 125-MW-02-100416F @ 14:36

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.20 Time: 8:15 Date: 10/5/2016

Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 8:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:20 | **0.2** | **6.62** | **-** | **2.83** | **-** | **1000.0** | **-** | **0.13** | **-** | **18.53** | **-** | **0.15** | **-** | **-74** | **-** | **7.25** | **-** | |
| 8:25 | **0.2** | **6.73** | **0.11** | **2.40** | **15.2%** | **1000.0** | **0.0%** | **0.00** | **100.0%** | **19.16** | **3.4%** | **0.12** | **0.03** | **-89** | **15** | **7.30** | **0.05** | |
| 8:30 | **0.2** | **6.72** | **0.01** | **2.01** | **16.3%** | **632.0** | **36.8%** | **0.00** | **0.0%** | **19.42** | **1.4%** | **0.10** | **0.02** | **-90** | **1** | **7.32** | **0.02** | |
| 8:35 | **0.2** | **6.71** | **0.01** | **1.88** | **6.5%** | **561.0** | **11.2%** | **0.00** | **0.0%** | **19.75** | **1.7%** | **0.10** | **0.00** | **-92** | **2** | **7.35** | **0.03** | |
| 8:40 | **0.2** | **6.73** | **0.02** | **1.92** | **2.1%** | **268.0** | **52.2%** | **0.00** | **0.0%** | **19.67** | **0.4%** | **0.10** | **0.00** | **-92** | **0** | **7.30** | **0.05** | |
| 8:45 | **0.2** | **6.74** | **0.01** | **1.93** | **0.5%** | **246.0** | **8.2%** | **0.00** | **0.0%** | **19.56** | **0.6%** | **0.10** | **0.00** | **-92** | **0** | **7.32** | **0.02** | |
| 8:50 | **0.2** | **6.75** | **0.01** | **1.94** | **0.5%** | **234.0** | **4.9%** | **0.00** | **0.0%** | **19.49** | **0.4%** | **0.10** | **0.00** | **-93** | **1** | **7.30** | **0.02** | |
| 8:55 | **0.2** | **6.76** | **0.01** | **1.94** | **0.0%** | **193.0** | **17.5%** | **0.00** | **0.0%** | **19.43** | **0.3%** | **0.10** | **0.00** | **-92** | **1** | **7.27** | **0.03** | |
| 9:00 | **0.2** | **6.76** | **0.00** | **1.92** | **1.0%** | **171.0** | **11.4%** | **0.00** | **0.0%** | **19.45** | **0.1%** | **0.10** | **0.00** | **-90** | **2** | **7.27** | **0.00** | |
| 9:05 | **0.2** | **6.77** | **0.01** | **1.89** | **1.6%** | **159.0** | **7.0%** | **0.00** | **0.0%** | **19.47** | **0.1%** | **0.10** | **0.00** | **-88** | **2** | **7.30** | **0.03** | |
| 9:10 | **0.2** | **6.78** | **0.01** | **1.89** | **0.0%** | **100.0** | **37.1%** | **0.00** | **0.0%** | **19.43** | **0.2%** | **0.10** | **0.00** | **-81** | **7** | **7.33** | **0.03** | |
| 9:15 | **0.2** | **6.79** | **0.01** | **1.89** | **0.0%** | **98.3** | **1.7%** | **0.00** | **0.0%** | **19.40** | **0.2%** | **0.10** | **0.00** | **-79** | **2** | **7.31** | **0.02** | |
| 9:20 | **0.2** | **6.79** | **0.00** | **1.89** | **0.0%** | **80.4** | **18.2%** | **0.00** | **0.0%** | **19.38** | **0.1%** | **0.10** | **0.00** | **-75** | **4** | **7.30** | **0.01** | |
| 9:25 | **0.2** | **6.81** | **0.02** | **1.89** | **0.0%** | **70.8** | **11.9%** | **0.00** | **0.0%** | **19.38** | **0.0%** | **0.10** | **0.00** | **-73** | **2** | **7.30** | **0.00** | |
| 9:30 | **0.2** | **6.82** | **0.01** | **1.89** | **0.0%** | **58.2** | **17.8%** | **0.00** | **0.0%** | **19.39** | **0.1%** | **0.10** | **0.00** | **-68** | **5** | **7.29** | **0.01** | |
| 9:35 | **0.2** | **6.82** | **0.00** | **1.89** | **0.0%** | **59.5** | **2.2%** | **0.00** | **0.0%** | **19.42** | **0.2%** | **0.10** | **0.00** | **-65** | **3** | **7.30** | **0.01** | |
| 9:40 | **0.2** | **6.82** | **0.00** | **1.89** | **0.0%** | **24.3** | **59.2%** | **0.00** | **0.0%** | **19.37** | **0.3%** | **0.10** | **0.00** | **-64** | **1** | **7.30** | **0.00** | |
| 9:45 | **0.2** | **6.82** | **0.00** | **1.90** | **0.5%** | **11.2** | **53.9%** | **0.00** | **0.0%** | **19.60** | **1.2%** | **0.10** | **0.00** | **-62** | **2** | **7.28** | **0.02** | |
| 9:50 | **0.2** | **6.81** | **0.01** | **1.87** | **1.6%** | **9.6** | **14.3%** | **0.00** | **0.0%** | **19.63** | **0.2%** | **0.10** | **0.00** | **-62** | **0** | **7.28** | **0.00** | |
| 9:55 | **0.2** | **6.81** | **0.00** | **1.86** | **0.5%** | **10.1** | **5.2%** | **0.00** | **0.0%** | **19.74** | **0.6%** | **0.10** | **0.00** | **-61** | **1** | **7.30** | **0.02** | |
| 10:00 | **0.2** | **6.83** | **0.02** | **1.86** | **0.0%** | **9.9** | **2.0%** | **0.00** | **0.0%** | **19.70** | **0.2%** | **0.10** | **0.00** | **-61** | **0** | **7.30** | **0.00** | |
| | | | | | | | | | | | | | | | | | | |
| 10:05 | **Sample** | | | | | | | | | | | | | | | | | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 20 Liters

Well Condition: See well inspection log

Color of GW: Light brown

Sample ID: 073-MW-07-100516 @ 10:05

Odor: Slight hydrocarbon-like odor initially

Other: Slight sheen initially

Sample ID: 073-MW-07-100516F @ 10:05

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.39 Time: 10:45 Date: 10/5/2016

Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 11:00

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:00 | **0.2** | **7.55** | **-** | **19.5** | **-** | **1000.0** | **-** | **0.00** | **-** | **17.94** | **-** | **1.16** | **-** | **-74** | **-** | **8.43** | **-** | |
| 11:05 | **0.2** | **7.71** | **0.16** | **19.5** | **0.0%** | **1000.0** | **0.0%** | **0.00** | **0.0%** | **18.00** | **0.3%** | **1.15** | **0.01** | **-42** | **32** | **8.50** | **0.07** | |
| 11:10 | **0.2** | **7.76** | **0.05** | **19.0** | **2.6%** | **1000.0** | **0.0%** | **0.00** | **0.0%** | **18.34** | **1.9%** | **1.12** | **0.03** | **-16** | **26** | **8.51** | **0.01** | |
| 11:15 | **0.2** | **7.85** | **0.09** | **17.4** | **8.4%** | **1000.0** | **0.0%** | **0.00** | **0.0%** | **18.45** | **0.6%** | **1.02** | **0.10** | **39** | **55** | **8.50** | **0.01** | |
| 11:20 | **0.2** | **7.87** | **0.02** | **17.1** | **1.7%** | **967.0** | **3.3%** | **0.00** | **0.0%** | **18.77** | **1.7%** | **1.00** | **0.02** | **52** | **13** | **8.50** | **0.00** | |
| 11:25 | **0.2** | **7.86** | **0.01** | **17.4** | **1.8%** | **331.0** | **65.8%** | **0.00** | **0.0%** | **18.96** | **1.0%** | **1.03** | **0.03** | **54** | **2** | **8.50** | **0.00** | |
| 11:30 | **0.2** | **7.84** | **0.02** | **18.5** | **6.3%** | **110.0** | **66.8%** | **0.00** | **0.0%** | **19.08** | **0.6%** | **1.11** | **0.08** | **49** | **5** | **8.50** | **0.00** | |
| 11:35 | **0.2** | **7.79** | **0.05** | **20.0** | **8.1%** | **31.2** | **71.6%** | **0.00** | **0.0%** | **19.29** | **1.1%** | **1.19** | **0.08** | **47** | **2** | **8.50** | **0.00** | |
| 11:40 | **0.2** | **7.78** | **0.01** | **20.3** | **1.5%** | **19.7** | **36.9%** | **0.00** | **0.0%** | **19.29** | **0.0%** | **1.21** | **0.02** | **46** | **1** | **8.51** | **0.01** | |
| 11:45 | **0.2** | **7.77** | **0.01** | **20.5** | **1.0%** | **5.2** | **73.6%** | **0.00** | **0.0%** | **19.25** | **0.2%** | **1.22** | **0.01** | **44** | **2** | **8.50** | **0.01** | |
| 11:50 | **0.2** | **7.74** | **0.03** | **21.6** | **5.4%** | **0.0** | **100.0%** | **0.00** | **0.0%** | **19.22** | **0.2%** | **1.29** | **0.07** | **43** | **1** | **8.54** | **0.04** | |
| 11:55 | **0.2** | **7.73** | **0.01** | **21.8** | **0.9%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **19.23** | **0.1%** | **1.33** | **0.04** | **46** | **3** | **8.50** | **0.04** | |
| 12:00 | **0.2** | **7.74** | **0.01** | **22.0** | **0.9%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **19.27** | **0.2%** | **1.33** | **0.00** | **51** | **5** | **8.51** | **0.01** | |
| 12:05 | **0.2** | **7.73** | **0.01** | **22.1** | **0.5%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **19.24** | **0.2%** | **1.33** | **0.00** | **48** | **3** | **8.50** | **0.01** | |
| 12:10 | **0.2** | **7.74** | **0.01** | **22.1** | **0.0%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **19.21** | **0.2%** | **1.33** | **0.00** | **46** | **2** | **8.50** | **0.00** | |
| | | | | | | | | | | | | | | | | | | |
| 12:15 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 14 L

Well Condition: See well inspection log

Color of GW: Brown initially then clear

Sample ID: 073-MW-06-100516 @ 12:15

Odor: None

Other: Note very high conductivity

Max turbidity from 11:00-11:15 (muddy brown color)

Sample ID: 073-MW-06-100516F @ 12:20

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑
3 to 5 Volume Purge Method: ☐
Number of Well Volumes to be Purged: ____
Well Type: Monitor ☑ Other ☐
Well Material: PVC ☑ Stainless Steel ☐ Steel ☐
Casing Diameter (D in Inches): 2
Well Depth (ft BTOC): ____
Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____
Submersible ☑ Centrifugal ☐
Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐
Center ☐
Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system
Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.87 Time: 13:05 Date: 10/5/2016
Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM
For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 13:10

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 13:10 | **0.2** | **7.57** | **-** | **7.28** | **-** | **1000.0** | **-** | **0.00** | **-** | **19.30** | **-** | **0.37** | **-** | **-136** | **-** | **6.91** | **-** | |
| 13:15 | **0.2** | **7.28** | **0.29** | **6.69** | **8.1%** | **938.0** | **6.2%** | **0.00** | **0.0%** | **19.40** | **0.5%** | **0.36** | **0.01** | **-124** | **12** | **6.92** | **0.01** | |
| 13:20 | **0.2** | **7.27** | **0.01** | **6.68** | **0.1%** | **707.0** | **24.6%** | **0.00** | **0.0%** | **19.71** | **1.6%** | **0.36** | **0.00** | **-134** | **10** | **6.94** | **0.02** | |
| 13:25 | **0.2** | **7.26** | **0.01** | **6.67** | **0.1%** | **1000.0** | **41.4%** | **0.00** | **0.0%** | **19.96** | **1.3%** | **0.36** | **0.00** | **-135** | **1** | **6.90** | **0.04** | |
| 13:30 | **0.2** | **7.28** | **0.02** | **6.64** | **0.4%** | **915.0** | **8.5%** | **0.00** | **0.0%** | **19.73** | **1.2%** | **0.36** | **0.00** | **-140** | **5** | **6.90** | **0.00** | |
| 13:35 | **0.2** | **7.39** | **0.11** | **6.56** | **1.2%** | **508.0** | **44.5%** | **0.00** | **0.0%** | **19.45** | **1.4%** | **0.36** | **0.00** | **-148** | **8** | **6.90** | **0.00** | |
| 13:40 | **0.2** | **7.35** | **0.04** | **6.59** | **0.5%** | **611.0** | **20.3%** | **0.00** | **0.0%** | **19.68** | **1.2%** | **0.36** | **0.00** | **-148** | **0** | **6.90** | **0.00** | |
| 13:45 | **0.2** | **7.33** | **0.02** | **6.64** | **0.8%** | **776.0** | **27.0%** | **0.00** | **0.0%** | **19.83** | **0.8%** | **0.36** | **0.00** | **-148** | **0** | **6.90** | **0.00** | |
| 13:50 | **0.2** | **7.42** | **0.09** | **6.20** | **6.6%** | **1000.0** | **28.9%** | **0.00** | **0.0%** | **19.81** | **0.1%** | **0.34** | **0.02** | **-152** | **4** | **6.90** | **0.00** | |
| 13:55 | **0.2** | **7.44** | **0.02** | **6.19** | **0.2%** | **692.0** | **30.8%** | **0.00** | **0.0%** | **19.80** | **0.1%** | **0.34** | **0.00** | **-157** | **5** | **6.90** | **0.00** | |
| 14:00 | **0.2** | **7.43** | **0.01** | **6.30** | **1.8%** | **381.0** | **44.9%** | **0.00** | **0.0%** | **19.70** | **0.5%** | **0.34** | **0.00** | **-156** | **1** | **6.90** | **0.00** | |
| 14:05 | **0.2** | **7.42** | **0.01** | **6.63** | **5.2%** | **291.0** | **23.6%** | **0.00** | **0.0%** | **19.76** | **0.3%** | **0.36** | **0.02** | **-132** | **24** | **6.91** | **0.01** | |
| 14:10 | **0.2** | **7.43** | **0.01** | **6.47** | **2.4%** | **227.0** | **22.0%** | **0.00** | **0.0%** | **19.54** | **1.1%** | **0.35** | **0.01** | **-143** | **11** | **6.91** | **0.00** | |
| 14:15 | **0.2** | **7.42** | **0.01** | **6.52** | **0.8%** | **176.0** | **22.5%** | **0.00** | **0.0%** | **19.47** | **0.4%** | **0.36** | **0.01** | **-146** | **3** | **6.90** | **0.01** | |
| 14:20 | **0.2** | **7.43** | **0.01** | **6.54** | **0.3%** | **151.0** | **14.2%** | **0.00** | **0.0%** | **19.56** | **0.5%** | **0.35** | **0.01** | **-145** | **1** | **6.91** | **0.01** | |
| 14:25 | **0.2** | **7.45** | **0.02** | **6.44** | **1.5%** | **89.7** | **40.6%** | **0.00** | **0.0%** | **19.45** | **0.6%** | **0.35** | **0.00** | **-142** | **3** | **6.90** | **0.01** | |
| 14:30 | **0.2** | **7.43** | **0.02** | **6.49** | **0.8%** | **74.5** | **16.9%** | **0.00** | **0.0%** | **19.51** | **0.3%** | **0.35** | **0.00** | **-146** | **4** | **6.91** | **0.01** | |
| 14:35 | **0.2** | **7.42** | **0.01** | **6.42** | **1.1%** | **75.8** | **1.7%** | **0.00** | **0.0%** | **19.87** | **1.8%** | **0.35** | **0.00** | **-145** | **1** | **6.91** | **0.00** | |
| 14:40 | **0.2** | **7.42** | **0.00** | **6.46** | **0.6%** | **73.7** | **2.8%** | **0.00** | **0.0%** | **19.88** | **0.1%** | **0.35** | **0.00** | **-140** | **5** | **6.92** | **0.01** | |
| | | | | | | | | | | | | | | | | | | |
| 14:45 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 18 Liters
Well Condition: See well inspection log
Color of GW: Gray to clear
Sample ID: 134-MW-03-100516 @ 14:45

Odor: None
Other: High turbidity during purging
Note high conductivity
Sample ID: 134-MW-03-100516F @ 14:50

Groundwater Sampling Form

**Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged:

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC):

Screen Interval in Feet (BTOC) from to

**PURGE METHOD**

Bailer - Type:

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum ☐ Type Size Other ☑ On site treatment system

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.26 Time: 8:25 Date: 10/6/2016

Serial Number: 21417 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Ryan O'Leary (Signature) Sampled By: Ryan O'Leary Purge Start Time: 8:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:35 | 0.2 | 7.33 | - | 3.91 | - | 1000.0 | - | 7.10 | - | 18.29 | - | 0.21 | - | -67 | - | 6.28 | - | |
| 8:40 | 0.2 | 8.19 | 0.86 | 4.07 | 4.1% | 1000.0 | 0.0% | 5.50 | 22.5% | 18.73 | 2.4% | 0.22 | 0.01 | -160 | 93 | 6.25 | 0.03 | |
| 8:45 | 0.2 | 8.22 | 0.03 | 4.04 | 0.7% | 1000.0 | 0.0% | 0.00 | 100.0% | 19.01 | 1.5% | 0.21 | 0.01 | -121 | 39 | 6.25 | 0.00 | |
| 8:50 | 0.2 | 8.27 | 0.05 | 4.40 | 8.9% | 317.0 | 68.3% | 0.00 | 0.0% | 18.72 | 1.5% | 0.23 | 0.02 | -165 | 44 | 6.27 | 0.02 | |
| 8:55 | 0.2 | 8.27 | 0.00 | 4.40 | 0.0% | 405.0 | 27.8% | 0.00 | 0.0% | 18.81 | 0.5% | 0.23 | 0.00 | -167 | 2 | 6.27 | 0.00 | |
| 9:00 | 0.2 | 8.30 | 0.03 | 4.45 | 1.1% | 87.1 | 78.5% | 0.00 | 0.0% | 19.21 | 2.1% | 0.24 | 0.01 | -152 | 15 | 6.25 | 0.02 | |
| 9:05 | 0.2 | 8.29 | 0.01 | 4.46 | 0.2% | 84.6 | 2.9% | 0.00 | 0.0% | 19.09 | 0.6% | 0.24 | 0.00 | -156 | 4 | 6.25 | 0.00 | |
| 9:10 | 0.2 | 8.29 | 0.00 | 4.48 | 0.4% | 93.1 | 10.0% | 0.00 | 0.0% | 18.84 | 1.3% | 0.24 | 0.00 | -166 | 10 | 6.25 | 0.00 | |
| 9:15 | 0.2 | 8.30 | 0.01 | 4.47 | 0.2% | 43.0 | 53.8% | 0.00 | 0.0% | 18.45 | 2.1% | 0.25 | 0.01 | -78 | 88 | 6.25 | 0.00 | |
| 9:20 | 0.2 | 8.29 | 0.01 | 4.50 | 0.7% | 33.1 | 23.0% | 0.00 | 0.0% | 19.77 | 7.2% | 0.25 | 0.00 | -136 | 58 | 6.25 | 0.00 | |
| 9:25 | 0.2 | 8.29 | 0.00 | 4.42 | 1.8% | 64.9 | 96.1% | 0.00 | 0.0% | 19.68 | 0.5% | 0.24 | 0.01 | -143 | 7 | 6.25 | 0.00 | |
| 9:30 | 0.2 | 8.29 | 0.00 | 4.41 | 0.2% | 81.0 | 24.8% | 0.00 | 0.0% | 19.89 | 1.1% | 0.24 | 0.00 | -138 | 5 | 6.25 | 0.00 | |
| 9:35 | 0.2 | 8.29 | 0.00 | 4.39 | 0.5% | 78.9 | 2.6% | 0.00 | 0.0% | 20.14 | 1.3% | 0.24 | 0.00 | -131 | 7 | 6.25 | 0.00 | |
| 9:40 | 0.2 | 8.29 | 0.00 | 4.33 | 1.4% | 30.2 | 61.7% | 0.00 | 0.0% | 20.52 | 1.9% | 0.24 | 0.00 | -148 | 17 | 6.25 | 0.00 | |
| 9:45 | 0.2 | 8.29 | 0.00 | 4.32 | 0.2% | 192.0 | 535.8% | 0.00 | 0.0% | 20.28 | 1.2% | 0.23 | 0.01 | -161 | 13 | 6.25 | 0.00 | |
| 9:50 | 0.2 | 8.27 | 0.02 | 4.34 | 0.5% | 87.1 | 54.6% | 0.00 | 0.0% | 20.44 | 0.8% | 0.23 | 0.00 | -163 | 2 | 6.25 | 0.00 | |
| 9:55 | 0.2 | 8.26 | 0.01 | 4.49 | 3.5% | 48.2 | 44.7% | 0.00 | 0.0% | 20.77 | 1.6% | 0.23 | 0.00 | -162 | 1 | 6.25 | 0.00 | |
| 10:00 | 0.2 | 8.26 | 0.00 | 4.44 | 1.1% | 27.1 | 43.8% | 0.00 | 0.0% | 21.10 | 1.6% | 0.24 | 0.01 | -162 | 0 | 6.25 | 0.00 | |
| 10:05 | 0.2 | 8.25 | 0.01 | 4.32 | 2.7% | 35.7 | 31.7% | 0.00 | 0.0% | 21.00 | 0.5% | 0.23 | 0.01 | -156 | 6 | 6.25 | 0.00 | |
| 10:10 | 0.2 | 8.25 | 0.00 | 4.36 | 0.9% | 40.7 | 14.0% | 0.00 | 0.0% | 21.30 | 1.4% | 0.23 | 0.00 | -154 | 2 | 6.25 | 0.00 | |
| 10:15 | 0.2 | 8.25 | 0.00 | 4.41 | 1.1% | 39.2 | 3.7% | 0.00 | 0.0% | 21.86 | 2.6% | 0.23 | 0.00 | -155 | 1 | 6.25 | 0.00 | |
| 10:20 | 0.2 | 8.25 | 0.00 | 4.31 | 2.3% | 38.8 | 1.0% | 0.00 | 0.0% | 22.41 | 2.5% | 0.23 | 0.00 | -157 | 2 | 6.25 | 0.00 | |
| 10:25 | 0.2 | 8.25 | 0.00 | 4.18 | 3.0% | 33.1 | 14.7% | 0.00 | 0.0% | 23.30 | 4.0% | 0.23 | 0.00 | -160 | 3 | 6.25 | 0.00 | |
| 10:30 | 0.2 | 8.26 | 0.01 | 4.18 | 0.0% | 21.8 | 34.1% | 0.00 | 0.0% | 23.11 | 0.8% | 0.23 | 0.00 | -159 | 1 | 6.25 | 0.00 | |
| 10:35 | 0.2 | 8.25 | 0.01 | 4.20 | 0.5% | 14.5 | 33.5% | 0.00 | 0.0% | 23.35 | 1.0% | 0.22 | 0.01 | -161 | 2 | 6.25 | 0.00 | |
| 10:40 | 0.2 | 8.26 | 0.01 | 4.18 | 0.5% | 13.1 | 9.7% | 0.00 | 0.0% | 23.55 | 0.9% | 0.22 | 0.00 | -162 | 1 | 6.25 | 0.00 | |
| 10:45 | 0.2 | 8.26 | 0.00 | 4.27 | 2.2% | 4.7 | 64.1% | 0.00 | 0.0% | 23.00 | 2.3% | 0.23 | 0.01 | -159 | 3 | 6.25 | 0.00 | |
| 10:50 | 0.2 | 8.25 | 0.01 | 4.15 | 2.8% | 9.0 | 91.5% | 0.00 | 0.0% | 23.42 | 1.8% | 0.23 | 0.00 | -161 | 2 | 6.25 | 0.00 | |
| 10:55 | 0.2 | 8.25 | 0.00 | 4.18 | 0.7% | 8.6 | 4.4% | 0.00 | 0.0% | 23.50 | 0.3% | 0.23 | 0.00 | -159 | 2 | 6.25 | 0.00 | |
| 11:00 | 0.2 | 8.25 | 0.00 | 4.18 | 0.0% | 8.4 | 2.3% | 0.00 | 0.0% | 23.50 | 0.0% | 0.23 | 0.00 | -160 | 1 | 6.25 | 0.00 | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 29 Liters Odor: None

Well Condition: See well inspection log Other: Note higher conductivity

Color of GW: Clear

Sample ID: 134-MW-04-100616 @ 11:05 Sample ID: 134-MW-04-100616F @ 11:10

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.08 Time: 11:10 Date: 10/4/2016

Serial Number: 21342 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 11:15

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:20 | **0.3** | **11.10** | **-** | **1.79** | **-** | **85.0** | **-** | **0.00** | **-** | **20.90** | **-** | **0.09** | **-** | **-247** | **-** | **8.29** | **-** | |
| 11:25 | **0.3** | **11.09** | **0.01** | **1.78** | **0.6%** | **42.3** | **50.2%** | **0.00** | **0.0%** | **20.77** | **0.6%** | **0.09** | **0.00** | **-249** | **2** | **8.40** | **0.11** | |
| 11:30 | **0.3** | **11.08** | **0.01** | **1.73** | **2.8%** | **23.5** | **44.4%** | **0.00** | **0.0%** | **20.78** | **0.0%** | **0.09** | **0.00** | **-247** | **2** | **8.40** | **0.00** | |
| 11:35 | **0.3** | **11.03** | **0.05** | **1.70** | **1.7%** | **10.0** | **57.4%** | **0.00** | **0.0%** | **20.80** | **0.1%** | **0.08** | **0.01** | **-245** | **2** | **8.45** | **0.05** | |
| 11:40 | **0.3** | **11.02** | **0.01** | **1.64** | **3.5%** | **5.7** | **43.0%** | **0.00** | **0.0%** | **20.82** | **0.1%** | **0.08** | **0.00** | **-242** | **3** | **8.55** | **0.10** | |
| 11:45 | **0.3** | **11.01** | **0.01** | **1.51** | **7.9%** | **4.8** | **15.8%** | **0.00** | **0.0%** | **21.05** | **1.1%** | **0.08** | **0.00** | **-246** | **4** | **8.65** | **0.10** | |
| 11:50 | **0.3** | **11.03** | **0.02** | **1.47** | **2.6%** | **4.3** | **10.4%** | **0.00** | **0.0%** | **21.15** | **0.5%** | **0.07** | **0.01** | **-249** | **3** | **8.70** | **0.05** | |
| 11:55 | **0.3** | **11.02** | **0.01** | **1.46** | **0.7%** | **4.0** | **7.0%** | **0.00** | **0.0%** | **21.15** | **0.0%** | **0.07** | **0.00** | **-252** | **3** | **8.75** | **0.05** | |
| 12:00 | **0.3** | **11.03** | **0.01** | **1.45** | **0.7%** | **4.1** | **2.5%** | **0.00** | **0.0%** | **21.13** | **0.1%** | **0.07** | **0.00** | **-255** | **3** | **8.75** | **0.00** | |
| 12:05 | **0.3** | **11.02** | **0.01** | **1.44** | **0.7%** | **4.1** | **0.0%** | **0.00** | **0.0%** | **21.15** | **0.1%** | **0.07** | **0.00** | **-255** | **0** | **8.75** | **0.00** | |
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| 12:10 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 13.5 Liters

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 124-MW-13-100416 @ 12:10

Odor: Slight sewer-like odor

Other: Note high pH

Sample ID: 124-MW-13-100416F @ 12:15

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.71 Time: 9:30 Date: 10/4/2016

Serial Number: 21342 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 9:35

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:40 | **0.3** | **6.90** | **-** | **1.65** | **-** | **345.0** | **-** | **0.14** | **-** | **20.99** | **-** | **0.08** | **-** | **-113** | **-** | **7.75** | **-** | |
| 9:45 | **0.3** | **6.90** | **0.00** | **1.68** | **1.8%** | **240.0** | **30.4%** | **0.00** | **100.0%** | **21.03** | **0.2%** | **0.08** | **0.00** | **-124** | **11** | **7.75** | **0.00** | |
| 9:50 | **0.3** | **6.90** | **0.00** | **1.69** | **0.6%** | **70.0** | **70.8%** | **0.00** | **0.0%** | **21.07** | **0.2%** | **0.09** | **0.01** | **-135** | **11** | **7.75** | **0.00** | |
| 9:55 | **0.3** | **6.89** | **0.01** | **1.70** | **0.6%** | **43.3** | **38.1%** | **0.00** | **0.0%** | **21.10** | **0.1%** | **0.09** | **0.00** | **-142** | **7** | **7.75** | **0.00** | |
| 10:00 | **0.3** | **6.89** | **0.00** | **1.70** | **0.0%** | **36.5** | **15.7%** | **0.00** | **0.0%** | **21.10** | **0.0%** | **0.09** | **0.00** | **-139** | **3** | **7.75** | **0.00** | |
| 10:05 | **0.3** | **6.89** | **0.00** | **1.71** | **0.6%** | **23.0** | **37.0%** | **0.00** | **0.0%** | **21.12** | **0.1%** | **0.09** | **0.00** | **-135** | **4** | **7.75** | **0.00** | |
| 10:10 | **0.3** | **6.89** | **0.00** | **1.71** | **0.0%** | **9.7** | **57.8%** | **0.00** | **0.0%** | **21.11** | **0.0%** | **0.09** | **0.00** | **-132** | **3** | **7.75** | **0.00** | |
| 10:15 | **0.3** | **6.89** | **0.00** | **1.71** | **0.0%** | **5.7** | **41.2%** | **0.00** | **0.0%** | **21.09** | **0.1%** | **0.09** | **0.00** | **-134** | **2** | **7.75** | **0.00** | |
| 10:20 | **0.3** | **6.88** | **0.01** | **1.72** | **0.6%** | **3.0** | **47.4%** | **0.00** | **0.0%** | **21.06** | **0.1%** | **0.09** | **0.00** | **-136** | **2** | **7.75** | **0.00** | |
| 10:25 | **0.3** | **6.88** | **0.00** | **1.72** | **0.0%** | **3.1** | **3.3%** | **0.00** | **0.0%** | **21.04** | **0.1%** | **0.09** | **0.00** | **-137** | **1** | **7.75** | **0.00** | |
| 10:30 | **0.3** | **6.89** | **0.01** | **1.71** | **0.6%** | **3.2** | **3.2%** | **0.00** | **0.0%** | **21.05** | **0.0%** | **0.09** | **0.00** | **-136** | **1** | **7.75** | **0.00** | |
| 10:35 | **0.3** | **6.88** | **0.01** | **1.72** | **0.6%** | **3.1** | **3.1%** | **0.00** | **0.0%** | **21.03** | **0.1%** | **0.09** | **0.00** | **-138** | **2** | **7.75** | **0.00** | |
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| 10:40 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 16.5 Liters Odor: Slight hydrocarbon-like odor

Well Condition: See well inspection log Other: -

Color of GW: Light brown

Sample ID: 124-MW-12-100416 @ 10:40 Sample ID: 124-MW-12-100416F @ 10:45

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ - ____ ) x ____ $^2$ x ____ x 0.0408 = ____ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.25 Time: 10:55 Date: 10/5/2016

Serial Number: 21233 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 11:00

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 11:05 | **0.3** | **7.22** | **-** | **2.12** | **-** | **585.0** | **-** | **0.00** | **-** | **19.35** | **-** | **0.11** | **-** | **-45** | **-** | **7.35** | **-** | |
| 11:10 | **0.3** | **7.27** | **0.05** | **2.16** | **1.9%** | **363.0** | **37.9%** | **0.00** | **0.0%** | **19.42** | **0.4%** | **0.11** | **0.00** | **-60** | **15** | **7.40** | **0.05** | |
| 11:15 | **0.3** | **7.30** | **0.03** | **2.19** | **1.4%** | **166.0** | **54.3%** | **0.00** | **0.0%** | **19.53** | **0.6%** | **0.11** | **0.00** | **-70** | **10** | **7.40** | **0.00** | |
| 11:20 | **0.3** | **7.36** | **0.06** | **2.21** | **0.9%** | **58.0** | **65.1%** | **0.00** | **0.0%** | **19.60** | **0.4%** | **0.12** | **0.01** | **-81** | **11** | **7.45** | **0.05** | |
| 11:25 | **0.3** | **7.41** | **0.05** | **2.29** | **3.6%** | **42.6** | **26.6%** | **0.00** | **0.0%** | **19.68** | **0.4%** | **0.12** | **0.00** | **-90** | **9** | **7.45** | **0.00** | |
| 11:30 | **0.3** | **7.45** | **0.04** | **2.31** | **0.9%** | **18.8** | **55.9%** | **0.00** | **0.0%** | **19.77** | **0.5%** | **0.12** | **0.00** | **-98** | **8** | **7.45** | **0.00** | |
| 11:35 | **0.3** | **7.47** | **0.02** | **2.31** | **0.0%** | **11.5** | **38.8%** | **0.00** | **0.0%** | **19.75** | **0.1%** | **0.12** | **0.00** | **-101** | **3** | **7.45** | **0.00** | |
| 11:40 | **0.3** | **7.48** | **0.01** | **2.30** | **0.4%** | **7.1** | **38.3%** | **0.00** | **0.0%** | **19.72** | **0.2%** | **0.12** | **0.00** | **-105** | **4** | **7.45** | **0.00** | |
| 11:45 | **0.3** | **7.51** | **0.03** | **2.28** | **0.9%** | **1.3** | **81.7%** | **0.00** | **0.0%** | **19.78** | **0.3%** | **0.12** | **0.00** | **-112** | **7** | **7.45** | **0.00** | |
| 11:50 | **0.3** | **7.53** | **0.02** | **2.27** | **0.4%** | **0.0** | **100.0%** | **0.00** | **0.0%** | **19.78** | **0.0%** | **0.12** | **0.00** | **-117** | **5** | **7.45** | **0.00** | |
| 11:55 | **0.3** | **7.54** | **0.01** | **2.26** | **0.4%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **19.77** | **0.1%** | **0.12** | **0.00** | **-120** | **3** | **7.45** | **0.00** | |
| 12:00 | **0.3** | **7.55** | **0.01** | **2.25** | **0.4%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **19.78** | **0.1%** | **0.22** | **0.10** | **-123** | **3** | **7.45** | **0.00** | |
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| 12:05 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 16.5 Liters Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 073-MW-08-100516 @ 12:05 Sample ID: 073-MW-08-100516F @ 12:10

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.13 Time: 8:25 Date: 10/6/2016

Serial Number: 21233 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/6/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 8:30

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 8:35 | **0.3** | **8.13** | **-** | **1.01** | **-** | **184.0** | **-** | **0.00** | **-** | **18.59** | **-** | **0.05** | **-** | **-34** | **-** | **7.20** | **-** | |
| 8:40 | **0.3** | **8.50** | **0.37** | **1.51** | **49.5%** | **140.0** | **23.9%** | **0.00** | **0.0%** | **18.91** | **1.7%** | **0.05** | **0.00** | **-110** | **76** | **7.20** | **0.00** | |
| 8:45 | **0.3** | **8.66** | **0.16** | **1.86** | **23.2%** | **74.5** | **46.8%** | **0.00** | **0.0%** | **19.80** | **4.7%** | **0.09** | **0.04** | **-142** | **32** | **7.25** | **0.05** | |
| 8:50 | **0.3** | **8.75** | **0.09** | **2.01** | **8.1%** | **66.0** | **11.4%** | **0.00** | **0.0%** | **19.98** | **0.9%** | **0.10** | **0.01** | **-161** | **19** | **7.25** | **0.00** | |
| 8:55 | **0.3** | **8.84** | **0.09** | **2.47** | **22.9%** | **54.0** | **18.2%** | **0.00** | **0.0%** | **20.16** | **0.9%** | **0.13** | **0.03** | **-184** | **23** | **7.25** | **0.00** | |
| 9:00 | **0.3** | **8.86** | **0.02** | **2.54** | **2.8%** | **19.9** | **63.1%** | **0.00** | **0.0%** | **20.07** | **0.4%** | **0.13** | **0.00** | **-171** | **13** | **7.25** | **0.00** | |
| 9:05 | **0.3** | **8.93** | **0.07** | **2.98** | **17.3%** | **15.1** | **24.1%** | **0.00** | **0.0%** | **20.03** | **0.2%** | **0.16** | **0.03** | **-190** | **19** | **7.30** | **0.05** | |
| 9:10 | **0.3** | **8.94** | **0.01** | **3.01** | **1.0%** | **10.4** | **31.1%** | **0.00** | **0.0%** | **20.16** | **0.6%** | **0.17** | **0.01** | **-193** | **3** | **7.30** | **0.00** | |
| 9:15 | **0.3** | **8.95** | **0.01** | **3.12** | **3.7%** | **9.3** | **10.6%** | **0.00** | **0.0%** | **20.29** | **0.6%** | **0.17** | **0.00** | **-192** | **1** | **7.30** | **0.00** | |
| 9:20 | **0.3** | **9.00** | **0.05** | **3.30** | **5.8%** | **8.2** | **11.8%** | **0.00** | **0.0%** | **20.30** | **0.0%** | **0.17** | **0.00** | **-200** | **8** | **7.30** | **0.00** | |
| 9:25 | **0.3** | **9.03** | **0.03** | **3.47** | **5.2%** | **7.6** | **7.3%** | **0.00** | **0.0%** | **20.03** | **1.3%** | **0.18** | **0.01** | **-208** | **8** | **7.35** | **0.05** | |
| 9:30 | **0.3** | **9.05** | **0.02** | **3.50** | **0.9%** | **7.2** | **5.3%** | **0.00** | **0.0%** | **20.07** | **0.2%** | **0.18** | **0.00** | **-210** | **2** | **7.35** | **0.00** | |
| 9:35 | **0.3** | **9.06** | **0.01** | **3.52** | **0.6%** | **7.0** | **2.8%** | **0.00** | **0.0%** | **20.12** | **0.2%** | **0.18** | **0.00** | **-213** | **3** | **7.35** | **0.00** | |
| 9:40 | **0.3** | **9.07** | **0.01** | **3.55** | **0.9%** | **6.9** | **1.4%** | **0.00** | **0.0%** | **20.13** | **0.0%** | **0.18** | **0.00** | **-215** | **2** | **7.35** | **0.00** | |
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| 9:45 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 19.5 Liters

Well Condition: See well inspection log

Color of GW: Light brown

Sample ID: 140-MW-09-100616 @ 9:45 140-MW-09-100616F @ 9:50

Odor: Slight sulfur-like odor

Other: Note higher conductivity

Sample ID: 140-MW-09-100616FA @ 9:55

Groundwater Sampling Form **Job Name:** HW SA-6S

**Job Number:** 3480160515 **Well Number:** 163-MW-02R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method: ☑

3 to 5 Volume Purge Method: ☐

Number of Well Volumes to be Purged: ____

Well Type: Monitor ☑ Other ☐

Well Material: PVC ☑ Stainless Steel ☐ Steel ☐

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): ____

Screen Interval in Feet (BTOC) from ____ to ____

**PURGE METHOD**

Bailer - Type: ____

Submersible ☑ Centrifugal ☐

Bladder ☐ Peristaltic ☐

**PUMP INTAKE SETTING**

Near Top ☐

Center ☐

Near Bottom ☑

**PURGE VOLUME CALCULATIONS**

( ____ (TD) - ____ (WL) ) x ____ (D)$^2$ x ____ (No. Volumes) x 0.0408 = ____ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum ☐ Type ____ Other ☑ On site treatment system

Size ____

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.25 Time: 9:15 Date: 10/5/2016

Serial Number: 21233 Depth to Bottom of Well: NM PID Reading (inside of Casing): NM

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/5/2016

## FIELD PARAMETER MEASURMENTS

Recorded By: Christopher Radomski (Signature) Sampled By: Christopher Radomski Purge Start Time: 9:20

| Time | Rate ☑ lpm ☐ gpm | pH (S.U.) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Temp (°C) | | Salinity (%) | | Redox (mV) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 0.1 Unit | | 3% | | 10% | | 10% | | 3% | | NA | | 10 mV | | 0.3 ft | | |
| 9:25 | **0.3** | **7.07** | **-** | **2.06** | **-** | **115.0** | **-** | **0.00** | **-** | **20.19** | **-** | **0.10** | **-** | **-107** | **-** | **8.45** | **-** | |
| 9:30 | **0.3** | **7.10** | **0.03** | **2.04** | **1.0%** | **85.0** | **26.1%** | **0.00** | **0.0%** | **20.24** | **0.2%** | **0.10** | **0.00** | **-113** | **6** | **8.45** | **0.00** | |
| 9:35 | **0.3** | **7.12** | **0.02** | **2.01** | **1.5%** | **30.0** | **64.7%** | **0.00** | **0.0%** | **20.38** | **0.7%** | **0.10** | **0.00** | **-117** | **4** | **8.45** | **0.00** | |
| 9:40 | **0.3** | **7.13** | **0.01** | **2.00** | **0.5%** | **12.0** | **60.0%** | **0.00** | **0.0%** | **20.42** | **0.2%** | **0.10** | **0.00** | **-120** | **3** | **8.45** | **0.00** | |
| 9:45 | **0.3** | **7.15** | **0.02** | **1.99** | **0.5%** | **1.5** | **87.5%** | **0.00** | **0.0%** | **20.48** | **0.3%** | **0.10** | **0.00** | **-123** | **3** | **8.45** | **0.00** | |
| 9:50 | **0.3** | **7.17** | **0.02** | **1.97** | **1.0%** | **0.8** | **46.7%** | **0.00** | **0.0%** | **20.60** | **0.6%** | **0.10** | **0.00** | **-128** | **5** | **8.45** | **0.00** | |
| 9:55 | **0.3** | **7.22** | **0.05** | **1.94** | **1.5%** | **0.0** | **100.0%** | **0.00** | **0.0%** | **20.59** | **0.0%** | **0.10** | **0.00** | **-132** | **4** | **8.45** | **0.00** | |
| 10:00 | **0.3** | **7.21** | **0.01** | **1.93** | **0.5%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **20.71** | **0.6%** | **0.10** | **0.00** | **-134** | **2** | **8.45** | **0.00** | |
| 10:05 | **0.3** | **7.21** | **0.00** | **1.92** | **0.5%** | **0.0** | **0.0%** | **0.00** | **0.0%** | **20.79** | **0.4%** | **0.10** | **0.00** | **-135** | **1** | **8.45** | **0.00** | |
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| 10:10 | **Sample** | | | | | | | | | | | | | | | | | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

## OBSERVATIONS DURING WELL PURGING

Total Volume Purged: 12 Liters Odor: None

Well Condition: See well inspection log Other: -

Color of GW: Clear

Sample ID: 163-MW-02R-100516 @ 10:10 Sample ID: 163-MW-02R-100516F @ 10:15

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of

**Job Number:** 3480160515.6100.61001 **Well Number:** 073-MW-06

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 21.5

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 20

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.45 Time: 9:33 Date: 10/2/2017

Serial Number: 21135 Depth to Bottom of Well: 21.5 PID Reading (inside of Casing): 19.8

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean T Rittinger Purge Start Time: 9:05

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 9:10 | **0.25** | **15.88** | **-** | **7.74** | **-** | **92** | **-** | **5.160** | **-** | **227.0** | | **0.19** | **-** | **0.28** | **-** | **8.79** | **-** | |
| 9:15 | **0.25** | **16.09** | **-1.32** | **7.79** | **-0.05** | **12** | **80** | **4.910** | **4.8** | **129.0** | **43.2** | **0.00** | **100.0** | **0.26** | **0.02** | **8.79** | **0.0** | |
| 9:20 | **0.25** | **16.43** | **-2.11** | **7.92** | **-0.13** | **-29** | **41** | **4.00** | **18.5** | **57.8** | **55.2** | **0.00** | **0.0** | **0.21** | **0.05** | **8.79** | **0.0** | |
| 9:25 | **0.25** | **16.63** | **-1.22** | **7.95** | **-0.03** | **-32** | **3** | **3.56** | **11.0** | **22.6** | **60.9** | **0.00** | **0.0** | **0.19** | **0.02** | **8.79** | **0.0** | |
| 9:30 | **0.25** | **16.73** | **-0.6** | **7.89** | **0.06** | **-24** | **-8** | **3.62** | **-1.7** | **4.2** | **81.4** | **0.00** | **0.0** | **0.19** | **0.00** | **8.79** | **0.0** | |
| 9:35 | **0.25** | **16.79** | **-0.36** | **7.86** | **0.03** | **-29** | **5** | **3.80** | **-5.0** | **0.0** | **100** | **0.00** | **0.0** | **0.2** | **-0.01** | **8.79** | **0.0** | |
| 9:40 | **0.25** | **16.82** | **-0.18** | **7.82** | **0.04** | **-42** | **13** | **3.98** | **-4.7** | **0.0** | **0.0** | **0.00** | **0.0** | **0.21** | **-0.01** | **8.79** | **0.0** | |
| 9:45 | **0.25** | **16.87** | **-0.3** | **7.80** | **0.02** | **-48** | **6** | **4.11** | **-3.3** | **0.0** | **0.0** | **0.00** | **0.0** | **0.22** | **-0.01** | **8.79** | **0.0** | |
| 9:50 | **0.25** | **16.91** | **-0.24** | **7.77** | **0.03** | **-56** | **8** | **4.22** | **-2.7** | **0.0** | **0.0** | **0.00** | **0.0** | **0.22** | **0.00** | **8.79** | **0.0** | |
| 9:55 | **0.25** | **16.91** | **0** | **7.75** | **0.02** | **-62** | **6** | **4.30** | **-1.9** | **0.0** | **0.0** | **0.00** | **0.0** | **0.23** | **-0.01** | **8.79** | **0.0** | |
| 10:00 | **0.25** | **16.98** | **-0.41** | **7.75** | **0** | **-63** | **1** | **4.35** | **-1.2** | **0.0** | **0.0** | **0.00** | **0.0** | **0.23** | **0.00** | **8.79** | **0.0** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 7.5 Final Water Level: 8.56 Final Well Depth: 21.51

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other:

Sample ID: 073-MW-06-100417 @10:05 Sample ID: 073-MW-06-100417F @10:10

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of

**Job Number:** 3480160515.6100.61001 **Well Number:** 073-MW-07

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.4

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16.7

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.28 Time: Date: 10/2/2017

Serial Number: 21135 Depth to Bottom of Well: 18.4 PID Reading (inside of Casing):

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/4/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean T ittinger Purge Start Time: 10:38

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:45 | **0.2** | **18.24** | **-** | **7.34** | **-** | **-136** | **-** | **0.413** | **-** | **0.0** | | **0.05** | **-** | **0.02** | **-** | **7.63** | **-** | |
| 10:50 | **0.2** | **18.31** | **-0.38** | **7.30** | **0.04** | **-140** | **4** | **0.370** | **10.4** | **800.0** | **100** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 10:55 | **0.2** | **18.47** | **-0.87** | **7.29** | **0.01** | **-140** | **0** | **0.366** | **1.1** | **600** | **25.0** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:00 | **0.2** | **18.63** | **-0.87** | **7.26** | **0.03** | **-134** | **-6** | **0.387** | **-5.7** | **372** | **38.0** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:05 | **0.2** | **18.95** | **-1.72** | **7.23** | **0.03** | **-130** | **-4** | **0.382** | **1.3** | **203** | **45.4** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:10 | **0.2** | **19.07** | **-0.63** | **7.23** | **0.00** | **-127** | **-3** | **0.403** | **-5.5** | **236** | **-16.3** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:15 | **0.2** | **19.33** | **-1.36** | **7.22** | **0.01** | **-123** | **-4** | **0.404** | **-0.2** | **161** | **31.8** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:20 | **0.2** | **19.58** | **-1.29** | **7.22** | **0.00** | **-120** | **-3** | **0.406** | **-0.5** | **129** | **19.9** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:25 | **0.2** | **19.68** | **-0.51** | **7.21** | **0.01** | **-118** | **-2** | **0.411** | **-1.2** | **91** | **29.5** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:30 | **0.2** | **19.1** | **2.947** | **7.18** | **0.03** | **-114** | **-4** | **0.448** | **-9.0** | **38** | **58.2** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:35 | **0.2** | **18.89** | **1.099** | **7.16** | **0.02** | **-108** | **-6** | **0.493** | **-10.0** | **18.4** | **51.6** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:40 | **0.2** | **18.92** | **-0.16** | **7.13** | **0.03** | **-104** | **-4** | **0.502** | **-1.8** | **21.8** | **-18.5** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:45 | **0.2** | **18.94** | **-0.11** | **7.12** | **0.01** | **-98** | **-6** | **0.510** | **-1.6** | **5.9** | **72.9** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:50 | **0.2** | **19.12** | **-0.95** | **7.11** | **0.01** | **-96** | **-2** | **0.521** | **-2.2** | **4.7** | **20.3** | **0.00** | **0.0** | **0.02** | **0.0** | **7.63** | **0.0** | |
| 11:55 | **0.2** | **19.28** | **-0.84** | **7.11** | **0.00** | **-93** | **-3** | **0.533** | **-2.3** | **1.1** | **76.6** | **0.00** | **0.0** | **0.0** | **0.0** | **7.63** | **0.0** | |
| 12:00 | **0.2** | **19.39** | **-0.57** | **7.10** | **0.01** | **-91** | **-2** | **0.540** | **-1.3** | **1.7** | **-54.5** | **0.00** | **0.0** | **0.0** | **0.0** | **7.63** | **0.0** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 6.5 Final Water Level: 7.18 Final Well Depth: 18.38

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 073-MW-07-100417 @12:05

Odor: None

Other:

Sample ID: 073-MW-07-100417f @12:10

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of

**Job Number:** 3480160515.6100.61001 **Well Number:** 073-MW-08

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 18.4

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.07 Time: 9:25 Date: 10/2/2017

Serial Number: 21136 Depth to Bottom of Well: 18.4 PID Reading (inside of Casing): 1.4

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/3/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean T Rittinger Purge Start Time: 10:42

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:45 | **0.2** | **17.18** | **-** | **7.36** | **-** | **-128** | **-** | **0.818** | **-** | **139.0** | | **1.86** | **-** | **0.04** | **-** | **7.28** | **-** | |
| 10:50 | **0.2** | **17.82** | **-3.73** | **7.18** | **0.18** | **-140** | **12** | **0.771** | **5.7** | **100.0** | **28.1** | **0.70** | **62.4** | **0.04** | **0.0** | **7.28** | **0.0** | |
| 10:55 | **0.2** | **17.73** | **0.505** | **7.17** | **0.01** | **-149** | **9** | **0.697** | **9.6** | **78.1** | **21.9** | **0.30** | **57.1** | **0.03** | **0.01** | **7.28** | **0.0** | |
| 11:00 | **0.2** | **17.98** | **-1.41** | **7.22** | **-0.05** | **-152** | **3** | **0.675** | **3.2** | **51.7** | **33.8** | **0.00** | **100.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
| 11:05 | **0.2** | **17.75** | **1.279** | **7.35** | **-0.13** | **-161** | **9** | **0.670** | **0.7** | **18.1** | **65.0** | **0.00** | **0.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
| 11:10 | **0.2** | **17.86** | **-0.62** | **7.48** | **-0.13** | **-177** | **16** | **0.640** | **4.5** | **8.6** | **52.5** | **0.00** | **0.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
| 11:15 | **0.2** | **17.95** | **-0.5** | **7.59** | **-0.11** | **-188** | **11** | **0.637** | **0.5** | **6.5** | **24.4** | **0.00** | **0.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
| 11:20 | **0.2** | **18.22** | **-1.5** | **7.64** | **-0.05** | **-196** | **8** | **0.634** | **0.5** | **5.1** | **21.5** | **0.00** | **0.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
| 11:25 | **0.2** | **18.21** | **0.055** | **7.66** | **-0.02** | **-202** | **6** | **0.636** | **-0.3** | **4.9** | **3.9** | **0.00** | **0.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
| 11:30 | **0.2** | **18.16** | **0.275** | **7.68** | **-0.02** | **-204** | **2** | **0.637** | **-0.2** | **4.1** | **16.3** | **0.00** | **0.0** | **0.03** | **0.0** | **7.28** | **0.0** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 4.8 Final Water Level: 7.07 Final Well Depth: 18.38

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other:

Sample ID: 073-MW-08-100317 @11:35 Sample ID: 073-MW-08-100317F @11:40

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of

**Job Number:** 3480160515.6100.61001 **Well Number:** 124-MW-12

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.6

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 7.28 Time: 9:10 Date: 10/2/2017

Serial Number: 21135 Depth to Bottom of Well: 13.58 PID Reading (inside of Casing): 28.4

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/2/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean T Rittinger Purge Start Time: 12:52

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:55 | **0.25** | **23.00** | **-** | **1.09** | **-** | **-133** | **-** | **1.23** | **-** | **452.0** | | **0.86** | **-** | **0.06** | **-** | **7.45** | **-** | |
| 13:00 | **0.2** | **20.84** | **9.391** | **7.02** | **-5.93** | **-132** | **-1** | **1.19** | **3.3** | **415.0** | **8.2** | **0.06** | **93.0** | **0.06** | **0.0** | **7.37** | **0.1** | Adjust Flow |
| 13:05 | **0.2** | **20.48** | **1.727** | **6.99** | **0.03** | **-131** | **-1** | **1.21** | **-1.7** | **396** | **4.6** | **0.00** | **100.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:10 | **0.2** | **20.31** | **0.83** | **6.94** | **0.05** | **-133** | **2** | **1.24** | **-2.5** | **277** | **30.05** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:15 | **0.2** | **20.07** | **1.182** | **6.91** | **0.03** | **-133** | **0** | **1.25** | **-0.8** | **226.0** | **18.41** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:20 | **0.2** | **19.88** | **0.947** | **6.90** | **0.01** | **-134** | **1** | **1.24** | **0.8** | **194** | **14.16** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:25 | **0.2** | **19.73** | **0.755** | **6.88** | **0.02** | **-134** | **0** | **1.25** | **-0.8** | **146** | **24.74** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:30 | **0.2** | **19.60** | **0.659** | **6.87** | **0.01** | **-135** | **1** | **1.25** | **0.0** | **72.9** | **50.07** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:35 | **0.2** | **19.55** | **0.255** | **6.86** | **0.01** | **-135** | **0** | **1.25** | **0.0** | **39.6** | **45.68** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:40 | **0.2** | **19.45** | **0.512** | **6.86** | **0.00** | **-135** | **0** | **1.25** | **0.0** | **55** | **-38.89** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | Clean Horiba |
| 13:45 | **0.2** | **19.42** | **0.154** | **6.84** | **0.02** | **-134** | **-1** | **1.25** | **0.0** | **38.2** | **30.55** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:50 | **0.2** | **19.33** | **0.463** | **6.84** | **0.00** | **-134** | **0** | **1.25** | **0.0** | **35.3** | **7.59** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 13:55 | **0.2** | **19.32** | **0.052** | **6.84** | **0.00** | **-135** | **1** | **1.26** | **-0.8** | **34.5** | **2.27** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 14:00 | **0.2** | **19.31** | **0.052** | **6.87** | **-0.03** | **-138** | **3** | **1.26** | **0.0** | **27.4** | **20.6** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 14:05 | **0.2** | **19.32** | **-0.05** | **6.87** | **0.00** | **-138** | **0** | **1.26** | **0.0** | **19.3** | **29.56** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 14:10 | **0.2** | **19.24** | **0.414** | **6.88** | **-0.01** | **-139** | **1** | **1.26** | **0.0** | **5.8** | **69.95** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 14:15 | **0.2** | **19.26** | **-0.10** | **6.89** | **-0.01** | **-140** | **1** | **1.26** | **0.0** | **9.6** | **-65.52** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 14:20 | **0.2** | **19.26** | **0** | **6.89** | **0.00** | **-140** | **0** | **1.26** | **0.0** | **9.1** | **5.21** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
| 14:25 | **0.2** | **19.26** | **0** | **6.9** | **-0.01** | **-141** | **1** | **1.26** | **0.0** | **6.5** | **28.57** | **0.00** | **0.0** | **0.06** | **0.0** | **7.37** | **0.0** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 7.5 Final Water Level: 7.38 Final Well Depth: 13.60

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 124-MW-12-100217 @14:30

Odor: None

Other: CR, XCR7199

Sample ID: 124-MW-12-100217F @14:35

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 124-MW-13

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 13.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.12 Time: 8:44 Date: 10/4/2017

Serial Number: 33115 Depth to Bottom of Well: 15 PID Reading (inside of Casing): 2.6

For Calibration Information, See Instrument Calibration Record Sheet Dated: 4/18/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Dan Berkowitz Purge Start Time: 12:25

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 9:15 | **0.3** | **18.46** | **-** | **11.19** | **-** | **-187** | **-** | **1.080** | **-** | **482.0** | | **6.70** | **-** | **0.05** | **-** | **7.71** | **-** | |
| 9:20 | **0.3** | **18.44** | **0.108** | **10.86** | **0.33** | **-181** | **-6** | **0.921** | **14.7** | **139.0** | **71.2** | **0.04** | **99.4** | **0.04** | **0.01** | **7.88** | **-0.2** | |
| 9:25 | **0.3** | **18.44** | **0** | **10.39** | **0.47** | **-178** | **-3** | **0.840** | **8.8** | **82.7** | **40.5** | **0.04** | **0.0** | **0.04** | **0.00** | **7.82** | **0.1** | |
| 9:30 | **0.3** | **18.54** | **-0.54** | **10.33** | **0.06** | **-184** | **6** | **0.836** | **0.5** | **13.7** | **83.43** | **0.04** | **0.0** | **0.04** | **0.00** | **7.88** | **-0.1** | |
| 9:35 | **0.3** | **18.54** | **0** | **10.32** | **0.01** | **-185** | **1** | **0.841** | **-0.6** | **7.1** | **48.18** | **0.04** | **0.0** | **0.04** | **0.00** | **7.72** | **0.2** | |
| 9:40 | **0.3** | **18.60** | **-0.32** | **10.39** | **-0.07** | **-186** | **1** | **0.843** | **-0.2** | **2.9** | **59.15** | **0.04** | **0.0** | **0.04** | **0.00** | **7.94** | **-0.2** | |
| 9:45 | **0.3** | **18.62** | **-0.11** | **10.24** | **0.15** | **-190** | **4** | **0.840** | **0.4** | **0** | **100** | **0.04** | **0.0** | **0.04** | **0.00** | **7.95** | **0.0** | |
| 9:50 | **0.3** | **18.68** | **-0.32** | **10.25** | **-0.01** | **-190** | **0** | **0.838** | **0.2** | **0.0** | **0.00** | **0.04** | **0.0** | **0.04** | **0.00** | **7.95** | **0.0** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 5 Final Water Level: 7.95 Final Well Depth: 14.90

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other:

Sample ID: 124-MW-13-100417 @09:55 Sample ID: 124-MW-13-100417F @10:00

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 125-MW-02

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.3

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ (Calculated Purge Volume) Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 11.8

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 4.06 Time: 12:40 Date: 10/2/2017

Serial Number: 21073 Depth to Bottom of Well: 13.3 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/2/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: _____ (Signature) Sampled By: Dan Berkowitz Purge Start Time: 12:50

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:55 | **0.3** | **21.54** | **-** | **6.69** | **-** | **-75** | **-** | **5.12** | **-** | **308.0** | | **3.72** | **-** | **0.28** | **-** | **4.15** | **-** | |
| 13:00 | **0.3** | **21.52** | **0.093** | **6.64** | **0.05** | **-92** | **17** | **4.57** | **10.7** | **113.0** | **63.31** | **1.05** | **72** | **0.24** | **0.04** | **4.15** | **0.00** | |
| 13:05 | **0.3** | **22.04** | **-2.42** | **6.67** | **-0.03** | **-106** | **14** | **4.04** | **11.6** | **76.6** | **32.21** | **0.23** | **78.1** | **0.21** | **0.03** | **4.15** | **0.00** | |
| 13:10 | **0.3** | **23.40** | **-6.17** | **6.70** | **-0.03** | **-79** | **-27** | **3.80** | **5.9** | **69.2** | **9.66** | **0.53** | **130** | **0.2** | **0.01** | **4.15** | **0.00** | |
| 13:15 | **0.3** | **22.81** | **2.521** | **6.71** | **-0.01** | **-75** | **-4** | **3.73** | **1.8** | **63** | **8.53** | **0.00** | **100.0** | **0.19** | **0.01** | **4.15** | **0.00** | |
| 13:20 | **0.3** | **22.43** | **1.666** | **6.73** | **-0.02** | **-73** | **-2** | **3.82** | **-2.4** | **39** | **38.39** | **0.00** | **0.0** | **0.2** | **-0.01** | **4.15** | **0.00** | |
| 13:25 | **0.3** | **22.35** | **0.357** | **6.72** | **0.01** | **-72** | **-1** | **3.55** | **7.1** | **28.6** | **26.67** | **0.00** | **0.0** | **0.21** | **-0.01** | **4.15** | **0.00** | |
| 13:30 | **0.3** | **22.12** | **1.029** | **6.73** | **-0.01** | **-70** | **-2** | **4.02** | **-13.2** | **11.3** | **60.49** | **0.00** | **0.0** | **0.22** | **-0.01** | **4.15** | **0.00** | |
| 13:35 | **0.3** | **22.02** | **0.452** | **6.72** | **0.01** | **-70** | **0** | **4.14** | **-3.0** | **4.3** | **61.95** | **0.00** | **0.0** | **0.23** | **-0.01** | **4.15** | **0.00** | |
| 13:40 | **0.3** | **22.03** | **-0.05** | **6.72** | **0** | **-68** | **-2** | **4.19** | **-1.2** | **4.0** | **6.98** | **0.00** | **0.0** | **0.23** | **0.00** | **4.16** | **-0.01** | |
| 13:45 | **0.3** | **21.99** | **0.182** | **6.71** | **0.01** | **-67** | **-1** | **4.24** | **-1.2** | **2.1** | **47.50** | **0.00** | **0.0** | **0.23** | **0.00** | **4.15** | **0.01** | |
| 13:50 | **0.3** | **21.99** | **0** | **6.71** | **0** | **-66** | **-1** | **4.34** | **-2.4** | **1.7** | **19.05** | **0.00** | **0.0** | **0.23** | **0.00** | **4.17** | **-0.02** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 7 Final Water Level: 4.17 Final Well Depth: 13.30

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other:

Sample ID: 125-MW-02-100217 @13:55 Sample ID: 125-MW-02-100217 @1400

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 125-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 13.58

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.28 Time: 10:10 Date: 10/2/2017

Serial Number: 21135 Depth to Bottom of Well: 13.58 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/2/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Sean T Rittinger Purge Start Time: 10:15

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:20 | 0.2 | 19.04 | - | 8.72 | - | 209 | - | 1.25 | - | 63.3 | | 0.39 | - | 0.06 | - | 6.56 | - | |
| 10:25 | 0.2 | 19.53 | -2.57 | 8.78 | -0.06 | 197 | 12 | 1.26 | -0.8 | 64.2 | -1.42 | 0.23 | 41 | 0.06 | 0.00 | 6.56 | 0.0 | |
| 10:30 | 0.2 | 19.61 | -0.41 | 8.69 | 0.09 | 184 | 13 | 1.53 | -21.4 | 64.6 | -0.62 | 0.07 | 69.6 | 0.06 | 0.00 | 6.56 | 0.0 | |
| 10:35 | 0.2 | 19.73 | -0.61 | 8.67 | 0.02 | 171 | 13 | 1.62 | -5.9 | 56.3 | 12.85 | 0.03 | 57.1 | 0.06 | 0.00 | 6.56 | 0.0 | |
| 10:40 | 0.2 | 19.76 | -0.15 | 8.60 | 0.07 | 153 | 18 | 1.84 | -13.6 | 51 | 9.06 | 0.00 | 100.0 | 0.09 | -0.03 | 6.56 | 0.0 | |
| 10:45 | 0.2 | 19.83 | -0.35 | 8.59 | 0.01 | 140 | 13 | 1.93 | -4.9 | 48.7 | 4.88 | 0.00 | 0.0 | 0.1 | -0.01 | 6.56 | 0.0 | |
| 10:50 | 0.2 | 19.82 | 0.05 | 8.57 | 0.02 | 126 | 14 | 2.01 | -4.1 | 42.9 | 11.91 | 0.00 | 0.0 | 0.1 | 0.00 | 6.56 | 0.0 | |
| 10:55 | 0.2 | 19.86 | -0.2 | 8.58 | -0.01 | 116 | 10 | 2.04 | -1.5 | 47.5 | -10.72 | 0.00 | 0.0 | 0.10 | 0.00 | 6.56 | 0.0 | |
| 11:00 | 0.2 | 19.92 | -0.3 | 8.58 | 0 | 140 | -24 | 2.07 | -1.5 | 22.3 | 53.05 | 0.00 | 0.0 | 0.11 | -0.01 | 6.56 | 0.0 | Clean Horiba |
| 11:05 | 0.2 | 19.88 | 0.201 | 8.58 | 0 | 123 | 17 | 2.09 | -1.0 | 21.9 | 1.79 | 0.00 | 0.0 | 0.11 | 0.00 | 6.56 | 0.0 | |
| 11:10 | 0.2 | 19.79 | 0.453 | 8.60 | -0.02 | 126 | -3 | 2.09 | 0.0 | 0.5 | 97.72 | 0.00 | 0.0 | 0.11 | 0.00 | 6.56 | 0.0 | |
| 11:15 | 0.2 | 19.74 | 0.253 | 8.61 | -0.01 | 117 | 9 | 2.08 | 0.5 | 0.0 | 100 | 0.00 | 0.0 | 0.11 | 0.00 | 6.56 | 0.0 | |
| 11:20 | 0.2 | 19.76 | -0.1 | 8.62 | -0.01 | 109 | 8 | 2.08 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | 0.11 | 0.00 | 6.56 | 0.0 | |
| 11:25 | 0.2 | 19.77 | -0.05 | 8.62 | 0 | 101 | 8 | 2.06 | 1.0 | 0.0 | 0.00 | 0.00 | 0.0 | 0.11 | 0.00 | 6.56 | 0.0 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 8 Final Water Level: 6.41 Final Well Depth: 13.56

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 125-MW-03-100217 @11:30

Sample ID: 125-MW-03-100217F @11:35

Sample ID: 125-MW-03-100217FA @11:40

Odor: None

Other: CR, XCR7199

Sample ID: 125-MW-03-100217DP @11:30

Sample ID: 125-MW-03-100217FDP @11:35

Sample ID: 125-MW-03-100217FADP @11:40

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 134-MW-03

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.8

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 16

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.72 Time: 12:25 Date: 10/3/2017

Serial Number: 21135 Depth to Bottom of Well: 17.4 PID Reading (inside of Casing): 8

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/3/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Madhu Patel Purge Start Time: 12:40

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:40 | 0.25 | 19.10 | - | 6.82 | - | -100 | - | 7.25 | - | 1000.0 | | 0.35 | - | 0.4 | - | 6.75 | - | |
| 12:45 | 0.25 | 19.11 | -0.1 | 6.83 | -0.01 | -104 | 4 | 7.05 | 2.8 | 1000.0 | 0.00 | 0.09 | 74 | 0.39 | 0.0 | 6.75 | 0.0 | |
| 12:50 | 0.25 | 19.11 | 0.0 | 6.90 | -0.07 | -109 | 5 | 6.01 | 14.8 | 800 | 20.00 | 0.00 | 100.0 | 0.31 | 0.1 | 6.75 | 0.0 | |
| 12:55 | Clean the Flow Cell | | | | | | | | | | | | | | | | | |
| 13:00 | | | | | | | | | | | | | | | | | | |
| 13:05 | 0.25 | 19.96 | | 7.01 | | -88 | | 5.24 | | 571 | | 1.61 | | 0.28 | | 6.75 | | |
| 13:10 | 0.25 | 19.94 | 0.1 | 6.99 | 0.02 | -92 | 4 | 5.25 | -0.2 | 555 | 2.80 | 0.52 | 67.7 | 0.28 | 0.0 | 6.75 | 0.0 | |
| 13:15 | 0.25 | 20.02 | -0.4 | 6.98 | 0.01 | -105 | 13 | 5.26 | -0.2 | 530.0 | 4.50 | 0.00 | 100.0 | 0.28 | 0.0 | 6.75 | 0.0 | |
| 13:20 | | | | | | | | | | | | | | | | | | |
| 13:25 | 0.25 | 19.96 | | 6.99 | | -107 | | 5.18 | | 489.0 | | 0.00 | | 0.28 | | 6.75 | | |
| 13:30 | 0.25 | 19.96 | 0.0 | 7.00 | -0.01 | -110 | 3 | 5.12 | 1.2 | 585.0 | -19.63 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 13:35 | 0.25 | 19.63 | 1.7 | 7.01 | -0.01 | -108 | -2 | 5.10 | 0.4 | 605.0 | -3.42 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 13:40 | 0.25 | 19.63 | 0.0 | 7.01 | 0 | -108 | 0 | 5.10 | 0.0 | 605.0 | 0.00 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 13:45 | 0.25 | 19.61 | 0.1 | 7.01 | 0 | -112 | 4 | 5.09 | 0.2 | 588.0 | 2.81 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 13:50 | 0.25 | 19.61 | 0.0 | 7.01 | 0 | -118 | 6 | 5.07 | 0.4 | 543.0 | 7.65 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 13:55 | 0.25 | 19.54 | 0.4 | 7.01 | 0 | -120 | 2 | 5.05 | 0.4 | 491.0 | 9.58 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:00 | 0.25 | 19.32 | 1.1 | 7.00 | 0.01 | -122 | 2 | 5.05 | 0.0 | 401.0 | 18.33 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:05 | 0.25 | 19.28 | 0.2 | 7.00 | 0 | -123 | 1 | 5.05 | 0.0 | 391.0 | 2.49 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:10 | 0.25 | 19.22 | 0.3 | 7.00 | 0 | -124 | 1 | 5.40 | -6.9 | 368.0 | 5.88 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:15 | 0.25 | 18.98 | 1.2 | 7.00 | 0 | -125 | 1 | 5.07 | 6.1 | 352.0 | 4.35 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:20 | 0.25 | 18.92 | 0.3 | 7.00 | 0 | -125 | 0 | 5.07 | 0.0 | 351.0 | 0.28 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:25 | 0.25 | 18.88 | 0.2 | 7.00 | 0 | -126 | 1 | 5.07 | 0.0 | 356.0 | -1.42 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |
| 14:30 | 0.25 | 18.75 | 0.7 | 7.00 | 0 | -127 | 1 | 5.07 | 0.0 | 355.0 | 0.28 | 0.00 | 0.0 | 0.27 | 0.0 | 6.75 | 0.0 | |

Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): Final Water Level: Final Well Depth:

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Turbid yellowish

Sample ID: 134-MW-03-100317 @14:30

Odor:

Other: Sampled as per Andrew Shust

Sample ID: 134-MW-03-100317F @14:30

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 134-MW-04

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 16.9

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( TD - WL ) x D$^2$ x No. Volumes x 0.0408 = Calculated Purge Volume Gallons

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.04 Time: 9:05 Date: 10/3/2017

Serial Number: 21135 Depth to Bottom of Well: 17.1 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/3/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: (Signature) Sampled By: Madhu Patel Purge Start Time: 9:30

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 9:35 | 0.25 | 20.18 | - | 6.73 | - | 74 | - | 3.17 | - | 1000 | | 1.37 | - | 0.17 | - | 6.04 | - | |
| 9:40 | 0.25 | 19.41 | 3.816 | 8.02 | -1.29 | -125 | 199 | 2.84 | 10.4 | 1000 | 0.00 | 0.00 | 100 | 0.15 | 0.02 | 6.04 | 0.0 | |
| 9:45 | 0.25 | 19.29 | 0.618 | 8.04 | -0.02 | -151 | 26 | 2.85 | -0.4 | 1000 | 0.00 | 0.00 | ##### | 0.15 | 0.00 | 6.04 | 0.0 | |
| 9:50 | 0.25 | | | | | | | | | | | | | | | | | |
| 9:55 | 0.25 | 19.66 | | 7.84 | | -18 | | 1.28 | | 646.0 | | 6.30 | | 0.06 | | 6.04 | | |
| 10:00 | 0.25 | | | | | | | | | | | | | | | | | |
| 10:05 | 0.25 | 19.64 | | 8.05 | | -96 | | 2.81 | | 552.0 | | 0.61 | | 0.15 | | 6.04 | | |
| 10:10 | 0.25 | 19.93 | -1.48 | 8.04 | 0.01 | -151 | 55 | 2.87 | -2.1 | 352.0 | 36.23 | 0.00 | 100.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:15 | 0.25 | 19.93 | 0 | 8.04 | 0 | -158 | 7 | 2.88 | -0.3 | 252.0 | 28.41 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:20 | 0.25 | 20.20 | -1.35 | 8.04 | 0 | -161 | 3 | 2.88 | 0.0 | 250.0 | 0.79 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:25 | 0.25 | 20.07 | 0.644 | 8.04 | 0 | -163 | 2 | 2.88 | 0.0 | 235.0 | 6.00 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:30 | 0.25 | 19.45 | 3.089 | 8.04 | 0 | -158 | -5 | 2.93 | -1.7 | 198.0 | 15.74 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:35 | 0.25 | 19.41 | 0.206 | 8.03 | 0.01 | -163 | 5 | 2.95 | -0.7 | 159.0 | 19.70 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:40 | 0.25 | 19.43 | -0.1 | 8.03 | 0 | -163 | 0 | 2.97 | -0.7 | 105.0 | 33.96 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:45 | 0.25 | 19.42 | 0.051 | 8.03 | 0 | -163 | 0 | 2.98 | -0.3 | 95.0 | 9.52 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:50 | 0.25 | 19.33 | 0.463 | 8.03 | 0 | -164 | 1 | 2.99 | -0.3 | 92.0 | 3.16 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 10:55 | 0.25 | 19.28 | 0.259 | 8.03 | 0 | -165 | 1 | 3.00 | -0.3 | 85.0 | 7.61 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 11:00 | 0.25 | 19.28 | 0 | 8.03 | 0 | -165 | 0 | 3.00 | 0.0 | 72.0 | 15.29 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 11:05 | 0.25 | 19.31 | -0.16 | 8.02 | 0.01 | -165 | 0 | 3.01 | -0.3 | 64.9 | 9.86 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 11:10 | 0.25 | 19.25 | 0.311 | 8.02 | 0 | -165 | 0 | 3.01 | 0.0 | 62.5 | 3.70 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 11:15 | 0.25 | 19.20 | 0.26 | 8.01 | 0.01 | -166 | 1 | 3.02 | -0.3 | 60.3 | 3.52 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
| 11:20 | 0.25 | 19.12 | 0.417 | 8.01 | 0 | -166 | 0 | 3.02 | 0.0 | 58.5 | 2.99 | 0.00 | 0.0 | 0.15 | 0.00 | 6.04 | 0.0 | |
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Final Water Purged (gal): 8 Final Water Level: 6.04 Final Well Depth: 17.10

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear

Sample ID: 134-MW-04-100317 @11:20

Odor:

Other:

Sample ID: 134-MW-04-100317F @11:25

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 140-MW-09

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 15.7

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 14

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.84 Time: 10:00 Date: 10/2/2017

Serial Number: 21073 Depth to Bottom of Well: 15.7 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/2/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: _____ (Signature) Sampled By: Dan Berkowitz Purge Start Time: 10:10

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 10:10 | **0.3** | **18.37** | **-** | **7.12** | **-** | **-181** | **-** | **0.902** | **-** | **120.0** | | **0.93** | **-** | **0.5** | **-** | **7.00** | **-** | |
| 10:15 | **0.3** | **19.14** | **-4.19** | **7.38** | **-0.26** | **-142** | **-39** | **1.52** | **-68.5** | **33.9** | **71.75** | **0.12** | **87.1** | **0.8** | **-0.3** | **6.94** | **0.06** | |
| 10:20 | **0.3** | **19.21** | **-0.37** | **7.54** | **-0.16** | **-185** | **43** | **1.84** | **-21.1** | **42.6** | **-25.66** | **0.00** | **100.0** | **0.09** | **0.7** | **6.94** | **0.00** | |
| 10:25 | **0.3** | **19.28** | **-0.36** | **7.73** | **-0.19** | **-224** | **39** | **2.40** | **-30.4** | **35.9** | **15.73** | **0.66** | **100** | **0.12** | **0.0** | **6.99** | **-0.05** | |
| 10:30 | **0.3** | **19.35** | **-0.36** | **7.82** | **-0.09** | **-232** | **8** | **2.62** | **-9.2** | **61** | **-70.75** | **0.00** | **100.0** | **0.14** | **0.0** | **7.00** | **-0.01** | |
| 10:35 | **0.3** | **19.51** | **-0.83** | **7.90** | **-0.08** | **-244** | **12** | **2.77** | **-5.7** | **29.8** | **51.39** | **0.00** | **0.0** | **0.14** | **0.0** | **7.00** | **0.00** | |
| 10:40 | **0.3** | **19.53** | **-0.1** | **7.92** | **-0.02** | **-249** | **5** | **2.81** | **-1.4** | **21.8** | **26.85** | **0.00** | **0.0** | **0.15** | **0.0** | **6.99** | **0.01** | |
| 10:45 | **0.3** | **19.67** | **-0.72** | **7.97** | **-0.05** | **-260** | **11** | **2.95** | **-5.0** | **10.9** | **50.00** | **0.00** | **0.0** | **0.15** | **0.0** | **6.99** | **0.00** | |
| 10:50 | **0.3** | **19.69** | **-0.1** | **8.00** | **-0.03** | **-266** | **6** | **2.99** | **-1.4** | **8.6** | **21.10** | **0.00** | **0.0** | **0.16** | **0.0** | **6.99** | **0.00** | |
| 10:55 | **0.3** | **19.72** | **-0.15** | **8.02** | **-0.02** | **-268** | **2** | **3.03** | **-1.3** | **8.5** | **1.16** | **0.00** | **0.0** | **0.16** | **0.0** | **6.96** | **0.03** | |
| 11:00 | **0.3** | **19.74** | **-0.1** | **8.03** | **-0.01** | **-268** | **0** | **3.05** | **-0.7** | **7.9** | **7.06** | **0.00** | **0.0** | **0.16** | **0.0** | **6.95** | **0.01** | |
| 11:05 | **0.3** | **19.89** | **-0.76** | **8.05** | **-0.02** | **-269** | **1** | **3.09** | **-1.3** | **8.0** | **-1.27** | **0.00** | **0.0** | **0.16** | **0.0** | **6.96** | **-0.01** | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 6 Final Water Level: 6.95 Final Well Depth: 15.70

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log

Color of GW: Clear brown tint

Sample ID: 140-MW-09-100217 @11:08

Sample ID: 140-MW-09-100217F @11:12

Odor:

Other:

Sample ID: 140-MW-09-100217FA @11:19

Sample ID:

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of

**Job Number:** 3480160515.6100.61001 **Well Number:** 140-MW-10

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 14

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ - ___ ) x ___ ² x ___ x 0.0408 = ___ Gallons

TD WL D No. Volumes Calculated Purge Volume

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 12.5

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 6.61 Time: 9:13 Date: 10/2/2017

Serial Number: 21135 Depth to Bottom of Well: 14 PID Reading (inside of Casing): 0

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/3/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: _____ (Signature) Sampled By: Sean T Rittinger Purge Start Time: 9:12

| Time | Rate x lpm gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 9:15 | 0.2 | 19.21 | - | 7.66 | - | 65 | - | 1.58 | - | 18.4 | | 1.21 | - | 0.08 | - | 7.21 | - | |
| 9:20 | 0.2 | 19.12 | 0.469 | 7.96 | -0.3 | -115 | 180 | 1.53 | 3.2 | 4.5 | 75.54 | 0.00 | 100 | 0.08 | 0.0 | 7.41 | -0.2 | |
| 9:25 | 0.2 | 19.14 | -0.1 | 8.17 | -0.21 | -139 | 24 | 1.48 | 3.3 | 0 | 100 | 0.00 | 0.0 | 0.07 | 0.0 | 7.56 | -0.1 | |
| 9:30 | 0.2 | 19.21 | -0.37 | 8.44 | -0.27 | -146 | 7 | 1.42 | 4.1 | 0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.69 | -0.1 | |
| 9:35 | 0.2 | 19.21 | 0 | 8.50 | -0.06 | -148 | 2 | 1.41 | 0.7 | 0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.74 | 0.0 | |
| 9:40 | 0.2 | 19.20 | 0.052 | 8.61 | -0.11 | -151 | 3 | 1.40 | 0.7 | 0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.79 | 0.0 | |
| 9:45 | 0.2 | 19.22 | -0.1 | 8.75 | -0.14 | -153 | 2 | 1.38 | 1.4 | 0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.84 | 0.0 | |
| 9:50 | 0.2 | 19.30 | -0.42 | 8.83 | -0.08 | -153 | 0 | 1.35 | 2.2 | 0.0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.86 | 0.0 | |
| 9:55 | 0.2 | 19.30 | 0 | 8.91 | -0.08 | -154 | 1 | 1.34 | 0.7 | 0.0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.90 | 0.0 | |
| 10:00 | 0.2 | 19.24 | 0.311 | 8.98 | -0.07 | -156 | 2 | 1.33 | 0.7 | 0.0 | 0.00 | 0.00 | 0.0 | 0.07 | 0.0 | 7.93 | 0.0 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 4.5 Final Water Level: 7.72 Final Well Depth: 13.98

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other: CR, XCR7199

Sample ID: 140-MW-10-100317 @10:05 Sample ID: 140-MW-10-100317F @10:10

Groundwater Sampling Form **Job Name:** HW SA-6 Page: 1 of 1

**Job Number:** 3480160515.6100.61001 **Well Number:** 163-MW-02R

## WELL PURGING INFORMATION

**PURGE VOLUME**

Low Flow Method:

3 to 5 Volume Purge Method:

Number of Well Volumes to be Purged:

Well Type: Monitor Other

Well Material: PVC Stainless Steel Steel

Casing Diameter (D in Inches): 2

Well Depth (ft BTOC): 17.3

Screen Interval in Feet (BTOC) from 2 to 11

**PURGE METHOD**

Bailer - Type:

Submersible Centrifugal

Bladder Peristaltic

**PURGE VOLUME CALCULATIONS**

( ___ (TD) - ___ (WL) ) x ___ (D)$^2$ x ___ (No. Volumes) x 0.0408 = ___ Gallons (Calculated Purge Volume)

Purge Water Disposal: Drum Type Other On site treatment system

Size

**PUMP INTAKE SETTING**

Pump Depth (ft BTOC): 15

## INSTRUMENT IDENTIFICATION RECORD AND FIELD MEASUREMENTS

Instrument Type: Horiba U-52 Depth to Water: 8.41 Time: 9:27 Date: 10/2/2017

Serial Number: 21073 Depth to Bottom of Well: 17.3 PID Reading (inside of Casing): 1.6

For Calibration Information, See Instrument Calibration Record Sheet Dated: 10/3/2017

## FIELD PARAMETER MEASURMENTS

Recorded By: _____ (Signature) Sampled By: Sean T Rittinger Purge Start Time: 12:33

| Time | Rate x lpm / gpm | Temp (°C) | | pH (S.U.) | | Redox (mV) | | Cond. (ms/cm) | | Turbidity (NTUs) | | Diss. $O_2$ (mg/L) | | Salinity (%) | | Depth to Water (ft) | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | Reading | Change | |
| | | 3% | | 0.1 Unit | | 10 mV | | 3% | | 10% | | 10% | | NA | | 0.3 ft | | |
| 12:35 | 0.2 | 20.00 | - | 7.57 | - | -72 | - | 1.61 | - | 18.0 | | 3.93 | - | 0.08 | - | 8.82 | - | |
| 12:40 | 0.2 | 17.79 | 11.05 | 7.03 | 0.54 | -54 | -18 | 1.49 | 7.5 | 0.0 | 100 | 0.00 | 100 | 0.07 | 0.01 | 8.82 | 0.0 | |
| 12:45 | 0.2 | 17.52 | 1.518 | 6.94 | 0.09 | -51 | -3 | 1.52 | -2.0 | 0.0 | 0.0 | 0.00 | 0.0 | 0.07 | 0.00 | 8.82 | 0.0 | |
| 12:50 | 0.2 | 17.54 | -0.11 | 6.90 | 0.04 | -47 | -4 | 1.56 | -2.6 | 0.0 | 0.0 | 0.00 | 0.0 | 0.07 | 0.00 | 8.82 | 0.0 | |
| 12:55 | 0.2 | 17.54 | 0 | 6.88 | 0.02 | -45 | -2 | 1.64 | -5.1 | 0.0 | 0.0 | 0.00 | 0.0 | 0.08 | -0.01 | 8.82 | 0.0 | |
| 13:00 | 0.2 | 17.59 | -0.29 | 6.87 | 0.01 | -49 | 4 | 1.73 | -5.5 | 0.0 | 0.0 | 0.00 | 0.0 | 0.08 | 0.00 | 8.82 | 0.0 | |
| 13:05 | 0.2 | 17.65 | -0.34 | 6.90 | -0.03 | -48 | -1 | 1.70 | 1.7 | 0.0 | 0.0 | 0.00 | 0.0 | 0.08 | 0.00 | 8.82 | 0.0 | |
| 13:10 | 0.2 | 17.71 | -0.34 | 6.88 | 0.02 | -45 | -3 | 1.71 | -0.6 | 0.0 | 0.0 | 0.00 | 0.0 | 0.09 | -0.01 | 8.82 | 0.0 | |
| 13:15 | 0.2 | 17.68 | 0.169 | 6.89 | -0.01 | -46 | 1 | 1.74 | -1.8 | 0.0 | 0.0 | 0.00 | 0.0 | 0.09 | 0.00 | 8.82 | 0.0 | |
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Note: > = Greater Than < = Less Than NM = Not Measured EF = Equipment Failure

Final Water Purged (gal): 4 Final Water Level: 8.48 Final Well Depth: 17.28

## OBSERVATIONS DURING WELL PURGING

Well Condition: See well inspection log Odor: None

Color of GW: Clear Other:

Sample ID: 163-MW-02R-100317 @13:20 Sample ID: 163-MW-02R-100317f @13:25

# APPENDIX D

# LABORATORY ANALYTICAL REPORTS
# (PROVIDED ON COMPACT DISC)

# APPENDIX E

# DATA MANAGEMENT PLAN

# APPENDIX H-2

# DATA MANAGEMENT PLAN

STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NJ

AND

STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NJ

*Prepared for*

Honeywell

101 Columbia Road
Morristown, New Jersey 07962

*Prepared by*

AMEC Environment & Infrastructure, Inc.
200 American Metro Boulevard, Suite 113
Hamilton, New Jersey 08619

**JUNE 2012**

**(NOT REVISED FOR THE JUNE 2013 SUBMITTAL)**

# TABLE OF CONTENTS

# 1.0 INTRODUCTION

This Data Management Plan (DMP) (Part 2 of the Data Validation Plan) was prepared by AMEC Environment & Infrastructure, Inc. (Amec) on behalf of Honeywell International Inc. (Honeywell), who is conducting environmental investigation and remediation activities at Study Area 6 North (SA-6 North: Sites 087 and 088) and at Study Area 6 South (SA-6 South: Sites 073, 124, 125, 134, 140, and 163), located in Jersey City, Hudson County, New Jersey (Site). This DMP establishes guidelines and minimum requirements for the management of data during the performance of the Chromium Remedial Action at the Sites. This DMP was prepared as part of the Chromium Remedial Design for the implementation of remedial activities associated with chromium contamination at both SA-6 Sites. This DMP is **Appendix H-2** of the SA-6 North Chromium Remedy 100% Design Report. Additional background information pertaining to the SA-6 North and SA-6 South Sites are found in the SA-6 North and SA-6 South Chromium Remedy 100% Design Reports.

# 2.0 DATA MANAGEMENT STANDARD OPERATING PROCEDURES (SOPs)

## 2.1 STANDARD OPERATING PROCEDURES

The data management process will include Standard Operating Procedures (SOPs)necessary to ensure consistent and complete collection of field data, tracking of the laboratory analytical and validation processes, consistent and timely production of electronic data deliverables (EDDs) from participating laboratories, and accurate and timely entry of EDDs into the Locus Technologies Environmental Information Management (EIM) system. Honeywell SOPs that have been developed for data management activities are listed below.

List of Honeywell SOPs and Reference Documents (Refer to **Appendix A** of this report.)

**SOPs**

- SOP 1: EIM Implementation
- SOP 2: Structural Database Settings
- SOP 3: Site Settings
- SOP 4: General Procedures for Entering Sample collection, Chain of Custodies, and Related Information
- SOP 5: Managing the Sampling Program
- SOP 6: Laboratory Reporting Requirements
- SOP 7: Uploading Analytical Data (eUpload)
- SOP 8: Valid Values
- SOP 9: Reporting, Retrieval and Output Options
- SOP 9.5: Creating Cross-Tab Reports
- SOP 10: Access Rights and User Privileges
- SOP 11.5: Legacy Data Migration Guidance
- SOP 12: Creating Boring Logs in EIM

**Reference Documents**

- Site Database Setup Steps
- Creating Deviation Reports
- Using EIM SVG
- Using EIM GIS Query Link Tools

- Honeywell Valid Values
- Using MS Access with Locus EIM via ODBC
- Electronic Chain of Custody with Honeywell Valid Values – Standard
- Electronic Chain of Custody with Honeywell Valid Values – Air Sampling Version

## 2.2 RACI MATRIX

The RACI matrix attached as **Table 1** assigns Responsibility, Accountability, Consulted, and Informed (RACI) roles for tasks associated with the Honeywell data management process using Locus EIM. Each task listed below is assigned one accountable (A) individual, one or more responsible (R) individuals (those who do the work) and others who will be consulted (C) or informed (I) concerning the action.

## 2.3 DATA MANAGEMENT TEAM CONTACT INFORMATION

Please contact the following personnel if you have questions regarding the data management processes described in this section. Contact information is provided for all personnel listed in the attached RACI matrix.

| Function | Name | Company | Phone | Email |
|---|---|---|---|---|
| Remediation Manager | Maria Kaouris | Honeywell | 973-455-3302 | Maria.Kaouris@honeywell.com |
| Technical Lead | Deborah Barsotti | Amec | 609-631-2902 | deborah.barsotti@amec.com |
| Program Manager | Ed Gaven | Amec | 609-631-2905 | ed.gaven@amec.com |
| Project Manager | Dennis Nagg | Amec | 609-631-2928 | dennis.nagg@amec.com |
| Engineering Manager | Joe Clifford | Amec | 973-455-4163<br>609-631-2903 | joseph.clifford@amec.com |
| Quality Assurance Officer | Ted Toskos | Amec | 609-689-2829 | theodoros.toskos@amec.com |

| Function | Name | Company | Phone | Email |
|---|---|---|---|---|
| Design Manager | Steven Mitchell | Amec | 207-828-3418 | steven.mitchell@amec.com |
| Data Management Procedures | William Colby-George | Amec | 207-828-3650 | william.colbygeorge@amec.com |
| Locust Implementation | William Colby-George | Amec | 207-828-3650 | william.colbygeorge@amec.com |
| Data Manager | Vanthuy Lieu<br>Andrew Shust | Amec | 609-631-6376<br>609-631-2921 | vanthuy.lieu@amec.com<br>andrew.shust@amec.com |
| EDD Uploader | Vanthuy Lieu<br>Andrew Shust | Amec | 609-631-6376<br>609-631-2921 | vanthuy.lieu@amec.com<br>andrew.shust@amec.com |
| Locus Contact | Marian Carr | Locus Technologies | 925-906-8100 | carrm@locustec.com |
| Laboratory Coordination | Rene Surgi | AESI | 847-835-0983 | renesurgi@aol.com |
| Laboratory Contact | Marty Vitanza | Accutest | 732-329-0200 | martyv@accutest.com |
| Validation Managers | Chris Ricardi<br>Christina Jensen | Amec<br>Validata | 207-828-3694<br>206-361-8249 | christian.ricardi@amec.com<br>cjvalidata@msn.com |

## 2.4 DATA PROCESS FLOW DIAGRAM

A data process flow diagram is attached as **Figure 1**.

## 2.5 FIELD DATA COLLECTION AND INPUT

Field measurement data will be collected using pre-formatted datasheets. The datasheets are meant to facilitate accurate and efficient data collection and entry. Amec personnel will provide a copy of the datasheet formats to the site data manager for review prior to conducting field work. On a daily basis, completed datasheets will be faxed to EDD Uploader for data entry into the Locus EIM system and for QC of the field data following entry to Locus EIM.

Field data will be batch imported to Locus EIM using existing electronic data deliverable (EDD) formats. The field data EDD formats currently available are listed below and can be found on Locus EIM under input/Data Upload.

When recording field measurements, at a minimum, the following information will be recorded:

- LOCATION_ID
- FIELD_SAMPLE_ID
- FIELD_MEASUREMENT_START_DEPTH
- FIELD_MEASUREMENT_END_DEPTH
- FIELD_MEASUREMENT_DEPTH_UNITS
- FIELD_MEASUREMENT_DATE
- FIELD_MEASUREMENT_TIME
- FIELD_PARAMETER
- FIELD_MEASUREMENT_VALUE
- FIELD_MEASUREMENT_UNITS
- FIELD_MEASUREMENT_INSTRUMENT
- FIELD_MEASUREMENT_COMMENTS

Field Data of a format not supported by EIM (such as site photographs) will be stored in the project files, along with supporting metadata such as author/creator of data, date, location, brief description.

Locus EIM EDD Field Data Import Formats include:

- Cone Penetrometer Test Data
- EIM Standard Field Measurements
- EIM Standard Groundwater Level Measurements
- EIM Standard Groundwater Level Measurements with NAPL Present
- EIM Standard Groundwater Level Measurements with NAPL Present: No Calculations Performed
- EIM Standard Lithology Information
- EIM Standard Location Information (includes sample/soil boring horizontal and vertical survey data)

- Solid Sample Attribute Information
- Collection Information for Solid Samples from Boreholes
- Aquifer/Well Perforation Zone Information
- EIM Standard Well Borehole Cross Reference
- EIM Standard Well Construction Details
- EIM Standard Well Information

The EIM Site IDs for Study Area 6 North are:

| NJDEP Site No. | NJDEP Site Name | Block 21901 (formerly 1290.1) Lot # | Address |
|---|---|---|---|
| 087 | Jersey City Incinerator Authority | 9 and 10 (formerly 2D, 2E) | 555 and 575 Route 440 |
| 088 | JCIA Well Site | 5 (formerly 16A.99) | 501 Route 440 |

Note: Block 1290.1 is also referred to as Block 1290.A in earlier deeds. Lot 16A.99 previously designated as individual lots 15B, 15D, and 16A

The EIM Site IDs for Study Area 6 South are:

| NJDEP Site No. | NJDEP Site Name | Block 24601 (formerly 1290.1) Lot # | Address |
|---|---|---|---|
| 073 | Degen Oil | 1 (formerly 11W) | 288 Kellogg St. |
| 124 | Roosevelt Bowling Lanes | 8 (formerly 20) | 427 Route 440 |
| 125 | Delphic Consolidated | 7 (formerly 19) | 60 Kellogg St. |
| 134 | Old Dominion | 3, 4, & 5 (formerly 11H, 11Y, 17) | 100 Kellogg St. |
| 140 | ABF Trucking | 6 (formerly 18) | 80 Kellogg St. |
| 163 | Posnak & Turkish | 11 (formerly Lot 9H) | 75 Kellogg St |

Note: Block 1290.1 is also referred to as Block 1290.A in earlier deeds. Additionally, recent correspondence from the Jersey City Tax Assessor's Office indicates that Block 1290.1 is now 24601 and Lot Numbers have been changed as indicated in the table.

In addition to the above six (6) Sites, there are two additional properties, the Cordova Property (Block 1290.1, Lots 10E and 10H) and the Boatyard Property

(Block 1290.1, Lots 9L), which are included in SA-6 South. These properties do not have NJDEP Site numbers. Because of their proximity to adjacent sites, samples collected on the Cordova Property are identified as samples from Site 124 and samples collected on the Boatyard Property are identified as samples from Site 134 (see Section 2.7).

## 2.6 FIELD SAMPLES COLLECTED FOR LABORATORY ANALYSIS

Field samples will be labeled using the sample nomenclature detailed in the following section. The chain of custody for the samples will be completed as shown on the example chain of custody (**Appendix B**). The field sample identification shown on the sample labels will match the chain of custody. Each sample identification shown on the chain of custody will be unique. Analytical method and parameter requests will be explicitly identified on the chain of custody and must match the valid values in Locus EIM. If an analytical method or parameter of interest is not present in the list of valid values, the laboratory coordinator must be contacted for resolution.

## 2.7 CHAIN OF CUSTODY AND FIELD SAMPLE NOMENCLATURE

A systematic chain of custody and field sample identification nomenclature has been developed. Consistent nomenclature has been designed to facilitate entry, management and manipulation of field and analytical data in the Honeywell EIM system.

The chain of custody number will also be unique and will be identified as follows:

**XXX – YYYYYY – ZZ**

Where:

| | |
|---|---|
| **XXX** | **=** Honeywell site ID# |
| **YYYYYY** | **=** Date of sample collection (051504 would designate May 15, 2004) |
| **ZZ** | = sequential sheet # |

Chains of Custody will be filled out electronically and emailed to Amec (Site Data Manager) for data entry in Locus EIM on a daily basis.

Field sample identification for the Hudson County Chromium Sites will include the site number, media type, and sequential sample number as follows:

**XXX – TT – ZZZ- ####**

Where:

| | |
|---|---|
| **XXX** | = Honeywell site ID # |
| **TT** | = Media Type (i.e., SB for soil boring, MW for monitoring well, WC for waste classification, WW for wastewater, TW for temporary well point, etc.) |
| **ZZZ** | = sequential sample number beginning with 001 |
| #### | = suffix with sample information such as depth (i.e., 0204) or duplicate (D). |

## 2.8 LABORATORIES

Laboratories will provide an electronic data deliverable (EDD) to Amec (Site Data Manager) within the agreed upon turnaround time. The EDD will match the Locus EIM analytical results EDD format, and will be error free with respect to sample identification, analytical method, and parameter values. The laboratory will supply Amec (Site Data Manager) with a hard copy of the analytical report, and a validation package within 5 business days following delivery of the EDD. The laboratory will also supply a hard copy of the analytical report to a representative of Site Data Manager for QC of the analytical data uploaded to Locus EIM.

## 2.9 LABORATORY EDD UPLOAD

Amec EDD Uploader will upload analytical result EDDs prepared by the laboratories to the Locus EIM holding table within 3 business days of receipt of the EDD. Deficient EDDs will not be uploaded to the holding table, but rather will be returned to the laboratory for correction. Corrected EDDs will be due to Amec within 3 business days or within a timeframe agreed upon between the laboratory and the Amec EDD Uploader. Returning the EDDs to the laboratory for correction prior to upload minimizes discrepancies between hard copy analytical reports and analytical data uploaded to Locus EIM.

## 2.10 VALIDATION

The analytical data present in the holding table will be validated within 30 days of the EDD upload date. Following validation the analytical results will be moved from

the holding table to the Field Sample Results table in Locus EIM where they become available for user output requests. At a minimum, ten percent of the analytical results will receive a Honeywell Level IV validation and a validation report will be prepared for each sample delivery group.

## 2.11 QUALITY CONTROL

The project QC representative will obtain hard copy analytical reports and completed field data sheets. Ten percent of the analytical data and field data entered and uploaded to Locus EIM will be compared against hard copy.

## 2.12 USER OUTPUTS

Potential users of the Locus EIM system will be identified, given permissions to access the system, and be provided with training. Anticipated outputs for the project will be specified by the Remediation Manager or the Project Manager, and plans will be made to develop custom outputs internally or have Locus Technologies develop standard outputs.

TABLE

# Table 1 – RACI Matrix

Each task listed below is assigned one accountable (A) individual, one or more responsible (R) individuals (those who do the work) and others who will be consulted (C) or informed (I) concerning the action.

| Item # | Activities | Mafia Kaouris, Honeywell | Ed Gaven/Dennis Nagg, AMEC | Vanthuy Lieu; Andrew Shust, AMEC | Data Validator | William Colby-George, AMEC | Rene Surgi, AESI | Laboratories | Locus Focus |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| 1 | LF Implementation Proposal | I | | | | A,R | | | |
| 2 | Naked EIM with Honeywell valid values | | | I | | I | | | A,R |
| 3 | SVG map import | | | I | | C,I | | | A,R |
| 4 | Abbreviated Data Management Plan | I | C,I | A,R | | C,I | I | | |
| 5 | Laboratory approval | | C,I | I | | | A,R | I | |
| 6 | Historical soil analytical import | | | | | | | | |
| 7 | 25% QC of historical soil analytical | | | | R | | | | |
| 8 | Historical groundwater analytical import | | | | | | | | |
| 9 | 25% QC of historical groundwater analytical | | | | R | | | | |
| 10 | Historical groundwater liquid levels import | | | | | | | | |
| 11 | Historical groundwater field parameters import | | | | | | | | |
| 12 | Monitor well construction data import | | | | | | | | |
| 13 | Monitor well TOC survey data import | | | | | | | | |
| 14 | Boring log data import- NA | | | | | | | | |
| 15 | Contact data (consultants, client, regulators, etc.) | | A,R | I | | | | | |
| 16 | Site specific action limits | | A.R | I | | | | | |
| 17 | Historical air discharge analytical import | | | | | | | | |
| 18 | 25% QC of air discharge analytical | | | | R | | | | |
| 19 | Historical air discharge monitoring data import | | | | | | | | |
| 20 | Historical groundwater discharge analytical import | | | | | | | | |
| 21 | 25% QC of groundwater discharge analytical | | | | R | | | | |
| 22 | Historical groundwater discharge monitoring data import | | | | | | | | |
| 23 | DMR module implementation (if applicable) | | | | | | | | |
| 24 | eWell implementation | | | | | | | | |
| 25 | Work Plan | I | A,R | | | | | I | |
| 26 | Sampling and Analysis Plan- ACC | | A,R | | | | C,I | I | |
| 27 | Quality Assurance Plan ACTD | | A,R | I | | | | | |
| 28 | L-F Sample Planning w/ Electronic COC | | C,I | A,R | | | C | I | |
| 29 | Sampling coordination & preparation | | I | | | | | A,R | |
| 30 | Sample & field data collection | | C,I | I | | | | A,R | |
| 31 | Upload eWell data | | | | | | | | |
| 32 | Submit COC for upload | | I | I | | | | A,R | |
| 33 | Review COC and field data prior to L-F input | | | A,R | | | | | |
| 34 | Input COC and field data to L-F | | | A,R | | | | | |
| 35 | Send COC text file to lab | | | A,R | | | | I | |
| 36 | Archive COC | | | A,R | | | | | |
| 37 | Laboratory sample receipt confirmation | | | I | | | A | R | |
| 38 | Laboratory EDD preparation including EDD Checker | | | I | | | A | R | |
| 39 | Compare laboratory confirmation against COC | | | A,R | | | | | |
| 40 | 10% QC laboratory EDD against laboratory hard copy report | | | A,R | R | | | | |
| 41 | Archive hard copy lab report | | | A,R | | | | | |
| 42 | Upload laboratory EDD to L-F | | I | A,R | | | | | |
| 43 | Resolve laboratory EDD errors | I | | A,R | | | I | I | |
| 44 | Archive laboratory EDD (outside L-F) | | I | A,R | | | | | |
| 45 | Manage unvalidated analytical data | | I | A,R | | | | | |
| 46 | Validate analytical data in L-F | | I | A,R | | | | | |
| 47 | Review validation flags and lab issues | | | R | | | I | I | |
| 48 | Resolve issues with laboratory contract compliance | | | I | | | A,R | I | |
| 49 | Manage data output requests | I | I | A,R | | | | | C |
| 50 | Manage requests for data changes | I | C,I | A,R | | | | | |
| 51 | Maintain L-F site setup including valid values | | | A,R | | | | | |
| 52 | Manage new L-F data requirements | I | | A,R | | | | | C |
| | | | | | | | | | |

FIGURE

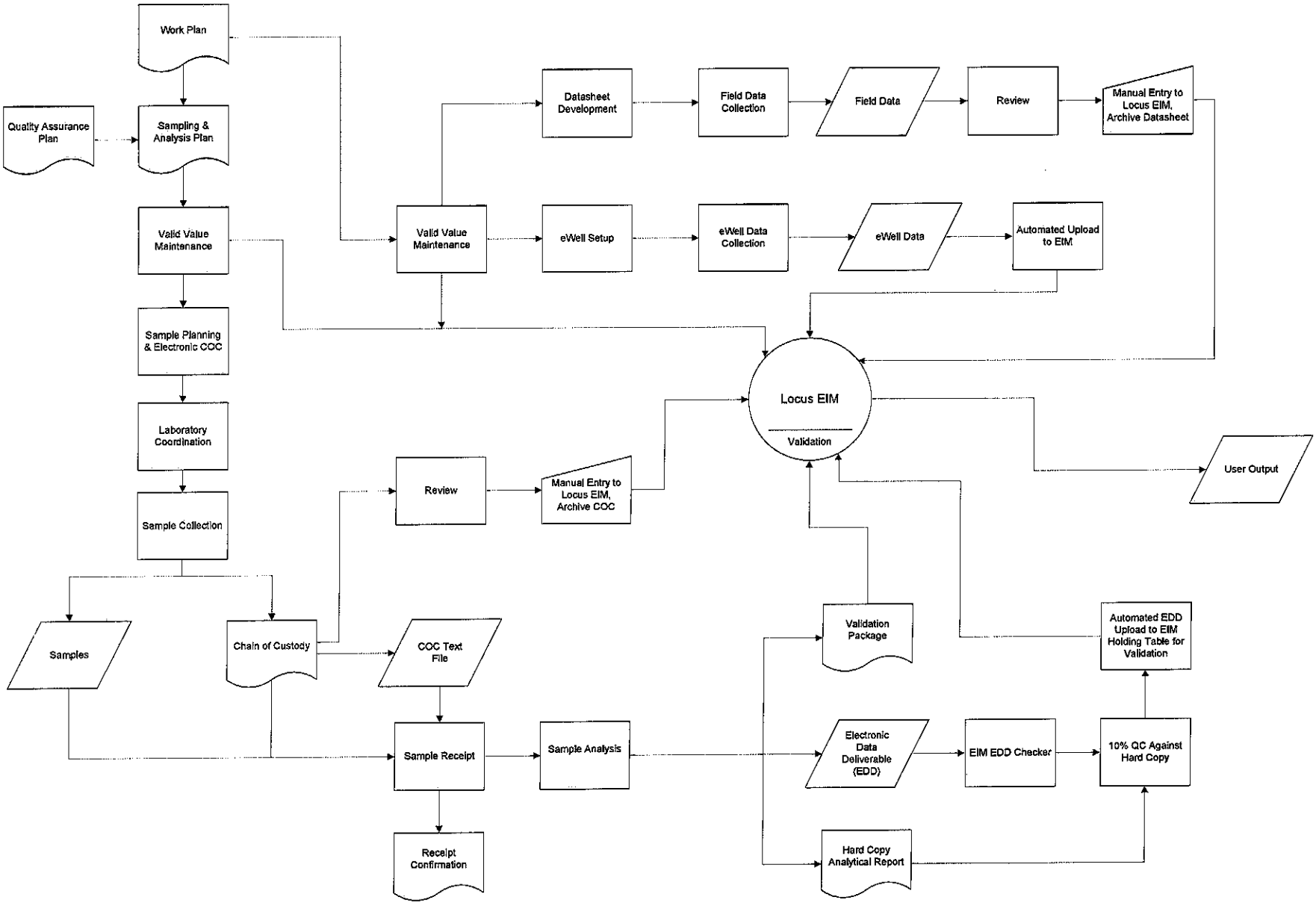


Figure 1 – Generic Data Management Process Flow Diagram

# APPENDICES

# APPENDIX A

# LIST OF HONEYWELL SOPS AND REFERENCE DOCUMENTS

LocusFocus℠

ENVIRONMENTAL INFORMATION MANAGEMENT

**LocusFocus EIM™ Training**

http://www.locustec.com/eim

# *Standard Operating Procedures — Highlights —*

**March 17, 2004**

Locus TECHNOLOGIES

Honeywell

—HIGHLIGHTS—

# SOP 1 – EIM IMPLEMENTATION

## Definition:

Project activities conducted prior to migrating site to EIM, including:

- Timing data migration based on project activities and upcoming field events
- Determining what legacy data to migrate
- Defining data management approaches or creating data management plans
- Ensuring proper resources and training
- Discussing reporting or output requirements
- Assessing QA/QC and data validation requirements
- Determining management and oversight processes.

## What Data Types Can Be Migrated To EIM?

EIM manages a wide range of data types and can be expanded if needed. Data guidance can be obtained from Locus and both electronic and hard copy can be migrated. Current data types include:

- Analytical data, including QC data, water levels, and soil gas
- Geologic data and lithology, well construction, cone penetrometer data
- Field parameters (such as pH and dissolved oxygen)
- Locations

## What Are The EIM Implementation Steps?

| *EIM™* Implementation Checklist | Reference |
|---|---|
| **Preliminary Step:**<br>• Honeywell Environmental Data Management Plan | Honeywell Data Management Plan |
| **Step 1: Review:**<br>• Site Data Requirements<br>• Reporting Requirements<br>• Data Review/Analysis Requirements<br>• Administrative Oversight, Management Requirements<br>• QA/QC Requirements | SOP 1<br>SOP 3<br>SOP 9<br>SOP 4<br>SOP 5, 9<br>SOP 4, 7 |
| **Step 2: Identify:**<br>• Database Users & Access Privileges | SOP 10 |
| **Step 3: Determine**<br>• Database Structure and Applicable Settings<br>• Site Settings<br>• Valid Values | SOP 2<br>SOP 3<br>SOP 8 |
| **Step 4: Communicate:**<br>• Analytical Reporting Requirements to Laboratories and "Zero Tolerance" of EDD Errors<br>• New Procedures to Team Members | SOP 6<br>SOP 6<br>DMP & SOPs |
| **Step 5: Setup**<br>• Location Groups, Analytical Groups, etc. | SOP 3 -5 |
| **Step 6: Implement**<br>• Feedback Systems<br>• Notification Procedures<br>• Best Practices | SOP 1 & 10 |

Honeywell

—HIGHLIGHTS—

# SOP 2: STRUCTURAL SETTINGS

**Definition:**

**Database Settings** allow database administrators to custom configure EIM™ to control how information is stored in the database and how data reside in a structural setting (i.e., which database tables, how many and of what types). For most users, the importance of **Database Settings** is limited to how the configuration of the database will either limit or enable users to tailor aspects of EIM™ to accommodate differences in the data management requirements among various sites or on an individual site basis.

**How Honeywell EIM is Set Up:**

The Honeywell EIM is one database with multiple individual sites (such as Portland, Waste Beds, Eatontown, etc.). In EIM terms, it is a multi-site database. As such, it allows certain settings to be configured for all sites, and allows certain types of cross-site analyses.

**Database Option Settings:**

Because the Honeywell EIM is a multi-site database, sites can share certain setups, such as action limits, parameter displays, and QA program settings. Ask Locus about sharing these types of settings when setting up a new site.

EIM is also set up with options for sites to configure site or project specific structural database settings for the purpose of customizing how data are presented in the database.

Databases have certain innate "rules" in how data are presented. Often these "rules" can make intuitive use of the database more difficult. EIM has the ability for users to configure these types of reporting and grouping options to make output and reporting easier. EIM comes "set up" with options "flagged" to allow individual sites the ability to configure options.

**Different Settings in EIM:**

Honeywell's EIM will let sites share or have site specific settings for

| | |
|---|---|
| Custom Columns | Default Values |
| Reporting Units | Parameter Lists |
| Location and Parameter Sort Options | Lab and Lab Method Lists |
| Valid Value and Action Limit Lists | Validation Settings |
| Parameter Groups/Sequences | Project Analytical Groups |
| QA Program Set Up | Solid Sample Parameters and Well with Multiple Screens |

**How to Use Settings:**

For most EIM users, database settings will be in the background and no action or changes will be necessary. "Super Users" must work with the project team to develop database settings that will provide a greater level of flexibility and customization to meet project requirements. For assistance with any structural settings, contact Locus who will both explain the options and help users create settings to meet project needs and requirements.

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

Honeywell

—HIGHLIGHTS—

# SOP 3- SITE SETTINGS

**Definition:**

Administrators use **Site Settings** to configure EIM™ to uniquely manage and process the data from each of the sites in a database. **Site Settings** tailor certain aspects of EIM™ to accommodate differences in the data management requirements among various sites or on an individual site basis. ***Only individuals with Administrator privileges will be able to view and access site settings***.

**Site Settings** are used to determine, for example:

- Which versions of various screens are displayed
- How dates are formatted
- Whether location aliases exist and are to be used
- How EDDs in general, and analytical data uploads in particular, are to be processed

**Site Setting Options:**

The following options can be set up for individual sites in the database:

- Chain of Custodies
- Date format (primarily for data entry or for reporting)
- Location aliases
- Number of locations at site
- Review EDDs before upload to destination tables
- Track changes to analytical data
- Track laboratory analyses
- Validate analytical data

Each of these options has settings that can be adjusted for site-specific reporting and data analysis needs.

**Key Site Settings for Quality Assurance:**

**Manual Review of EDDs** - The site can be set up to require that all EDDs being uploaded require a review and manual upload to the database. This will impose an extra review step before EDDs are submitted to the database but is recommended curing implementation of new projects.

**Track Changes to Analytical Data** - Use this option to record any changes that are made to analytical EDDs after they have been inserted into their destination tables. The information that EIM tracks when this option is activated includes the name of the individual who made the change, and the date, nature of, and reason for the change.

**Track Laboratory Analyses** – Allows users to track each line item on a COC.

**Validate Analytical Data** – Allows sites to validate analytical data using EIM with several options for the type and level of validation checks.

**Default Settings:**

Each Honeywell site is set up by default to create an audit trail for deletion of EDDs and requires manual EDD review. For assistance setting up validation settings, contact Locus.

Honeywell

—HIGHLIGHTS—

# SOP 4 – GENERAL PROCEDURES

**Definition:**

The key steps and information needed to enter sample collection, chain of custodies and other data and information into EIM. Most information is entered to EIM via electronic data deliverables (EDDs) or by using data entry forms in EIM. Most data entry can be printed and QC'ed.

**Enter Sample Information Before Loading EDDs:**

EIM requires that certain information be **set up in advance** before data can be entered. The following information must be set up in the EIM database for each sample before field or analytical results can be entered:

- Sample ID – Must be unique for regular and QC samples
- Location ID (or name) – must be unique
- Sample date and time
- Sample purpose – regular, blank, duplicate, etc.
- Sample matrix – air, water, soil, etc.
- Sample type – groundwater, soils, air, sludge, etc.

This information is entered using [**INPUT, SAMPLES, FIELD SAMPLES**]

**Enter Water Levels:**

Four fields are required:

- Location ID
- Measurement Date and Time
- Dry – Yes/No

Data entry forms are found at [**INPUT, SUBSURFACE, GROUNDWATER LEVELS**].

**Enter Chain of Custody Information:**

Entering COC information is optional beyond the information required as part of the basic sample entry (see above). However, entering more information, such as the **COC number**, **shipping date**, and **lab**, as well as the individual samples and/or requested analyses appearing on each COC will help projects use the full functions of EIM to track samples, QC partners, and other important information.

**Printing COCs and Sample Labels (Optional):**

Custom COCs and samples can be developed in EIM to expedite sampling activities. Evaluate if automated COCs and labels make sense for your project.

**Enter Field Measurements:**

EIM has several options for users to input field measurements such as pH, temperature, and conductivity. These data are entered via forms in EIM navigating to **[INPUT, SAMPLES, FIELD MEASURMENTS].** *This process can be automated with eWell***.**

**Enter Lithology/Geology, CPT Data:**

EIM can store geology, well construction, and lithology data for boreholes and monitoring wells. Enter data at **[INPUT, SUBSURFACE, BOREHOLE INFO OR WELL INFO or CPT DATA]**.

**Confidential Data:**

EIM has the ability to flag sample results as confidential to limit access. Ask Locus for more information on confidential data management.

**Other Data:**

EIM is flexible and can be modified to manage additional data types. Check with Locus to evaluate the feasibility of adding additional data types.

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

Honeywell

—HIGHLIGHTS—

# SOP 5 – MANAGING THE SAMPLE PROGRAM

**Definition:**

The **Sample Planning Module** is option in EIM, but is strongly recommended for complex projects or recurring events. Sampling event coordinators or planners can use the Sample Planning Module to plan and schedule sampling events. These events can either be one-time events or events that occur at regular or irregular intervals, such as quarterly groundwater monitoring programs. Using the Sample Planning Module can be highly beneficial in managing your project and ensuring project objective are met.

**Why Use Sample Planning?**

Consider using Sample Planning for regular repeat sampling events, such as routine quarterly sampling. Advantages include:

- Fewer data entry errors
- Lower data entry costs
- Improved sample tracking for planned samples
- Better communications between field, lab, and office personnel
- Improved scheduling and work load-leveling

EIM's sample planning module is best used for large projects and routine, repeated sampling events where planning and one-time set up will provide cost-savings benefits. Scaling up for a remedial investigation phase, routine quarterly sampling, and O&M sampling are typical programs where sample planning can show real benefits.

**Required Information:**

Required information for setting up sample planning:

- Locations, types, matrices, sample purposes, and analyses
- Names and IDs of the laboratories scheduled to perform the analyses
- ***Project Analytical Groups*** to be able to use EIM's Sample Tracking features (see below)

**Build The Sampling Program:**

You build the sampling program by specifying analyses, including field QC samples that are to be performed on individual or groups of locations. For example, you might set up a sampling program for quarterly groundwater sampling for off-site wells as defined by a Location Group.

**Schedule the Samples:**

You can schedule the sampling events that will be displayed in EIM's calendar function to check what is planned and get information about the sampling events.

**Create and Store the Records:**

The final step is to use EIM's database engine to create and store individual records for each planned sample and each planned analysis. With this information, you can create **work lists**, **preprinted sample collection logs,** and **Chain Of Custody forms**.

**EIM's Two Types of Sample Tracking Features:**

1. **Lab Performance** - EIM can track whether a laboratory EDD reported all analyses that were requested. This is essential to ensure your project objectives are met and will help you avoid costly mistakes. This level of tracking requires that COC information on samples and analyses be recorded in EIM.

2. **Field Performance** - EIM's Sample Planning Module lets you track if you collected all the samples that were planned. This feature requires the project site database be set up properly using EIM's project analytical groups feature.

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

Honeywell

—HIGHLIGHTS—

# SOP 6 – LABORATORY REPORTING REQUIREMENTS

**Definition:**

Honeywell has defined requirements for analytical laboratories to produce, upon demand, electronic data deliverables (EDDs) for Honeywell projects. These requirements standardize all EDDs and specify valid values for parameters of interest at Honeywell sites. Laboratories are contractually required to deliver an error-free EDD.

**Why Standardize to an EIM Format EDD?**

Standard EDDs help save Honeywell money by decreasing the time to input data to EIM and creating standardized reporting for parameters across sites. Time to load a standard EIM EDD is just minutes. Time to load a non-standard EDD can take up to an hour.

**What Does The Standard EDD Specify?**

The Honeywell EDD is a 42-character ASCII file. A complete list of required fields is in **SOP 6, Laboratory Reporting Requirements**. The EDD contains both analytical results and the necessary laboratory quality assurance information to allow data validation. EDDs are produced by laboratory information systems and require coordination with the laboratory to ensure the EDD is in the correct format.

**Defined EDD Valid Values:**

Honeywell defined standard valid values or codes for the following elements to ensure standardization across sites:

- QC designations
- Parameter codes and parameters with no CAS numbers (such as pH)
- Laboratory qualifiers
- Various laboratory codes, such as sample purpose and result-type codes

**How To Get EIM EDDs:**

All Honeywell laboratory partners were sent the EDD specification and a means for testing in 2003. Laboratories affirmed they were able to produce the EDD and were provided a "self-checker" to ensure the format was correct.

In practice, laboratories must be notified in writing when you are ready to receive EIM EDDs and those EDDs must be tested to ensure they are in the correct format. EIM provides tools for both parties to check format.

We suggest you confirm the laboratory can produce EIM EDDs early in the process well before a deliverable is due, to ensure the laboratory is complying with Honeywell requirements.

**Important Note**: *It is the responsibility of the project data manager to ensure that the consultant has entered required sample information in the database prior to upload of the laboratory EDD*.

**Tools To Check EDDs:**

The EIM EDD Checker is available to all laboratories free of charge. The EIM eUpload module that allows users check and fix EDDs prior to loading.

**Important Note:** *Honeywell EIM is set up so that all EDDs are uploaded to temporary tables of the database when first loaded. They are not moved into the permanent database until the project database users approve the EDD. EIM does allow EDDs to be deleted, but EIM maintains an audit trail and copies of any deleted EDDs for additional security.*

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

Honeywell

—HIGHLIGHTS—

# SOP 7 – UPLOADING EDDS

**Definition:**

The process and functions associated with importing or "uploading" electronic data deliverables (EDDs) into the EIM system. EDDs can be from analytical laboratories (the most common) or be created for any other routine data upload such as field parameter, boring logs, well construction details, or survey locations. Each Honeywell site database has been pre-configured for the EIM EDD format (See **SOP 6, Laboratory Reporting Requirements**).

**Prerequisites for Uploading EDDs:**

Before EDDs can be uploaded, the project team must:

- Check and configure their EIM site database for valid values, and other set ups (ask Locus for help if needed)
- Inform the analytical laboratory to begin submitting EIM format EDDs
- Enter field sample information (ID of each sample, location, date and time, and type, purpose, and matrix

**Tools for Checking EDD Format – Labs:**

Locus has a web-based EDD checker that was provided to all laboratories for them to check if their EDDs met Honeywell format requirements. Labs can recheck their formats at anytime.

**Uploading EDDs to EIM:**

Project team data managers, Locus, or other EIM-trained individuals can upload EDDs. When EDDs are uploaded EIM will do the following:

- Perform checks on file format and identify areas where there are errors
- Allow you and others to view and edit the file
- Allow you to place EDDs in temporary tables until final approval
- Allow you to perform a range of checks to review data prior to loading to EIM, including QC checks

**Deleting EDDs:**

EIM will allow users above certain privilege levels to delete EDDs. To prevent data loss, EIM keeps a copy of the deleted data and creates an audit trail for any deleted data.

**Solving EDD Issues:**

When any project team begins receiving a new EDD format for a new process, there is typically some learning curve for both the vendor and laboratory partners. For this reason, allow some time for the project to coordinate with the laboratory and ensure the formats and valid values are correct. Once the laboratory has EDD formats down, most problems, if any, are easily solved by ensuring that required field sample information is in EIM before the EDDs are loaded. Locus's ***Common Analytical EDD Errors*** along with corrective actions is posted on www.myresinfo.com.

***Remember…help is available for EDD issues and most problems can be solved quickly by working with the labs and the project team.***

**Using EIM's EDD Formats To Standardize Any Routine Data Entry:**

EIM can automate any routine data entry by using user-created EDD formats. Any data from an electronic source (typically Excel files) can be standardized and new EDD formats created. Using EDDs will reduce data entry time and reduce data entry errors.

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—HIGHLIGHTS—

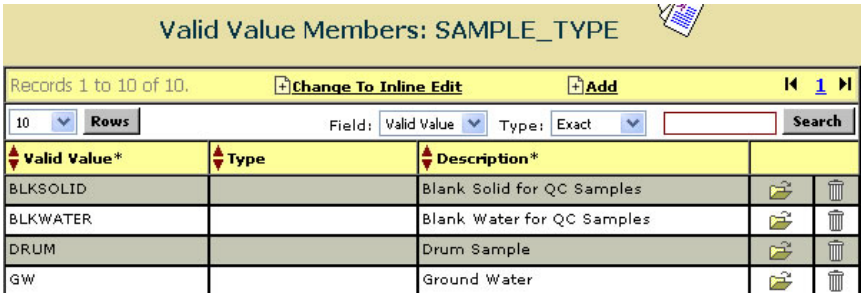
# SOP 8 – VALID VALUES

**Definition:**

Valid values are a critical element to the EIM system. Valid values are lists of values that determine the types of data, the range of values, the data labels, and the names that are accepted into the system. Honeywell has created a standard set of valid values for EIM (see **SOP 6, Laboratory Reporting Requirements)**. Valid values allow consistency across Honeywell site databases (e.g., all groundwater samples are coded the same, and all data validation qualifiers are coded the same) and allow Honeywell to perform queries across the databases. ***Valid values are a key element in maintaining the integrity and usefulness of any relational database*.**

**Typical Valid Value Types:**

EIM contains more than 60 different valid value categories to help manage data. Typical valid values include analytical method codes, aquifer names, sample matrix, sample type, validation qualifiers, drilling methods, etc. A list of the different valid value types are included in **SOP 8 – Valid Values**.




***Example of a typical EIM "grid" to add or edit new valid values. In this example, valid values are being defined for different location types on Honeywell sites.***

**Unit Conversions:**

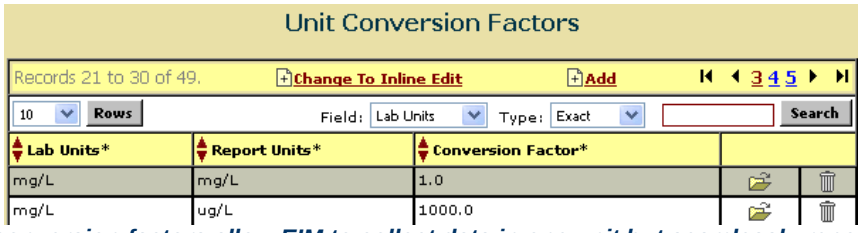
EIM has the ability to convert units received from electronic input to units that users want to see in reports. For example, the laboratories report data in µg/L, but you want to report consistently in mg/L. EIM will perform the conversions for you using ***valid value unit conversions***.

**Well Measurement Cross References:**

EIM has the ability track water levels, whether they are collected with a tape or a probe. Well measurement cross-references make this conversion so different measurement types will report information in reports in a uniform way for data analysis and reporting.

**Project & Task Valid Values:**

EIM lets users enter project and task names to help track samples and report data. These are site-specific valid values, and Honeywell can identify project codes and names to make reporting data easier.




***Unit conversion factors allow EIM to collect data in one unit but seamlessly report it in another unit once the Unit Conversion Factors are defined***

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

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—HIGHLIGHTS—

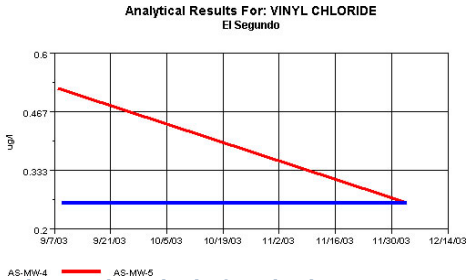
# SOP 9 – OUTPUT OPTIONS IN EIM

## Definition:

EIM has many ways to get data "out of EIM". Output options include pre-formatted reports, custom wizards, cross-tab reports, Scalable Vector Graphics (SVG), and various graphics options.

Output options are available in most of EIM's modules and are indicated by  a writing icon for a text file output and  icon for an output to Excel. The primary way to get data out of EIM is either with EIM's **Output Module** or SVG. Cross-tab reports are discussed separately in ***SOP 9.5 EIM Cross-Tab Outputs***.

## Types of Outputs in Output Module:




***Example trend analysis for single parameter at Honeywell Site***

EIM™'s **Output Module** has the following output options for EIM data:

- Standard queries
- Excel/ASCII Cross-Tab reports
- Custom queries
- Regulatory deliverables (NJDEP, Region V)
- Graphics
- Data quality
- Reports
- Utilities

## Types of Analyses EIM Can Easily Output:

EIM has many options to analyze data. Some options include:

- Calculate and display summary statistics
- Analyze trends
- Determine exceedances
- View subsurface data
- Create plots
- Perform advanced SQL queries
- Evaluate data quality and laboratory reports
- Create graphics including SVG and trend plots
- Holding times
- Custom reports such as DMRs or specialized exceedance reports

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

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—HIGHLIGHTS—

# SOP 9.5 - EIM CROSS-TAB OUTPUTS

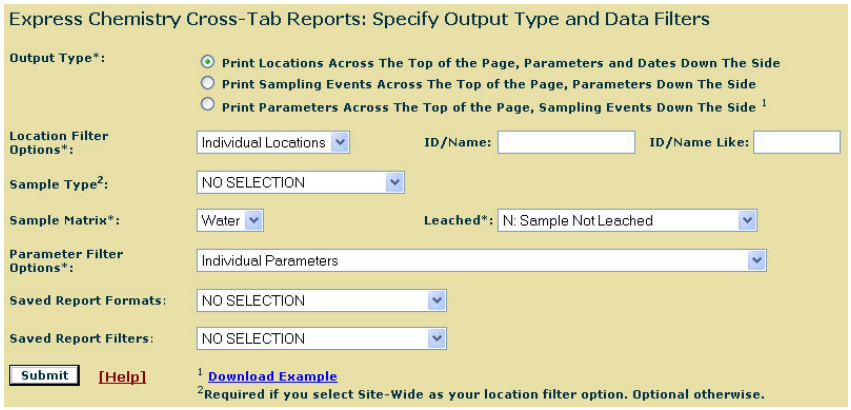
**Definition:**

A report in which the data are organized into columns and rows. Most Excel files are examples of Cross-Tab reports. They are the most common types of outputs people create from EIM and other programs. They give you a lot of options for outputs, data presentation, and formatting

**Types of EIM Cross Tab Reports:**

***Express Report*** – Quickly generated in one action by a single query to the database, which makes it a fast report to create especially for very large databases. Outputs only to ASCII and Excel.

***Standard Report*** - A different database query is required to populate each cell of the report, where a cell is the intersection of a column and a row. Standard reports always take more time to generate then express reports, but can be viewed on screen in EIM.




***Some of the many options for creating a custom cross-tab report***

**Types of Options For Defining the Cross-Tab Report:**

EIM provides many ways to filter the data and create very specific reports. Data filters include matrix, locations, sample types, output formats, parameters, and groups of parameters and locations. EIM also allows you to save report formats and filters to save report preparation time.

**Quickly Formatting the Cross-Tab Report For Presentation:**

Locus provides a free Excel add-in tool to help users quickly format cross-tab reports in Excel. This tool will take an EIM output, automatically format the spreadsheet, add logos, page breaks, etc for a quick professional report. This tool also includes an exceedance report tool to quickly generate an exceedance report compared to action limits defined in EIM. Formatting options include:

- Footers
- Logos
- Exceedances

A report suitable for a deliverable can be created quickly in a matter of minutes without any of the QC necessary when typically transcribing data from hard-copy sources.

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

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—HIGHLIGHTS—

# SOP 10 – ACCESS RIGHTS AND PRIVILEGES

## Definition:

**Access** - EIM controls access to the database through the use of registered users and individual passwords. No one can access any part of EIM without a user name and a password supplied by Locus.

**Privileges** – Defined levels to which users are assigned to control their activities in EIM. Privilege levels allow or limit a users ability to perform certain functions to the data in EIM or see certain options in EIM, such as data base administration options or quality assurance options. EIM has 6 privilege levels.

## EIM™ Privilege Level Descriptions:

| *EIM*™ Privilege Level | Description |
|---|---|
| *System Administrator (Locus Technologies)* | The ***System Administrator*** has unlimited access to all aspects of the system. He or she can add, delete, or modify usernames and passwords; add, delete, or modify any of the information in the system tables in the database; extend copy database privileges to any database; and make changes to the on-line help system. |
| *Administrator* | ***Administrators*** can add, delete, or modify usernames and passwords in their specific databases; alter settings reflecting the status of their databases; and add, delete, or make modifications to any records in their database. |
| *Manager* | ***Managers*** can add, delete, or make modifications to any records in their database other than those that pertain to the status of the database itself or site-specific settings. They do not have any administrative privileges pertaining to the creation of users. |
| *Supervisor* | ***Supervisors*** have access to the same options as Managers and have virtually the same privileges in the Sample Planning, Input, and Output modules. However, they cannot do much in the way of Setup nor can they alter analytical records after they have been uploaded into their permanent destination tables. |
| *Operator* | ***Operators*** can enter and edit some data, but they are largely excluded from any Setup functions (other than viewing selected entries) and they cannot change analytical data once it has been entered into the system. Operators have full access to all options in the Output module |
| *Guest* | ***Guests*** can only view selected data in the Setup, Input, and Output modules. They have no data entry or editing privileges. |

Honeywell

—HIGHLIGHTS—

# SOP 10 – ACCESS RIGHTS AND PRIVILEGES

**Who Authorizes Access to EIM:**

**Honeywell Remedial Project Managers and Vendor Alliance Site Managers at Honeywell sites are the only persons who can authorize access for their site database**. Permission should be requested and confirmed in writing and kept in project administrative files as a permanent record.

**Who Determines Privilege Levels?**

Honeywell or Vendor Alliance project managers shall inform Locus of the required privilege level based on project roles and responsibilities.

**Managing Passwords:**

Each user can change their password as often as they wish. Passwords shall be changed in accordance with Honeywell requirements as specified by Honeywell project managers. Projects are responsible for managing passwords and use. **DO NOT SHARE PASSWORDS. Locus can provide a list of users on a routine basis for project manager review. If you want such a list, contact eimhelp@locustec.com for assistance.**

**Terminating Users:**

Everyone is responsible for security in EIM. Honeywell must inform Locus to terminate EIM users, when appropriate. Typical reasons include

- Termination of employee
- Reassignment
- Resignation
- Change of assignment for guests (such as access for regulatory agency personnel)

**Changing Your Password in EIM and LocusFocus Library:**


- Navigate to [CHANGE, PASSWORDS]
- Select one of the available options, including changing password for LocusFocus as well
- Follow prompts to reenter password
- Click **Submit**

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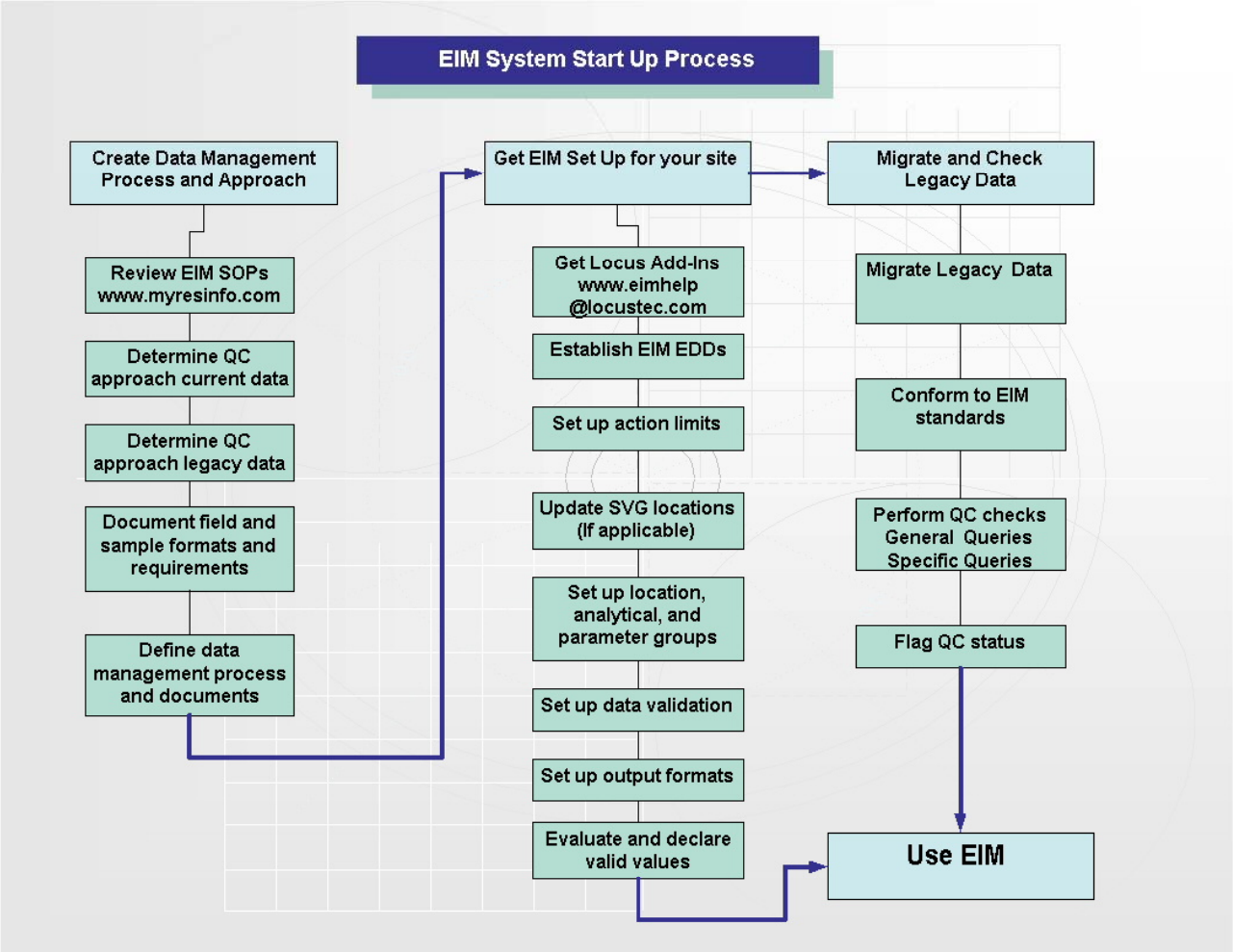
—HIGHLIGHTS—

# SOP 11 EIM SYSTEM STARTUP




These are the steps typically involved in creating the EIM data management process at each site. Guidance on each step of the process is outlined in **SOP 11, EIM Start Up Guidance.**

**Key areas for managers include:**

- Identifying a capable data manager to meet project or portfolio needs
- Ensuring proper and adequate training
- Ensuring proper EIM setup to meet project output and reporting requirements
- Ensuring laboratory performance for all requirements including EDDs
- Establishing and maintaining clear communications and coordination among project teams
- Providing feedback as requirements and data management needs evolve

Information and specific guidance on legacy data migration is presented in **SOP 11.5, Migrating Legacy Data**.

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—HIGHLIGHTS—

# SOP 11.5 – LEGACY DATA MIGRATION

**Definition:**

Legacy data are those project data collected over the course of site investigations and may include a combination of electronic data and hard copy of varying quality and usability.

**Typical Legacy Data Issues:**

Typical issues found in legacy data sets include the following:

- Duplicates and inconsistent valid values
- Inconsistent location coordinates and non-standard location coordinates
- Missing validation qualifiers and lab QC data
- Missing key information, such as sample location and sampling date

**What Happens During Data Migration?**

Locus evaluates data sets for missing key information and format. Data are reformatted for import to EIM, existing data fields are mapped to corresponding fields in EIM, and data are imported. Detailed record counts are performed. A Data Migration Report is produced that documents how the data were migrated and any issues that were identified. The project team may be contacted during the migration to address any questions that may arise.

**What Should Be Done After Data Migration?**

The data manager is responsible for performing a quality control check on the data migration. Review the **Data Migration Report** and make sure you understand all the data issues identified in the report.

**Recommended QC Checks:**

Projects may want to perform general checks on whole data sets and perform specific data quality reviews on approximately 10% of the data sets.

Suggested types of ***general checks*** include:

- Review sample type codes such as "NA"
- Review locations
- Check of missing laboratory qualifiers
- Review records for a single parameter such as the key contaminate as the site
- Check record counts

Suggested ***specific data quality reviews*** include:

- Compare 10% or less (depending on site-specific QC requirements) to original data sources OR
- Compare 10% or less to secondary data sources, which is least desirable but may be the only available option

**QC Status Flag:**

EIM allows data managers to "QC Flag" data sets to indicate if QC has been performed. This option allows projects to immediately use EIM for current data and QC legacy data as project needs and budgets allow.

***Once data are in EIM™ and reviewed, Honeywell assumes that the data are of known quality, are correct, and can be used for applicable site purposes.***

Questions? Call 1-925-906-8100 or e-mail EIMHELP@locustec.com

# APPENDIX B

# EXAMPLE CHAIN OF CUSTODY

# Honeywell Chain Of Custody / Analysis Request

| | | | |
|---|---|---|---|
| Privileged & Confidential | | Site Name: | Honeywell Highland Park |
| EDD To: | Brent O'Dell/bcodell@mactec.com | Location of Site: | Highland Park, NJ |

AESI Ref: 39406.43797
COC # : 99999-mddyy-1
Lab Use Only
Lab Proj #
Lab ID: Accutest-NJ
PAGE 1 of 1
Job No.

**Client Contact: (name, co., address)**
MACTEC Engineering and Consulting, Inc.
14 Washington Road, Building 1 First Floor
Princeton Junction, NJ 08550

**Hardcopy Report To:** Brent O'Dell (see above) bcodell@mactec.com
**Invoice To:** Brent O'Dell (see above) bcodell@mactec.com

Sampler: MACTEC
P O # ?????
Analysis Turnaround Time: 14
Standard -
Rush Charges Authorized for -
2 weeks - Y
1 week -
Next Day -

What is in the Text File? Mouse over here.
Written and maintained by AESI (Ver 3_7) 02-01-05 renesurgi@aol.com

| | Location ID | Start Depth (ft) | End Depth (ft) | Field Sample ID | Sample Date | Sample Time | Sample Type | Sample Matrix | Sample Purpose | # of Cont. | Grab/Composite | Field Filtered Sample ? | TCL VOCs | PCB | Lab Sample Numbers |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | Preservative | | | | |
| | | | | | | | | | | | Units | | | | |
| 1 | AOC#-001 | 0 | 0.5 | Site#-SB_001 | 3/9/2005 | 11:50 | SOIL | Soil | REG | 3 | grab | | x | x | |
| 2 | AOC#-MW# | | | Site#-MW#_002 | 3/9/2005 | 5:30 | GW | WATER | REG | 2 | grab | | x | | |
| 3 | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Relinquished by F. Rooney | Company | STL | Received by | Company | | Condition | Custody Seals Intact |
| | Date/Time | 3/9/05 16:45 | | Date/Time | | Cooler Temp. | |
| Relinquished by | Company | | Received by | Company | | Condition | Custody Seals Intact |
| | Date/Time | | | Date/Time | | Cooler Temp. | |

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn. Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (specify):

**REVISED PAGES FROM AUGUST 2014 REVISED DATA MANAGEMENT PLAN**

It is anticipated that the field quality control audit, if conducted, will be performed soon after field startup to identify and rectify any potential problems early in the program. If changes to the approved quality assurance program are necessary following startup of field activities and completion of the initial field quality control audit, additional field quality control audits may be conducted during subsequent sampling activities.

## 7.2 DATA VALIDATION

Laboratory analytical data will be subject to data validation to ensure laboratory compliance with quality assurance requirements of the selected analytical methods. Generally, there are four (4) levels (Levels I, II, III, and IV) for data validation employed on Honeywell projects. Level IV data validation will be conducted for all (100%) samples analyzed for total and hexavalent chromium using the data validation guidance documents below:

- NJDEP. 2002. Standard Operating Procedure (SOP) entitled Quality Assurance Data Validation of Analytical Deliverables for Inorganics (based on USEPA SW-846 Methods), SOP No. 5.A.16. Trenton, New Jersey;
- NJDEP. 2001. Standard Operating Procedure for the Completion of the Data Validation Report Forms and the Preparation of the Final Data Validation Report, SOP No. 5.A.15, Trenton, New Jersey;
- NJDEP. 2005. Standard Operating Procedure for Analytical Data Validation of Hexavalent Chromium, SOP No. 5.A.10, Revision 2, Trenton, New Jersey
- NJDEP. 2001. Standard Operating Procedure for the Completion of the Hexavalent Chromium Data Validation Report Forms and the Preparation of the Final Data Validation Report, SOP No. 5.A.09 Trenton, New Jersey.

Level IV data validation stipulated above will be conducted on samples analyzed for total and hexavalent chromium that are used for compliance, such as those categorized as follows (or equivalent):

- Any post-excavation soil samples collected in accordance with the criteria stipulated in the 100% Design Report; and

- Any samples from soils to confirm reuse criteria stipulated in the 100% Design Report for backfill in the Residential Area excavations (i.e. <20 mg/kg hexavalent chromium).

Level II data validation will be conducted on batches of samples (approximately equivalent to a 25% sample frequency) analyzed for total and hexavalent chromium that are used for non-compliance purposes, such as those categorized as follows (or equivalent):

- Any samples from soils that will be consolidated in the Open Space Area (i.e. >20 mg/kg hexavalent chromium); and
- Any samples collected from soils being disposed of off-site.

Level IV data validation will also be conducted for other analyses (non-chromium) at 10% using the data validation guidance documents below:

- NJDEP. 2002. Standard Operating Procedure (SOP) entitled *Quality Assurance Data Validation of Analytical Deliverables for Inorganics* (based on USEPA SW-846 Methods), SOP No. 5.A.16. Trenton, New Jersey;
- NJDEP. 2001. Standard Operating Procedure for the Completion of the Data Validation Forms and the Preparation of the Final data Validation Report, SOP No. 5.A.15. Trenton, New Jersey;
- NJDEP. 2001. Standard Operating Procedure for the Quality Assurance Data Validation of Analytical Deliverables - TCL - Organics, SOP No. BEMQA 5.A.13, Revision 3, Trenton, New Jersey;
- Inorganics - NJDEP. 2001. Standard Operating Procedure for Analytical Data Validation of Target Analyte List (TAL) - Inorganics, SOP No. 5.A.2, Revision 4, Trenton, New Jersey;
- U.S. Environmental Protection Agency (USEPA), 2006. "Validating PCB Compounds PCBs by Gas Chromatography SW-846 Method 8082A"; USEPA Region II Hazardous Waste Support Branch; HW-45; Revision 1.0; October 2006.