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WATERFORD-3

GROUNDWATER MONITORING PROGRAM FIVE-YEAR REVIEW

June 3, 2014

WATERFORD-3
GROUNDWATER MONITORING PROGRAM
FIVE-YEAR REVIEW

Prepared for

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1.0 INTRODUCTION

In 2007 the Nuclear Energy Institute (NEI) published its Industry Groundwater Protection Initiative (GPI) – Final Guidance Document (NEI 07-07), which describes actions to improve responses to and management of inadvertent radiological releases to groundwater and how best to communicate release information to stakeholders. Implementation of NEI 07-07 at all Entergy Nuclear, Inc. (Entergy) facilities is required by fleet procedure EN-CY-111-R5, Radiological Groundwater Monitoring Program.

An initial hydrogeologic assessment of the Entergy Waterford-3 (WF3) plant in Killona, Louisiana, was conducted in support of the pending NEI GPI program in 2006 by GZA GeoEnvironmental, Inc. (GZA) and Enercon Services, Inc. (Enercon) on behalf of Entergy Operations, Inc. (GZA and Enercon 2007). WF3 began implementation of NEI 07-07 objectives in July 2007 by installing three groundwater monitoring wells (MW-03, MW-04, and MW-05), collecting quarterly groundwater samples from those wells, and recording water level elevations for potentiometric surface mapping from five monitoring installations (the previously mentioned monitoring wells plus pre-existing basemat wells BW-01 and BW-02). Monitoring well installation and data collection were performed by FTN Associates, Ltd. (FTN). Initial NEI GPI activities and data through 2008 are presented in the initial self-assessment report of the GPI program (NEI 07-07 Objective 3.1.a) completed by GZA (2009).

Upon completion of the initial self-assessment, FTN began working with WF3 to develop and implement a site-specific Groundwater Monitoring Plan (GWMP) (FTN 2010) designed to satisfy objectives of NEI 07-07. WF3's GWMP is a dynamic document that describes the hydrogeologic site conceptual model (SCM), the groundwater monitoring network, and groundwater monitoring and investigation activities.

This document is a 5-year hydrogeologic review of the site for 2009-2013, as required by NEI 07-07 (Objective 3.1.b). Additionally, this document is intended to satisfy EN-CY-111-R5 5.15[6], which is a periodic review of site hydrogeologic studies, also required every 5 years, or more frequently under certain circumstances. The purpose of this review is to summarize activities conducted at WF3 by FTN in support of NEI 07-07 and EN-CY-111-R5

during the reporting period, describe the current understanding of the groundwater system at the site, and make recommendations for continued improvement of the GWMP.

Section 2.0 of this report is review of the site conceptual model. Section 3.0 is an overview of the plant's current groundwater monitoring network. Section 4.0 is an overview of groundwater monitoring program activities. Section 5.0 is a discussion of noted findings during the reporting period. Section 6.0 provides recommendations for program improvements. Section 7.0 summarizes the report and presents concluding remarks. Section 8.0 is a list of selected references. When appropriate, applicable EN-CY-111-R5 or NEI 07-07 objectives are included in the text for reference. Tables, figures, and appendices are included after Section 8.0.

2.0 HYDROGEOLOGIC SITE CONCEPTUAL MODEL

The SCM is a qualitative interpretation of the groundwater system at the site that incorporates information about the site's geology, groundwater, infrastructure, and operations that influence the groundwater system. The SCM is based upon information presented in Sec. 2.4.13 of the WF3 Final Safety Analysis Report (FSAR), the initial self-assessment of the WF3 NEI GPI program (GZA 2009), the GWMP (FTN 2010), and all information included in subsequent sections of this report.

This section documents the current understanding of the hydrogeologic SCM for the shallow groundwater system beneath WF3. Shallow groundwater system is the primary focus with respect to the SCM because shallow groundwater is the most susceptible to contamination from structures, systems, and components (SSC). Although deeper aquifers of local and regional extent exist beneath the site, these units are separated from shallow groundwater by thick sequences of relatively impermeable silts and clays which make impacts to deeper aquifers from inadvertent radiological releases unlikely. Therefore, these deeper water bearing units are not described in further detail in this report. For a detailed review of the geology and groundwater at the site, refer to WF3 FSAR Sec. 2.4.13.

2.1 Shallow Groundwater Occurrence

Shallow groundwater is present across the Mississippi River deltaic plain in isolated coarse-grained Holocene point-bar deposits, distributary-channel deposits, and near-surface sands (WF3 FSAR Sec. 2.4.13.1.11). Subsurface investigations at WF3 prior to site construction concluded that shallow groundwater on site is discontinuous and not hydraulically connected to the Mississippi River (WF3 FSAR Sec. 2.4.13.1.3 and 2.4.13.3); however, data from groundwater monitoring wells installed as part of the NEI GPI indicate that a continuous shallow groundwater unit is present beneath the site and that it is hydraulically connected to the Mississippi River.

Shallow groundwater occurs at the site within two types of materials with different confining conditions: plant backfill sands where shallow groundwater occurs under unconfined conditions and surrounding native deposits where shallow groundwater occurs under confined conditions. The two types of materials are hydraulically connected, and together they are considered a single hydrogeologic unit. Further discussion supporting the hydraulic connection between these three water bodies is included in Section 5.2 of this report.

2.1.1 Shallow Groundwater in Native Deposits

Outside the area of the power block excavation, shallow groundwater occurs in native sand and gravel deposits that contain some organic debris (shells or wood fragments and peat). This unit is present at elevations between -10.35 ft and -24.78 ft (NGVD29) and ranges in thickness from 1.25 ft to at least 10 ft. This shallow groundwater unit is overlain by a sequence of low permeability silts and clays creating a confined condition. The sand and gravel deposits are continuous across the site and were observed in all logs for NEI GPI monitoring well installations, except for MW-03 where no sample was recovered from the corresponding interval, and reviewed logs for borings advanced during pre-construction investigations. At MW-12, drilling was terminated at 40 ft below ground surface (bgs), and the bottom of the sand and gravel unit was not encountered, suggesting this unit probably exceeds 10 ft in thickness.

2.1.2 Shallow Groundwater in Backfill Material

In the area excavated for construction of the power block, native deposits (including the saturated sand and gravels previously described) were removed to an elevation of -40 ft (NGVD29). Engineered sand was then used to backfill the excavation to a site grade elevation of approximately 17 ft (NGVD29) during plant construction. Shallow groundwater in plant backfill occurs under unconfined conditions and is characterized by relatively high water level elevations that are generally stable over time, which are likely due to direct recharge from the ground surface by precipitation.

2.2 Shallow Groundwater Flow

Historically, shallow groundwater flow at WF3 has been described as flowing generally south-southwest away from the Mississippi River, except during low river stages when a transient groundwater divide is created (WF3 FSAR Sec. 2.4.13.2). Water level data collected as part of NEI GPI groundwater monitoring activities indicate two general groundwater flow scenarios. In the first scenario, the elevation of the Mississippi River is higher than on-site groundwater potentiometric elevations, and hydraulic gradients direct flow across the site away from the river. In the second scenario, the highest water level elevations form a groundwater mound typically coincident with northern portions of the plant foundation excavation. This groundwater mound creates a divide where hydraulic gradients direct a portion of groundwater flow away from the mound toward the Mississippi River.

3.0 GROUNDWATER MONITORING NETWORK

The WF3 groundwater monitoring installation network is designed to provide timely detection of radiological contamination of groundwater and map groundwater flow beneath the site. The WF3 network currently consists of ten monitoring wells and two basemat wells (EN-CY-111-R5 5.6[2](f)). Three monitoring wells (MW-03, MW-04, and MW-05) and basemat wells (BW-01 and BW-02) were installed prior to the reporting period. Monitoring wells are used to collect water levels and groundwater samples while basemat wells are only used for

water level data. Figure 1 shows locations of the monitoring installations, and Table 1 contains construction details for the monitoring well network.

3.1 Monitoring Well Installations during Reporting Period

During the reporting period, FTN installed seven monitoring wells in support of the GWMP. Boring logs and well construction diagrams for these wells are included in Appendix A, and well registration forms are included in Appendix B.

3.1.1 MW-06, MW-07, MW-08, and MW-09

In October 2010, four monitoring wells (MW-06, MW-07, MW-08, and MW-09) were installed north, east, and northwest of the plant to expand groundwater flow direction mapping data points, provide water quality data, and provide perimeter detection monitoring locations for shallow groundwater (EN-CY-111-R5 5.6[1](a, c), NEI 07-07 Objective 1.3.a). No separate monitoring well installation report for this group of wells was drafted.

3.1.2 MW-10 and MW-11

In November 2012, two monitoring wells (MW-10 and MW-11) were installed in the native shallow groundwater system hydraulically downgradient from the Original Steam Generator Storage Facility (FTN 2013). These wells were installed in order to detect any inadvertent release of radiological material to groundwater from this SSC (EN-CY-111-R5 5.6[1](a, b, c), NEI 07-07 Objective 1.3.b).

3.1.3 MW-12

In December 2013, one monitoring well (MW-12) was installed in the native shallow groundwater system hydraulically downgradient from the Condensate Storage Tank (FTN 2014). This well was installed in order to detect any inadvertent release of radiological material to groundwater from this SSC (EN-CY-111-R5 5.6[1](a, b, c), NEI 07-07 Objective 1.3.b).

3.2 Drainage Ditches and Groundwater Monitoring

Drainage ditches at the site that satisfy the following conditions could be used for groundwater detection monitoring of radiological contamination:

- The drainage ditch must be hydraulically connected to shallow groundwater. The ditch must be located within excavation backfill sand where shallow groundwater occurs under unconfined conditions that create a relatively elevated water table surface that may be intercepted by ditches. As shown in Figure 2, shallow groundwater in native deposits occurs under confined conditions that restrict groundwater to deeper intervals below drainage ditches.
- The water level elevation in the ditch must be lower than the surrounding groundwater elevation. In order for the groundwater to enter the ditch, a hydraulic gradient from groundwater to the ditch must be present. If the water level in the ditch is higher than the surrounding groundwater, the ditch will function as a recharge source, and water from the ditch will discharge into the groundwater system.
- The ditch must be hydraulically downgradient from the contamination. In order to detect groundwater contamination, the ditch must be located along the groundwater flow path away from the source of contamination.
- Groundwater contamination must be very shallow. Water table elevations are typically slightly higher than ditch invert elevations. In order for a ditch to intercept groundwater contamination, the contamination must be near the water table surface. If the contamination occurs at depth, it may flow beneath the ditch without being detected.

4.0 GROUNDWATER MONITORING PROGRAM ACTIVITIES

Groundwater monitoring activities at WF3 typically include recording water level measurements to map groundwater flow direction and collecting groundwater samples for laboratory analysis. Groundwater sampling events are conducted on a quarterly basis in order to document seasonal variations. Table 2 summarizes groundwater monitoring activities for the NEI 07-07 program.

4.1 Monitoring Installation Inspection and Maintenance

A visual inspection of each monitoring installation is performed prior to recording water levels or collecting groundwater samples in order to ensure the installation will yield accurate information (EN-CY-111-R5 5.6[2]). In order to document inspections and deficiencies, FTN created the Groundwater Level Data Sheet for use during sampling events (Appendix C). This sheet is included in the quarterly groundwater sampling field documentation that is submitted to the site and periodically updated in the GWMP (FTN 2010). For the period of record, the following deficiencies were documented and should be addressed:

- Inadequate painting of above-grade installations. Bollards or well protective covers that require safety yellow paint are located at MW-03, MW-04, MW-05, and MW-06. The safety yellow is meant to make the wells more visible to operators of vehicles and machinery which helps prevent damage resulting from accidental collision.
- Erosion around well installations. Soil erosion has caused washout around bollards or under well pads at wells MW-04, MW-05, and MW-08. The washout makes the well pads susceptible to cracking, heaving, and separation from well (EN-CY-111-R5 5.6[2](a)(1)). Washout around the bollards could potentially render the bollards ineffective as protective barriers.

4.2 Water Level Measurements

Static water level measurements are recorded from monitoring and basemat wells in order to determine hydraulic gradients that control groundwater flow directions (EN-CY-111-R5 5.6[1](c)). For monitoring wells, water levels are collected prior to beginning groundwater sampling activities in the shortest time frame possible to avoid potential effects on hydraulic gradients caused by sampling and temporal variations in groundwater flow. For basemat wells, water level elevations are measured and reported by site personnel and do not always coincide precisely with quarterly groundwater monitoring events. Since 2007, groundwater elevations ranged from 4.15 ft (NGVD29) in MW-05 on June 21, 2011, to 14.93 ft (NGVD29) in MW-08 on June 3, 2013. Table 3 summarizes water level data, and Figure 3 and Figure 4 contain hydrographs for the 2007-2013 period. Due to a limited data set (one observation for the period of record) a hydrograph for MW-12 is not provided.

4.3 Potentiometric Surface Mapping

Potentiometric surface maps showing groundwater elevations and groundwater flow directions were constructed using water level elevation measurements collected during each quarterly groundwater sampling event during the reporting period. Potentiometric surface maps for the reporting period are presented in Appendix D. Potentiometric surface maps compiled prior to this reporting period are included in the GWMP (FTN 2010).

4.4 Groundwater Sampling

Groundwater samples are collected from monitoring wells and analyzed for selected radionuclides in order to detect potential impacts to groundwater from inadvertent leaks or spills. Samples are collected on at least a quarterly basis or more frequently if requested by site personnel (Table 2). Groundwater sampling activities conform to specifications in EN-CY-109-R4, Sampling and Analysis of Ground Water Monitoring Wells, (EN-CY-111-R5 5.8[1]) and are subject to quality assurance/quality control program discussed in the GWMP (FTN 2010).

Groundwater samples are collected using low-flow purging and sampling techniques conducted in accordance with EPA guidelines as described in FTN SOPs included in the WF3 GWMP (FTN 2010). Wells are purged prior to sampling, and field stabilization parameters are recorded at selected time intervals for each well to determine when groundwater representative of the formation is being withdrawn. Once field parameters have met stabilization criteria, samples are collected for tritium and gamma emitting isotopes listed in EN-CY-111-R5 Attachment 9.4. A summary of field parameter data since 2007 is included in Table 4, and field documentation of groundwater monitoring activities for the reporting period is included in Appendix E.

5.0 DISCUSSION

The following discussions are based on data collected during quarterly groundwater sampling events through the end of the reporting period.

5.1 Shallow Groundwater Flow

Of the 20 sets of water level measurements used to construct potentiometric surface maps for the site during the reporting period, the water level elevation of the river was higher than groundwater elevations in monitoring wells and flow was away from the river for eight sets of measurements (e.g., Figure 5). For the remaining 12 sets of measurements, a groundwater mound was present, and for a portion of the site, groundwater flow was toward the river (e.g., Figure 6). The concept of two general groundwater flow scenarios is consistent with observations of potentiometric surfaces under the NEI GPI program since the initial self assessment (GZA 2009).

5.2 Shallow Groundwater Fluctuations

Shallow groundwater at WF3 has been described as unresponsive to Mississippi River fluctuations (WF3 FSAR Sec. 2.4.13.1.3). This appears to be the case for relatively high water level elevations in plant backfill as seen in basemat wells BW-01 and BW-02, which are generally stable over time (Figures 3 and 4). Generally elevated and stable water levels in these wells are likely due to unconfined groundwater conditions in backfill material and direct recharge from the ground surface by precipitation.

MW-07 and MW-08 (Figure 1) are located in native deposits between the Mississippi River and the excavation backfill. Because water in the Mississippi River and excavation backfill is hydraulically connected to the portion of the confined sand and gravel layer between them, there appears to be some effect on water levels in these two wells from recharge by each source. MW-08 appears to be responsive to both changes of water levels in the plant backfill and to changes of stage in the Mississippi River, whereas MW-07 appears to be more strongly responsive to changes of water levels in the plant backfill (Figure 3). The degree to which recharge from each source affects water levels in these two wells is not clear.

Water levels in perimeter monitoring wells (MW-03 through MW-06 and MW-09 through MW-11) generally rise and fall in unison, providing further supporting evidence of the continuity of the sand and gravel unit across the site (Figure 4). Water level fluctuations also appear to be more closely correlated to relatively small water level changes in the saturated plant backfill than to fluctuations in the river. As shown in Figure 2, saturated backfill serves as a

source of recharge to the confined sand and gravel unit, which forms a hydraulic connection between the Mississippi River and groundwater in the excavation backfill. Because the sides of the excavation are sloped, the excavation area decreases with lower elevations, and recharge events only slightly increase water elevations in the backfill while monitoring wells in the sand and gravel unit show a higher amplitude response.

5.3 Field Parameter Data

Groundwater sampling using low-flow purging techniques relies on stabilization of water levels and water quality parameters to determine when a well has been sufficiently purged to yield a representative groundwater sample. Field parameters are also useful for establishing site-wide groundwater quality. Water quality indicators measured at WF3 include pH, specific conductance, and temperature. Although not considered a stabilization parameter, turbidity is also measured as an indicator of well development and entrainment of solids caused by pump operation. Field parameter water quality data values for the reporting period are relatively consistent for each well.

5.4 Laboratory Analysis Results

Groundwater samples are analyzed for tritium and gamma emitters. If radiological activity is positively detected, then the sample is also analyzed for the presence of hard-to-detect radionuclides listed in EN-CY-111-R5 Attachment 9.4 (EN-CY-111-R5 5.8[2]). If activities of sample results are verified to meet or exceed associated action levels contained in EN-CY-111-R5 Attachment 9.6, then a Condition Report is generated and evaluation of investigatory and corrective actions are considered (EN-CY-111-R5 5.10[3]). Samples collected through the fourth quarter of 2011 were analyzed by the Entergy River Bend Station laboratory in St. Francisville, Louisiana. Subsequent samples have been analyzed by Pace Analytical Services, Inc., of St. Rose, Louisiana, during 2012 and the first quarter of 2013, and Teledyne Brown Engineering, Inc., of Huntsville, Alabama, beginning with the Second Quarter 2013 groundwater sampling event.

During the reporting period, WF3 requested resampling of MW-04 and MW-11 to verify detectable radiological activity in groundwater samples collected during the second quarter of 2012 and the fourth quarter of 2012, respectively. According to site personnel, there were no confirmed positive detections for radiological activity in groundwater collected from monitoring wells during the reporting period, including resampled wells.

6.0 RECOMMENDATIONS

Based on the current status of the WF3 GWMP, FTN recommends the following specific improvements:

1. Continue to incorporate new geologic and groundwater data into the hydrogeologic SCM.
2. Update the SCM in the GWMP and WF3 FSAR to incorporate the current understanding that a shallow, continuous aquifer exists at the site and appears to be hydraulically connected to saturated plant backfill and the Mississippi River (NEI 07-07 Objective 1.1.e).
3. Evaluate installation of water level dataloggers in monitoring wells and basemat wells in order to better elucidate the hydraulic connection between the Mississippi River, saturated backfill, and surrounding saturated native sand and gravel deposits (EN-CY-111-R5 5.6[1](c)).
4. Evaluate manholes, vaults, ditches, and other subsurface structures in plant backfill for use as potential groundwater sampling locations.
5. Evaluate the need for sentinel wells along pipelines that contain licensed material (NEI 07-07 Objective 1.3.b).
6. Install monitoring wells immediately hydraulically downgradient from additional SSCs inside the Secured Owner Controlled Area (SOCA) and Protected Area (PA) as needed to enhance timely detection of releases, spills, and leaks (NEI 07-07 Objective 1.3.b).
7. Evaluate quarterly sampling of basemat wells BW-01 and BW-02 for tritium, gamma emitters, and low-flow groundwater sampling stabilization parameters (NEI 07-07 Objective 1.3.b).

7.0 SUMMARY AND CONCLUSIONS

The following summary and conclusions are based on the 5-year hydrogeologic review of the WF3 GWMP from 2009-2013:

1. A shallow groundwater aquifer is continuous across the site and appears to be hydraulically connected to saturated plant backfill and the Mississippi River.
2. Water level changes in the Mississippi River likely affect groundwater elevations in wells between the power block and river, while water level fluctuations in perimeter wells are more correlated to minor changes in water level elevations in saturated plant backfill.
3. Depending on the water level elevation of the Mississippi River, groundwater flow across the site is either unidirectional away from the river or groundwater flows away from a groundwater mound generally coincident with portions of the plant excavation.
4. Sentinel groundwater monitoring wells are well-positioned for timely detection of inadvertent releases to groundwater from the Original Steam Generator Storage Facility (MW-10 and MW-11) and the Condensate Storage Tank (MW-12).
5. Groundwater monitoring wells MW-03 through MW-09 are positioned to detect inadvertent releases to groundwater before activity leaves the site.
6. The WF3 monitoring well network and sampling frequency should be sufficient for detection of inadvertent releases to groundwater.
7. Field data and water level data for the reporting period were found to be reasonable and consistent with the hydrogeologic setting.
8. The WF3 Groundwater Monitoring Program meets overall objectives of the NEI GPI program.

8.0 REFERENCES

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Tables

Table 1. Groundwater monitoring network installation details, Entergy Waterford-3.

Well ID	Installation Type	Date Installed	Formation Monitored	Northing (ft LA State Plane South Zone NAD83)	Easting (ft LA State Plane South Zone NAD83)	North (ft PGS)	West (ft PGS)	Ground Surface Elevation (ft NGVD29)	Borehole Depth (ft bgs)	Casing Diameter (inches)	Casing Material	WL Reference Elevation (ft NGVD29)	Top of Casing Elevation (ft NGVD29)	Approx. Stick-up Height (ft ags)	Approx. Screened Interval (ft bgs)	Approx. Top of Screened Interval (ft NGVD29)	Approx. Base of Screened Interval (ft NGVD29)	Approx. Filter Pack Interval (ft bgs)	Approx. Bentonite Seal Interval (ft bgs)	Approx. Grout Seal Interval (ft bgs)
BW-01	Basemat Well	~1984	Backfill sand	544955.99	3553653.33	n/a	n/a	17.50	57.5	4	PVC	20.66	20.66	3.2	53.5-57.5	-36.0	-40.0	52.5-57.5	51.5-52.5	0.0-51.5
BW-02	Basemat Well	~1984	Backfill sand	544872.80	3553956.07	n/a	n/a	17.50	57.5	4	PVC	20.27	20.27	2.8	53.5-57.5	-36.0	-40.0	52.5-57.5	51.5-52.5	0.0-51.5
MW-03	Monitoring Well	7/24/2007	Holocene alluvium	543952.20	3552810.27	1851.4	5816.8	14.01	35.0	2	Schedule 40 PVC	16.61	16.59	2.6	24.8-34.8	-10.7	-20.7	22.8-35.0	19.0-22.8	0.0-19.0
MW-04	Monitoring Well	7/24/2007	Holocene alluvium	543447.98	3553051.68	1347.2	5575.4	15.58	35.0	2	Schedule 40 PVC	18.34	18.31	2.7	24.8-34.8	-9.2	-19.2	22.8-35.0	19.8-22.8	0.0-19.8
MW-05	Monitoring Well	7/25/2007	Holocene alluvium	543586.91	3554294.07	1486.1	4333.0	9.65	35.0	2	Schedule 40 PVC	12.26	12.24	2.6	24.8-34.8	-15.1	-25.1	22.8-35.0	19.0-22.8	0.0-19.0
MW-06	Monitoring Well	10/5/2010	Holocene alluvium	544399.37	3554431.09	4132.9	3056.1	11.61	33.0	2	Schedule 40 PVC	14.02	14.01	2.4	22.7-32.7	-11.1	-21.1	21.0-33.0	18.0-21.0	0.0-18.0
MW-07	Monitoring Well	10/25/2010	Holocene alluvium	545122.87	3554397.70	4783.6	3374.2	16.31	38.0	2	Schedule 40 PVC	19.51	19.46	3.2	27.7-37.7	-11.4	-21.4	25.5-38.0	22.4-25.5	0.0-22.4
MW-08	Monitoring Well	10/6/2010	Holocene alluvium	545449.67	3553674.67	4796.1	4167.6	16.37	38.0	2	Schedule 40 PVC	19.88	19.84	3.5	27.7-37.7	-11.3	-21.3	25.0-38.0	22.3-25.0	0.0-22.3
MW-09	Monitoring Well	10/6/2010	Holocene alluvium	545202.96	352738.14	4197.5	4929.0	13.65	38.0	2	Schedule 40 PVC	15.88	15.87	2.2	27.7-37.7	-14.1	-24.1	21.0-38.0	18.0-21.0	0.0-18.0
MW-10	Monitoring Well	11/1/2012	Holocene alluvium	543116.44	3553144.73	2443.6	3726.3	15.96	36.0	2	Schedule 80 PVC	18.47	18.47	2.5	25.8-35.8	-9.8	-19.8	23.0-36.0	20.0-23.0	0.0-20.0
MW-11	Monitoring Well	11/1/2012	Holocene alluvium	543074.20	3553225.08	2437.6	3636.1	15.93	40.0	2	Schedule 80 PVC	18.77	18.77	2.8	25.8-35.8	-9.9	-19.9	23.0-36.0	20.0-23.0	0.0-20.0
MW-12	Monitoring Well	12/13/2013	Holocene alluvium	544174.58	3553334.61	3491.0	3972.6	15.22	40.0	2	Schedule 80 PVC	18.13	18.13	2.9	29.7-39.7	-14.5	-24.5	27.0-40.0	24.0-27.0	0.0-24.0

Notes:

NAD83: North American Datum of 1983.

NGVD29: National Geodetic Vertical Datum of 1929.

PGS: Plant Grid System.

ft bgs: Feet below ground surface.

ft ags: Feet above ground surface.

n/a: Information not available.

Table 2. Tasks over time 2007-2013, Entergy Waterford-3.

Week	7/24/2007		12/4/2007		1/30/2008		5/13/2008		8/5/2008		11/18/2008		3/9/2009		6/16/2009		7/21/2009		10/12/2009		2/23/2010		5/11/2010		8/23/2010		11/16/2010		
Event	3Q07		4Q07		1Q08		2Q08		3Q08		4Q08		1Q09		2Q09		3Q09		4Q09		1Q10		2Q10		3Q10		4Q10		
Well ID	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	
MW-01	1	--	1	--	--	--	--	--	--	--	1	--	1	--	1	--	1	--	--	--	1	--	1	--	1	--	1	--	
MW-02	1	--	1	--	--	--	--	--	--	--	1	--	1	--	1	--	1	--	--	--	1	--	1	--	1	--	1	--	
MW-03	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
MW-04	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
MW-05	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
MW-06																												1	1
MW-07																												1	1
MW-08																												1	1
MW-09																												1	1
MW-10																													
MW-11																													
MW-12																													
Subtotal	5	3	5	3	3	3	3	3	3	3	5	3	5	3	5	3	5	3	3	3	5	3	5	3	5	3	9	7	
Equipment Blanks	n/a	0	n/a	0	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	
Duplicates	n/a	0	n/a	0	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	
Grand Total	5	3	5	3	3	5	3	5	3	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	5	9	9	
Week	3/28/2011		6/21/2011		9/13/2011		12/13/2011		3/20/2012		6/18/2012		9/6/2012		9/18/2012		10/31/2012		12/10/2013		2/26/2013		6/3/2013		9/9/2013		12/17/2013		
Event	1Q11		2Q11		3Q11		4Q11		1Q12		2Q12		Resample		3Q12		4Q12		Resample		1Q13		2Q13		3Q13		4Q13		
Well ID	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	Water Level	Sample	
MW-01	1	--	1	--	1	--	1	--	1	--	1	--	--	--	1	--	1	--	--	--	1	--	1	--	1	--	1	--	
MW-02	1	--	1	--	1	--	1	--	1	--	1	--	--	--	1	--	1	--	--	--	1	--	1	--	1	--	1	--	
MW-03	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-04	1	1	1	1	1	1	1	1	1	1	1	1	--	1	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-05	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-06	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-07	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-08	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-09	1	1	1	1	1	1	1	1	1	1	1	1	--	--	1	1	1	1	--	--	1	1	1	1	1	1	1	1	
MW-10																													
MW-11																													
MW-12																													
Subtotal	9	7	9	7	9	7	9	7	9	7	9	7	0	1	9	7	11	9	0	1	11	9	11	9	11	9	12	10	
Equipment Blanks	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	
Duplicates	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	n/a	1	
Grand Total	9	9	9	9	9	9	9	9	9	9	9	9	0	3	9	9	11	11	0	3	11	11	11	11	11	11	12	12	

Notes: [Redacted] Monitoring well had not been installed.

Table 3. Water level elevations 2007-2013, Entergy - Waterford-3

Site ID	BW-01	BW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	MW-11	MW-12	Mississippi River
Date	Water Level Elevation (ft NGVD29)												
7/24/2007	--	--	10.39	--	--	--	--	--	--	--	--	--	--
7/25/2007	12.81	12.60	--	9.06	5.86	--	--	--	--	--	--	--	--
7/26/2007	--	--	10.88	9.40	5.90	--	--	--	--	--	--	--	7.92
9/5/2007	12.26	12.17	10.54	9.76	5.44	--	--	--	--	--	--	--	4.43
9/25/2007	12.26	12.12	10.79	9.81	5.69	--	--	--	--	--	--	--	3.68
12/4/2007	11.76	11.72	9.30	9.44	4.99	--	--	--	--	--	--	--	2.29
1/30/2008	11.71	11.70	11.20	9.49	7.09	--	--	--	--	--	--	--	6.47
5/13/2008	11.61	12.10	10.49	9.43	5.82	--	--	--	--	--	--	--	18.21
8/5/2008	11.56	11.82	9.45	9.57	5.17	--	--	--	--	--	--	--	7.95
11/18/2008	11.70	11.70	9.20	9.56	4.86	--	--	--	--	--	--	--	--
3/9/2009	11.62	11.77	9.80	9.15	6.00	--	--	--	--	--	--	--	--
6/16/2009	11.92	11.92	9.36	9.17	4.46	--	--	--	--	--	--	--	16.22
7/21/2009	12.17	11.97	9.41	9.27	4.56	--	--	--	--	--	--	--	5.09
10/12/2009	--	--	11.29	9.92	6.62	--	--	--	--	--	--	--	8.09
2/18/2010	12.97	12.92	--	--	--	--	--	--	--	--	--	--	--
2/23/2010	--	--	11.12	9.64	7.31	--	--	--	--	--	--	--	17.31
4/19/2010	12.77	12.37	--	--	--	--	--	--	--	--	--	--	--
5/11/2010	--	--	9.51	9.24	5.06	--	--	--	--	--	--	--	12.79
7/15/2010	13.02	12.87	--	--	--	--	--	--	--	--	--	--	--
8/23/2010	--	--	11.43	10.31	7.59	--	--	--	--	--	--	--	6.54
8/24/2010	13.27	13.27	--	--	--	--	--	--	--	--	--	--	--
11/16/2010	--	--	10.30	10.02	5.98	9.57	13.08	12.16	11.36	--	--	--	3.34
11/17/2010	12.27	12.27	--	--	--	--	--	--	--	--	--	--	--
3/28/2011	12.22	12.22	10.30	9.41	5.96	9.57	13.20	14.07	11.20	--	--	--	17.00
6/21/2011	12.55	12.59	9.71	9.07	4.15	8.57	12.78	14.13	7.86	--	--	--	17.14
9/13/2011	12.92	12.87	11.02	9.71	6.20	10.04	13.97	13.20	11.42	--	--	--	4.30
12/13/2011	11.97	12.07	9.89	9.04	4.99	8.73	12.36	12.64	9.14	--	--	--	14.74
3/20/2012	12.82	12.87	7.68	8.96	6.60	9.78	13.26	13.78	12.15	--	--	--	14.11
6/18/2012	12.65	13.27	11.00	9.38	7.23	9.96	13.53	12.66	12.29	--	--	--	3.76
9/18/2012	12.47	12.37	11.06	9.92	7.34	10.00	13.98	12.98	12.01	--	--	--	2.89
11/2/2012	12.42	12.27	10.43	9.65	5.12	9.07	12.53	11.66	9.77	8.99	9.05	--	2.66
2/26/2013	12.57	12.47	11.26	9.40	7.98	10.31	14.21	14.39	12.85	8.57	8.59	--	11.73
6/3/2013	12.92	12.82	10.53	9.42	6.36	9.78	13.96	14.93	10.72	8.57	8.64	--	17.00
9/10/2013	12.32	12.32	10.98	9.93	6.43	9.82	13.26	12.76	10.88	8.98	9.06	--	3.94
12/17/2013	12.17	12.17	10.86	9.70	6.94	9.94	12.97	12.56	12.35	8.46	8.43	10.97	5.29

Notes:

NGVD29: National Geodetic Vertical Datum of 1929.

Water level elevations for BW-01 and BW-02 are provided by site personnel.

River stage elevations obtained from US Army Corps of Engineers (<http://rivergages.mvr.usace.army.mil/WaterControl/new/layout.cfm>).

River stage elevation at WF3 is interpolated from elevations at the Bonnet Carre and Reserve gauging stations.

Table 4. Field parameter data 2007-2013, Entergy - Waterford-3.

Well ID	Sample Date	pH (su)	Specific Conductance (µS/cm)	Temperature (°C)	Turbidity (NTU)
MW-03	7/24/2007	6.9	3689	25.4	13
	12/4/2007	6.9	2436	19.2	0
	1/30/2008	6.6	2541	19.3	3
	5/13/2008	6.9	3043	22.9	2
	8/5/2008	6.8	3778	25.9	0
	11/18/2008	7.0	2725	19.2	9
	3/10/2009	6.9	3546	21.2	1
	6/16/2009	6.9	2510	24.6	2
	7/21/2009	6.9	3618	25.3	3
	10/12/2009	6.9	3273	24.4	1
	2/23/2010	7.0	3110	18.7	7
	5/11/2010	7.1	2675	25.6	9
	8/23/2010	6.8	3163	27.5	1
	11/16/2010	6.8	3613	23.2	8
	3/28/2011	6.8	3060	24.1	17
	6/21/2011	6.9	3493	28.0	28
	9/13/2011	6.9	2908	27.6	15
	12/13/2011	6.9	2532	22.3	6
	3/21/2012	6.8	2923	18.0	9
	6/19/2012	6.6	2595	25.6	18
	9/19/2012	6.5	3247	25.3	8
	11/1/2012	7.0	3492	24.5	9
	2/27/2013	6.7	2810	20.1	5
6/3/2013	6.8	3325	24.6	8	
9/10/2013	6.8	3113	26.3	4	
12/17/2013	NR	2782	21.2	12	
MW-04	7/25/2007	6.7	6490	26.3	2
	12/4/2007	6.6	3625	18.3	0
	1/30/2008	6.5	4663	18.1	1
	5/13/2008	6.7	5200	24.5	1
	8/5/2008	6.5	5217	25.4	0
	11/18/2008	6.6	3658	19.4	10
	3/10/2009	7.0	4800	21.8	12
	5/16/2009	6.6	5386	26.0	6
	7/21/2009	6.5	4927	25.7	6
	10/12/2009	6.7	5974	25.2	0
	2/23/2010	7.3	4660	17.5	24
	5/11/2010	6.6	4931	26.1	13
	8/23/2010	6.6	5702	28.7	16
	11/16/2010	6.7	6385	22.6	4
	3/28/2011	6.5	4787	24.2	24

Table 4. Field parameter data 2007-2013, Entergy - Waterford-3.

Well ID	Sample Date	pH (su)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Turbidity (NTU)
MW-04	6/21/2011	6.7	5155	24.2	5
	9/13/2011	6.7	5248	27.3	8
	12/13/2011	6.6	4143	21.3	3
	3/21/2012	6.5	5267	20.0	56
	6/19/2012	6.6	5695	24.1	23
	9/19/2012	6.4	5985	24.7	6
	10/31/2012	6.7	5443	24.0	9
	2/27/2013	6.5	5041	21.5	11
	6/3/2013	6.7	5817	24.0	16
	9/10/2013	6.6	4864	26.1	12
	12/17/2013	NR	5237	22.3	4
MW-05	7/25/2007	7.0	1860	26.4	71
	12/4/2007	7.1	2410	22.9	2
	1/30/2008	6.8	1352	18.9	7
	5/13/2008	7.1	3650	24.4	3
	8/5/2008	7.0	2901	25.7	0
	11/18/2008	7.2	4752	21.2	18
	3/10/2009	7.9	1591	22.7	2
	6/16/2009	7.2	1955	27.4	5
	7/21/2009	7.1	4179	27.1	9
	10/12/2009	7.1	1818	27.4	27
	2/23/2010	8.0	1529	16.6	30
	5/11/2010	7.0	4850	25.7	13
	8/23/2010	7.0	1958	29.3	16
	11/16/2010	7.1	6593	22.9	8
	3/29/2011	7.2	4825	22.5	14
	6/21/2011	7.2	6037	25.8	3
	9/13/2011	7.2	2662	27.8	10
	12/13/2011	7.3	5252	22.3	3
	3/21/2012	7.0	1918	20.6	3
	6/18/2012	7.1	1922	25.2	11
	9/19/2012	7.0	3234	25.1	3
	10/31/2012	7.3	5643	23.9	9
	2/27/2013	7.0	1616	19.6	15
	6/4/2013	7.1	4093	23.5	7
9/10/2013	7.1	4228	27.6	36	
12/18/2013	NR	2358	20.2	7	
MW-06	3/28/2011	7.0	2810	24.4	5
	6/21/2011	7.1	3101	27.5	4
	9/13/2011	7.3	3092	29.3	12
	12/13/2011	7.2	2719	22.4	0

Table 4. Field parameter data 2007-2013, Entergy - Waterford-3.

Well ID	Sample Date	pH (su)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Turbidity (NTU)
MW-06	3/21/2012	7.0	3219	23.4	12
	6/18/2012	7.2	3159	26.8	11
	9/18/2012	7.0	3373	26.2	6
	11/2/2012	7.5	3264	23.1	17
	2/27/2013	7.0	2966	21.2	9
	6/4/2013	7.1	2793	24.5	6
	9/11/2013	7.2	3013	26.4	5
	12/18/2013	NR	2900	20.4	5
MW-07	3/28/2011	6.8	1249	25.7	37
	6/21/2011	6.9	2300	26.1	4
	9/14/2011	7.0	1562	25.6	12
	12/13/2011	6.9	1405	22.9	1
	3/20/2012	6.6	1411	25.6	21
	6/18/2012	6.8	1340	27.4	8
	9/18/2012	6.5	1144	26.8	4
	10/31/2012	7.0	1232	24.0	6
	2/27/2013	6.6	1019	22.6	1
	6/4/2013	6.7	958	24.0	4
	9/10/2013	6.7	1002	25.8	5
	12/18/2013	NR	961	22.2	4
MW-08	3/28/2011	6.8	1065	26.7	15
	6/21/2011	6.9	1532	26.0	5
	9/14/2011	6.9	1114	26.5	9
	12/13/2011	6.8	1037	22.7	4
	3/20/2012	6.6	1559	24.0	18
	6/18/2012	6.7	1308	25.5	8
	9/18/2012	6.4	1412	26.7	3
	11/1/2012	6.9	1288	24.5	11
	2/27/2013	6.6	1137	21.6	1
	6/4/2013	6.8	1283	24.9	6
	9/11/2013	6.6	1059	26.2	4
	12/18/2013	NR	1052	22.6	6
MW-09	3/29/2011	6.8	1899	20.2	6
	6/21/2011	6.9	2765	23.1	3
	9/14/2011	7.1	2113	27.3	14
	12/13/2011	7.0	1984	21.3	3
	3/20/2012	6.6	2792	22.5	31
	6/18/2012	6.7	2393	24.1	11
	9/18/2012	6.5	2563	25.4	4
	11/1/2012	7.2	2681	22.7	8
	2/26/2013	7.0	2090	20.0	10

Table 4. Field parameter data 2007-2013, Entergy - Waterford-3.

Well ID	Sample Date	pH (su)	Specific Conductance ($\mu\text{S}/\text{cm}$)	Temperature ($^{\circ}\text{C}$)	Turbidity (NTU)
MW-09	6/4/2013	6.7	2305	24.6	2
	9/11/2013	6.9	2526	25.7	5
	12/18/2013	NR	2151	21.7	7
MW-10	11/2/2012	7.0	7048	26.0	261
	2/27/2013	6.9	5720	20.7	17
	6/3/2013	6.8	6491	24.8	3
	9/11/2013	6.8	6471	25.4	2
	12/18/2013	NR	6341	22.2	5
MW-11	11/1/2012	6.9	5057	23.2	101
	2/26/2013	6.9	5451	19.1	11
	6/3/2013	6.8	5714	26.1	8
	9/11/2013	6.7	4979	26.1	4
	12/18/2013	NR	5752	21.1	6
MW-12	12/12/2013	NR	2468	21.8	212

Notes:

NR: Not recorded due to instrument malfunction.

Figures

Figure 1

Entergy Waterford-3, Monitoring Well Network



Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

- ◆ Groundwater Monitoring Installation
- Boring
- Cross Section Line A-A'
- Approximate Excavation Area
- Approximate Property Boundary

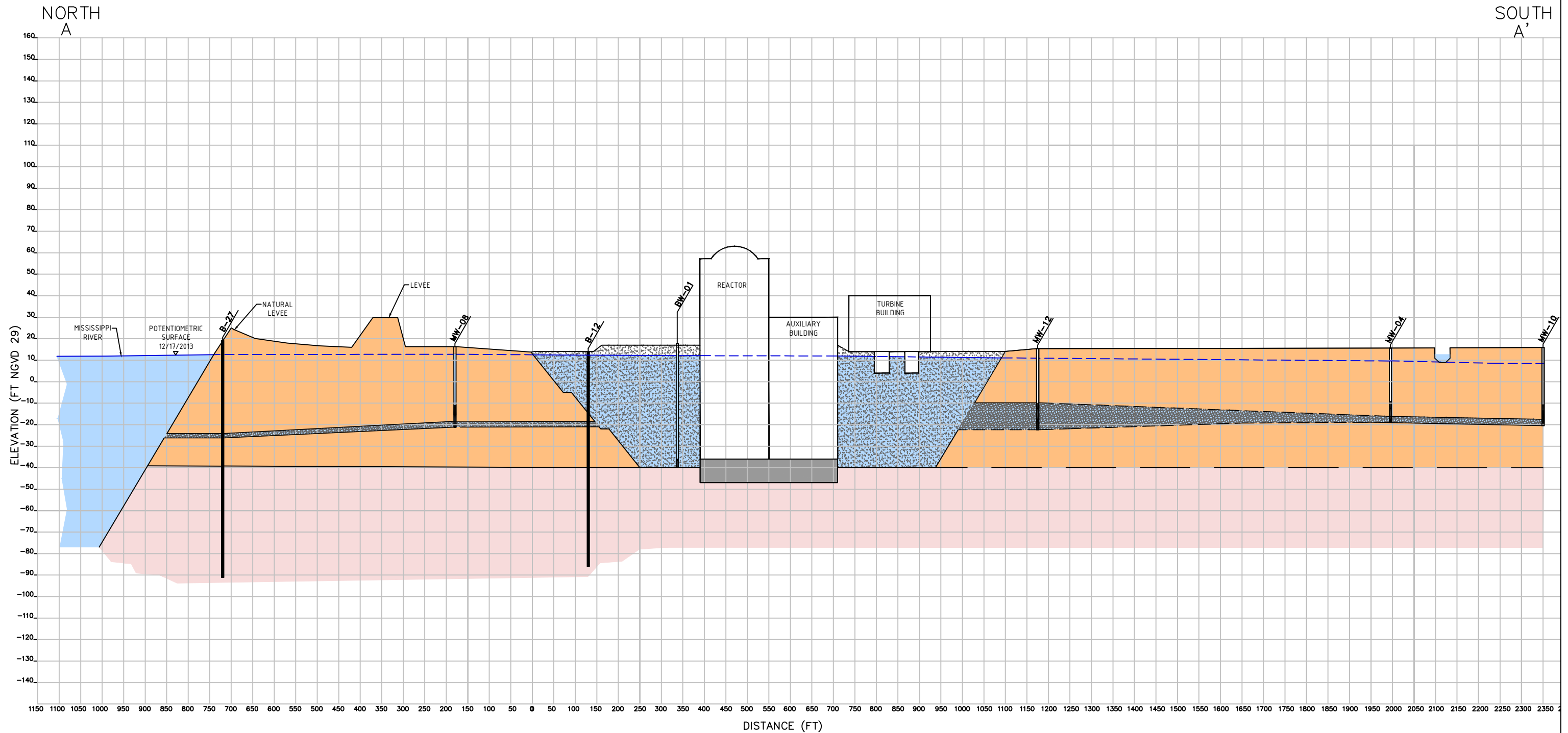
**Entergy Waterford-3
Monitoring Well Network
Cross Section Line A-A'**

0 200 400
 Feet
BASEMAP SOURCE
 Esri Map Imagery
 (c) 2014 Esri Map Service
 and its data suppliers










ftn
 By: DWP
 Date: April 3, 2014
 Project No. 06045-0031-002


Figure 2

Entergy Waterford-3, Cross Section A-A'



NOTES:
 - BUILDING DIMENSIONS ARE APPROXIMATE BASED ON WATERFORD-3 FSAR FIGURE 2.5-80 & 2.5-112
 - FOR LINE OF SECTION, SEE FIGURE 3.1

-  COMPACTED BACKFILL
-  BASEMAT
-  HOLOCENE CLAY AND SILT
-  HOLOCENE SAND & GRAVEL
-  PLEISTOCENE DEPOSITS
-  WATER
-  POTENTIOMETRIC SURFACE ELEVATION
-  BORING
-  MONITORING WELL WITH SCREEN INTERVAL



ENERGY WATERFORD-3 CROSS-SECTION A - A'			
ENERGY NUCLEAR-WATERFORD-3			
DRAWN BY:	FILE NAME:	SCALE:	SHEET NO.
JWM	6045-0031-001 CROSS-SECTIONS	N/A	1
APPROVED BY:	PROJECT NO.	DATE:	
CZM	06045-0031-002	04/08/14	OF 1

Figure 3

Hydrographs: Monitoring Wells adjacent to Mississippi River Compared to Basemat Wells and Mississippi River

Hydrographs, 2007-2013, Entergy - Waterford-3

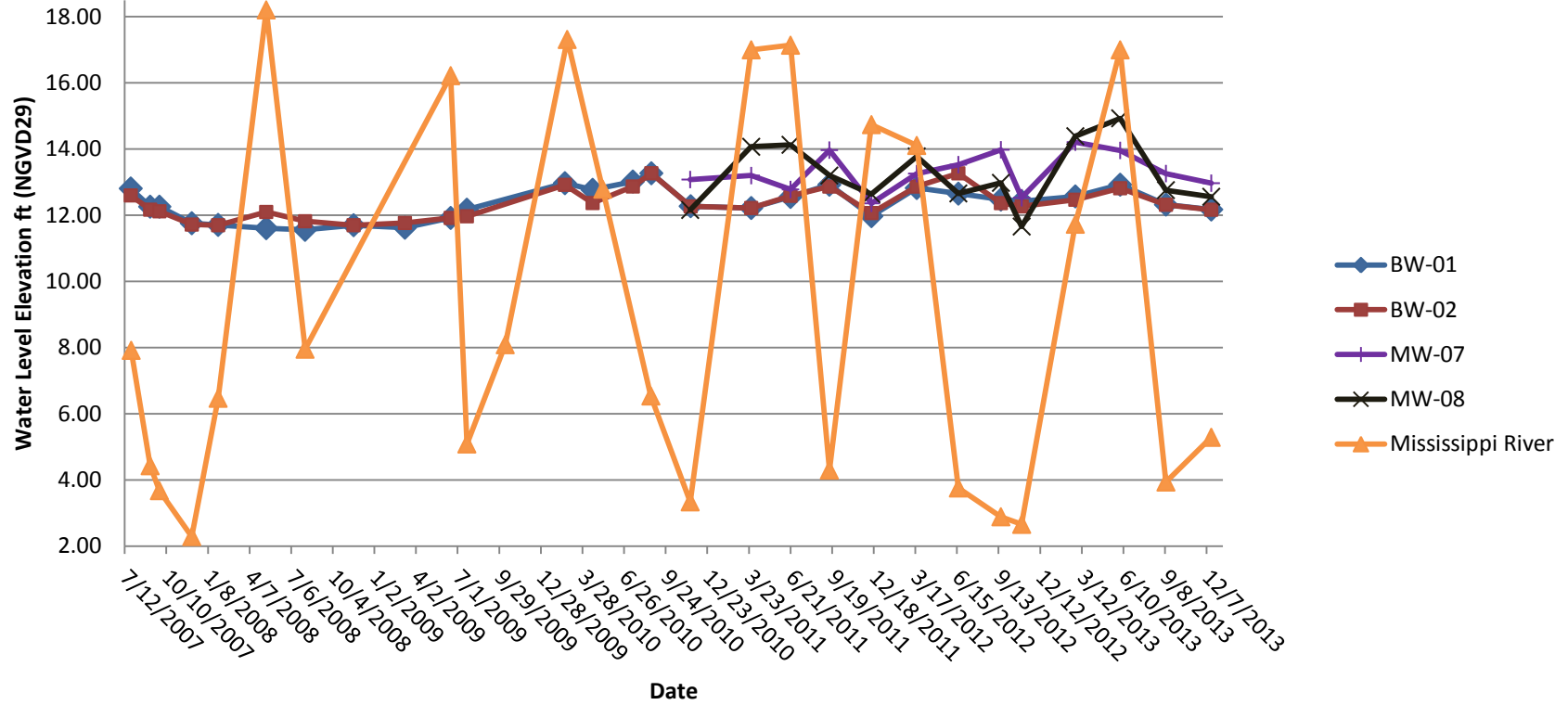


Figure 3. Hydrographs: Monitoring Wells adjacent to Mississippi River Compared to Basemat Wells and Mississippi River.

Figure 4

Hydrographs: Monitoring Wells adjacent to Mississippi River Compared to Basemat Wells and Mississippi River

Hydrographs 2007-2013, Entergy - Waterford-3

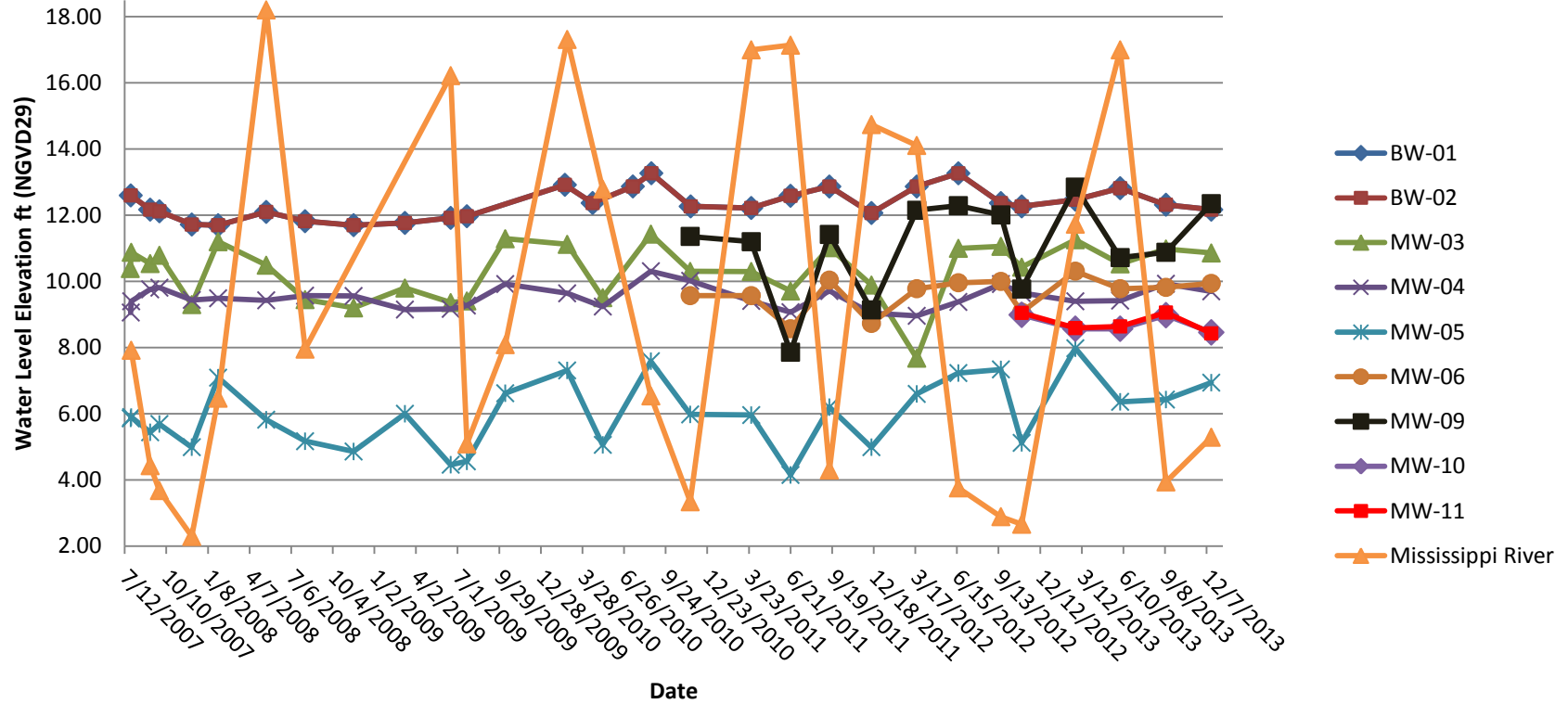
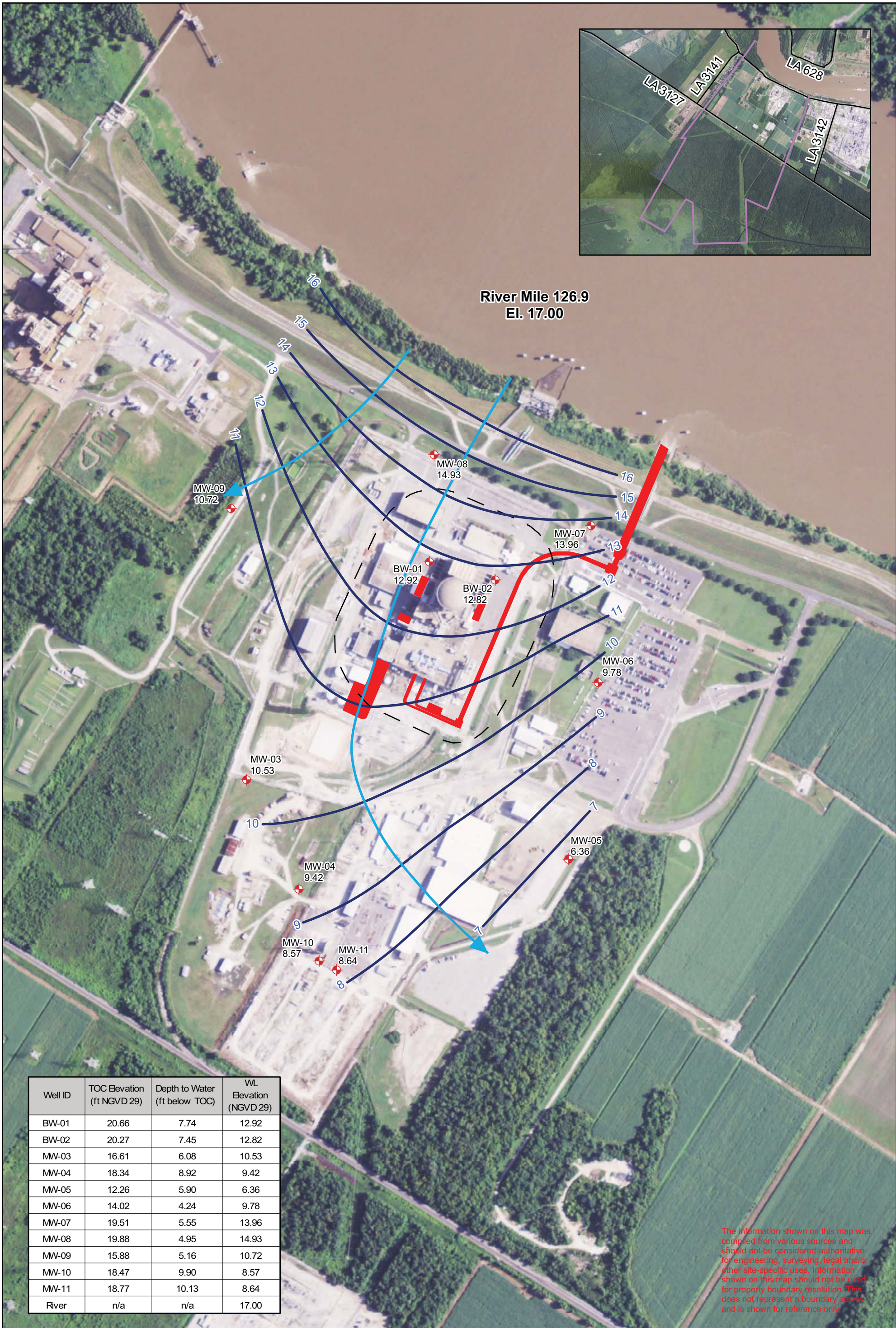


Figure 4. Hydrographs: Perimeter Monitoring Wells Compared to Basemat Wells and .Mississippi River.

Figure 5

Potentiometric Surface Map without Groundwater Divide



Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (NGVD 29)
BW-01	20.66	7.74	12.92
BW-02	20.27	7.45	12.82
MW-03	16.61	6.08	10.53
MW-04	18.34	8.92	9.42
MW-05	12.26	5.90	6.36
MW-06	14.02	4.24	9.78
MW-07	19.51	5.55	13.96
MW-08	19.88	4.95	14.93
MW-09	15.88	5.16	10.72
MW-10	18.47	9.90	8.57
MW-11	18.77	10.13	8.64
River	n/a	n/a	17.00

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Legend

- Groundwater Monitoring Installation
- Potentiometric Surface Elevation
- Groundwater Flow Line
- Approximate Excavation Area
- Potential Tritium Sources
- Approximate Property Boundary

**Entergy Waterford-3
Potentiometric Surface
June 3, 2013**

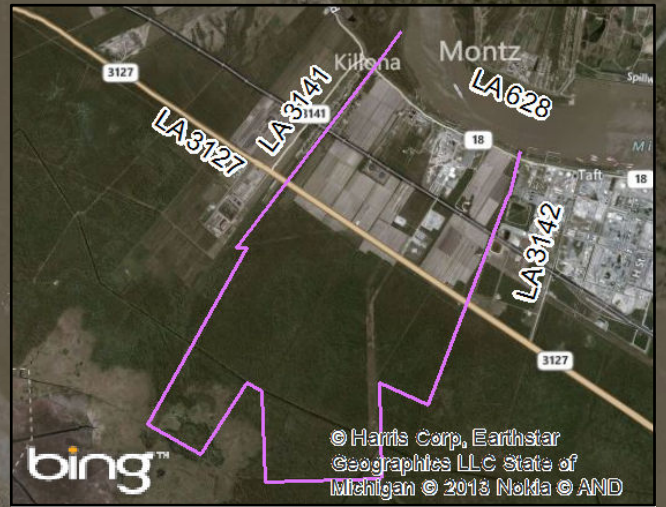
0 200 400 Feet
BASEMAP SOURCE
 NAIP 2009
 St. Charles Parish, LA



By: DWP
 Date: June 26, 2013
 Project No. 06045-0031-002

Figure 6

Potentiometric Surface Map with Groundwater Divide



River Mile 126.9
El. 3.94

Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (NGVD 29)
BW-01	20.66	8.34	12.32
BW-02	20.27	7.95	12.32
MW-03	16.61	5.63	10.98
MW-04	18.34	8.41	9.93
MW-05	12.26	5.83	6.43
MW-06	14.02	4.20	9.82
MW-07	19.51	6.25	13.26
MW-08	19.88	7.12	12.76
MW-09	15.88	5.00	10.88
MW-10	18.47	9.49	8.98
MW-11	18.77	9.71	9.06
River	n/a	n/a	3.94

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Image courtesy of USGS State of Michigan

- Legend**
- Groundwater Monitoring Installation
 - Potentiometric Surface Elevation
 - Groundwater Flow Line
 - Approximate Excavation Area
 - Potential Tritium Sources
 - Approximate Property Boundary

Entergy Waterford-3
Potentiometric Surface
September 10, 2013

0 200 400 Feet
BASEMAP SOURCE
2010 Microsoft Corporation
and its data suppliers



By: JWB
Date: October 9, 2013
Project No. 06045-0031-002

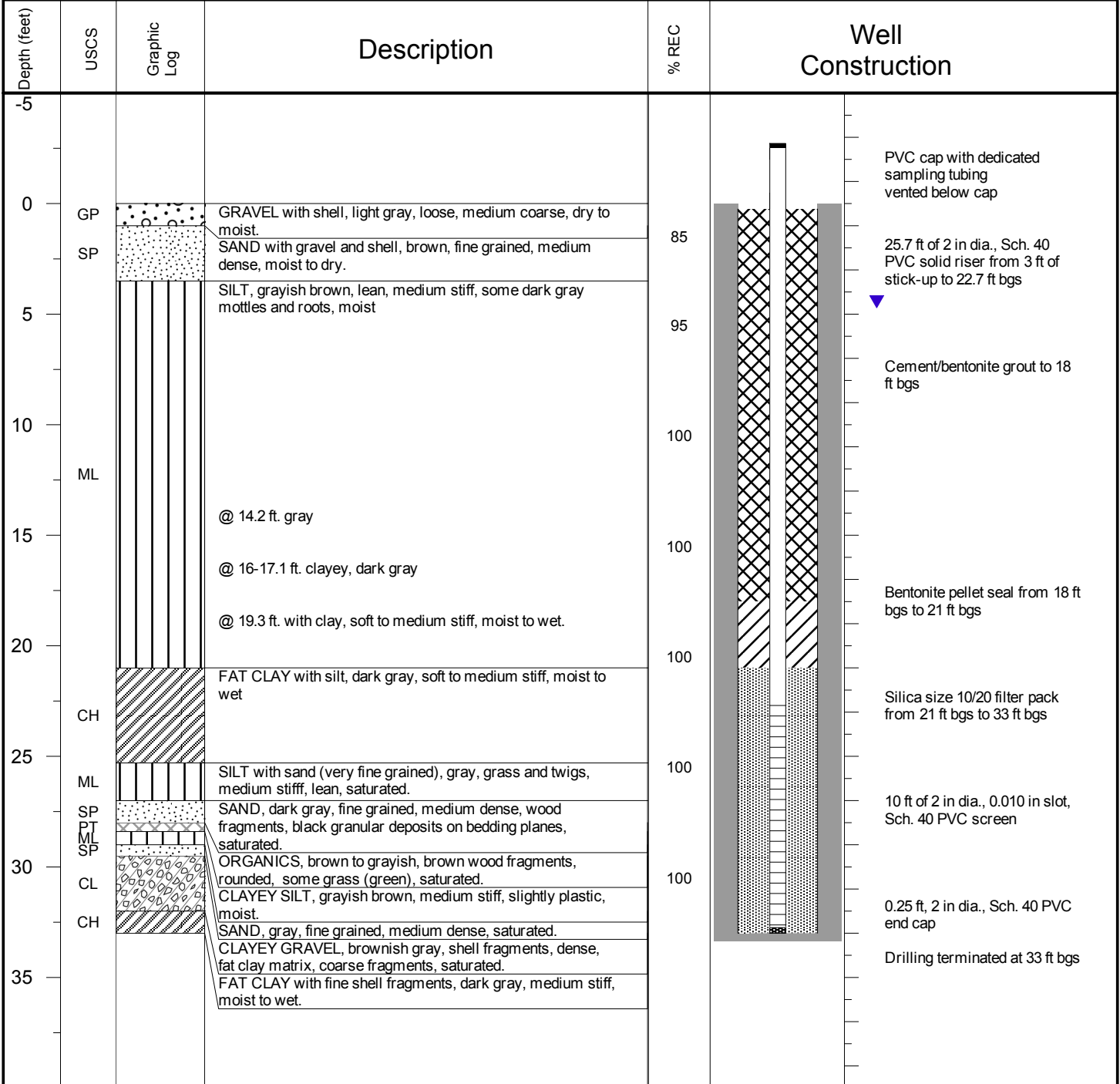


APPENDIX A

Boring Logs and Well Construction Diagrams



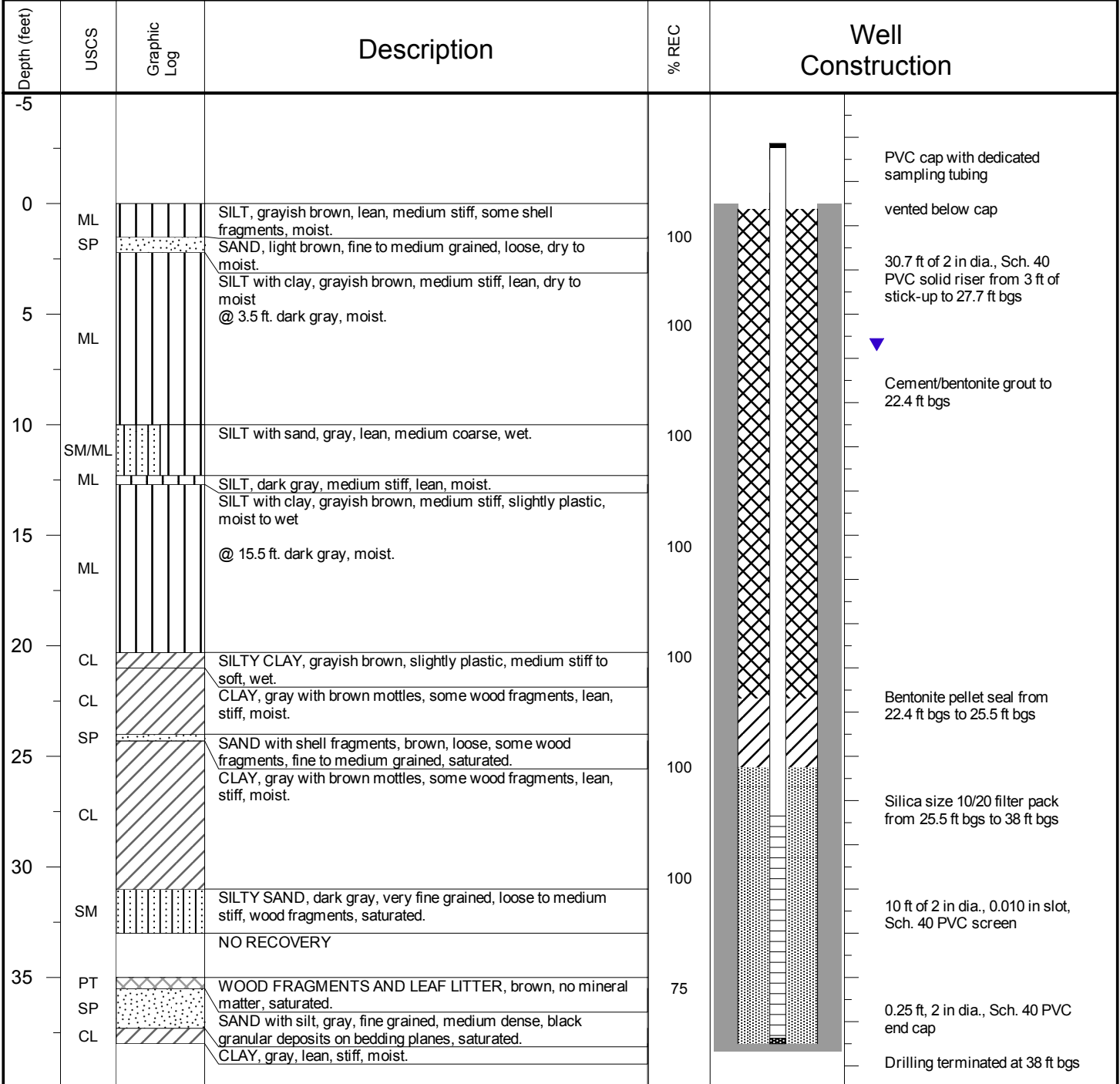
PROJECT: Waterford-3	BORING ID: MW-06	
LOCATION: Killona, LA	WELL ID: MW-06	
DRILLING CONTRACTOR: Tri-State Testing Services	NORTHING: 544399.37 ft	EASTING: 3554431.09 ft
DRILLING EQUIPMENT: CME 75	GROUND SURFACE ELEV.: 11.61 ft	TOC ELEVATION: 14.01 (ft msl)
DRILLING METHOD: Hollow stem auger	TOTAL DEPTH: 33 ft bgs	DEPTH TO WATER (11/16/2010): 4.44 ft bgs
LOGGED BY: CLN	SAMPLING METHOD: 5-foot continuous sampler	DATE STARTED: 10/5/10
		DATE COMPLETED: 10/5/10



NOTES: HAS drilling of 8" diameter borehole.
Well completion of 2' x 2' x 4" concrete pad, 4" x 4" steel protective cover, 4" diameter pipe bollards.



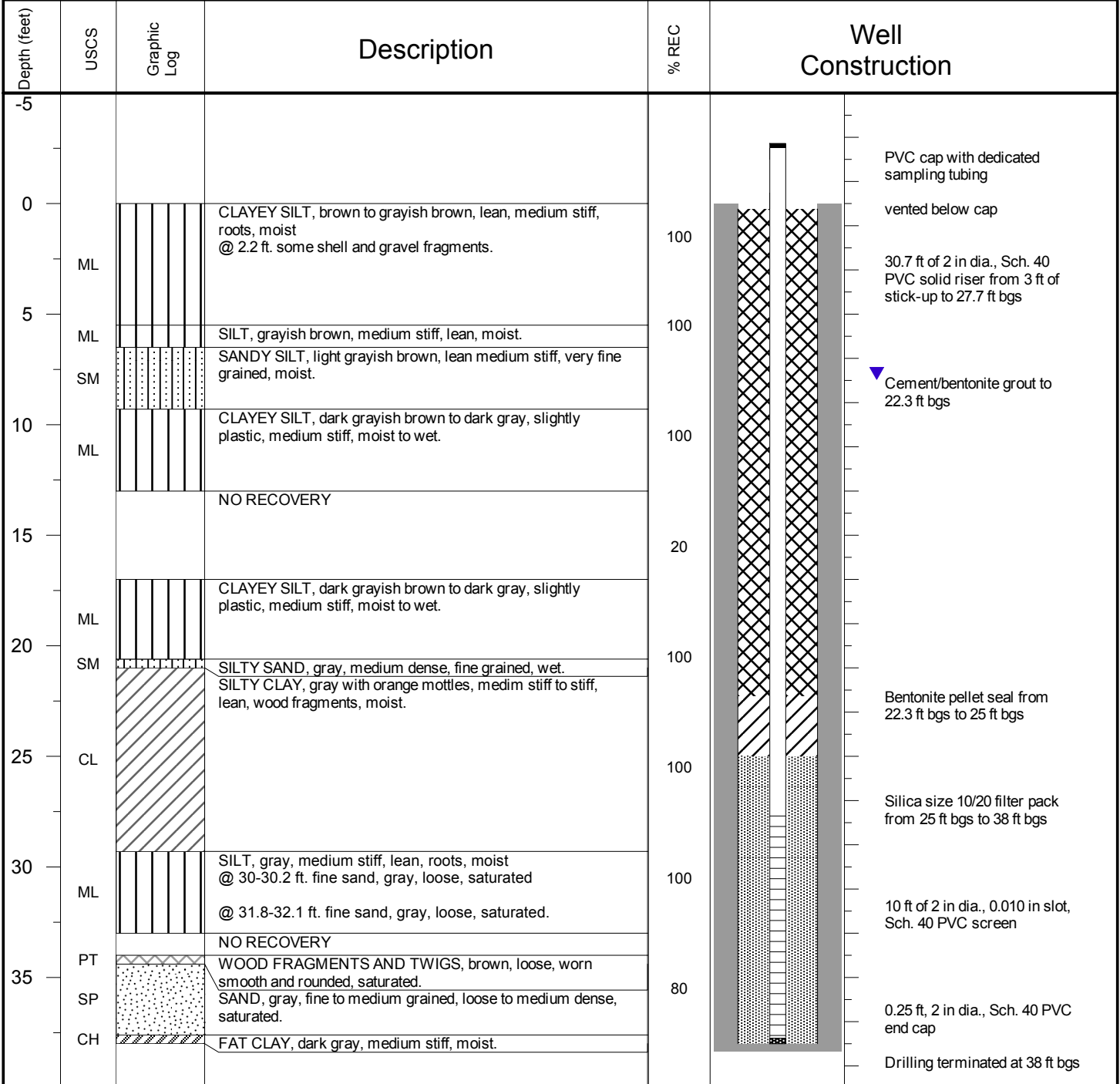
PROJECT: Waterford-3	BORING ID: MW-07	
LOCATION: Killona, LA	WELL ID: MW-07	
DRILLING CONTRACTOR: Tri-State Testing Services	NORTHING: 545122.87 ft	EASTING: 3554397.7 ft
DRILLING EQUIPMENT: CME 75	GROUND SURFACE ELEV.: 16.31 ft	TOC ELEVATION: 19.46 (ft msl)
DRILLING METHOD: Hollow stem auger	TOTAL DEPTH: 38 ft bgs	DEPTH TO WATER (11/16/2010): 6.38 ft bgs
LOGGED BY: CLN	SAMPLING METHOD: 5-foot continuous sampler	DATE STARTED: 10/5/10
		DATE COMPLETED: 10/5/10



NOTES: HAS drilling of 8" diameter borehole.
Well completion of 2' x 2' x 4" concrete pad, 4" x 4" steel protective cover, 4" diameter pipe bollards.



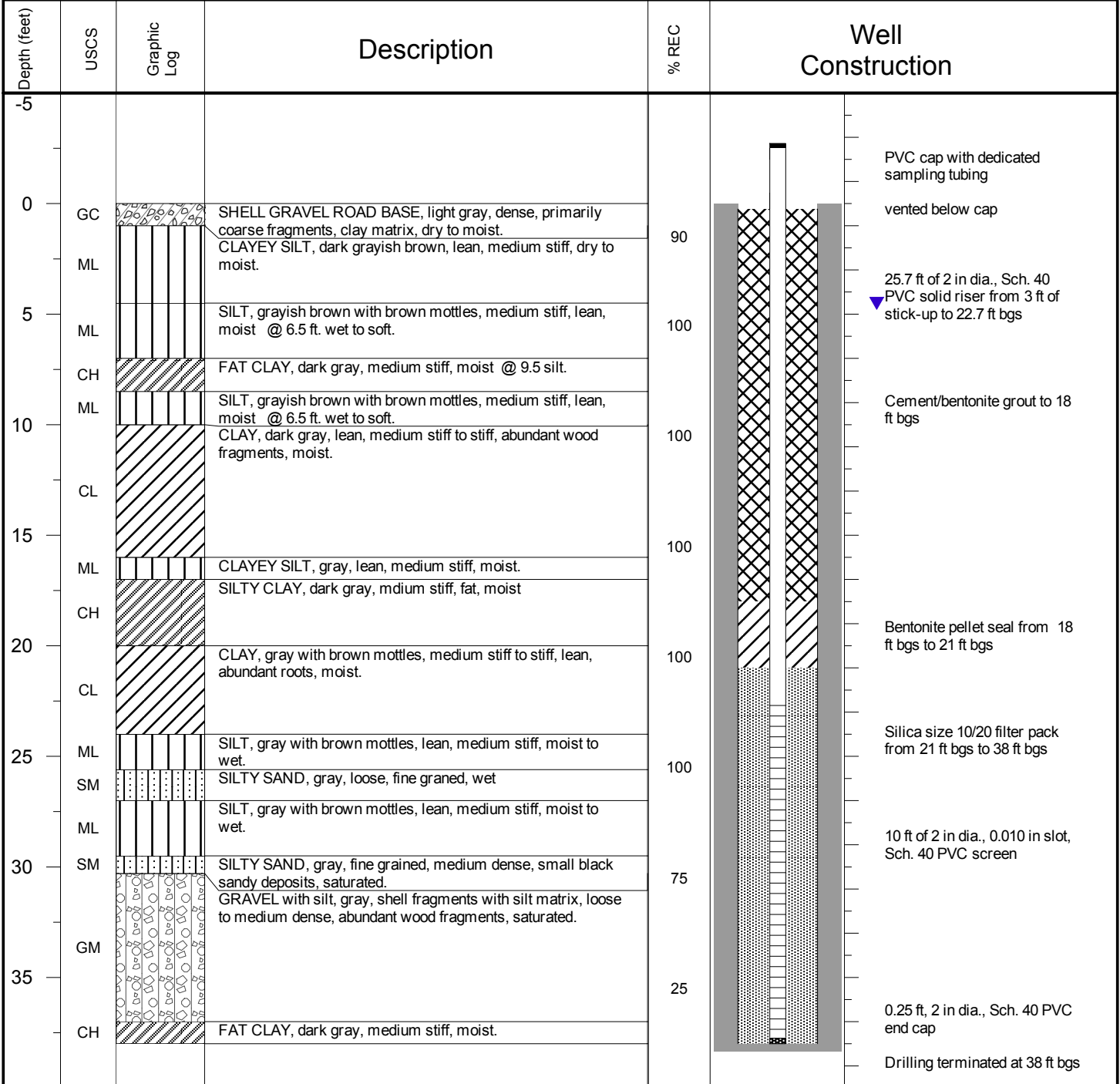
PROJECT: Waterford-3		BORING ID: MW-08	
LOCATION: Killona, LA		WELL ID: MW-08	
DRILLING CONTRACTOR: Tri-State Testing Services		NORTHING: 545449.67 ft	EASTING: 3553674.67 ft
DRILLING EQUIPMENT: CME 75		GROUND SURFACE ELEV.: 16.37 ft	TOC ELEVATION: 19.84 (ft msl)
DRILLING METHOD: Hollow stem auger		TOTAL DEPTH: 38 ft bgs	DEPTH TO WATER (11/16/2010): 7.68 ft bgs
LOGGED BY: CLN	SAMPLING METHOD: 5-foot continuous sampler	DATE STARTED: 10/6/10	DATE COMPLETED: 10/6/10



NOTES: HAS drilling of 8" diameter borehole.
Well completion of 2' x 2' x 4" concrete pad, 4" x 4" steel protective cover, 4" diameter pipe bollards.



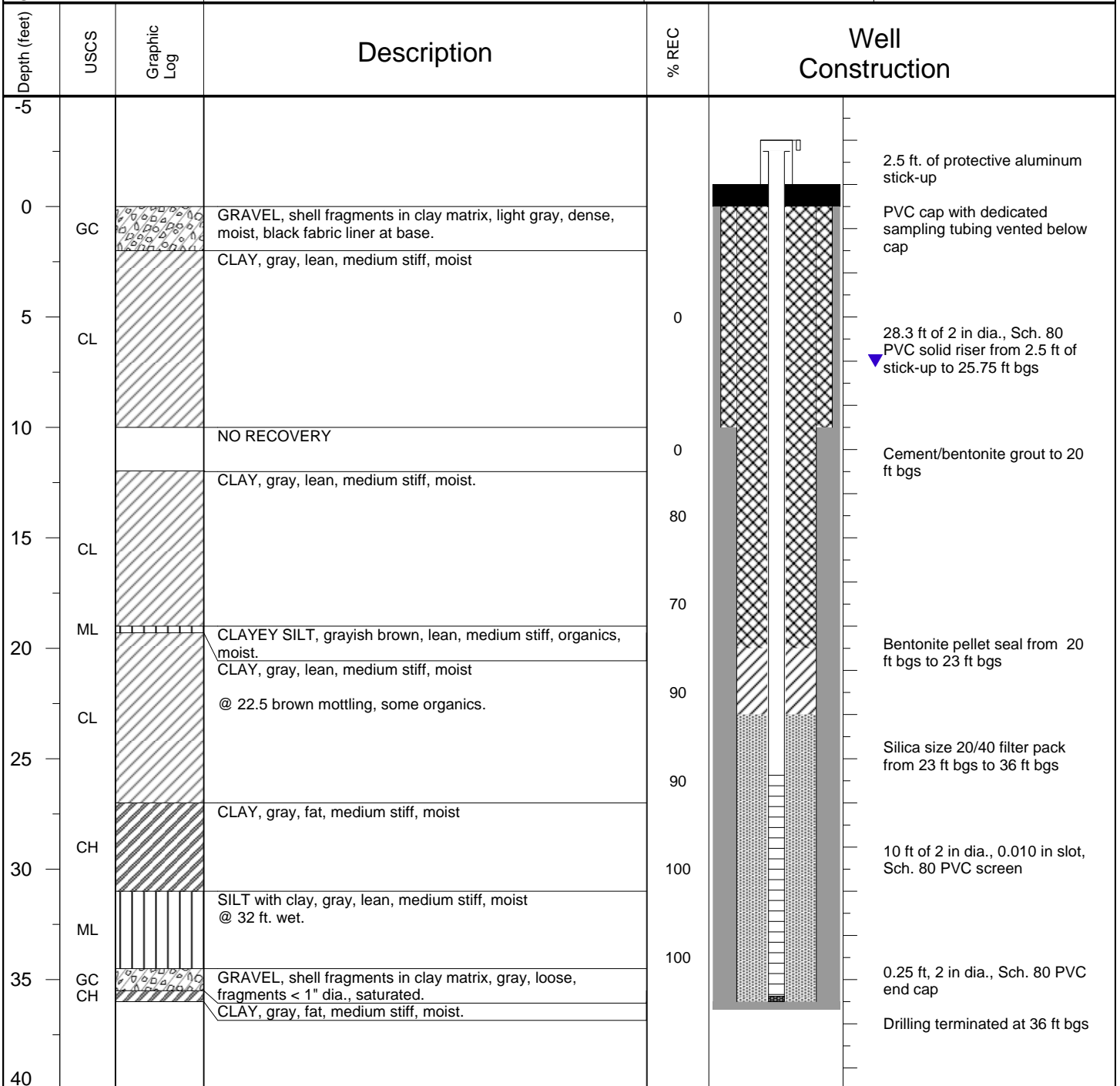
PROJECT: Waterford-3		BORING ID: MW-09	
LOCATION: Killona, LA		WELL ID: MW-09	
DRILLING CONTRACTOR: Tri-State Testing Services		NORTHING: 545202.96 ft	EASTING: 352738.14 ft
DRILLING EQUIPMENT: CME 75		GROUND SURFACE ELEV.: 13.65 ft	TOC ELEVATION: 15.87 (ft msl)
DRILLING METHOD: Hollow stem auger		TOTAL DEPTH: 38 ft bgs	DEPTH TO WATER (11/16/2010): 4.51 ft bgs
LOGGED BY: CLN	SAMPLING METHOD: 5-foot continuous sampler	DATE STARTED: 10/6/10	DATE COMPLETED: 10/6/10



NOTES: HAS drilling of 8" diameter borehole.
Well completion of 2' x 2' x 4" concrete pad, 4" x 4" steel protective cover, 4" diameter pipe bollards.



PROJECT: Waterford-3 OSGSF Wells	BORING ID: MW-10	
LOCATION: Killona, LA	WELL ID: MW-10	
DRILLING CONTRACTOR: Pro Serve, Inc. / Walker Hill Environmental, Inc.	NORTHING: (LA State Plane S.) 543116.44 ft (NAD 83)	EASTING: (LA State Plane S.) 3553144.73 ft (NAD 83)
DRILLING EQUIPMENT: GAPVAX MV-56/Geoprobe 7822DT	GROUND SURFACE ELEV.: 15.96 ft (NGVD 29)	TOC ELEVATION: 18.47 ft (NGVD 29)
DRILLING METHOD: Hydrovac/H.S.A.	TOTAL DEPTH: 36 ft bgs	DEPTH TO WATER (11/02/2012): 9.48 ft Below TOC
LOGGED BY: CLN	SAMPLING METHOD: 2" diameter direct push technology sampler with sleeve	DATE STARTED: 10/31/2012
		DATE COMPLETED: 11/1/2012

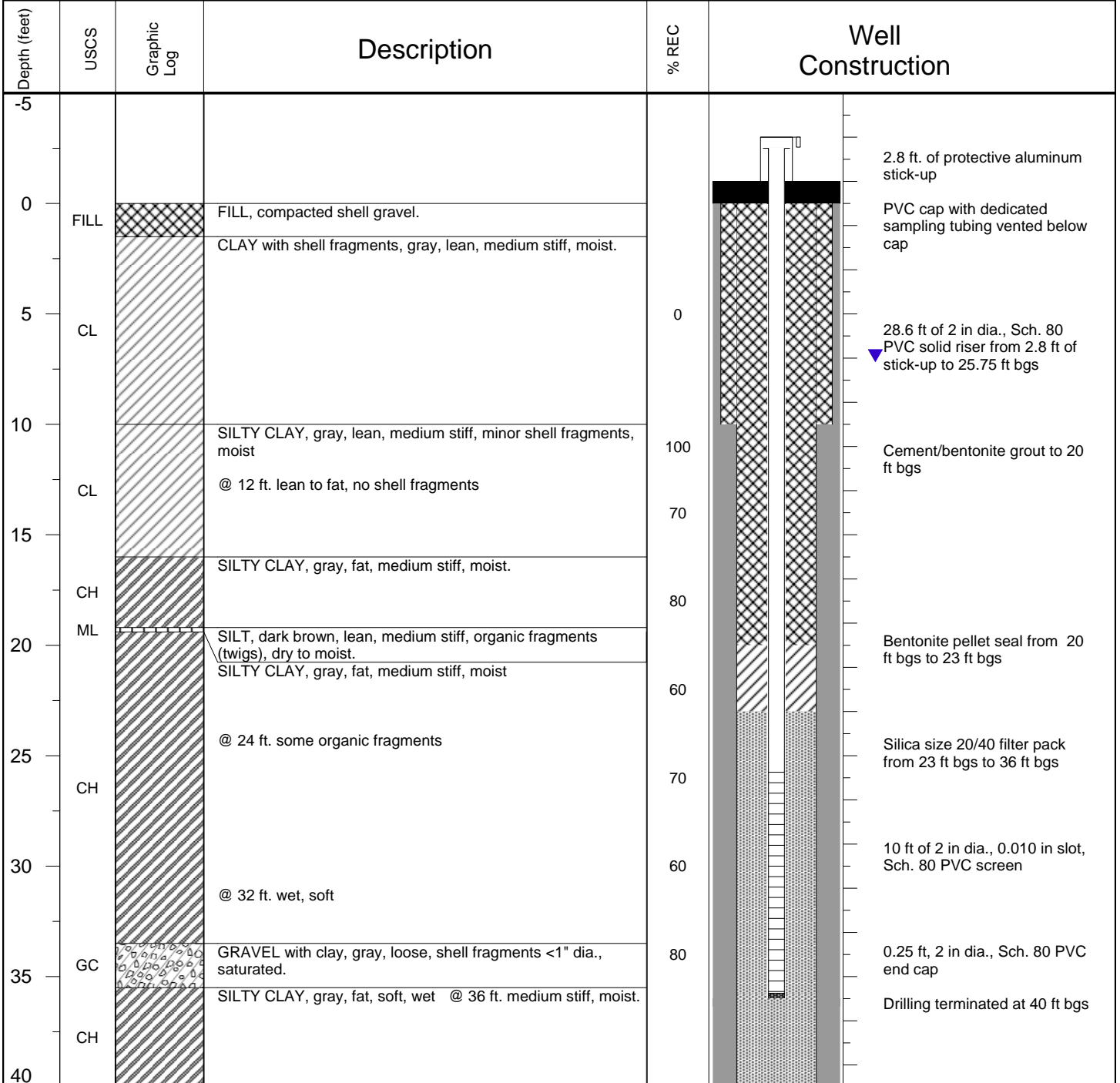


NOTES: Well completion of 3' x 3' x 4" concrete pad, 6" x 6" aluminum protective cover, four 4" diameter pipe bollards.

H.S.A. drilling of 8" diameter borehole.



PROJECT: Waterford-3 OSGSF Wells	BORING ID: MW-11	
LOCATION: Killona, LA	WELL ID: MW-11	
DRILLING CONTRACTOR: Pro Serve, Inc. / Walker Hill Environmental, Inc.	NORTHING: (LA State Plane S.) 543074.20 ft (NAD 83)	EASTING: (LA State Plane S.) 3553225.08 ft (NAD 83)
DRILLING EQUIPMENT: GAPVAX MV-56/Geoprobe 7822DT	GROUND SURFACE ELEV.: 15.93 ft (NGVD 29)	TOC ELEVATION: 18.77 ft (NGVD 29)
DRILLING METHOD: Hydrovac/H.S.A.	TOTAL DEPTH: 40 ft bgs	DEPTH TO WATER (11/02/2012): 9.72 ft Below TOC
LOGGED BY: CLN	SAMPLING METHOD: 2" diameter direct push technology sampler with sleeve	DATE STARTED: 10/31/2012
		DATE COMPLETED: 11/1/2012

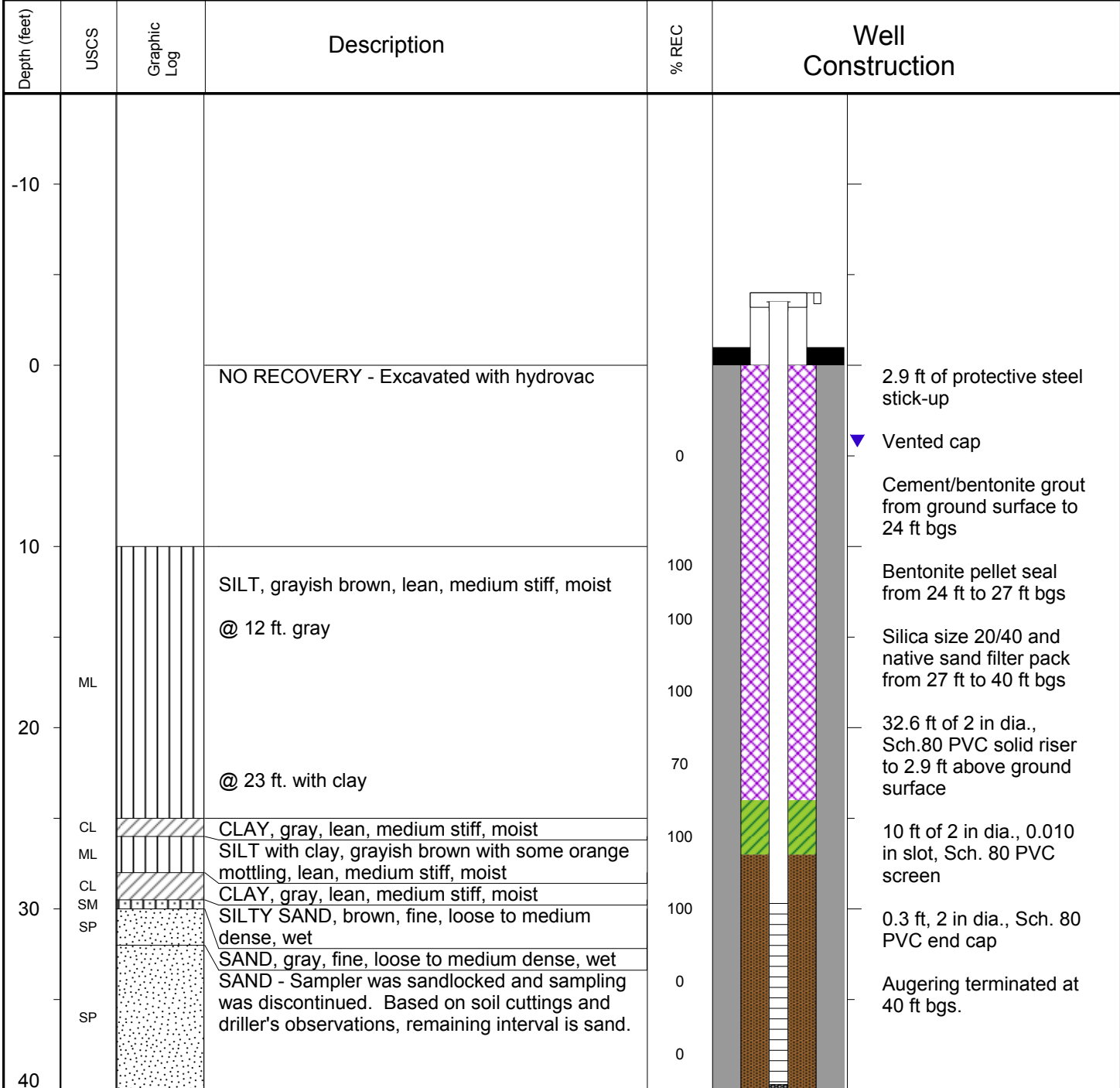


NOTES: Well completion of 3' x 3' x 4" concrete pad, 6" x 6" aluminum protective cover, four 4" diameter pipe bollards.

H.S.A. drilling of 8" diameter borehole.



PROJECT: Entergy - Waterford 3	BORING ID: MW-12		
LOCATION: Killona, LA	WELL ID: MW-12		
DRILLING CONTRACTOR: Pro-Serve, Inc./Walker-Hill Environmental	NORTHING: (LA State Plane) 544174.58 ft (NAD83)	EASTING: (LA State Plane) 3553334.61 ft (NAD83)	
DRILLING EQUIPMENT: GapVax Hydrovac HV-56/Geoprobe 7822DT	GROUND SURFACE ELEV.: 15.22 ft (NGVD29)	TOC ELEVATION: 18.13 ft (NGVD29)	
DRILLING METHOD: Hydrovac/Direct push technology with rotary augerhead	TOTAL DEPTH BGS: 40 ft	DEPTH TO WATER from TOC: 7.16 ft (12/17/13)	
LOGGED BY: CLN	SAMPLING METHOD: 4", 3" dia. direct push technology sampling rod with sleeve	DATE STARTED: 12/12/13	DATE COMPLETED: 12/13/13



NOTES: Borehole diameter: 12" from 0 ft to 10 ft with hydrovac, 8" from 10 ft to 40 ft with DPT rotary augering.
Well completion of 3'x3'x4" concrete pad, 6"x6" locking aluminum protective cover, and two 4" dia., steel bollards.

APPENDIX B

Well Registration Forms

**LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
WATER RESOURCE ACTION
WATER WELL REGISTRATION SHOWING FORM (DOTD-GW-1S)**

PLEASE PRINT IN INK OR TYPE WHEN COMPLETING THIS FORM

1. USE OF WELL (Check Appropriate Box)
 DOMESTIC RIG SUPPLY MONITORING PIEZOMETER RECOVERY
 HEAT PUMP HOLE HEAT PUMP SUPPLY ABANDONED PILOT HOLE OTHER _____ (Please Specify)
2. WELL OWNER Entergy Waterford III PHONE (504) 739-6481
3. WELL OWNER'S ADDRESS 17265 River Road Killona, LA 70057
4. OWNER'S WELL NUMBER OR NAME (if any) MW 7
5. DATE COMPLETED 10-7-10 DEPTH OF HOLE 38 FT. DEPTH OF WELL 38 + 3 FT.
6. STATIC WATER LEVEL 22 FT. BELOW GROUND SURFACE MEASURED ON 10-7-10 (Date)
7. CASING 2 IN. METAL PLASTIC OTHER LENGTH 31 FT.
8. SCREEN 2 IN. METAL PLASTIC OTHER SLOT SIZE .010" LENGTH 10 FT.
9. CEMENTED FROM 24 FT. TO GROUND SURFACE, USING PUMP DOWN METHOD OR GRAVITY METHOD
10. LOCATION OF WELL: PARISH St. Charles WELL IS NEAR, Killona (Town or City)
 APPROXIMATELY 1 MILES FROM Hwy 3141 + River Rd. (South) (Crossroads, Railroad, Any Landmark, etc.)

(Please draw sketch on back of Original)

11. REMARKS: Well has 3' 5" pickup
12. DRILLER'S LOG (Description and color of cuttings, such as shale, sand, etc. in feet)

FROM	TO	DESCRIPTION	FROM	TO	DESCRIPTION
0	1	Brown Sandy Silt			
1	38	Blackish Gray Clay with Some Silt			

13. FOR HEAT PUMP ONLY: AVG. DEPTH N/A FT. NUMBER OF HOLES N/A
14. ABANDONMENT INFORMATION: DOES THE NEW WELL REPLACE AN EXISTING WELL? YES NO
15. NAME OF PERSON WHO DRILLED THE WELL: David McCray

Tri-State Testing Services
 Name of Water Well Contractor
 LICENSE NUMBER WWC-544
David McCray 10/19/10
 Authorized Signature Date

MAIL ORIGINAL TO:
 LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
 ATTN.: CHIEF - WATER RESOURCES SECTION
 P.O. BOX 94245
 BATON ROUGE, LA 70804-9245
 (225) 274-4172

FOR OFFICE USE ONLY

PARISH 26 WELL NO. 125

IDENTIFICATION NUMBER 0

REVISED COORDINATES 26 125 20E

Geologic Unit 26 125 20E Use of Well

ELEV. 1631 QUAD. NO. 202A

INPUT BY: _____ DATE: _____
 INSPECTED BY: _____ DATE: _____
 REMARKS: _____

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY

LATITUDE 29.7961 LONGITUDE -90.4691

SECTION 26 TOWNSHIP 125 RANGE 20E

ELEV. 1631 QUAD. NO. 202A

SITE ADDRESS: 17265 River Road
Killona, LA 70057

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
(225) 242-3505 Fax

1. USE OF WELL (Check appropriate box):

- Domestic Rig Supply Monitoring Piezometer
 Recovery Heat Pump Hole Heat Pump Supply
 Relief Abandoned Pilot Hole
 Other (please specify) _____

2. WELL OWNER: Entergy Operations – Waterford 3
Phone: (504) 464-3267

3. WELL OWNER'S ADDRESS: 17265 River Road
Killona, LA 70057

4. OWNER'S WELL NUMBER OR NAME: MW-10
Serial Number (Rig Supply Only): _____

5. WELL INFORMATION:

Date completed: 11-1-12
Depth of Hole: 36 ft. below ground surface
Depth of Well: 35 ft.
Static water level: 10 ft. below ground surface
Date Measured: 11-1-12
Casing: 2 in. Metal Plastic Other Length: 28 ft.
Screen: 2 in. Metal Plastic Other Slot size: 0.010 in.
Length: 10 ft. Cemented from: 20 ft. to ground surface
Using: Pump down Method Gravity Method

6. LOCATION OF WELL:

GPS Coordinates:
Latitude: 29 ° 59 ' 26" Longitude.: 90 ° 28 ' 23 "
Parish: St. Charles
Physical Address: 17265 River Road, Killona, LA
Well is Near, Killona Approximately 1 miles from
(Crossroads, Railroad, any Landmark, etc.) west of the intersection of
Hwy 18 and Highway 3142
(Attach a map or sketch or registered plat if Rig Supply with form)

7. REMARKS: Casing extends 3 feet above ground surface

8. DRILLER'S LOG

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	2	Gravel
2	31	Gray Clay
31	34	Gray Silt
34	35	Gravel
35	36	Gray Clay

9. FOR HEAT PUMP ONLY: Avg. Depth: _____ ft. # of Holes: _____

10. DOES THE NEW WELL REPLACE AN EXISTING WELL? Yes No

11. NAME OF PERSON WHO DRILLED THE WELL:
Dennis Herrera

*I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 11-1-12 (Date) by: Walker-Hill Environmental, Inc. (Name of Water Well Contractor), License No. WWC- 574 Authorized Signature: *Randy J. P...* Date: 12-3-12*

FOR OFFICE USE ONLY

PARISH	WELL NO.	GEOLOGIC UNIT
LATITUDE	LONGITUDE	SECTION
		<u>0 2 6</u>
TOWNSHIP	RANGE	ELEVATION
<u>1 2 S</u>	<u>2 0 E</u>	<u>0 0 0 0</u>
QUAD NO.		
<u>2 0 2 A</u>		

REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

MAIL ORIGINAL TO:
 Louisiana Dept. of Natural Resources
 Attn: Ground Water Resources
 P.O. Box 94275
 Baton Rouge, LA 70804-9275
 (225) 342-8244 Ph.
 (225) 242-3505 Fax

1. USE OF WELL (Check appropriate box):

- Domestic Rig Supply Monitoring Piezometer
 Recovery Heat Pump Hole Heat Pump Supply
 Relief Abandoned Pilot Hole
 Other (please specify) _____

2. WELL OWNER: Entergy Operations – Waterford 3

Phone: (504) 464-3267

3. WELL OWNER'S ADDRESS: 17265 River Road

Killona, LA 70057

4. OWNER'S WELL NUMBER OR NAME: MW-11

Serial Number (Rig Supply Only): _____

5. WELL INFORMATION:

Date completed: 11-1-12

Depth of Hole: 40 ft. below ground surface

Depth of Well: 35 ft.

Static water level: 10 ft. below ground surface

Date Measured: 11-1-12

Casing: 2 in. Metal Plastic Other Length: 28 ft.

Screen: 2 in. Metal Plastic Other Slot size: 0.010 in.

Length: 10 ft. Cemented from: 20 ft. to ground surface

Using: Pump down Method Gravity Method

6. LOCATION OF WELL:

GPS Coordinates:

Latitude: 29 ° 59 ' 26" Longitude: 90 ° 28 ' 22 "

Parish: St. Charles

Physical Address: 17265 River Road, Killona, LA

Well is Near, Killona Approximately 1 miles from

(Crossroads, Railroad, any Landmark, etc.) west of the intersection of

Hwy 18 and Highway 3142

(Attach a map or sketch or registered plat if Rig Supply with form)

7. REMARKS: Casing extends 3 feet above ground surface

8. DRILLER'S LOG

(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	2	Fill
2	18	Gray Silty Clay
18	19	Brown Silt
19	33	Gray silty Clay
33	36	Gravel
36	40	Gray silty Clay

9. FOR HEAT PUMP ONLY: Avg. Depth: _____ ft. # of Holes: _____

10. DOES THE NEW WELL REPLACE AN EXISTING WELL? Yes No

11. NAME OF PERSON WHO DRILLED THE WELL:

Dennis Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 11-1-12 (Date) by: Walker-Hill Environmental, Inc. (Name of Water Well Contractor), License No. WWC- 574

Authorized Signature: *Dusty Poff* **Date:** 12-3-12

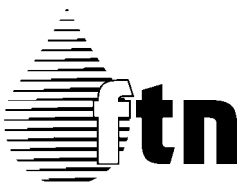
FOR OFFICE USE ONLY

PARISH	WELL NO.	GEOLOGIC UNIT
LATITUDE	LONGITUDE	SECTION
		0 2 6
TOWNSHIP	RANGE	ELEVATION
1 2 S	2 0 E	0 0 0 0
		QUAD NO.
		2 0 2 A

REGISTERED BY: _____ DATE: _____
 INSPECTED BY: _____ DATE: _____
 REMARKS: _____

APPENDIX C

Groundwater Level Data Sheet



Groundwater Level Data Sheet

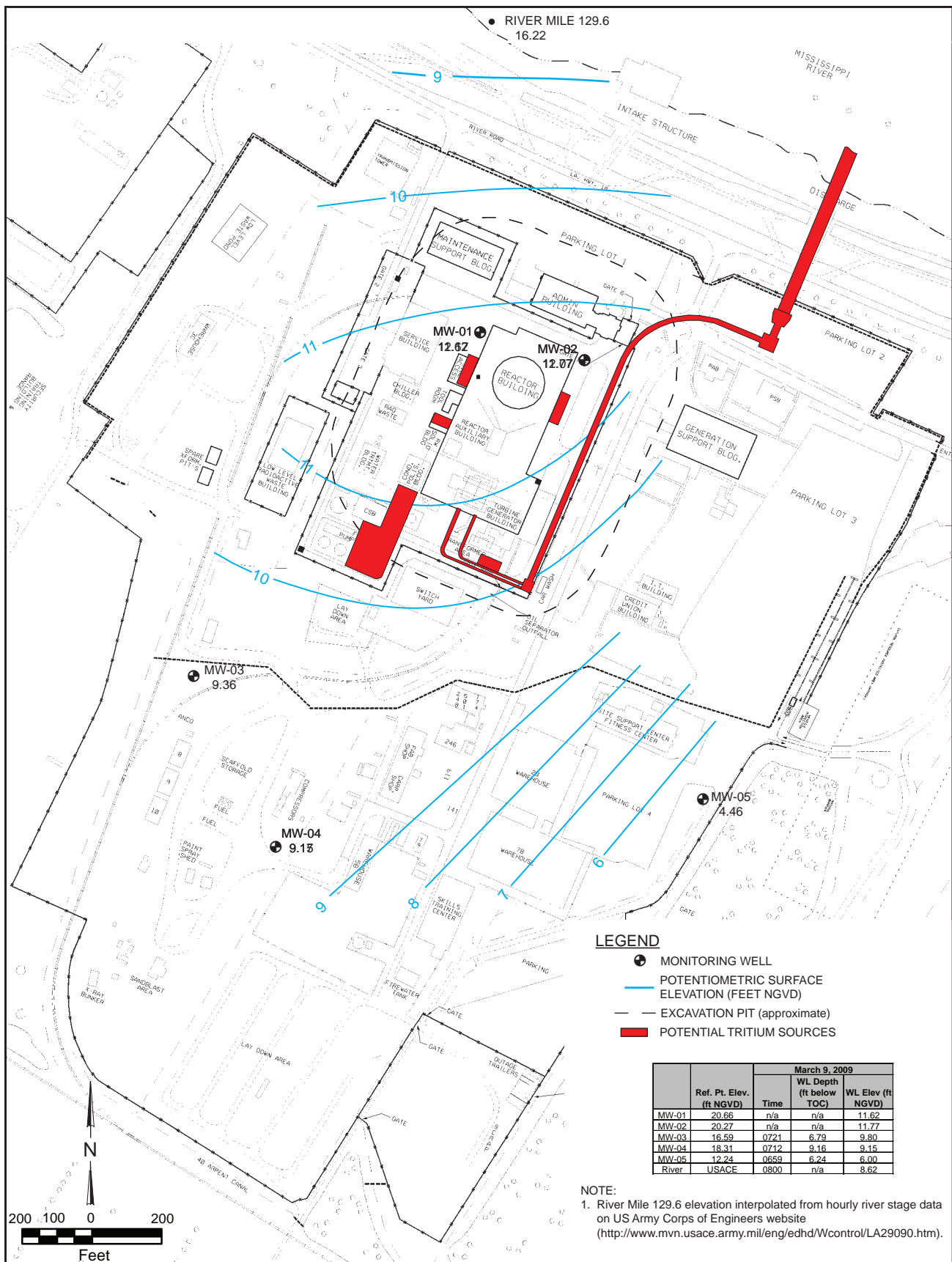
Project Name:	Project Number:	Investigator:	Page ___ of ___
Weather Conditions:	Measuring Device:		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

APPENDIX D

Potentiometric Surface Maps



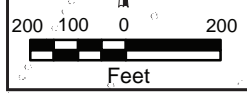
● RIVER MILE 129.6
16.22

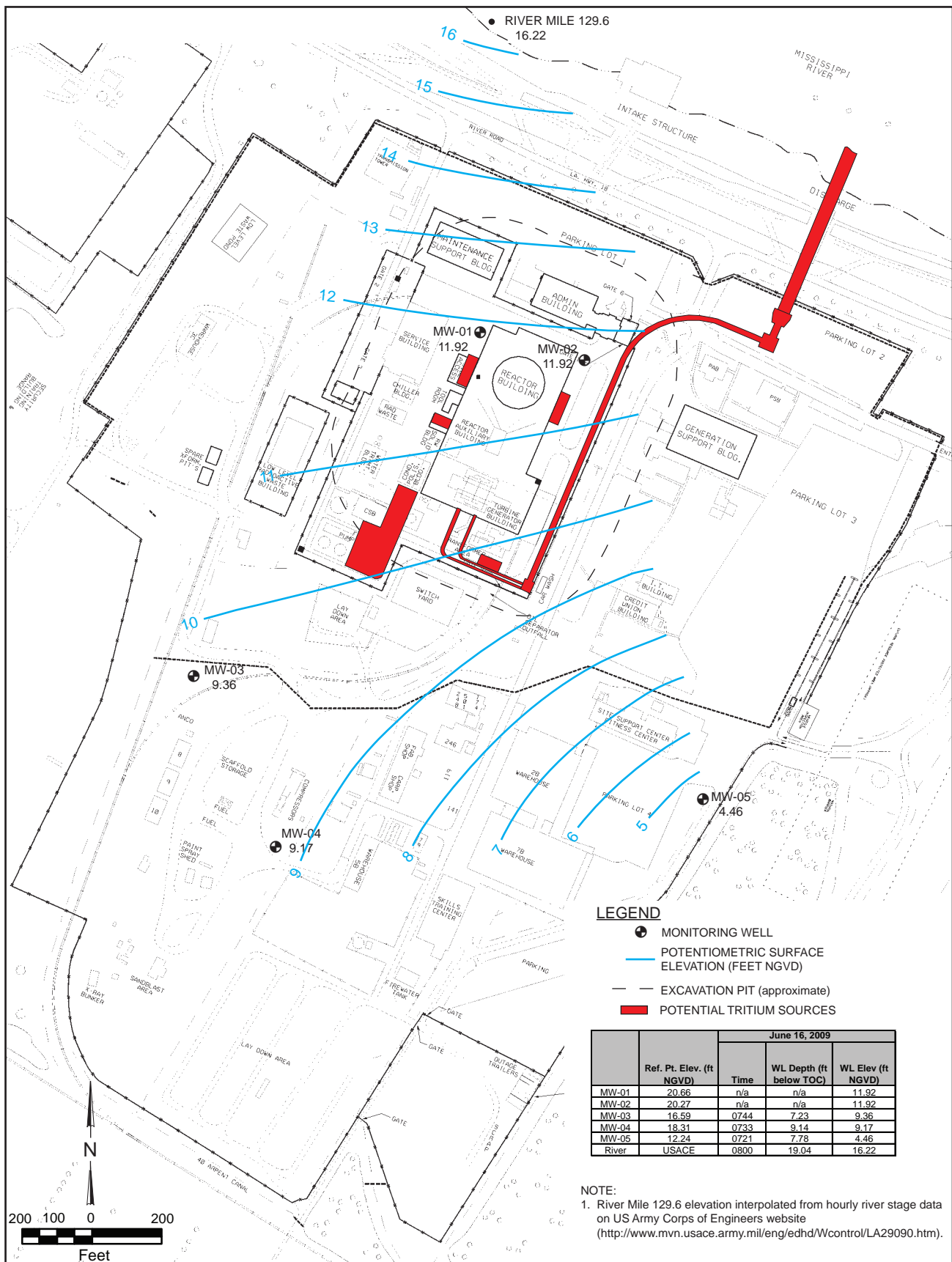
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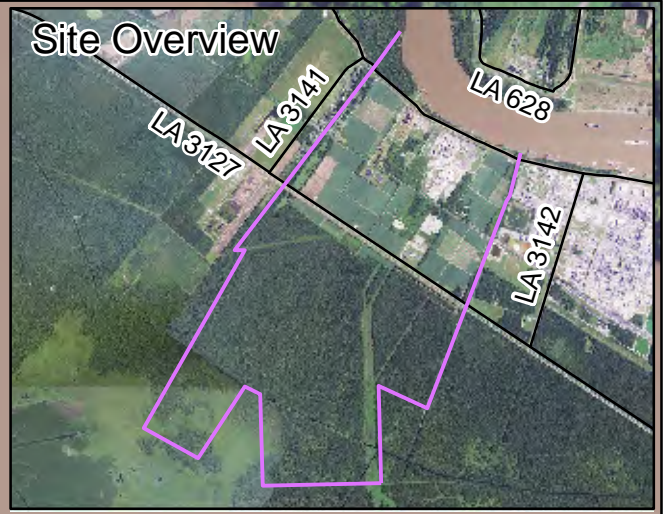
- MONITORING WELL
- POTENTIOMETRIC SURFACE ELEVATION (FEET NGVD)
- - - EXCAVATION PIT (approximate)
- POTENTIAL TRITIUM SOURCES

	Ref. Pt. Elev. (ft NGVD)	March 9, 2009		
		Time	WL Depth (ft below TOC)	WL Elev (ft NGVD)
MW-01	20.66	n/a	n/a	11.62
MW-02	20.27	n/a	n/a	11.77
MW-03	16.59	0721	6.79	9.80
MW-04	18.31	0712	9.16	9.15
MW-05	12.24	0659	6.24	6.00
River	USACE	0800	n/a	8.62

NOTE:
1. River Mile 129.6 elevation interpolated from hourly river stage data on US Army Corps of Engineers website (<http://www.mvn.usace.army.mil/eng/dhhd/Wcontrol/LA29090.htm>).







River Mile 129.6
EL. 3.34

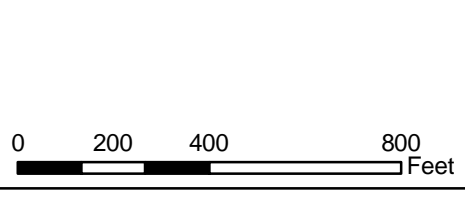


	Ref. Pt. Elev. (ft NGVD)	November 16-17, 2010	
		WL Depth (ft below TOC)	WL Elev (ft NGVD)
MW-01	20.66	n/a	12.27
MW-02	20.27	n/a	12.27
MW-03	16.59	6.28	10.31
MW-04	18.31	8.29	10.02
MW-05	12.24	6.26	5.98
MW-06	14.01	4.44	9.57
MW-07	19.46	6.38	13.08
MW-08	19.84	7.68	12.16
MW-09	15.87	4.51	11.36
River	USACE	n/a	3.34

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

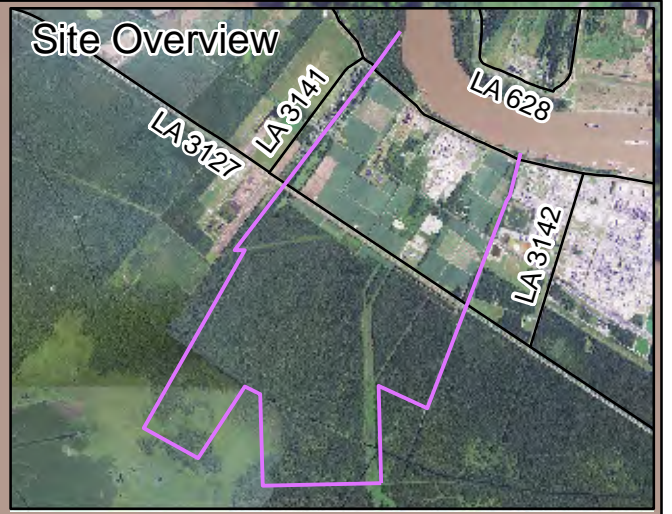
- Legend**
- Monitoring Well
 - Potentiometric Surface Elevation
 - Potential Tritium Sources
 - Approximate Property Boundary
 - Approximate Excavation Area

Entergy Waterford-3
Potentiometric Surface
BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA



By: SEM
Scale: 1"=400'
Date: 17JAN2011
Project No. 6045-460

S:\projects\6045-460\gis\mapdoc\Potentiometric Map_Nov2010.mxd SEM [11-17-11]



River Mile 129.6
El. 17.00



	Ref. Pt. Elev. (ft NGVD 29)	March 28, 2011	
		WL Depth (ft below TOC)	WL Elev (ft NGVD 29)
MW-01	20.66	n/a	12.22
MW-02	20.27	n/a	12.22
MW-03	16.61	6.31	10.30
MW-04	18.34	8.93	9.41
MW-05	12.26	6.30	5.96
MW-06	14.02	4.45	9.57
MW-07	19.51	6.31	13.20
MW-08	19.88	5.81	14.07
MW-09	15.88	4.68	11.20
River	USACE	n/a	17.00

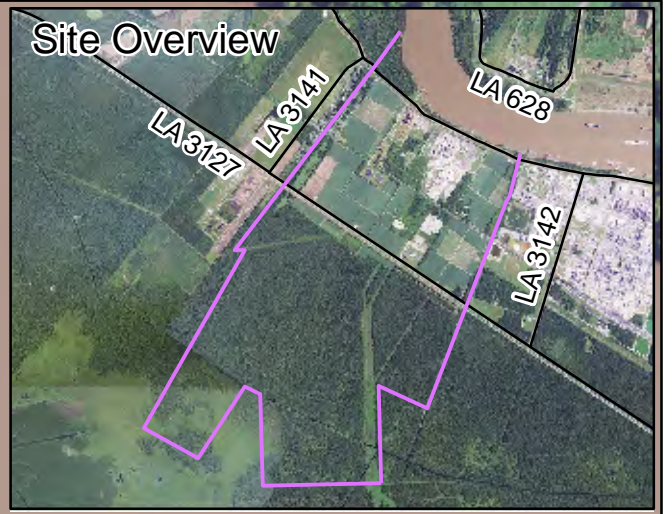
The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Legend

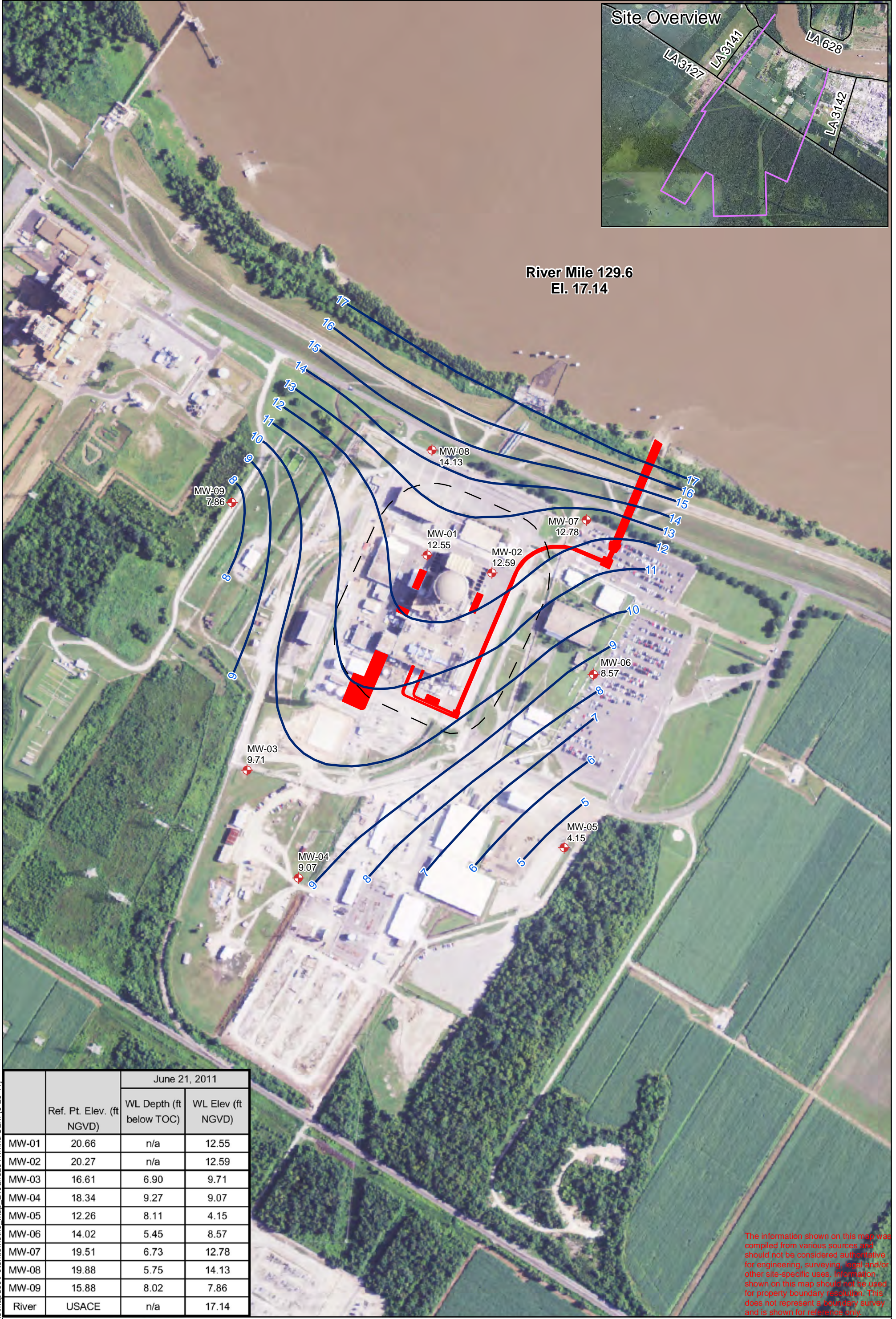
- ◆ Groundwater Monitoring Installation
- Approximate Excavation Area
- Potentiometric Surface Elevation
- Potential Tritium Sources
- Approximate Property Boundary

**Entergy Waterford-3
Potentiometric Surface**
BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA

By: SEM
Date: August 3, 2011
Project No. 6045-460



River Mile 129.6
El. 17.14



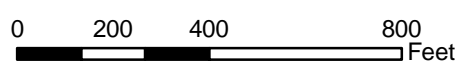
S:\projects\6045-460\gis\mapdoc\Potentiometric Map_21June2011.mxd SEM 16-29-11

	Ref. Pt. Elev. (ft NGVD)	June 21, 2011	
		WL Depth (ft below TOC)	WL Elev (ft NGVD)
MW-01	20.66	n/a	12.55
MW-02	20.27	n/a	12.59
MW-03	16.61	6.90	9.71
MW-04	18.34	9.27	9.07
MW-05	12.26	8.11	4.15
MW-06	14.02	5.45	8.57
MW-07	19.51	6.73	12.78
MW-08	19.88	5.75	14.13
MW-09	15.88	8.02	7.86
River	USACE	n/a	17.14

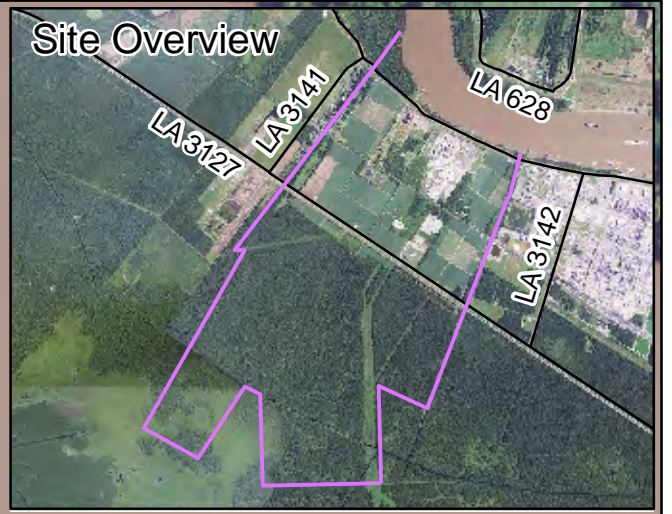
The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

- Legend**
- ◆ Groundwater Monitoring Installation
 - Approximate Excavation Area
 - Potentiometric Surface Elevation
 - Potential Tritium Sources
 - Approximate Property Boundary

Entergy Waterford-3
Potentiometric Surface
BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA



By: SEM
Date: July 18, 2011
Project No. 6045-460



River Mile 126.9
El. 4.30

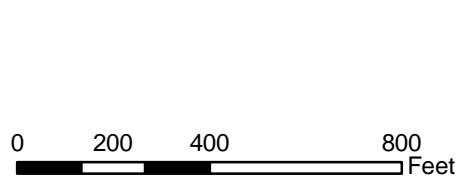


Well ID	Ref. Pt. Elev. (ft NGVD)	September 13, 2011	
		WL Depth (ft below TOC)	WL Elev (ft NGVD)
MW-01	20.66	---	12.92
MW-02	20.27	---	12.87
MW-03	16.61	5.59	11.02
MW-04	18.34	8.63	9.71
MW-05	12.26	6.06	6.20
MW-06	14.02	3.98	10.04
MW-07	19.51	5.54	13.97
MW-08	19.88	6.68	13.20
MW-09	15.88	4.46	11.42
River	USACE	n/a	4.30

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

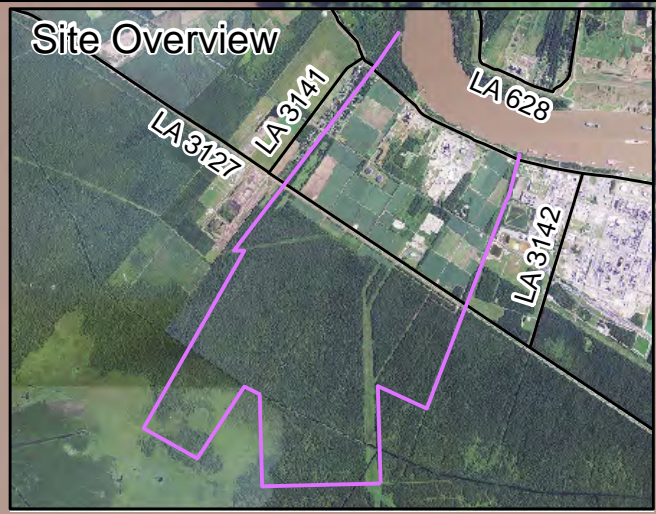
- Legend**
- Groundwater Monitoring Installation
 - Potentiometric Surface Elevation
 - Potential Tritium Sources
 - Approximate Property Boundary
 - Approximate Excavation Area

Entergy Waterford-3
Potentiometric Surface
BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA



By: SEM
Date: October 12, 2011
Project No. 6045-460

S:\projects\6045-460\gis\mapdoc\Potentiometric_Map_13Sept2011.mxd SEM [10-7-11]



River Mile 126.9
El. 14.74

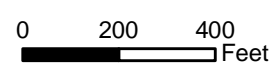


Well ID	Ref. Pt. Elev. (ft NGVD)	December 13, 2011	
		WL Depth (ft below TOC)	WL Elev (ft NGVD)
MW-01	20.66	8.69	11.97
MW-02	20.27	8.20	12.07
MW-03	16.61	6.72	9.89
MW-04	18.34	9.30	9.04
MW-05	12.26	7.27	4.99
MW-06	14.02	5.29	8.73
MW-07	19.51	7.15	12.36
MW-08	19.88	7.24	12.64
MW-09	15.88	6.74	9.14
River	USACE	n/a	14.74

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

- Legend**
- Groundwater Monitoring Installation
 - Potentiometric Surface Elevation
 - Approximate Excavation Area
 - Potential Tritium Sources
 - Approximate Property Boundary

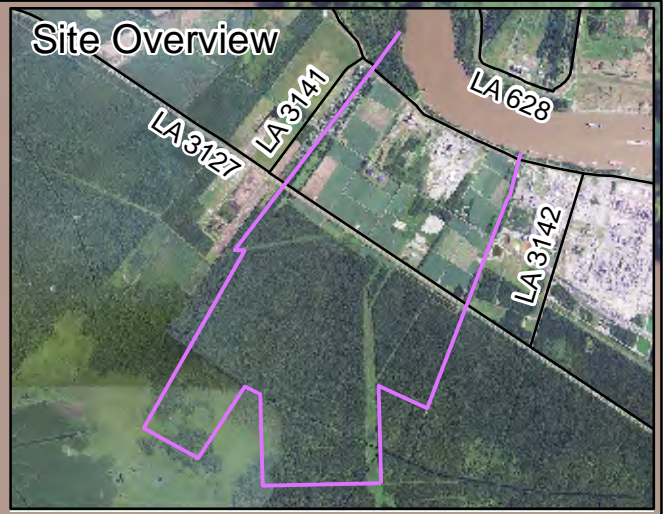
Entergy Waterford-3
Potentiometric Surface
December 13, 2011



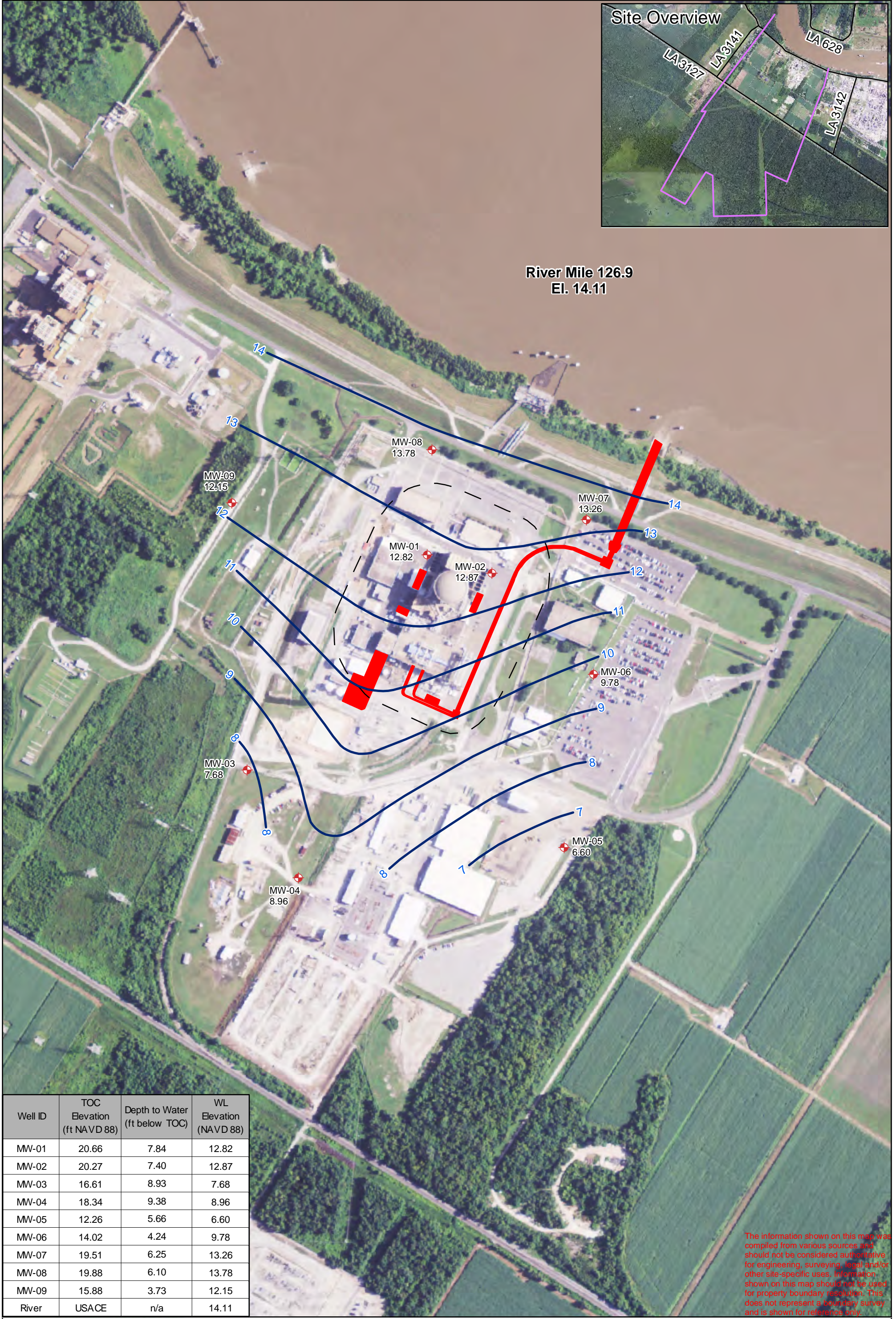
BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA

By: SEM
Date: January 4, 2012
Project No. 6045-460

S:\projects\6045-460\gis\mapdoc\Potentiometric_Map_13DEC2011.mxd SEM 11-4-2012



River Mile 126.9
El. 14.11



Well ID	TOC Elevation (ft NAVD 88)	Depth to Water (ft below TOC)	WL Elevation (NAVD 88)
MW-01	20.66	7.84	12.82
MW-02	20.27	7.40	12.87
MW-03	16.61	8.93	7.68
MW-04	18.34	9.38	8.96
MW-05	12.26	5.66	6.60
MW-06	14.02	4.24	9.78
MW-07	19.51	6.25	13.26
MW-08	19.88	6.10	13.78
MW-09	15.88	3.73	12.15
River	USACE	n/a	14.11

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Legend

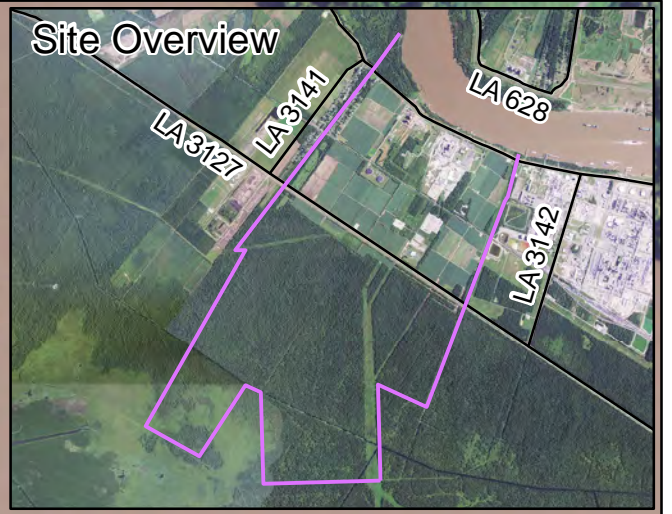
- Groundwater Monitoring Installation
- Potentiometric Surface Elevation
- Potential Tritium Sources
- Approximate Property Boundary
- Approximate Excavation Area

**Energy Waterford-3
Potentiometric Surface
March 30, 2012**

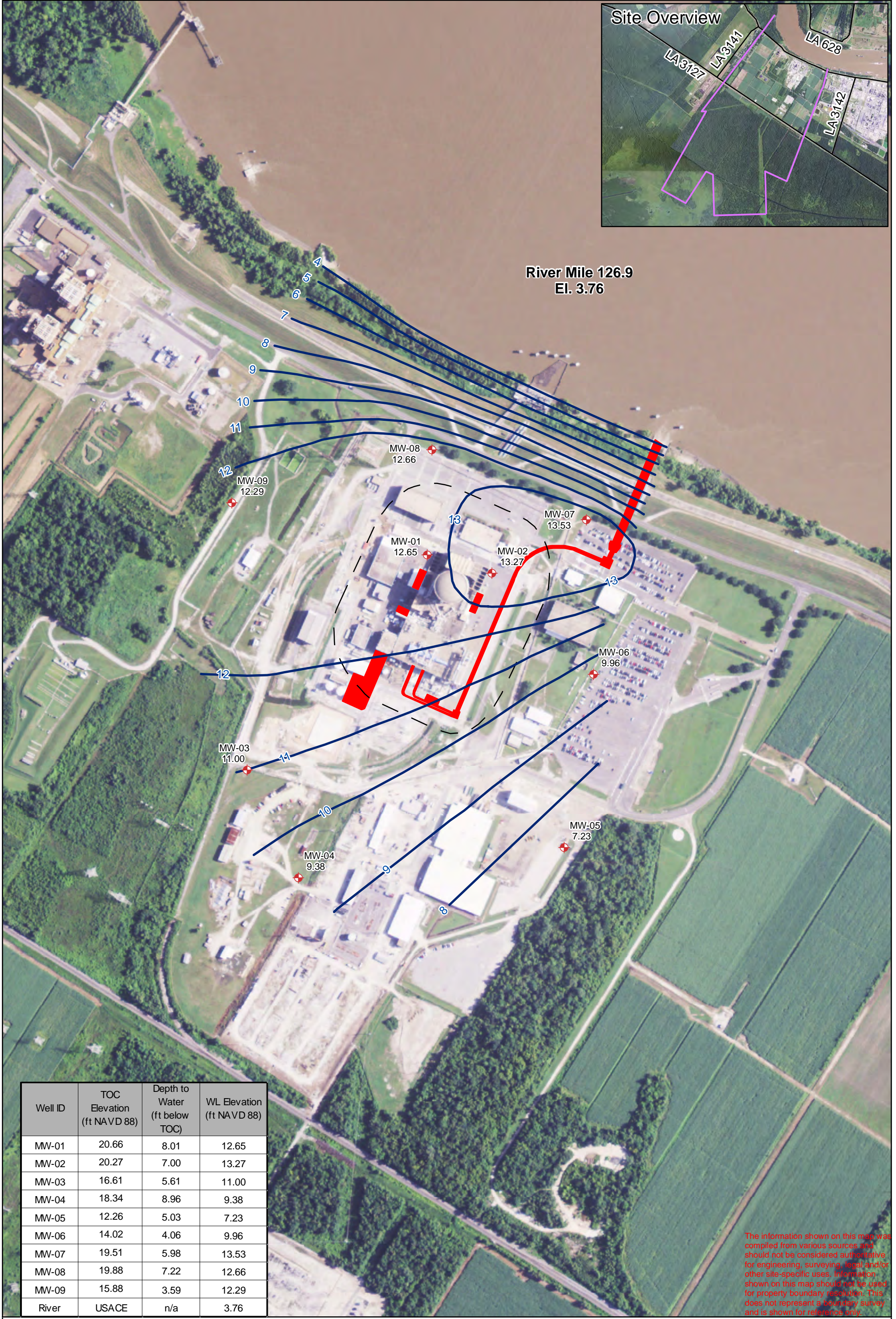
0 200 400 Feet

BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA

By: SEM
Date: March 30, 2012
Project No. 6045-460



River Mile 126.9
El. 3.76



Well ID	TOC Elevation (ft NAVD 88)	Depth to Water (ft below TOC)	WL Elevation (ft NAVD 88)
MW-01	20.66	8.01	12.65
MW-02	20.27	7.00	13.27
MW-03	16.61	5.61	11.00
MW-04	18.34	8.96	9.38
MW-05	12.26	5.03	7.23
MW-06	14.02	4.06	9.96
MW-07	19.51	5.98	13.53
MW-08	19.88	7.22	12.66
MW-09	15.88	3.59	12.29
River	USACE	n/a	3.76

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Legend

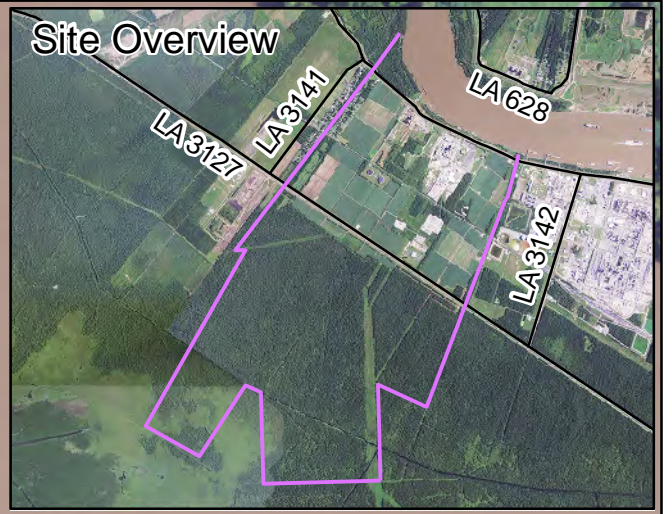
- Groundwater Monitoring Installation
- Potentiometric Surface Elevation
- Approximate Excavation Area
- Potential Tritium Sources
- Approximate Property Boundary

**Entergy Waterford-3
Potentiometric Surface
June 18, 2012**

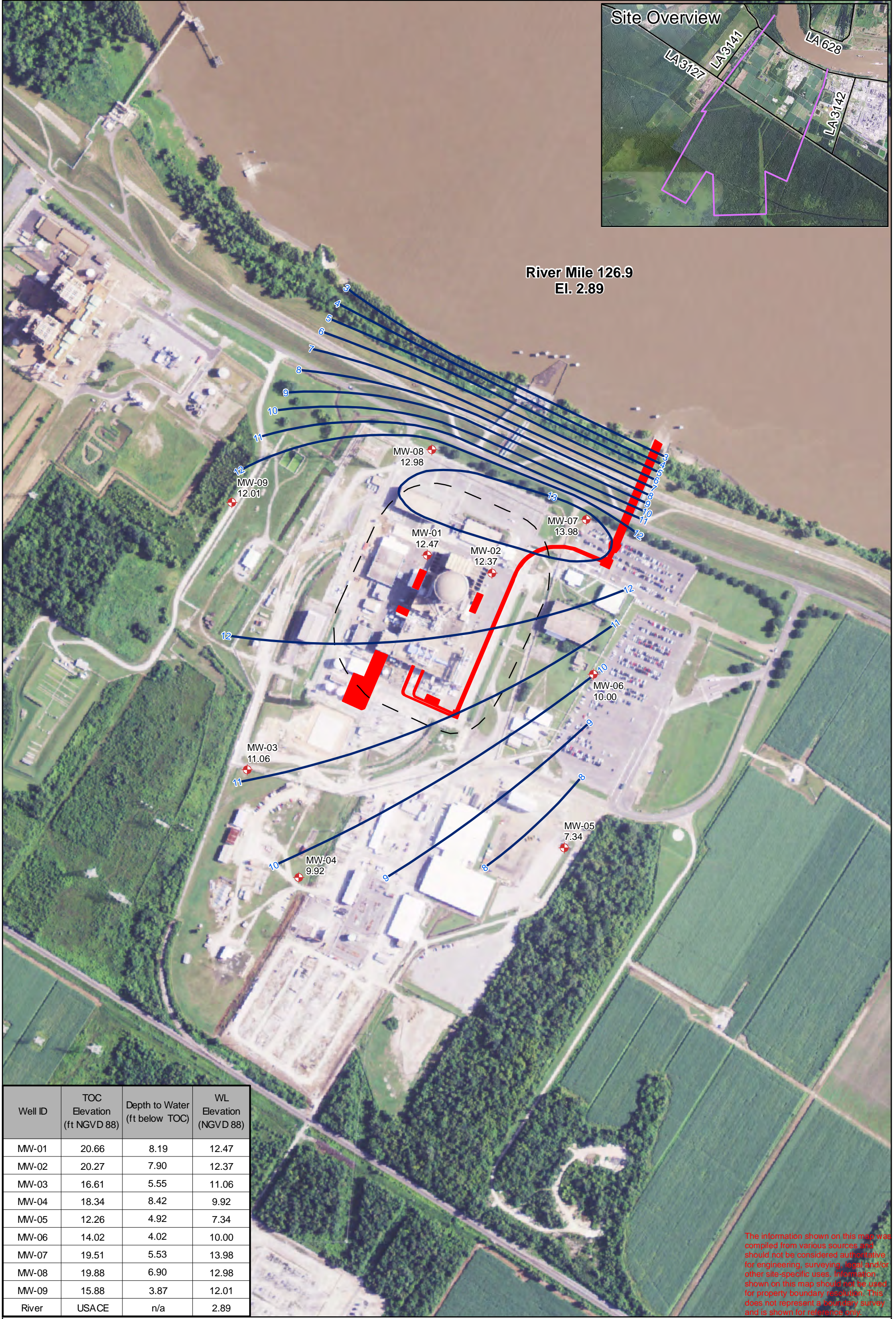
0 200 400 Feet

BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA

ftn
By: JWB
Date: July 1, 2012
Project No. 6045-460



River Mile 126.9
El. 2.89



Well ID	TOC Elevation (ft NGVD 88)	Depth to Water (ft below TOC)	WL Elevation (NGVD 88)
MW-01	20.66	8.19	12.47
MW-02	20.27	7.90	12.37
MW-03	16.61	5.55	11.06
MW-04	18.34	8.42	9.92
MW-05	12.26	4.92	7.34
MW-06	14.02	4.02	10.00
MW-07	19.51	5.53	13.98
MW-08	19.88	6.90	12.98
MW-09	15.88	3.87	12.01
River	USACE	n/a	2.89

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Legend

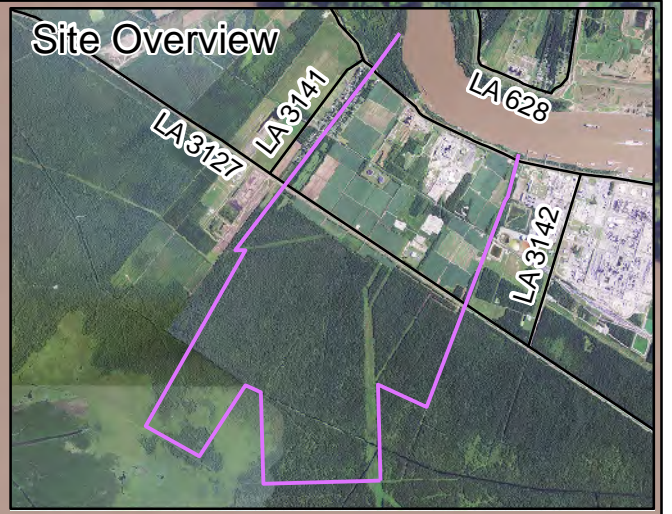
- ◆ Groundwater Monitoring Installation
- Approximate Excavation Area
- Potentiometric Surface Elevation
- Potential Tritium Sources
- Approximate Property Boundary

**Entergy Waterford-3
Potentiometric Surface
September 18, 2012**

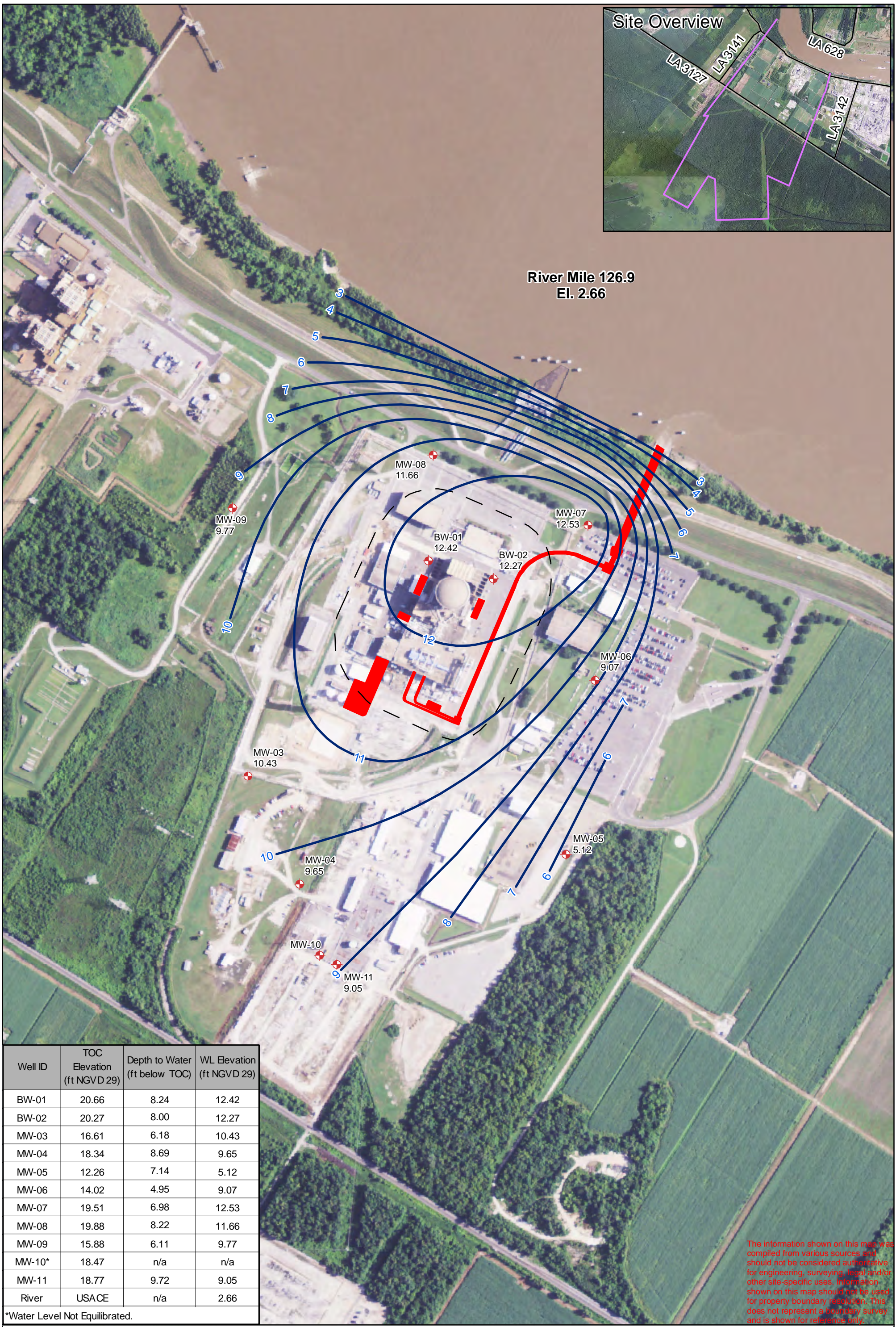
0 200 400
Feet

BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA

By: SEM
Date: Nov. 8, 2012
Project No. 6045-460



River Mile 126.9
El. 2.66



Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (ft NGVD 29)
BW-01	20.66	8.24	12.42
BW-02	20.27	8.00	12.27
MW-03	16.61	6.18	10.43
MW-04	18.34	8.69	9.65
MW-05	12.26	7.14	5.12
MW-06	14.02	4.95	9.07
MW-07	19.51	6.98	12.53
MW-08	19.88	8.22	11.66
MW-09	15.88	6.11	9.77
MW-10*	18.47	n/a	n/a
MW-11	18.77	9.72	9.05
River	USACE	n/a	2.66

*Water Level Not Equilibrated.

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

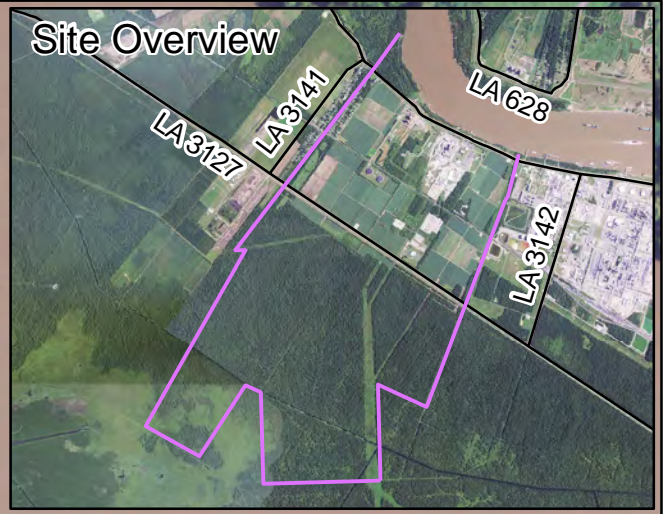
- Legend**
- Groundwater Monitoring Installation
 - Potentiometric Surface Elevation
 - Potential Tritium Sources
 - Approximate Excavation Area
 - Approximate Property Boundary

Entergy Waterford-3
Potentiometric Surface
November 2, 2012

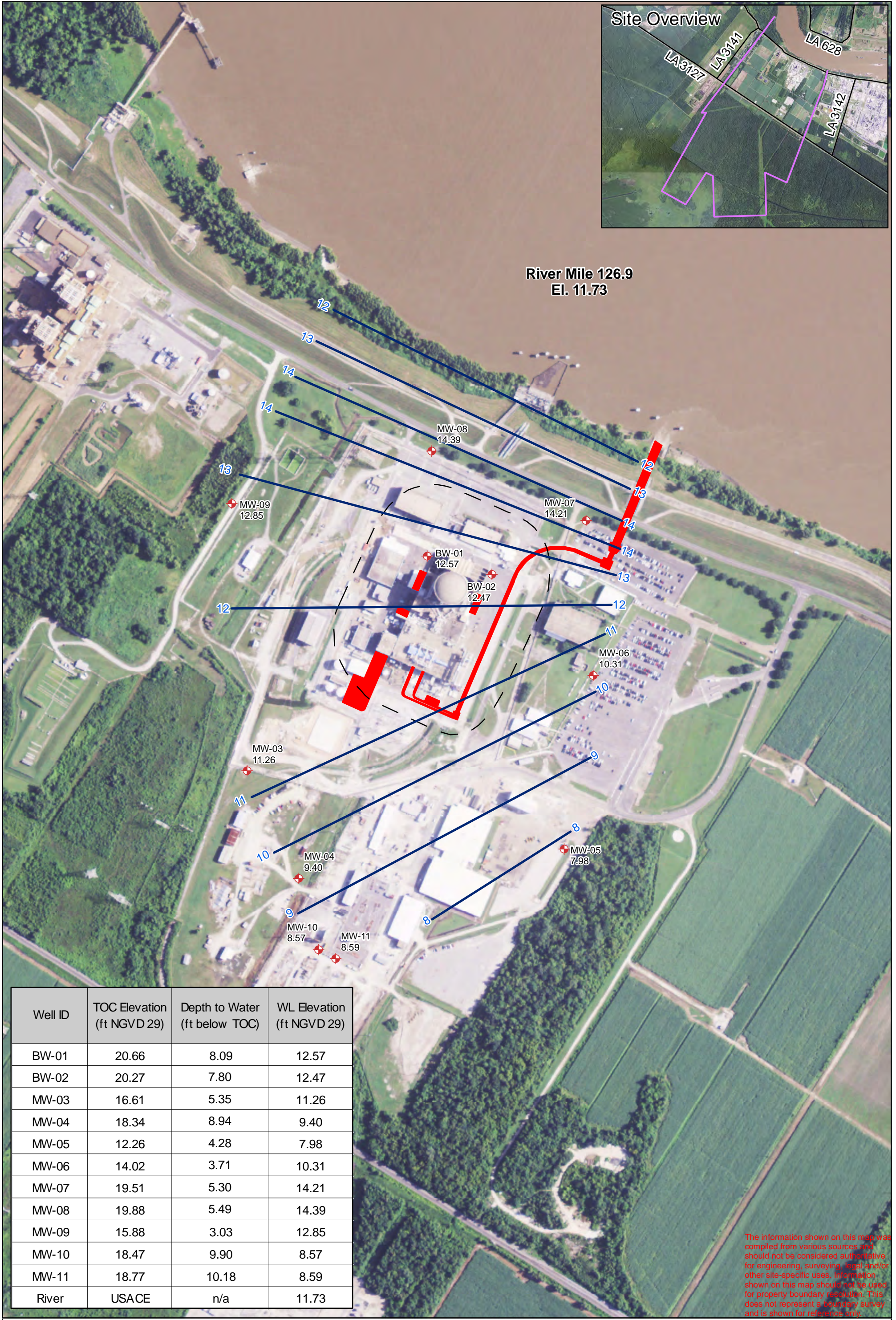
0 200 400 Feet

BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA

ftn
By: SEM
Date: Jan. 28, 2013
Project No. 6045-460



River Mile 126.9
El. 11.73



Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (ft NGVD 29)
BW-01	20.66	8.09	12.57
BW-02	20.27	7.80	12.47
MW-03	16.61	5.35	11.26
MW-04	18.34	8.94	9.40
MW-05	12.26	4.28	7.98
MW-06	14.02	3.71	10.31
MW-07	19.51	5.30	14.21
MW-08	19.88	5.49	14.39
MW-09	15.88	3.03	12.85
MW-10	18.47	9.90	8.57
MW-11	18.77	10.18	8.59
River	USACE	n/a	11.73


The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

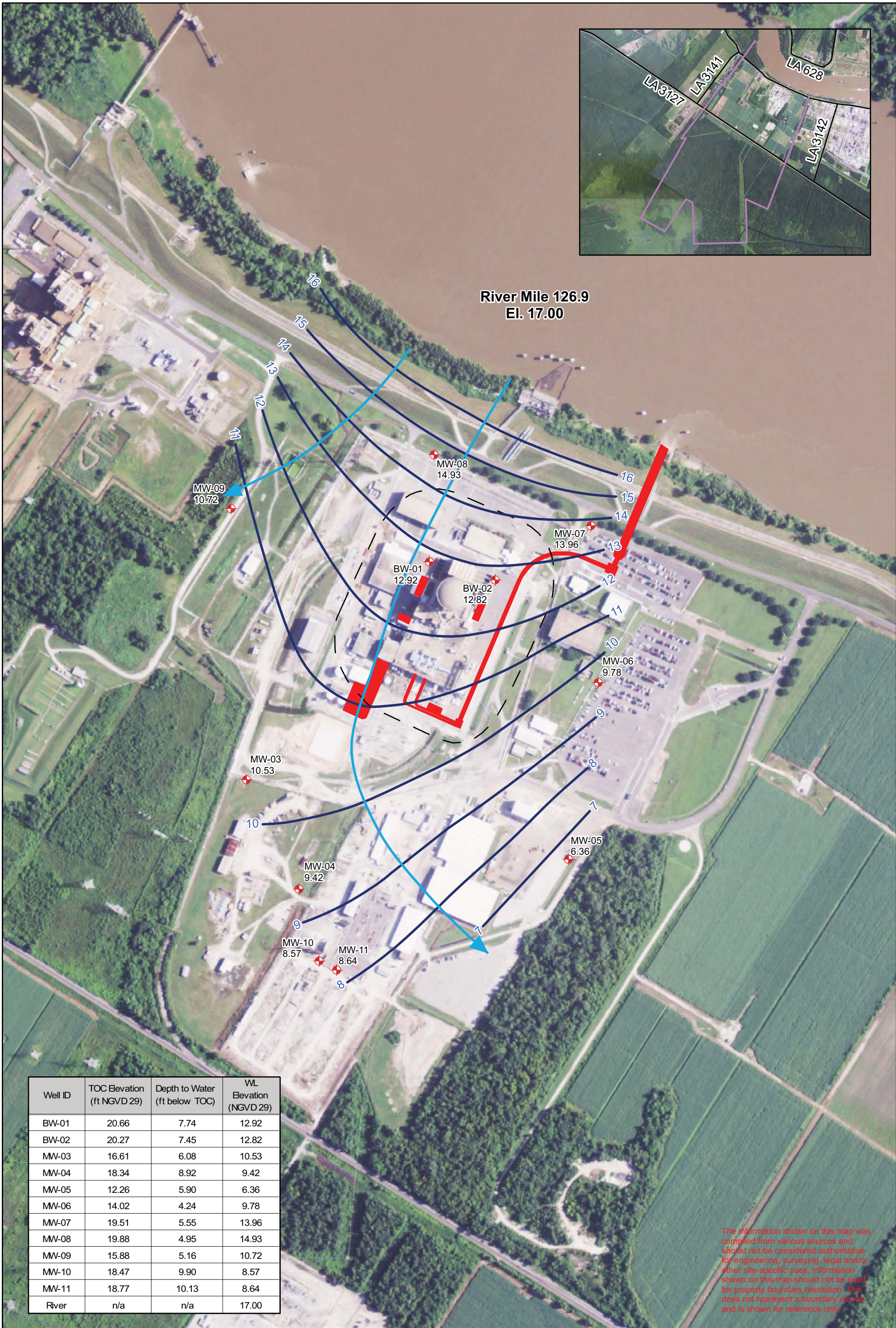
Legend

- ◆ Groundwater Monitoring Installation
- Approximate Excavation Area
- Potentiometric Surface Elevation
- Potential Tritium Sources
- Approximate Property Boundary

**Entergy Waterford-3
Potentiometric Surface
February 26, 2013**

0 200 400 Feet
BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA


By: KLM
Date: March 12, 2013
Project No. 06045-0031-002



Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (NGVD 29)
BW-01	20.66	7.74	12.92
BW-02	20.27	7.45	12.82
MW-03	16.61	6.08	10.53
MW-04	18.34	8.92	9.42
MW-05	12.26	5.90	6.36
MW-06	14.02	4.24	9.78
MW-07	19.51	5.55	13.96
MW-08	19.88	4.95	14.93
MW-09	15.88	5.16	10.72
MW-10	18.47	9.90	8.57
MW-11	18.77	10.13	8.64
River	n/a	n/a	17.00

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Legend

- Groundwater Monitoring Installation
- Potentiometric Surface Elevation
- Groundwater Flow Line
- Approximate Excavation Area
- Potential Tritium Sources
- Approximate Property Boundary

**Entergy Waterford-3
Potentiometric Surface
June 3, 2013**

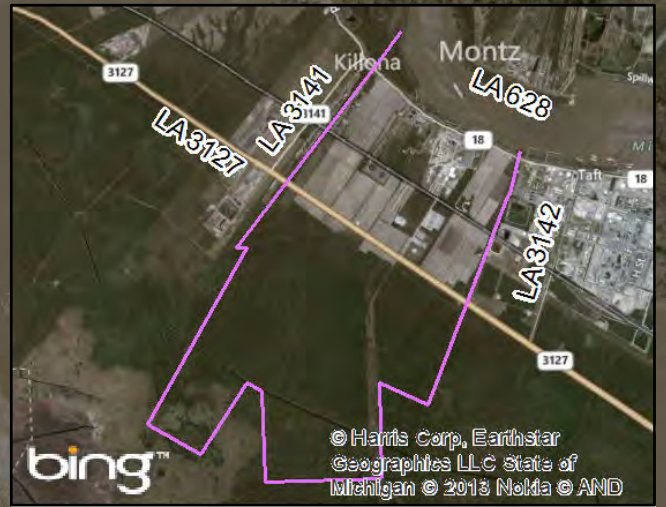
0 200 400
Feet

BASEMAP SOURCE
NAIP 2009
St. Charles Parish, LA



By: DWP
Date: June 26, 2013
Project No. 06045-0031-002





River Mile 126.9
El. 3.94

Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (NGVD 29)
BW-01	20.66	8.34	12.32
BW-02	20.27	7.95	12.32
MW-03	16.61	5.63	10.98
MW-04	18.34	8.41	9.93
MW-05	12.26	5.83	6.43
MW-06	14.02	4.20	9.82
MW-07	19.51	6.25	13.26
MW-08	19.88	7.12	12.76
MW-09	15.88	5.00	10.88
MW-10	18.47	9.49	8.98
MW-11	18.77	9.71	9.06
River	n/a	n/a	3.94

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Image courtesy of USGS State of Michigan

- Legend**
- Groundwater Monitoring Installation
 - Potentiometric Surface Elevation
 - Groundwater Flow Line
 - Approximate Excavation Area
 - Potential Tritium Sources
 - Approximate Property Boundary

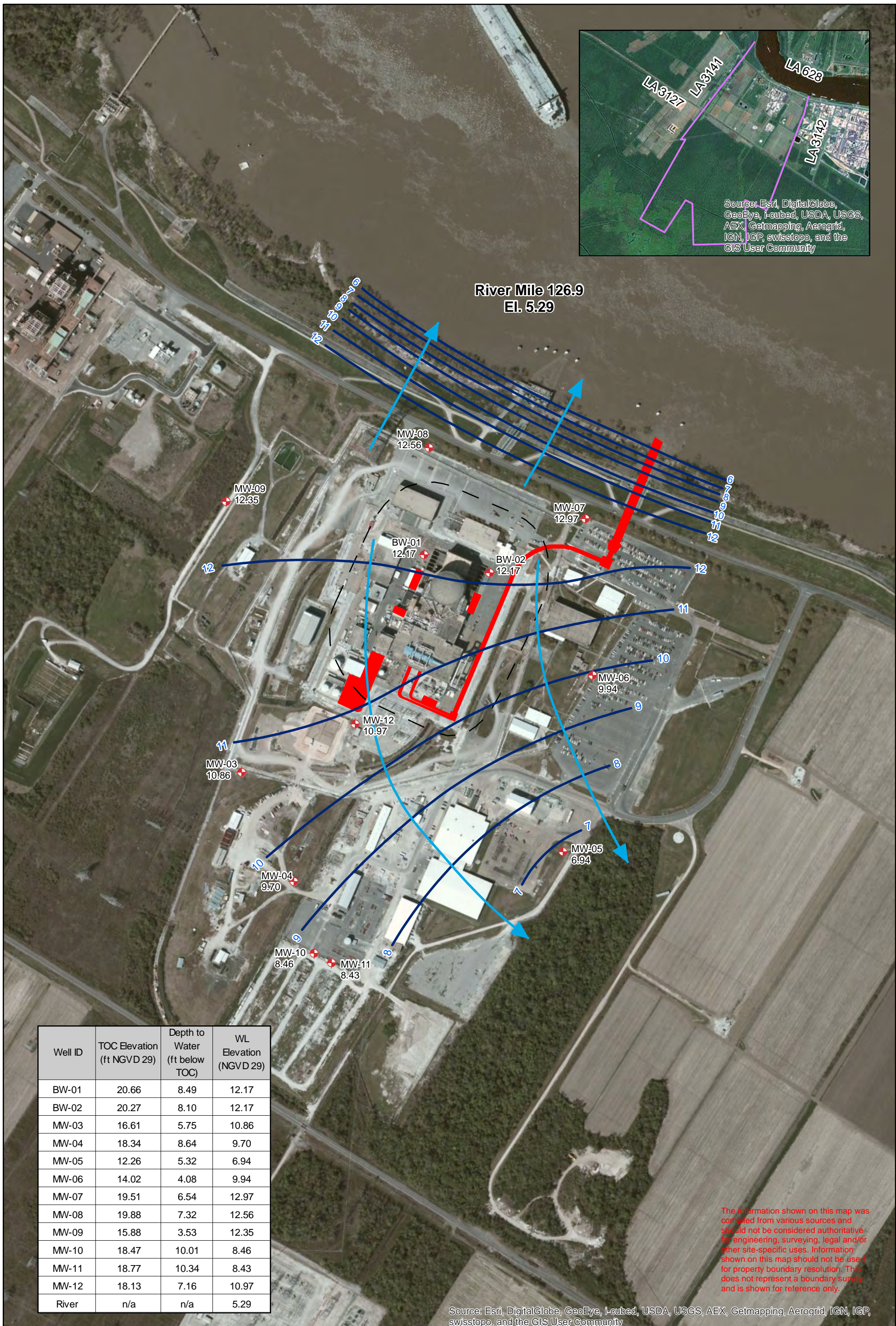
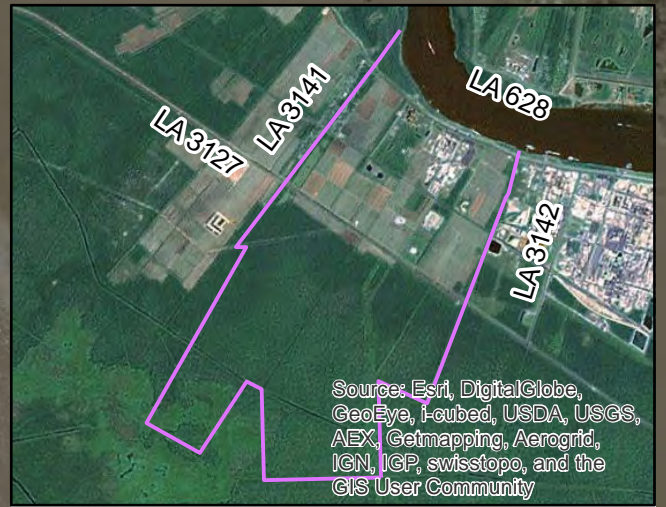
Entergy Waterford-3
Potentiometric Surface
September 10, 2013

0 200 400 Feet
BASEMAP SOURCE
2010 Microsoft Corporation
and its data suppliers



By: JWB
Date: October 9, 2013
Project No. 06045-0031-002





River Mile 126.9
El. 5.29

Well ID	TOC Elevation (ft NGVD 29)	Depth to Water (ft below TOC)	WL Elevation (NGVD 29)
BW-01	20.66	8.49	12.17
BW-02	20.27	8.10	12.17
MW-03	16.61	5.75	10.86
MW-04	18.34	8.64	9.70
MW-05	12.26	5.32	6.94
MW-06	14.02	4.08	9.94
MW-07	19.51	6.54	12.97
MW-08	19.88	7.32	12.56
MW-09	15.88	3.53	12.35
MW-10	18.47	10.01	8.46
MW-11	18.77	10.34	8.43
MW-12	18.13	7.16	10.97
River	n/a	n/a	5.29

The information shown on this map was compiled from various sources and should not be considered authoritative for engineering, surveying, legal and/or other site-specific uses. Information shown on this map should not be used for property boundary resolution. This does not represent a boundary survey and is shown for reference only.

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Legend**
- Groundwater Monitoring Installation
 - Potentiometric Surface Elevation
 - Groundwater Flow Line
 - Approximate Excavation Area
 - Potential Tritium Sources
 - Approximate Property Boundary

Energy Waterford-3
Potentiometric Surface
December 17, 2013

0 200 400 Feet
BASEMAP SOURCE
2010 Microsoft Corporation and its data suppliers

By: JWB
Date: February 7, 2014
Project No. 06045-0031-002

APPENDIX E

Field Documentation



FTN Associates Calibration Form

Date/Time: 3/10/09 0800

Prepared By: JWR

Location: Waterford -3

Project #: 6045-183

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
Mini-Sonde	4	- pH	7	su	20.02	7.00	Y (N)	—	
4a	↓	- pH	4	su	20.00	3.95	(Y) N	4.00	
	↓	pH	10	su	—	—	Y N	—	
	↓	- Cond	0	uS/cm	—	0	Y (N)	—	
	↓	- Cond	447	uS/cm	20.02	437	(Y) N	447	
		DO		mm/Hg		mg/l	Y N	mg/l	
		- Temp	—	Degrees C	19.89	20.0	Y (N)	N/A	
							Y N		
							Y N		
LaMotte							Y N		
2020		Turb	200	NTU	—	210	(Y) N	200	
		"	20	"	—	18	(Y) N	20	
		"	0.0	"	—	0.00	Y (N)	—	
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-03</u>	Sampler: <u>SWB / CLM</u>
Project Number: <u>6045-183</u>	Date: <u>3/10/09</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>~65°</u>		Wind: <u>NONE</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2</u> inches Total depth from TOC: <u>37.51</u> feet TOC below/above ground: <u>~251</u> feet	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0721</u>	<u>0753</u>	<u>0805</u>	<u>0833</u>	<u>0915</u>	
Depth to Water	feet	<u>6.79</u>	<u>6.79</u>	<u>7.07</u>	<u>7.27</u>	<u>7.43</u>	
Product	LNAPL/DNAPL	<u>0755</u>	<u>0758</u>				
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 200 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	<u>30 hrs</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408										
Time	24-hour	<u>0803</u>	<u>0806</u>	<u>0809</u>	<u>0812</u>	<u>0815</u>	<u>0818</u>	<u>0821</u>	<u>0826</u>	<u>0829</u>	<u>0832</u>	Remarks
Purge vol.	gallons	<u>0</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.9</u>	<u>1.2</u>	<u>1.3</u>	
Purge rate	mL/min	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH	su	<u>7.16</u>	<u>7.06</u>	<u>6.82</u>	<u>6.71</u>	<u>6.69</u>	<u>6.70</u>	<u>6.75</u>	<u>6.92</u>	<u>6.92</u>	<u>6.92</u>	
Temp.	°C	<u>20.18</u>	<u>20.26</u>	<u>20.50</u>	<u>20.81</u>	<u>20.89</u>	<u>20.84</u>	<u>20.97</u>	<u>21.08</u>	<u>21.16</u>	<u>21.17</u>	
Spec. cond.	µS/cm	<u>2398</u>	<u>2470</u>	<u>2636</u>	<u>2733</u>	<u>2759</u>	<u>2768</u>	<u>3269</u>	<u>3521</u>	<u>3535</u>	<u>3546</u>	
D.O.	mg/L	-	-	-	-	-	-	-	-	-	-	
ORP	mV	-	-	-	-	-	-	-	-	-	-	
Turbidity	ntu	<u>0.70</u>	<u>2.2</u>	<u>3.8</u>	<u>2.6</u>	<u>2.6</u>	<u>2.4</u>	<u>0.90</u>	<u>0.0</u>	<u>0.95</u>	<u>0.80</u>	
Color/tint		<u>clear</u>	<u>→</u>									
Odor		<u>NONE</u>	<u>→</u>									

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>3/10/09</u>	<u>0835</u>	<u>4</u>	<u>0</u>	<u>2x1L Plastic (GAMMA) EACH</u>
<u>MW-03D</u>	<u>3/10/09</u>	<u>0840</u>	<u>4</u>	<u>0</u>	<u>2x1L Glass (Tritium) EACH</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>Jacob Brickman</u>
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Groundwater Sampling Record

Facility: <u>EMERY INTERFAC - 3</u>	Site ID: <u>MW-04</u>	Sampler: <u>JWS / CLN</u>
Project Number: <u>6045-183</u>	Date: <u>3/10/09</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Fas. 04</u>		Air Temp (°F): <u>70s</u>		Wind: <u>CALM</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>37.49</u> TOC below/above ground: _____ feet <u>2.44</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0712</u>	<u>0925</u>	<u>0937</u>	<u>0942</u>	<u>1007</u>	
Depth to Water	feet	<u>9.16</u>	<u>9.10</u>	<u>9.95</u>	<u>10.47</u>	<u>10.90</u>	
Product	LNAPL/DNAPL	<u>—</u>	<u>—</u>				
Prod. thickness	feet	<u>—</u>	<u>—</u>				

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>20 by</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No					
Casing vol.	gallons		= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>0931</u>	<u>0934</u>	<u>0937</u>	<u>0940</u>		Remarks	
Purge vol.	gallons	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>			
Purge rate	mL/min	<u>140</u>	<u>140</u>	<u>150</u>	<u>150</u>			
pH	su	<u>6.95</u>	<u>6.98</u>	<u>6.98</u>	<u>6.96</u>			
Temp.	°C	<u>21.79</u>	<u>21.66</u>	<u>21.79</u>	<u>21.77</u>			
Spec. cond.	µS/cm	<u>4791</u>	<u>4801</u>	<u>4803</u>	<u>4800</u>			
D.O.	mg/L	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>			
ORP	mV	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>			
Turbidity	ntu	<u>16</u>	<u>13</u>	<u>12</u>				
Color/tint	<u>clear</u>	<u>Clear w/ large particulates</u>						
Odor	<u>NONE</u>	<u>→</u>						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>3/10/09</u>	<u>0945</u>	<u>4</u>	<u>—</u>	<u>2x 1L Gamma (Plastic)</u> <u>2x 1L Tritium (Glass)</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>Jacob Brickman</u>
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Groundwater Sampling Record

Facility: <u>ENTERGY LABORATORY 3</u>	Site ID: <u>MW-05</u>	Sampler: <u>CLN/TWB</u>
Project Number: <u>6045-183</u>	Date: <u>3/10/09</u>	Sampler Organization: <u>EN</u>

Site Description

Weather: <u>FEGGY</u>		Air Temp (°F): <u>70r</u>		Wind: <u>CALM</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>37.66</u> TOC below/above ground: _____ feet <u>2.66</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0659</u>	<u>1020</u>	<u>1036</u>	<u>1042</u>	<u>1108</u>	
Depth to Water	feet	<u>6.24</u>	<u>6.18</u>	<u>6.49</u>	<u>6.49</u>	<u>6.54</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30 (hg)</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time	24-hour	<u>1025</u>	<u>1028</u>	<u>1031</u>	<u>1034</u>	<u>1038</u>	<u>1041</u>	Remarks
Purge vol.	gallons	<u>0.0</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate	mL/min	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	
pH	su	<u>7.91</u>	<u>7.92</u>	<u>7.91</u>	<u>7.88</u>	<u>7.88</u>	<u>7.89</u>	
Temp.	°C	<u>23.05</u>	<u>22.91</u>	<u>22.80</u>	<u>22.72</u>	<u>22.59</u>	<u>22.73</u>	
Spec. cond.	µS/cm	<u>1603</u>	<u>1596</u>	<u>1593</u>	<u>1589</u>	<u>1591</u>	<u>1591</u>	
D.O.	mg/L							
ORP	mV							
Turbidity	ntu	<u>0.90</u>	<u>1.1</u>	<u>2.3</u>	<u>1.6</u>	<u>1.7</u>	<u>1.5</u>	
Color/tint		<u>clear</u>	<u>-></u>					
Odor		<u>NONE</u>	<u>-></u>					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>3/10/09</u>	<u>1645</u>	<u>4</u>	<u>0</u>	<u>2x1L Glass (Tritium)</u> <u>2x1L Plastic (GAMMA)</u>

Sampler's Name (print): <u>CURTIS NUNN</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>EB-1</u>	Sampler: <u>JWB CW</u>
Project Number: <u>6045-183</u>	Date: <u>3/10/09</u>	Sampler Organization: <u>FTW</u>

Site Description

Weather: <u>sunny</u>		Air Temp (°F): <u>75°</u>		Wind: <u>5-10</u>	
Site type: <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches Total depth from TOC: _____ feet TOC below/above ground: _____ feet	
Damages/repairs needed: _____ Well locked? <input type="checkbox"/> Yes <input type="checkbox"/> No					

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour						
Depth to Water	feet						
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:		Pump description: <input type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No					
Casing vol.	gallons	$= [\text{total depth (feet)} - \text{depth to water (feet)}] \cdot [\text{well ID (inches)}^2] \cdot 0.0408$					
Time	24-hour						Remarks
Purge vol.	gallons						
Purge rate	mL/min	<u>Equipment Blank</u>					
pH	su	<u>- used steam distilled from</u>					
Temp.	°C	<u>Wal-Grens, used plastic tubing</u>					
Spec. cond.	µS/cm	<u>heron dipper water level meter</u>					
D.O.	mg/L						
ORP	mV						
Turbidity	ntu						
Color/tint							
Odor							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>EB-1</u>	<u>3/10/09</u>	<u>1115</u>	<u>4</u>		<u>2x1L Glass (tritium)</u>
					<u>2x1L Plastic (GAMMA)</u>

Sampler's Name (print): <u>Jared Brickman</u>	Sampler Signature: <u>Jared Brickman</u>
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Date 3/10/09	Project Name ENTERGY Waterford - 7	Project Number 6045-171	Project Manager (Print) Bob West				Page ___ of ___																													
Laboratory Name ENTERGY RIVER BEND		Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338			Parameters (Method Number)			Lab Turn-Around Time																												
Phone: ()		Recorded By (Print) Jacob Brichman			<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: ___/___/___			Laboratory Notes																												
Sampler Signature(s) [Signature]		SAMPLE DESCRIPTION																																		
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method																													
			W	S	O		Comp	Grab																												
MW-03	3/10/09	0855	X			4		X																												
MW-03D	3/10/09	0840	X			4		X																												
MW-04	3/10/09	0945	X			4		X																												
MW-05	3/10/09	1015	X			4		X																												
EB-1	3/10/09	1115	X			4		X																												
* Matrix: W = Water S = Soil O = Other																																				
Relinquished By (Signature) [Signature]		Print Name Jacob Brichman		Date 3/10/09		Time 11:55		Received By (Signature) [Signature]			Print Name PT Michalec			Date 3/10/09		Time 1425																				
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)			Print Name			Date		Time																				
Sampler Remarks									Laboratory Remarks:																											



FTN Associates Calibration Form

Date/Time: 6-16-09 / 0753

Prepared By: JJR

Location: Water Aid 3, MW-03

Project #: 6045-183

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
Hydrolab	FTN#4	pH	7	su	28.11	7.13	(Y) N	7.00	
Minnomda 40		pH	4	su	4.16	28.08	(Y) N	4.00	
		pH	10	su			Y N		
		Cond	0	uS/cm	—	0	(Y) N	0	
		Cond	1413	uS/cm	28.68	1501	(Y) N	1412	
		DO		mm/Hg			Y N		
		Temp	~29	Degrees C	28.59	—	Y N	N/A	
							Y N		
HF Scientific		Turb	1000	NTU	—	1010	(Y) N	1003	
		"	10.0	"	—	9.83	(Y) N	10.53	
		"	0.02	"	—	0.05	(Y) N	0.00	
							Y N		
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>Water Aq 3</u>	Site ID: <u>MW-03</u>	Sampler: <u>JWB, JJR</u>
Object Number: <u>6045-183</u>	Date: <u>6/16/09</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>clear, sunny</u>	Air Temp (°F): <u>82</u>	Wind: <u>calm</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>35</u> TOC below/above ground: _____ feet <u>2.5</u>
Damages/repairs needed: <u>none</u>		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Kach (100')</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0744</u>	<u>0801</u>	<u>0816</u>	<u>0829</u>	<u>0900</u>	
Depth to Water	feet	<u>7.23</u>	<u>7.22</u>	<u>7.55</u>	<u>7.58</u>	<u>7.62</u>	
Product	LNAPL/DNAPL	<u>6/16/09 →</u>					
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol.	gallons	<u>4.9</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	<u>0805</u>	<u>0808</u>	<u>0812</u>	<u>0816</u>	<u>0820</u>	<u>0824</u>	<u>0828</u>	Remarks
Purge vol.	gallons	<u>0.0</u>	<u>0.2</u>	<u>0.3</u>	<u>0.45</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	
Purge rate	mL/min	<u>200</u>	<u>155</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	
pH	su	<u>6.77</u>	<u>6.81</u>	<u>6.81</u>	<u>6.84</u>	<u>6.86</u>	<u>6.86</u>	<u>6.86</u>	
Temp.	°C	<u>25.49</u>	<u>23.83</u>	<u>23.85</u>	<u>24.44</u>	<u>24.82</u>	<u>24.70</u>	<u>24.61</u>	
Spec. cond.	µS/cm	<u>2503</u>	<u>2504</u>	<u>2499</u>	<u>2505</u>	<u>2514</u>	<u>2518</u>	<u>2510</u>	
D.O.	mg/L	-	-	-	-	-	-	-	
ORP	mV	-	-	-	-	-	-	-	
Turbidity	ntu	<u>2.86</u>	<u>3.13</u>	<u>2.48</u>	<u>2.97</u>	<u>1.67</u>	<u>1.59</u>	<u>1.84</u>	
Color/tint		<u>clear →</u>							
Odor		<u>NONE →</u>							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>6/16/09</u>	<u>0830</u>	<u>4</u>	<u>—</u>	<u>2x1L Plastic (Gamma)</u>
					<u>2x1L Glass (Tritium)</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <i>Waterbed 3</i>	Site ID: <i>MW-04</i>	Sampler: <i>JWB, JJR</i>
Object Number: <i>6045-183</i>	Date: <i>6-16-09</i>	Sampler Organization: <i>FTN</i>

Site Description

Weather: <i>sunny</i>		Air Temp (°F): <i>85°</i>		Wind: <i>5-15 mph</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <i>0</i> Total depth from TOC: _____ feet <i>35</i> TOC below/above ground: _____ feet <i>37.5</i>	
Damages/repairs needed: <i>none</i>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <i>Kahn</i>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>0733</i>	<i>0912</i>	<i>0923</i>	<i>1012</i>	<i>1122</i>	
Depth to Water	feet	<i>9.14</i>	<i>9.04</i>	<i>9.87</i>	<i>10.42</i>	<i>10.72</i>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC											
Purge depth	feet	<i>30</i>					Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No								
Casing vol.	gallons	<i>4.6</i>					= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408 <i>1005 1009</i>								
Time	24-hour	<i>0915</i>	<i>0919</i>	<i>0925</i>	<i>0929</i>	<i>0933</i>	<i>0937</i>	<i>0942</i>	<i>0947</i>	<i>0951</i>	<i>0956</i>	<i>1000</i>	Remarks	<i>1013</i>	
Purge vol.	gallons	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>0.35</i>	<i>0.4</i>	<i>0.5</i>	<i>0.6</i>	<i>0.7</i>	<i>0.8</i>	<i>0.9</i>	<i>1.0</i>	<i>1.1</i>	<i>1.2</i>	<i>1.3</i>
Purge rate	mL/min	<i>150</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
pH	su	<i>6.50</i>	<i>6.48</i>	<i>6.50</i>	<i>6.50</i>	<i>6.50</i>	<i>6.47</i>	<i>6.56</i>	<i>6.41</i>	<i>6.40</i>	<i>6.48</i>	<i>6.52</i>	<i>6.53</i>	<i>6.56</i>	<i>6.58</i>
Temp.	°C	<i>25.19</i>	<i>24.99</i>	<i>25.35</i>	<i>25.47</i>	<i>25.28</i>	<i>25.29</i>	<i>25.41</i>	<i>25.34</i>	<i>25.54</i>	<i>25.10</i>	<i>25.20</i>	<i>24.90</i>	<i>25.59</i>	<i>26.01</i>
Spec. cond.	µS/cm	<i>4551</i>	<i>4598</i>	<i>4602</i>	<i>4606</i>	<i>4612</i>	<i>4674</i>	<i>4826</i>	<i>4908</i>	<i>5011</i>	<i>5092</i>	<i>5177</i>	<i>5297</i>	<i>5347</i>	<i>5386</i>
D.O.	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ORP	mV	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity	ntu	<i>17.50</i>	<i>21.57</i>	<i>9.12</i>	<i>11.59</i>	<i>12.39</i>	<i>15.85</i>	<i>19.32</i>	<i>12.24</i>	<i>13.70</i>	<i>8.07</i>	<i>5.98</i>	<i>4.21</i>	<i>10.98</i>	<i>5.77</i>
Color/tint		<i>clear</i>	<i>→</i>	<i>w/ particulates</i>											
Odor		<i>NONE</i>	<i>→</i>												

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<i>MW-04</i>	<i>6/16/09</i>	<i>1015</i>	<i>4</i>	<i>-</i>	<i>(2 Plastic 1L (Gamma))</i>
<i>MW-04D</i>	<i>6/16/09</i>	<i>1020</i>	<i>4</i>	<i>-</i>	<i>(2 Glass 1L (Tritium))</i>
					<i>.. ..</i>

Sampler's Name (print): <i>Jacob Brickman</i>	Sampler Signature: <i>Jacob Brickman</i>
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Date 6/16/09		Project Name Waterford - 3			Project Number 6045-123		Project Manager (Print) Bob West				Page <u>1</u> of <u>1</u>				
Laboratory Name Energy Waterford - 3				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)				Lab Turn-Around Time			
Phone: ()				Recorded By (Print) Jacob Beckman				<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: ___/___/___				Laboratory Notes			
Sampler Signature(s) S. Beckman				SAMPLE DESCRIPTION											
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method								
			W	S	O		Comp	Grab							
MW-03	6/16/09	0830	X			4		X	X						
MW-04	"	1015	X			4		X	X						
MW-04D	"	1020	X			4		X	X						
MW-05	"	1155	X			4		X	X						
ER-1	"	1200	X			4		X	X						
* Matrix: W = Water S = Soil O = Other															
Relinquished By (Signature) S. Beckman		Print Name Jacob Beckman		Date 6/16/09		Time 1540		Received By (Signature)		Print Name		Date		Time	
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time	
Sampler Remarks								Laboratory Remarks:							

Groundwater Sampling Record

Facility: <u>Entevgu Waterland 3</u>	Site ID: <u>MW-3</u>	Sampler: <u>JWB/EJH</u>
Object Number: <u>6045-460</u>	Date: <u>7/21/09</u>	Sampler Organization: <u>FTN Assoc.</u>

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>270°</u>		Wind: <u>5-10 mph</u>		
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2</u> inches Total depth from TOC: <u>35</u> feet TOC below/above ground: <u>3</u> feet		Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Damages/repairs needed: <u>NONE</u>						

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Wack 200</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>7:35</u>	<u>8:04</u>	<u>8:57</u>	<u>9:06</u>	<u>9:35</u>	
Depth to Water	feet	<u>7.18</u>	<u>7.12</u>	<u>7.62</u>	<u>7.62</u>	<u>7.15</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC								
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Casing vol.	gallons	<u>4.2</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					<u>9:00</u> <u>9:06</u>						
Time	24-hour	<u>8:13</u>	<u>8:18</u>	<u>8:22</u>	<u>8:26</u>	<u>8:31</u>	<u>8:34</u>	<u>8:40</u>	<u>8:45</u>	<u>8:49</u>	<u>8:53</u>	<u>8:57</u>	Remarks	
Purge vol.	gallons	<u>0.0</u>	<u>0.4</u>	<u>0.45</u>	<u>0.5</u>	<u>0.7</u>	<u>0.85</u>	<u>0.9</u>	<u>1.0</u>	<u>1.3</u>	<u>1.5</u>	<u>1.75</u>	<u>2.0</u>	<u>2.3</u>
Purge rate	mL/min	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	<u>95</u>	
pH	su	<u>6.92</u>	<u>6.91</u>	<u>6.93</u>	<u>6.93</u>	<u>6.95</u>	<u>6.94</u>	<u>6.93</u>	<u>6.91</u>	<u>6.93</u>	<u>6.96</u>	<u>6.94</u>	<u>6.96</u>	<u>6.93</u>
Temp.	°C	<u>25.89</u>	<u>25.32</u>	<u>25.06</u>	<u>24.82</u>	<u>24.73</u>	<u>24.70</u>	<u>24.62</u>	<u>24.53</u>	<u>24.58</u>	<u>24.62</u>	<u>24.86</u>	<u>24.96</u>	<u>25.26</u>
Spec. cond.	µS/cm	<u>3613</u>	<u>3553</u>	<u>3561</u>	<u>3584</u>	<u>3589</u>	<u>3590</u>	<u>3598</u>	<u>3598</u>	<u>3598</u>	<u>3595</u>	<u>3598</u>	<u>3608</u>	<u>3618</u>
D.O.	mg/L													
ORP	mV													
Turbidity	ntu	<u>17.13</u>	<u>5.07</u>	<u>4.6</u>	<u>3.58</u>	<u>3.01</u>	<u>2.24</u>	<u>2.93</u>	-	-	<u>2.79</u>	<u>2.62</u>	<u>2.55</u>	<u>3.33</u>
Color/tint		<u>clear</u>	<u>NONE</u>											
Odor		-												

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-3</u>	<u>7/21/09</u>	<u>9:10</u>	<u>4</u>	<u>—</u>	<u>2 x 1L Plastic (Gamma)</u> <u>2 x 1L Glass (Tritium)</u>

Sampler's Name (print): <u>Emily Hollingsworth</u>	Sampler Signature: <u>E. Hollingsworth</u>
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Groundwater Sampling Record

Facility: <u>Energy Waterford 3</u>	Site ID: <u>MW-4</u>	Sampler: <u>JWB/EJH</u>
Object Number: <u>6045-460</u>	Date: <u>7/21/09</u>	Sampler Organization: <u>FTN ASSOC.</u>

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>~80°</u>		Wind: <u>5-10 mph</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2</u> inches Total depth from TOC: <u>35</u> feet TOC below/above ground: <u>3</u> feet	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Keck 200'</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>07:26</u>	<u>9:49</u>	<u>10:01</u>	<u>10:08</u>	<u>10:34</u>	
Depth to Water	feet	<u>9.04</u>	<u>9.01</u>	<u>9.80</u>	<u>9.96</u>	<u>10.45</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	<u>3.9</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>9:56</u>	<u>9:59</u>	<u>10:04</u>	<u>10:07</u>		Remarks	
Purge vol.	gallons	<u>0.1</u>	<u>0.15</u>	<u>0.2</u>	<u>0.25</u>			
Purge rate	mL/min	<u>105</u>	<u>→</u>	<u>160</u>	<u>100</u>			
pH	su	<u>6.62</u>	<u>6.51</u>	<u>6.61</u>	<u>6.52</u>			
Temp.	°C	<u>25.71</u>	<u>25.50</u>	<u>25.88</u>	<u>25.67</u>			
Spec. cond.	µS/cm	<u>5029</u>	<u>4930</u>	<u>4908</u>	<u>4927</u>			
D.O.	mg/L							
ORP	mV							
Turbidity	ntu	<u>4.67</u>	<u>7.13</u>	<u>5.75</u>	<u>5.82</u>			
Color/tint		<u>clear</u>	<u>none</u>					
Odor								

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-4</u>	<u>7/21/09</u>	<u>10:08</u>	<u>3</u>	<u>—</u>	<u>2 x 1L Tritium</u> <u>2 x 1L Gamma</u>

Sampler's Name (print): <u>Emily Hollingsworth</u>	Sampler Signature: <u>E. Hollingsworth</u>
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Groundwater Sampling Record

Facility: <u>Entevau Waterford 3</u>	Site ID: <u>MW-5</u>	Sampler: <u>JWB/EH</u>
Object Number: <u>6015-460</u>	Date: <u>7/21/09</u>	Sampler Organization: <u>FTN. ASSOC.</u>

Site Description

Weather: <u>87°</u>	Air Temp (°F): <u>87°</u>	Wind: <u>5-10 mph</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: <u>2</u> inches Total depth from TOC: <u>35</u> feet TOC below/above ground: <u>23</u> feet
Damages/repairs needed: <u>NO</u> NONE		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Keck 200</u>					
Time	24-hour	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
		<u>7.68</u>	<u>7.68</u>	<u>1100</u>	<u>1116</u>	<u>1209</u>	
Depth to Water	feet	<u>7.68</u>	<u>7.68</u>	<u>8.00</u>	<u>8.02</u>	<u>8.03</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	<u>4.1</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>1051</u>	<u>1056</u>	<u>1100</u>	<u>1104</u>	<u>1107</u>	<u>1115</u>	Remarks
Purge vol.	gallons	<u>0.2</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	
Purge rate	mL/min	<u>300</u>	<u>140</u>	<u>140</u>	<u>140</u>	<u>140</u>	<u>140</u>	
pH	su	<u>7.04</u>	<u>7.21</u>	<u>7.17</u>	<u>7.13</u>	<u>7.12</u>	<u>7.13</u>	<u>7.12</u>
Temp.	°C	<u>26.22</u>	<u>26.39</u>	<u>26.61</u>	<u>26.39</u>	<u>26.16</u>	<u>26.82</u>	<u>27.11</u>
Spec. cond.	µS/cm	<u>2187</u>	<u>2262</u>	<u>3125</u>	<u>4110</u>	<u>4177</u>	<u>4175</u>	<u>4179</u>
D.O.	mg/L	-	-	-	-	-	-	-
ORP	mV	-	-	-	-	-	-	-
Turbidity	ntu	<u>5.98</u>	<u>5.83</u>	<u>9.32</u>	<u>8.90</u>	<u>12.47</u>	<u>10.75</u>	<u>8.97</u>
Color/tint		<u>clear</u>	<u>-> w/ Particulates</u>					
Odor		<u>NONE</u>						

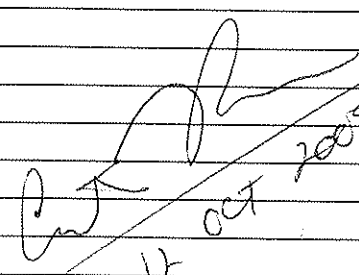
Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-5</u>	<u>7/21/09</u>	<u>1125</u>	<u>4</u>	<u>-</u>	<u>2x16 Gamma / 2x16 Tritium</u>
<u>MW-5D</u>	<u>"</u>	<u>1130</u>	<u>4</u>	<u>-</u>	<u>Duplicate</u>
<u>EB-1</u>	<u>"</u>	<u>1220</u>	<u>4</u>	<u>-</u>	<u>Equipment Blank</u>

Sampler's Name (print): <u>Jacob Brekman</u>	Sampler Signature: <u>[Signature]</u>
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Daily Log

Site Location: <u>ENTRANCE WARDFIELD 3</u>	Date: <u>10/12/09</u>
Project Number: <u>6045-460</u>	Page <u>1</u> of <u>1</u>
CLEAR, GO, WARM, CALM	
0700 CLW ON SITE. BEGIN WL MEASUREMENTS. 3-BUCKET DECON.	
0735 BEGIN SETTING UP ON MW-03 FOR GW SAMPLING.	
0745 RODNEY LESLIE TAKES SAMPLE NOTES. DISCUSS NEW SECURITY MEASURES.	
0815 BEGIN GW SAMPLING AT MW-03	
0840 COLLECT GW SAMPLE MW-03	
0926 BEGIN GW SAMPLING AT MW-04	
1005 COLLECT GW SAMPLE MW-04	
1100 BEGIN GW SAMPLING AT MW-05	
COLLECT GW SAMPLES MW-05 + MW-05D (DUPLICATE)	
MW-05D GIVEN TIME OF 1105.	
1200 PREPARE EQUIPMENT BLANK SAMPLE EB-1. USING "ALWAYS SAFE" BRAND DISTILLED WATER, PLACE DECON-TAMINATED WATER UNDER PUMP PROBE IN NEW TUB OF WATER. PUMP WATER VIA NEW POLYETHYLENE AND SILICONE TUBING DIRECTLY INTO SAMPLE CONTAINERS.	
1230 CLW OFF SITE.	



12 OCT 2009

CW



FTN Associates Calibration Form

Date/Time: 10/12/09 - 0610

Prepared By: CLW

Location: WVLA, LA

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
HYDROLAB	4	pH	7	su	21.90	7.00	(Y) N	7.00	
MINISCOPE		pH	4	su	21.75	4.00	(Y) N	4.00	
4a		pH	10	su	—		Y N		
		Cond	0	uS/cm	21.75	0	(Y) N	0	
		Cond	1413	uS/cm	21.73	1556	(Y) N	1413	
		DO	—	mm/Hg		mg/l	Y N	mg/l	
		Temp	—	Degrees C	—	21.75	Y (N)	N/A	FACTORY CALIBRATED
							Y N		
							Y N		
LATORTE	2020	TURBIDITY	0	NTU	n/a	0.00	Y (N)	0.00	
TURBIDIMETER		"	20	NTU	n/a	16	(Y) N	19	
		"	200	NTU	n/a	250	Y (N)	250	
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>WATERFORD-3</u>	Site ID: <u>MW-3</u>	Sampler: <u>CLW</u>
Project Number: <u>6045-460</u>	Date: <u>10/12/09</u>	Sampler Organization: <u>FW</u>

Site Description

Weather: <u>CLEAR</u>		Air Temp (°F): <u>70.5</u>		Wind: <u>CALM</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>37.51</u> TOC below/above ground: _____ feet <u>2.51</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0733</u>	<u>0800</u>	<u>0827</u>	<u>0839</u>	<u>0900</u>	
Depth to Water	feet	<u>5.30</u>	<u>5.30</u>	<u>5.74</u>	<u>5.72</u>	<u>5.77</u>	
Product	LNAPL/DNAPL	—					
Prod. thickness	feet	—					

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	<u>~30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol.	gallons	<u>5.3</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	<u>0816</u>	<u>0819</u>	<u>0823</u>	<u>0828</u>	<u>0831</u>	<u>0834</u>	<u>0837</u>	Remarks
Purge vol.	gallons	—					<u>1.25</u>		
Purge rate	mL/min	<u>160</u>	<u>160</u>	<u>160</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	
pH	su	<u>6.81</u>	<u>6.82</u>	<u>6.83</u>	<u>6.83</u>	<u>6.85</u>	<u>6.88</u>	<u>6.88</u>	
Temp.	°C	<u>24.19</u>	<u>24.18</u>	<u>24.16</u>	<u>24.16</u>	<u>24.32</u>	<u>24.40</u>	<u>24.40</u>	
Spec. cond.	µS/cm	<u>3270</u>	<u>3237</u>	<u>3240</u>	<u>3248</u>	<u>3280</u>	<u>3272</u>	<u>3273</u>	
D.O.	mg/L	—							
ORP	mV	—							
Turbidity	ntu	<u>1.5</u>	—	<u>0.85</u>	—	<u>0.50</u>	—	<u>0.75</u>	
Color/tint		<u>CLEAR</u>	→						
Odor		<u>NONE</u>	→						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-3</u>	<u>10/12/09</u>	<u>0840</u>	<u>4</u>	<u>0</u>	<u>2x 1L PLASTIC (GAMMA)</u> <u>2x 1L GLASS (METAL)</u>

Sampler's Name (print): <u>CURTIS NEW</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>WATERFORD-3</u>	Site ID: <u>MW-4</u>	Sampler: <u>CLN</u>
Project Number: <u>6045-460</u>	Date: <u>10/12/09</u>	Sampler Organization: <u>FMW</u>

Site Description

Weather: <u>SUNNY</u>		Air Temp (°F): <u>80.5</u>		Wind: <u>CALM</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>32.49</u> TOC below <u>above</u> ground: _____ feet <u>2.49</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0718</u>	<u>0921</u>	<u>0930</u>	<u>1004</u>	<u>1035</u>	
Depth to Water	feet	<u>8.39</u>	<u>8.31</u>	<u>09.33</u>	<u>9.99</u>	<u>9.94</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth	feet	<u>~3.2</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol.	gallons	<u>4.7</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408										
Time	24-hour	<u>0925</u>	<u>0929</u>	<u>0933</u>	<u>0937</u>	<u>0946</u>	<u>0943</u>	<u>0947</u>	<u>0951</u>	<u>0956</u>	<u>1000</u>	<u>1004</u>	Remarks
Purge vol.	gallons												<u>1.5</u>
Purge rate	mL/min	<u>180</u>	<u>160</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>90</u>	<u>90</u>	<u>90</u>	<u>90</u>	<u>90</u>	<u>90</u>	
pH	su	<u>6.59</u>	<u>6.61</u>	<u>6.66</u>	<u>6.67</u>	<u>6.68</u>	<u>6.69</u>	<u>6.71</u>	<u>6.72</u>	<u>6.72</u>	<u>6.72</u>	<u>6.72</u>	<u>6.72</u>
Temp.	°C	<u>24.60</u>	<u>24.79</u>	<u>24.98</u>	<u>24.73</u>	<u>24.80</u>	<u>24.81</u>	<u>25.11</u>	<u>25.19</u>	<u>25.13</u>	<u>25.11</u>	<u>25.22</u>	
Spec. cond.	µS/cm	<u>5435</u>	<u>5475</u>	<u>5608</u>	<u>5667</u>	<u>5706</u>	<u>5745</u>	<u>5847</u>	<u>5940</u>	<u>5961</u>	<u>5979</u>	<u>5974</u>	
D.O.	mg/L												
ORP	mV												
Turbidity	ntu	<u>4.2</u>	<u>—</u>	<u>5.4</u>	<u>—</u>	<u>1.5</u>	<u>—</u>	<u>0.55</u>	<u>—</u>	<u>4.6</u>	<u>—</u>	<u>0.00</u>	
Color/tint		<u>CLEAR</u>	<u>→</u>										
Odor		<u>NONE</u>	<u>→</u>										

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-4</u>	<u>10/12/09</u>	<u>1005</u>	<u>4</u>	<u>0</u>	<u>2 x 1L GLASS (GITCUM)</u> <u>2 x 1L PLASTIC (GAMA)</u>

Sampler's Name (print): <u>CURTIS NUUN</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>WATERFORD - 3</u>	Site ID: <u>MW-5</u>	Sampler: <u>CLW</u>
Project Number: <u>6045-460</u>	Date: <u>10/12/09</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather:		Air Temp (°F):		Wind:				
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter		inches	<u>2</u>	Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
				Total depth from TOC		feet	<u>37.66</u>	
				TOC below/above ground		feet	<u>2.66</u>	
Damages/repairs needed: <u>NONE</u>								

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0709</u>	<u>1045</u>	<u>1056</u>	<u>1059</u>	<u>1154</u>	
Depth to Water	feet	<u>5.62</u>	<u>5.64</u>	<u>5.99</u>	<u>5.93</u>	<u>5.86</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>~32</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	<u>5.2</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>1050</u>	<u>1034</u>	<u>1057</u>				Remarks
Purge vol.	gallons							
Purge rate	mL/min	<u>1160</u>	<u>160</u>	<u>140</u>				
pH	su	<u>7.15</u>	<u>7.13</u>	<u>7.13</u>				
Temp.	°C	<u>28.52</u>	<u>27.77</u>	<u>27.78</u>				
Spec. cond.	µS/cm	<u>1824</u>	<u>1802</u>	<u>1818</u>				
D.O.	mg/L							
ORP	mV							
Turbidity	ntu	<u>39</u>	<u>-</u>	<u>27</u>				
Color/tint		<u>CLEAR</u>	<u>→</u>					
Odor		<u>NONE</u>	<u>→</u>					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-5</u>	<u>10/12/09</u>	<u>1100</u>	<u>4</u>	<u>0</u>	
<u>MW-5D</u>	<u>"</u>	<u>1105</u>	<u>4</u>	<u>0</u>	<u>DUPLICATE</u>
<u>EB-1</u>	<u>"</u>	<u>1200</u>	<u>4</u>	<u>0</u>	<u>EQUIPMENT BLANK</u>

Sampler's Name (print): <u>CURTIS NUNN</u>	Sampler Signature:
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Date 10/12/09	Project Name ENERGY WATERFORD 3	Project Number 6045-460	Project Manager (Print) BOB WEST				Page <u>1</u> of <u>1</u>												
Laboratory Name ENERGY RIVER BEND Phone: ()		Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)		Lab Turn-Around Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: ___/___/___ Due: ___/___/___											
Sampler Signature(s) <i>[Signature]</i>		Recorded By (Print) CURTIS NUNN				<div style="display: flex; justify-content: space-around;"> TRITIN GAMMA </div>		Laboratory Notes											
SAMPLE DESCRIPTION																			
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method												
			W	S	O		Comp	Grab											
MW-3	10/12/09	0840	X			4		X	X										
MW-4	"	1005	X			4		X	X										
MW-5	"	1100	X			4		X	X										
MW-5D	"	1105	X			4		X	X										
EB-1	"	1200	X			4		X	X										
* Matrix: W = Water S = Soil O = Other																			
Relinquished By (Signature) <i>[Signature]</i>		Print Name CURTIS NUNN		Date 10/12/09		Time 1550		Received By (Signature) <i>[Signature]</i>		Print Name B. T. Michura		Date 10/12/09		Time 1550					
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time					
Sampler Remarks								Laboratory Remarks:											



FTN Associates Calibration Form

Date/Time: 2/19/2010

Prepared By: JWR/ETH

Location: OFFICE

Project #: 6045-460 W-3

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments	
Hydrolab	4	pH	7	su	13.51	6.44	Y N	7.01		
minisonde	↓	pH	4	su	13.96	5.12	Y N	3.99		
4a		pH	10	su			Y N			
		Cond	0	uS/cm	—	20	Y N	0		
		Cond	1413	uS/cm	17.59	1547.59	Y N	1409		
		DO			mm/Hg			Y N	mg/l	
		.Temp	—		Degrees C	23.76	23.75	Y N	N/A	
							Y N			
LaMotte		Turb		NTU	—	0	Y (N)	0		
20/20		↓		↓	—	17	Y N	19		
						240	Y N	200		
							Y N			
							Y N			
							Y N			

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>EMERGENCY WAREHOUSE 3</u>	Site ID: <u>MW-03</u>	Sampler: <u>CLN</u>
Project Number: <u>6045-460</u>	Date: <u>2/23/2010</u>	Sampler Organization: <u>FTW</u>

Site Description

Weather: <u>50's overcast</u>		Air Temp (°F): <u>50's</u>		Wind: <u>~5 mph NORTW</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <u>2</u> Total depth from TOC: feet <u>37.66</u> TOC below/above ground: feet <u>2.66</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>KECK</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1125</u>	<u>1144</u>	<u>1200</u>	<u>1233</u>	<u>1255</u>	
Depth to Water	feet	<u>5.47</u>	<u>5.47</u>	<u>5.85</u>	<u>5.97</u>	<u>6.03</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	<u>30 b/s</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol.	gallons		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time	24-hour	<u>1155</u>	<u>1157</u>	<u>1203</u>	<u>1207</u>	<u>1212</u>	<u>1217</u>	<u>1221</u>	<u>1227</u>	<u>1228</u>	<u>1231</u>	Remarks
Purge vol.	gallons										<u>2</u>	
Purge rate	mL/min	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>	
pH	su	<u>7.35</u>	<u>7.57</u>	<u>7.57</u>	<u>6.89</u>	<u>6.86</u>	<u>6.86</u>	<u>6.91</u>	<u>6.95</u>	<u>6.97</u>	<u>6.99</u>	
Temp.	°C	<u>16.90</u>	<u>17.44</u>	<u>17.69</u>	<u>17.86</u>	<u>17.97</u>	<u>18.24</u>	<u>18.51</u>	<u>18.54</u>	<u>18.79</u>	<u>18.72</u>	
Spec. cond.	µS/cm	<u>2437</u>	<u>2440</u>	<u>2430</u>	<u>2452</u>	<u>2613</u>	<u>2740</u>	<u>2896</u>	<u>3021</u>	<u>3112</u>	<u>3110</u>	
D.O.	mg/L											
ORP	mV											
Turbidity	ntu	<u>8.4</u>	<u>—</u>	<u>12</u>	<u>—</u>	<u>8.6</u>	<u>—</u>	<u>6.7</u>	<u>—</u>	<u>—</u>	<u>7.1</u>	
Color/tint		<u>CCOYAL →</u>										
Odor		<u>NONE →</u>										

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>2/23/2010</u>	<u>1235</u>	<u>4</u>	<u>0</u>	<u>2 x 1L GLASS (Gamma)</u> <u>2 x 1L PLASTIC (Gamma)</u>

Sampler's Name (print): <u>CUMPS NUNN</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>ENTRLOY WATERFIELD 3</u>	Site ID: <u>MW-04</u>	Sampler: <u>CLW</u>
Object Number: <u>6045-460</u>	Date: <u>2/23/2010</u>	Sampler Organization: <u>FTW</u>

Site Description

Weather: <u>OVERCAST</u>		Air Temp (°F): <u>58.5</u>		Wind: <u>5-10 N</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>37.49</u> TOC below/above ground: _____ feet <u>3.49</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>KOCK</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>11.15</u>	<u>1310</u>	<u>1325</u>	<u>1333</u>	<u>1455</u>	
Depth to Water	feet	<u>8.67</u>	<u>8.54</u>	<u>9.02</u>	<u>9.56</u>	<u>9.93</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30 legs</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons		= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>1300</u>	<u>1324</u>	<u>1328</u>	<u>1331</u>		Remarks	
Purge vol.	gallons			<u>0.25</u>				
Purge rate	mL/min	<u>150</u>	<u>120</u>	<u>120</u>	<u>120</u>			
pH	su	<u>7.43</u>	<u>7.31</u>	<u>7.31</u>	<u>7.28</u>			
Temp.	°C	<u>17.58</u>	<u>17.62</u>	<u>17.51</u>	<u>17.47</u>			
Spec. cond.	µS/cm	<u>4650</u>	<u>4659</u>	<u>4665</u>	<u>4660</u>			
D.O.	mg/L							
ORP	mV							
Turbidity	ntu	<u>24</u>			<u>24</u>			
Color/tint		<u>0.10 PCU</u>						
Odor		<u>NONE</u>						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>2/23/2010</u>	<u>1335</u>	<u>4</u>	<u>0</u>	<u>2 x 1L GLASS (TRITUM)</u>
<u>MW-040</u>	<u>2/23/2010</u>	<u>1345</u>	<u>4</u>	<u>0</u>	<u>2 x 1L PURPLE (GAMMA)</u>
					<u>DUPLICATE, SAME J</u>

Sampler's Name (print): <u>CVRTIS NUNN</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>EMERY WORKS 3</u>	Site ID: <u>MW-05</u>	Sampler: <u>FTW</u>
Object Number: <u>605-460</u>	Date: <u>2/23/2010</u>	Sampler Organization: <u>CLW</u>

Site Description

Weather: <u>PARTLY CLOUDY</u>		Air Temp (°F): <u>50s</u>		Wind: <u>SEVERE</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>37.66</u> TOC below/above ground: _____ feet <u>2.66</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>KECK</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1057</u>	<u>1512</u>	<u>1500</u>	<u>1529</u>	<u>1612</u>	
Depth to Water	feet	<u>4.93</u>	<u>4.94</u>	<u>5.02</u>	<u>5.16</u>	<u>5.18</u>	
Product	LNAPL/DNAPL	—					
Prod. thickness	feet	—					

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408				
Time	24-hour	<u>1515</u>	<u>1520</u>	<u>1525</u>	<u>1527</u>	Remarks
Purge vol.	gallons				<u>0.75</u>	
Purge rate	mL/min	<u>160</u>	<u>120</u>	<u>120</u>	<u>120</u>	
pH	su	<u>8.02</u>	<u>8.07</u>	<u>8.05</u>	<u>8.04</u>	
Temp.	°C	<u>16.91</u>	<u>16.81</u>	<u>16.60</u>	<u>16.63</u>	
Spec. cond.	µS/cm	<u>1526</u>	<u>1527</u>	<u>1529</u>	<u>1529</u>	
D.O.	mg/L	—				
ORP	mV	—				
Turbidity	ntu	<u>30</u>	—	—	<u>30</u>	
Color/tint		<u>clear →</u>				
Odor		<u>NONE →</u>				

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>2/23/2010</u>	<u>1530</u>	<u>4</u>	<u>0</u>	<u>2x1L PLASTIC (GAMMA)</u> <u>2x1L GLASS (TRITON)</u>

Sampler's Name (print): <u>CURTIS NUNN</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>EMERY WAREHOUSE 3</u>	Site ID: <u>EB-01</u>	Sampler: <u>CLN</u>
Object Number: <u>6045-460</u>	Date: <u>2/23/2010</u>	Sampler Organization: <u>FTW</u>

Site Description

Weather: <u>PARTLY CLOUDY</u>		Air Temp (°F): <u>50</u>		Wind: <u>BREEZY</u>	
Site type: <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches Total depth from TOC: _____ feet TOC below/above ground: _____ feet	
Well locked? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Damages/repairs needed:					

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>n/a</u>	<u>→</u>				
Depth to Water	feet	<u>↓</u>	<u>→</u>				
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:		Pump description: <input type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC	
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408			
Time	24-hour	<u>DECONTAMINATED WATER W/ MERCUR PROBE</u>			
Purge vol.	gallons	<u>PLACED INTO NEW CONTAINER OF MARCUS PUMP EQUIPMENT</u>			
Purge rate	mL/min	<u>(TARGET 200) DISTILLED WATER. WATER PURGED BLANK</u>			
pH	su	<u>VIA NEW POLY AND SILICONE TUBING DIRECTLY</u>			
Temp.	°C	<u>INTO SAMPLE CONTAINERS.</u>			
Spec. cond.	µS/cm				
D.O.	mg/L				
ORP	mV				
Turbidity	ntu				
Color/tint					
Odor					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>EB-01</u>	<u>2/23/2010</u>	<u>16:30</u>	<u>4</u>	<u>0</u>	<u>2x1L GLASS (NATUM)</u> <u>2x1L PLASTIC (GAMMA)</u>

Sampler's Name (print): <u>CURTIS NUNN</u>	Sampler Signature: <u>[Signature]</u>
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FIELD SUPPLIES AND EQUIPMENT PROJECT WORKSHEET

PROJECT NUMBER: 6045-460

DATE(S): 2/23/2010 TO 2/23/2010

FTN RENTAL	UNIT	Day 1	Day 2	Day 3	Day 4	Day 5	Week 1	Total Units
		Units	Units	Units	Units	Units	Units	
Peristaltic Pump	day	1						1
Submersible pump	day							
Hydrolab	day	1						1
Hydrolab	week							
Meters	day	1						1
Geoprobe, augers	day							
PPE	day							
GPS	day							
Other	day/week							
FIELD SUPPLIES	UNIT	Day 1	Day 2	Day 3	Day 4	Day 5		Total Units
Silicone tubing	ft	5						5
Polyethylene tubing	ft	115						115
Vinyl tubing	ft							
Disposable bailers	ea							
0.45 micron filters	ea							
Tyvek suit	ea							
field notebook	ea	1						1
misc. supplies	day	1						1
G-L-425	BOX	0.5						0.5

NOTES:



FTN Associates Calibration Form

Date/Time: 5/11/10

Prepared By: JWB

Location: W-3

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
Hydrolab		pH	7	su	28.86	6.79	Y <input checked="" type="checkbox"/> N		
Mini Sonde		pH	4	su	31.05	4.05	Y <input checked="" type="checkbox"/> N		
		pH	10	su			Y <input checked="" type="checkbox"/> N		
		Cond	0	uS/cm	30.21	0	Y <input checked="" type="checkbox"/> N		
		Cond		uS/cm	28.95	452	Y <input checked="" type="checkbox"/> N		
		DO		mm/Hg			Y <input checked="" type="checkbox"/> N		
		Temp		Degrees C	29.42	30	Y <input checked="" type="checkbox"/> N	N/A	
							Y N		
							Y N		
							Y N		
							Y N		
							Y N		
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-03</u>	Sampler: <u>JWS</u>
Project Number: <u>6045-460</u>	Date: <u>5/11/10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Sunny</u>	Air Temp (°F): <u>75</u>	Wind: <u>5-10</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>35</u> TOC below/above ground: _____ feet <u>12</u>
Damages/repairs needed: <p style="text-align: center;"><u>NONE</u></p>		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Keck</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1154</u>	<u>1225</u>	<u>1237</u>	<u>1245</u>	<u>1313</u>	
Depth to Water	feet	<u>7.08</u>	<u>7.05</u>	<u>7.27</u>	<u>7.45</u>	<u>7.54</u>	
Product	LNAPL/DNAPL	<u>5/11/10</u>	<u>-7</u>				
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <u>HF Scientific</u>			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time	24-hour	<u>1230</u>	<u>1235</u>	<u>1240</u>	<u>1245</u>		Remarks	
Purge vol.	gallons	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>			
Purge rate	mL/min	<u>110</u>	<u>110</u>	<u>110</u>	<u>110</u>			
pH	su	<u>7.06</u>	<u>7.08</u>	<u>7.08</u>	<u>7.09</u>			
Temp.	°C	<u>26.27</u>	<u>26.28</u>	<u>25.78</u>	<u>25.62</u>			
Spec. cond.	µS/cm	<u>2663</u>	<u>2663</u>	<u>2667</u>	<u>2675</u>			
D.O.	mg/L	-	-	-	-			
ORP	mV	-	-	-	-			
Turbidity	ntu	<u>28</u>	<u>15</u>	<u>8.5</u>	<u>8.9</u>			
Color/tint		<u>clear</u>	<u>-7</u>					
Odor		<u>NONE</u>	<u>-7</u>					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>5/11/10</u>	<u>1245</u>	<u>4</u>	<u>-</u>	<u>2x1L GAMMA</u> <u>2x1L Tritium</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-04</u>	Sampler: <u>JLB</u>
Project Number: <u>6045-460</u>	Date: <u>5/11/16</u>	Sampler Organization: <u>ETW</u>

Site Description

Weather: <u>SUNNY</u>		Air Temp (°F): <u>80°</u>		Wind: <u>5-10</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <u>2</u> Total depth from TOC: feet <u>35</u> TOC below/above ground: feet <u>~2</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Rock/Co</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1145</u>	<u>1326</u>	<u>1343</u>	<u>1345</u>	<u>1420</u>	
Depth to Water	feet	<u>9.07</u>	<u>8.95</u>	<u>9.89</u>	<u>10.20</u>	<u>10.39</u>	
Product	LNAPL/DNAPL	<u>5/11/10 -7</u>					
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input checked="" type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>20</u>	Well goes dry during purging: <input type="checkbox"/> Yes. <input checked="" type="checkbox"/> No			
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408				
Time	24-hour	<u>1330</u>	<u>1335</u>	<u>1340</u>	<u>1345</u>	Remarks
Purge vol.	gallons	<u>0.0</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	
Purge rate	mL/min	<u>130</u>	<u>110</u>	<u>110</u>	<u>110</u>	
pH	su	<u>6.55</u>	<u>6.65</u>	<u>6.67</u>	<u>6.59</u>	
Temp.	°C	<u>25.77</u>	<u>25.78</u>	<u>25.17</u>	<u>26.07</u>	
Spec. cond.	µS/cm	<u>4932</u>	<u>4953</u>	<u>4935</u>	<u>4931</u>	
D.O.	mg/L	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
ORP	mV	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Turbidity	ntu	<u>16</u>	<u>16</u>	<u>12</u>	<u>13</u>	
Color/tint		<u>clear</u>	<u>→ w/ particulate</u>			
Odor		<u>NONE</u>	<u>→</u>			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>5/11/16</u>	<u>1350</u>	<u>4</u>	<u>-</u>	<u>2 GAMMA</u> <u>2 Tritium</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>JLB</u>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-05</u>	Sampler: <u>JWB</u>
Project Number: <u>6045-0460</u>	Date: <u>5/11/10</u>	Sampler Organization: <u>ETN</u>

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>90</u>		Wind: <u>10-15</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>35</u> TOC below/above ground: _____ feet <u>~2</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Kech</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1132</u>	<u>1432</u>	<u>1442</u>	<u>1530</u>	<u>1621</u>	
Depth to Water	feet	<u>7.18</u>	<u>7.14</u>	<u>7.49</u>	<u>7.55</u>	<u>7.61</u>	
Product	LNAPL/DNAPL	<u>5/11/10 -></u>					
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408											
Time	24-hour	<u>1440</u>	<u>1445</u>	<u>1450</u>	<u>1455</u>	<u>1501</u>	<u>1505</u>	<u>1510</u>	<u>1515</u>	<u>1520</u>	<u>1525</u>	<u>1530</u>	Remarks
Purge vol.	gallons	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.2</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.1</u>	
Purge rate	mL/min	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	
pH	su	<u>7.21</u>	<u>7.20</u>	<u>6.82</u>	<u>6.99</u>	<u>6.95</u>	<u>7.00</u>	<u>7.06</u>	<u>7.12</u>	<u>7.02</u>	<u>7.02</u>	<u>7.02</u>	
Temp.	°C	<u>26.48</u>	<u>26.11</u>	<u>25.81</u>	<u>26.08</u>	<u>26.13</u>	<u>26.33</u>	<u>26.16</u>	<u>26.16</u>	<u>26.08</u>	<u>26.15</u>	<u>25.72</u>	
Spec. cond.	µS/cm	<u>2045</u>	<u>2062</u>	<u>5564</u>	<u>5838</u>	<u>5787</u>	<u>5569</u>	<u>5457</u>	<u>5180</u>	<u>4944</u>	<u>4929</u>	<u>4850</u>	
D.O.	mg/L	-	-	-	-	-	-	-	-	-	-	-	
ORP	mV	-	-	-	-	-	-	-	-	-	-	-	
Turbidity	ntu	<u>24</u>	<u>20</u>	<u>19</u>	<u>16</u>	<u>10</u>	<u>19</u>	<u>8.6</u>	<u>15</u>	<u>14</u>	<u>14</u>	<u>13</u>	
Color/tint		<u>clear</u>	<u>w/</u>	<u>particulate</u>									
Odor		<u>NONE</u>											

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>5/11/10</u>	<u>1535</u>	<u>4</u>	<u>-</u>	<u>2 GAMMA 12 Tritium</u>
<u>MW-05D</u>	<u>↓</u>	<u>1540</u>	<u>4</u>	<u>-</u>	<u>Duplicate</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>JWB</u>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>EB-1</u>	Sampler:
Project Number: <u>6045</u>	Date:	Sampler Organization:

Site Description

Weather:	Air Temp (°F):	Wind:										
Site type: <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Well diameter</td> <td style="width: 10%;">inches</td> <td style="width: 10%;"></td> <td rowspan="3" style="width: 10%; text-align: center;">Well locked? <input type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td>Total depth from TOC</td> <td>feet</td> <td></td> </tr> <tr> <td>TOC below/above ground</td> <td>feet</td> <td></td> </tr> </table>	Well diameter	inches		Well locked? <input type="checkbox"/> Yes <input type="checkbox"/> No	Total depth from TOC	feet		TOC below/above ground	feet	
Well diameter	inches		Well locked? <input type="checkbox"/> Yes <input type="checkbox"/> No									
Total depth from TOC	feet											
TOC below/above ground	feet											
Damages/repairs needed:												

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour					
Depth to Water	feet					
Product	LNAPL/DNAPL					
Prod. thickness	feet					

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input type="checkbox"/> Other:		Pump description: <input type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No				
Casing vol.	gallons	= [total depth (feet) – depth to water (feet)] • [well ID (inches) ²] • 0.0408				
Time	24-hour				Remarks	
Purge vol.	gallons	<i>Equipment blank using peristaltic pump w/ poly tubing. W.L. meter submerged into 1 gallon D.I. water (Always Sure.) w/ water level meter</i>				
Purge rate	mL/min					
pH	su					
Temp.	°C					
Spec. cond.	µS/cm					
D.O.	mg/L					
ORP	mV					
Turbidity	ntu					
Color/tint						
Odor						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>EB-1</u>	<u>5/11/10</u>	<u>1628</u>	<u>4</u>	<u>-</u>	<u>2 GAMMA 12 Tritium</u>

Sampler's Name (print):	Sampler Signature:
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Date 5/11/10		Project Name R- W-3			Project Number 6045-460		Project Manager (Print) ROB WEST			Page 1 of 1			
Laboratory Name RBS LAB				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)				Lab Turn-Around Time	
Phone: ()				Recorded By (Print) Jacob Brickman				<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Tritium</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">GAMMA</div> </div>				<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: 1/1 NORMAL	
Sampler Signature(s) Jacob Brickman				SAMPLE DESCRIPTION								Laboratory Notes	
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method						
			W	S	O		Comp	Grab					
MW-05	5/11/10	1535	X			4		X	X				
MW-05D	↓	1540	X			4		X	X				
MW-04	↓	1350	X			4		X	X				
MW-03	↓	1245	X			4		X	X				
EB-01	↓	1620	X			4		X	X				
* Matrix: W = Water S = Soil O = Other													
Relinquished By (Signature) Jacob Brickman		Print Name Jacob Brickman		Date Time 5/12/10 0817		Received By (Signature) B. T. Michura		Print Name B. T. Michura		Date Time 5-12-10 0817			
Relinquished By (Signature)		Print Name		Date Time		Received By Laboratory (Signature)		Print Name		Date Time			
Sampler Remarks						Laboratory Remarks:							

Daily Log

Site Location: W-3	Date: 8/23/10
Project Number: 6045-460	Page c of 1
1050 - JWB Arrives on site start taking Water Levels - Meet w/ Rodney and receive bottles	
1115 - Start sampling at MW-03	
1250 - Sample at MW-04	
1420 - Sampled and made duplicate at MW-05	
1510 - Equipment Blank was made with store bought DI using peristaltic pump w/ heron Dipper T Water level meter.	
1530 JWB off site Sped [Signature]	

Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>(MW)-3</u>	Sampler: <u>JWB</u>
Object Number: <u>6045-460</u>	Date: <u>8/23/10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Sunny</u>	Air Temp (°F): <u>95°</u>	Wind: <u>0.5 mph</u>										
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Well diameter</td> <td style="width: 10%;">inches</td> <td style="width: 10%; text-align: center;"><u>2</u></td> <td rowspan="3" style="width: 20%; vertical-align: top;">Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</td> </tr> <tr> <td>Total depth from TOC</td> <td>feet</td> <td style="text-align: center;"><u>35</u></td> </tr> <tr> <td>TOC below/above ground</td> <td>feet</td> <td style="text-align: center;"><u>~2</u></td> </tr> </table>	Well diameter	inches	<u>2</u>	Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total depth from TOC	feet	<u>35</u>	TOC below/above ground	feet	<u>~2</u>
Well diameter	inches	<u>2</u>	Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									
Total depth from TOC	feet	<u>35</u>										
TOC below/above ground	feet	<u>~2</u>										
Damages/repairs needed: <u>NONE</u>												

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1118</u>	<u>1127</u>	<u>1139</u>	<u>1151</u>	<u>1220</u>	
Depth to Water	feet	<u>5.18</u>	<u>5.13</u>	<u>5.50</u>	<u>5.52</u>	<u>5.57</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: <input checked="" type="checkbox"/> Other: <u>HF Scientific</u>			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time	24-hour	<u>1130</u>	<u>1135</u>	<u>1140</u>	<u>1145</u>		Remarks	
Purge vol.	gallons	<u>0.1</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>			
Purge rate	mL/min	<u>120</u>	<u>110</u>	<u>110</u>	<u>110</u>			
pH	su	<u>6.73</u>	<u>6.75</u>	<u>6.75</u>	<u>6.77</u>			
Temp.	°C	<u>27.49</u>	<u>27.68</u>	<u>27.29</u>	<u>27.49</u>			
Spec. cond.	µS/cm	<u>3059</u>	<u>3133</u>	<u>3164</u>	<u>3163</u>			
D.O.	mg/L	-	-	-	-			
ORP	mV	-	-	-	-			
Turbidity	ntu	<u>1.59</u>	<u>1.58</u>	<u>1.56</u>	<u>1.15</u>			
Color/tint		<u>NONE</u>						
Odor		<u>NONE</u>						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-3</u>	<u>8/23/10</u>	<u>1150</u>	<u>4</u>	-	<u>2x1L GAMMA 2x1L Tritan</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-4</u>	Sampler: <u>SWB</u>
Object Number: <u>6045-460</u>	Date: <u>8/23/10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>sunny</u>		Air Temp (°F): <u>100°</u>		Wind: <u>—</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <u>2</u> Total depth from TOC: feet <u>35</u> TOC below/above ground: feet <u>22.5</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1111</u>	<u>1231</u>	<u>1242</u>	<u>1256</u>	<u>1336</u>	
Depth to Water	feet	<u>8.00</u>	<u>7.98</u>	<u>8.73</u>	<u>8.89</u>	<u>9.03</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time	24-hour	<u>1238</u>	<u>1242</u>	<u>1246</u>	<u>1250</u>	<u>1254</u>	Remarks	
Purge vol.	gallons	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>		
Purge rate	mL/min	<u>120</u>	<u>110</u>	<u>110</u>	<u>116</u>	<u>110</u>		
pH	su	<u>6.54</u>	<u>6.56</u>	<u>6.61</u>	<u>6.58</u>	<u>6.61</u>		
Temp.	°C	<u>27.75</u>	<u>27.98</u>	<u>30.14</u>	<u>28.82</u>	<u>28.68</u>		
Spec. cond.	µS/cm	<u>5525</u>	<u>5522</u>	<u>5655</u>	<u>5692</u>	<u>5702</u>		
D.O.	mg/L	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>		
ORP	mV	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>		
Turbidity	ntu	<u>17.97</u>	<u>28.80</u>	<u>21.03</u>	<u>13.22</u>	<u>15.62</u>		
Color/tint		<u>clear</u>						
Odor		<u>NONE some red particulate</u>						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>8/23/10</u>	<u>1255</u>	<u>4</u>	<u>—</u>	<u>2 Tritium & 2 CAME</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-5</u>	Sampler: <u>JWB</u>
Object Number: <u>6015-466</u>	Date: <u>8/23/10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>10.50</u>		Wind: <u>—</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2</u> inches Total depth from TOC: <u>35</u> feet TOC below/above ground: _____ feet	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input checked="" type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1100</u>	<u>1350</u>	<u>1402</u>	<u>1410</u>	<u>1508</u>	
Depth to Water	feet	<u>4.65</u>	<u>4.66</u>	<u>4.89</u>	<u>4.91</u>	<u>4.94</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	<u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time	24-hour	<u>1355</u>	<u>1359</u>	<u>1404</u>	<u>1408</u>		Remarks	
Purge vol.	gallons	<u>0.2</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>			
Purge rate	mL/min	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>			
pH	su	<u>7.00</u>	<u>6.98</u>	<u>6.99</u>	<u>6.97</u>			
Temp.	°C	<u>21.01</u>	<u>20.99</u>	<u>21.18</u>	<u>21.31</u>			
Spec. cond.	µS/cm	<u>2004</u>	<u>1965</u>	<u>1974</u>	<u>1958</u>			
D.O.	mg/L	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>			
ORP	mV	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>			
Turbidity	ntu	<u>15.78</u>	<u>23.95</u>	<u>15.12</u>	<u>16.41</u>			
Color/tint		<u>Clear</u>						
Odor		<u>NONE</u>						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-5</u>	<u>8/23/10</u>	<u>1415</u>	<u>4</u>	<u>—</u>	<u>2 Tritium / 2 GAMMA</u>
<u>MW-100</u>	<u>↓</u>	<u>1416</u>	<u>↓</u>	<u>—</u>	<u>Duplicate</u>
<u>MW-101</u>	<u>↓</u>	<u>1510</u>	<u>↓</u>	<u>—</u>	<u>MW-101 = Equipment Blank</u>

Sampler's Name (print): <u>Jacob Brickman</u>	Sampler Signature: <u>JWB</u>
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Date 8/23/10		Project Name W-3			Project Number 6045-460		Project Manager (Print) BOB WEST				Page <u>1</u> of <u>1</u>				
Laboratory Name RBS Laboratory				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)				Lab Turn-Around Time			
Phone: ()				Recorded By (Print) Jacob Beckman				<div style="display: flex; justify-content: space-around;"> Tritium GAMMA </div>				<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: <u> </u> / <u> </u> / <u> </u>			
Sampler Signature(s) Jacob Beckman				SAMPLE DESCRIPTION								Laboratory Notes NORMAL			
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method								
			W	S	O		Comp	Grab							
MW-03	9/23/10	1150	X			4		X	X						
MW-04	↓	1255	X			↓		X	X						
MW-05		1415	X					X	X						
MW-100		1410	X					X	X						
MW-101	↓	1510	X			↓		X	X						
* Matrix: W = Water S = Soil O = Other															
Relinquished By (Signature) Jacob Beckman		Print Name Jacob Beckman		Date 8/24/10		Time 0715		Received By (Signature) B. T. Michalski		Print Name B. T. Michalski		Date 8/24/10		Time 0723	
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time	
Sampler Remarks								Laboratory Remarks:							

FIELD SUPPLIES AND EQUIPMENT PROJECT WORKSHEET

PROJECT NUMBER: 6045-460

DATE(S): Aug 23 ~~22~~ 2010

FTN RENTAL	UNIT	Day 1	Day 2	Day 3	Day 4	Day 5	Week 1	Total Units
		Units	Units	Units	Units	Units	Units	
Peristaltic Pump	day	1						1
Submersible pump	day							
Hydrolab	day	1						1
Hydrolab	week							
Meters	day	1						1
Geoprobe, augers	day							
PPE	day							
GPS	day							
Other	day/week							
FIELD SUPPLIES	UNIT	Day 1	Day 2	Day 3	Day 4	Day 5		Total Units
Silicone tubing	ft	5						5
Polyethylene tubing	ft	110						110
Vinyl tubing	ft							
Disposable bailers	ea							
0.45 micron filters	ea							
Tyvek suit	ea							
field notebook	ea							1
misc. supplies	day							1

NOTES:



FTN Associates Calibration Form

Date/Time: / 0650

Prepared By: JSA

Location: Waterbid 3 - MW-5

Project #:

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
Hydrolab Mmusaak	45796	pH	7	su	17.53	7.07	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	7.00	
		pH	4	su	17.79	3.95	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	4.00	
		pH	10	su			Y N		
		Cond	0	uS/cm	—	0.0	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0.0	
		Cond	447	uS/cm	17.73	414.4	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	446.3	
		DO		mm/Hg		mg/l	<input type="checkbox"/> Y <input type="checkbox"/> N	mg/l	
		Temp	18	Degrees C	—	17.86	<input type="checkbox"/> Y <input type="checkbox"/> N	N/A	
							<input type="checkbox"/> Y <input type="checkbox"/> N		
							<input type="checkbox"/> Y <input type="checkbox"/> N		
							<input type="checkbox"/> Y <input type="checkbox"/> N		
							<input type="checkbox"/> Y <input type="checkbox"/> N		
							<input type="checkbox"/> Y <input type="checkbox"/> N		
							<input type="checkbox"/> Y <input type="checkbox"/> N		
							<input type="checkbox"/> Y <input type="checkbox"/> N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-3</u>	Sampler: <u>JJR</u>
Object Number: <u>6045-460</u>	Date: <u>11-16-10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>partly sunny</u>		Air Temp (°F): <u>69°</u>		Wind: <u>slight breeze</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet TOC below/above ground: _____ feet	
Damages/repairs needed: <u>none</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Solinst</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0756</u>	<u>1137</u>	<u>1153</u>	<u>1157</u>	<u>1256</u>	
Depth to Water	feet	<u>6.28</u>	<u>6.36</u>	<u>6.67</u>	<u>6.70</u>	<u>6.83</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) – depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>1144</u>	<u>1148</u>	<u>1150</u>	<u>1156</u>		Remarks
Purge vol.	gallons				<u>~0.5</u>		
Purge rate	mL/min	<u>135</u>	<u>135</u>	<u>135</u>	<u>135</u>		
pH	su	<u>6.82</u>	<u>6.81</u>	<u>6.82</u>	<u>6.81</u>		
Temp.	°C	<u>23.56</u>	<u>23.23</u>	<u>23.40</u>	<u>23.24</u>		
Spec. cond.	µS/cm	<u>3580</u>	<u>3604</u>	<u>3610</u>	<u>3613</u>		
D.O.	mg/L	-	-	-	-		
ORP	mV	-	-	-	-		
Turbidity	ntu	<u>17.76</u>	<u>7.47</u>	<u>7.31</u>	<u>7.91</u>		
Color/tint		<u>clear</u>	<u>→</u>	<u>→</u>	<u>→</u>		
Odor		<u>none</u>	<u>→</u>	<u>→</u>	<u>→</u>		

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-3</u>	<u>11-16-10</u>	<u>1200</u>	<u>4</u>	<u>-</u>	<u>2 Gamma / 2 Tritium</u>
<u>MW-100</u>	<u>11-16-10</u>	<u>1220</u>	<u>4</u>	<u>-</u>	<u>Duplicate</u>

Sampler's Name (print): <u>Jimmy Rose</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-4</u>	Sampler: <u>JJR</u>
Object Number: <u>8045-460</u>	Date: <u>11-16-10</u>	Sampler Organization: <u>FTA</u>

Site Description

Weather: <u>Mostly Cloudy</u>		Air Temp (°F): <u>68</u>		Wind: <u>bracy</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet TOC below/above ground: _____ feet	
Damages/repairs needed: <u>None</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Schnit</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0749</u>	<u>1001</u>	<u>1034</u>	<u>1050</u>	<u>1109</u>	
Depth to Water	feet	<u>8.29</u>	<u>8.44</u>	<u>9.21</u>	<u>9.37</u>	<u>9.70</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time	24-hour	<u>1025</u>	<u>1029</u>	<u>1033</u>	<u>1037</u>	<u>1041</u>	<u>1045</u>	<u>1049</u>		Remarks
Purge vol.	gallons							<u>~0.7</u>		
Purge rate	mL/min	<u>110</u>	<u>100</u>	<u>100</u>	<u>85</u>	<u>85</u>	<u>80</u>	<u>80</u>		
pH	su	<u>6.73</u>	<u>6.61</u>	<u>6.70</u>	<u>6.68</u>	<u>6.71</u>	<u>6.75</u>	<u>6.73</u>		
Temp.	°C	<u>22.57</u>	<u>22.46</u>	<u>22.53</u>	<u>22.70</u>	<u>22.73</u>	<u>22.75</u>	<u>22.58</u>		
Spec. cond.	µS/cm	<u>5938</u>	<u>6153</u>	<u>6205</u>	<u>6276</u>	<u>6311</u>	<u>6346</u>	<u>6385</u>		
D.O.	mg/L	-	-	-	-					
ORP	mV	-	-	-	-					
Turbidity	ntu	<u>1223</u>	<u>813</u>	<u>4.86</u>	<u>4.53</u>	<u>3.88</u>	<u>4.00</u>	<u>4.03</u>		
Color/tint		<u>clear</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>		
Odor		<u>none</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>		

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-4</u>	<u>11-16-10</u>	<u>1055</u>	<u>4</u>	<u>—</u>	<u>2 Tritium / 2 Gamma</u>

Sampler's Name (print): <u>Jimmy Rogers</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: W-3	Site ID: MW-5	Sampler: JJR
Object Number: 6045-460	Date: 11-16-10	Sampler Organization: FTN

Site Description

Weather: Mostly Cloudy		Air Temp (°F): 68		Wind: moderate gusts		
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet TOC below/above ground: feet		Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Damages/repairs needed: none						

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: Solinst					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	0735	0850	0904	0911	1011	
Depth to Water	feet	6.06	6.06	6.47	6.48	6.54	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons		= [total depth (feet) – depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	0854	0858	0902	0906	0910	Remarks	
Purge vol.	gallons				22~1			
Purge rate	mL/min	120	100	100	100	100		
pH	su	6.52	6.98	7.07	7.02	7.08		
Temp.	°C	22.79	22.77	22.87	22.87	22.94		
Spec. cond.	µS/cm	6683	6700	6662	6635	6598		
D.O.	mg/L	-	-	-	-			
ORP	mV	-	-	-	-			
Turbidity	ntu	13.15	8.19	7.14	6.83	7.59	<i>slight yellowish color observed as sample bottles were filling</i>	
Color/tint		clear	→	→	→	→		
Odor		none	→	→	→	→		

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-5	11-16-10	0915	5	—	2 titanium / 2 Corral / 1 other

Sampler's Name (print): Jimmy Rogers	Sampler Signature: <i>[Signature]</i>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-6</u>	Sampler: <u>JJR</u>
Object Number: <u>6045-460</u>	Date: <u>11-16-10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Mostly Sunny</u>	Air Temp (°F): <u>70°</u>	Wind: <u>slight breeze</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet TOC below/above ground: _____ feet
Damages/repairs needed: <u>None</u>		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Solinst</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0804</u>	<u>1300</u>	<u>1310</u>	<u>1318</u>	<u>1400</u>	
Depth to Water	feet	<u>4.44</u>	<u>4.60</u>	<u>5.30</u>	<u>5.41</u>	<u>5.67</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) – depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>1305</u>	<u>1309</u>	<u>1313</u>	<u>1317</u>		Remarks
Purge vol.	gallons				<u>~0.5</u>		<u>* Top of PVC</u> <u>only a male</u> <u>threaded end.</u> <u>Cap with tubing</u> <u>just seal over</u> <u>but does not</u> <u>fit snugly</u>
Purge rate	mL/min	<u>125</u>	<u>95</u>	<u>95</u>	<u>85</u>		
pH	su	<u>7.14</u>	<u>6.34</u>	<u>7.03</u>	<u>7.07</u>		
Temp.	°C	<u>23.17</u>	<u>22.49</u>	<u>22.90</u>	<u>22.83</u>		
Spec. cond.	µS/cm	<u>3790</u>	<u>3899</u>	<u>3825</u>	<u>3731</u>		
D.O.	mg/L	-	-	-	-		
ORP	mV	-	-	-	-		
Turbidity	ntu	<u>14.25</u>	<u>8.10</u>	<u>6.95</u>	<u>5.15</u>		
Color/tint		<u>clear</u>	<u>→</u>	<u>→</u>	<u>→</u>		
Odor		<u>none</u>	<u>→</u>	<u>→</u>	<u>→</u>		

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-6</u>	<u>11-16-10</u>	<u>1300</u>	<u>4</u>		<u>2 Gamma / 2 Turbin</u>

Sampler's Name (print): <u>Jimmy Rogien</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-7</u>	Sampler: <u>JJA</u>
Object Number: <u>6045-466</u>	Date: <u>11-16-10</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>partly sunny</u>	Air Temp (°F): <u>68°</u>	Wind: <u>breezy</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet TOC below/above ground: _____ feet
Damages/repairs needed: <u>none</u>		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Solinar</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0814</u>	<u>1410</u>	<u>1418</u>	<u>1429</u>	<u>1506</u>	
Depth to Water	feet	<u>6.38</u>	<u>6.51</u>	<u>7.05</u>	<u>7.21</u>	<u>7.28</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:			Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time	24-hour	<u>1412</u>	<u>1416</u>	<u>1420</u>	<u>1424</u>	<u>1428</u>	Remarks	
Purge vol.	gallons							
Purge rate	mL/min	<u>115</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>		
pH	su	<u>6.68</u>	<u>6.75</u>	<u>6.75</u>	<u>6.72</u>	<u>6.76</u>		
Temp.	°C	<u>24.01</u>	<u>23.98</u>	<u>23.93</u>	<u>23.96</u>	<u>23.95</u>		
Spec. cond.	µS/cm	<u>1809</u>	<u>1885</u>	<u>1929</u>	<u>1961</u>	<u>1976</u>		
D.O.	mg/L	-	-	-	-	-		
ORP	mV	-	-	-	-	-		
Turbidity	ntu	<u>7.91</u>	<u>5.25</u>	<u>4.44</u>	<u>4.77</u>	<u>4.65</u>		
Color/tint		<u>clear</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>		
Odor		<u>none</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>		

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-7</u>	<u>11-16-10</u>	<u>1430</u>	<u>4</u>	<u>-</u>	<u>2 Gamma / 2 Tritium</u>

Sampler's Name (print): <u>Jimmy Rogers</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-8</u>	Sampler: <u>JJR</u>
Object Number: <u>6045-460</u>	Date: <u>11-16-10</u>	Sampler Organization: <u>FTW</u>

Site Description

Weather: <u>mostly sunny</u>	Air Temp (°F): <u>68°</u>	Wind: <u>slight breeze</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet TOC below/above ground: _____ feet
Damages/repairs needed: <u>None</u>		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Schmit</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0825</u>	<u>1525</u>	<u>1536</u>	<u>1542</u>	<u>1617</u>	
Depth to Water	feet	<u>7.68</u>	<u>7.80</u>	<u>8.03</u>	<u>8.08</u>	<u>8.11</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other: _____		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) – depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<u>1509</u>	<u>1533</u>	<u>1537</u>	<u>1541</u>		Remarks
Purge vol.	gallons			<u>~0.5</u>			
Purge rate	mL/min	<u>140</u>	<u>110</u>	<u>110</u>	<u>110</u>		
pH	su	<u>6.84</u>	<u>6.71</u>	<u>6.72</u>	<u>6.71</u>		
Temp.	°C	<u>23.56</u>	<u>23.76</u>	<u>23.66</u>	<u>23.56</u>		
Spec. cond.	µS/cm	<u>1383</u>	<u>1393</u>	<u>1407</u>	<u>1410</u>		
D.O.	mg/L	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
ORP	mV	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
Turbidity	ntu	<u>46.16</u>	<u>7.86</u>	<u>6.45</u>	<u>5.83</u>		
Color/tint		<u>clear →</u>	<u>→</u>	<u>→</u>			
Odor		<u>none →</u>	<u>→</u>	<u>→</u>			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-8</u>	<u>11-16-10</u>	<u>1545</u>	<u>4</u>	<u>-</u>	<u>2 Gamma / 2 tritium</u>

Sampler's Name (print): <u>Jimmy Rogers</u>	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>W-3</u>	Site ID: <u>MW-9</u>	Sampler: <u>JJR</u>
Object Number: <u>6045-460</u>	Date: <u>11-16-16</u>	Sampler Organization:

Site Description

Weather: <u>clear</u>		Air Temp (°F): <u>65°</u>		Wind: <u>light breeze</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet TOC below/above ground: _____ feet	
Damages/repairs needed: <u>None</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Solinst</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0830</u>	<u>1625</u>	<u>1635</u>	<u>1643</u>	<u>1715</u>	
Depth to Water	feet	<u>4.51</u>	<u>4.49</u>	<u>4.55</u>	<u>4.54</u>	<u>4.56</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input checked="" type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input type="checkbox"/> Other:		<input checked="" type="checkbox"/> Other: <u>Micro TPW</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC	
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time	24-hour	<u>1630</u>	<u>1634</u>	<u>1638</u>	<u>1642</u>		Remarks
Purge vol.	gallons				<u>~0.5</u>		
Purge rate	mL/min	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>		
pH	su	<u>6.81</u>	<u>6.73</u>	<u>6.75</u>	<u>6.75</u>		
Temp.	°C	<u>21.78</u>	<u>21.61</u>	<u>21.68</u>	<u>21.86</u>		
Spec. cond.	µS/cm	<u>2442</u>	<u>2475</u>	<u>2481</u>	<u>2467</u>		
D.O.	mg/L	-	-	-	-		
ORP	mV	-	-	-	-		
Turbidity	ntu	<u>18.44</u>	<u>8.80</u>	<u>7.10</u>	<u>7.12</u>		
Color/tint		<u>clear →</u>	<u>→</u>	<u>→</u>			
Odor		<u>none →</u>	<u>→</u>	<u>→</u>			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-9</u>	<u>11-16-10</u>	<u>1645</u>	<u>4</u>	<u>-</u>	<u>2 gamma / 2 tritium</u>
<u>MW-101</u>	<u>11-16-10</u>	<u>1715</u>	<u>4</u>	<u>-</u>	<u>Field Blank Equipment Blank</u>

Sampler's Name (print): <u>Jimmy Rogers</u>	Sampler Signature: <u>Jimmy Rogers</u>
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Date 11-17-10		Project Name W-3		Project Number 6045-460		Project Manager (Print) Bob West		Page <u>1</u> of <u>1</u>							
Laboratory Name RBS Laboratory			Submitted by: FTN Associates, Ltd. 2949 Point Circle, Suite 1 Fayetteville, AR 72704 (479) 571-3334 • Fax (479) 571-3338			Parameters (Method Number)			Lab Turn-Around Time						
Phone: ()			Recorded By (Print) Jimmy Rogers			<div style="display: flex; justify-content: space-between;"> Tritium Gamma - Other - </div>			<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: <u> </u> / <u> </u> / <u> </u>						
Sampler Signature(s) <i>[Signature]</i>			SAMPLE DESCRIPTION						Laboratory Notes						
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method								
			W	S	O		Comp	Grab							
MW-5	↓	0915	X			5		X	X	X					
MW-4		1055	X			4		X	X	X					
MW-3		1200	X			4		X	X	X					
MW-100		1200	X			4		X	X	X					
MW-6		1300	X			4		X	X	X					
MW-7		1430	X			4		X	X	X					
MW-8		1545	X			4		X	X	X					
MW-9		1645	X			4		X	X	X					
MW-101		1715	X			4		X	X	X					
* Matrix: W = Water S = Soil O = Other															
Relinquished By (Signature) <i>[Signature]</i>		Print Name Jimmy Rogers		Date 11-17-10		Time		Received By (Signature) <i>[Signature]</i>		Print Name Robert Robinson		Date 11/17/10		Time 0805	
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time	
Sampler Remarks								Laboratory Remarks:							

Daily Log

Site Location: <u>W3</u>	Date: <u>23 Mar 11</u>
Project Number: <u>6045-460</u>	Page <u>1</u> of <u>1</u>

0730 - Arrived on site, located MW-5 & called Rodney.
 Began to prep calibrate.

0820 Water Levels

DTG	ID	DTW TOG (FT)	Sample Order
0840	MW-05	6.30	3
0906	MW-04	8.93	4
0911	MW-03	6.31	6
0914	MW-06	4.45	7 Dup
0921	MW-07	6.31	8
0933	MW-08	5.81	9
0945	MW-09	7.68	5
			EB

1720 Departed Site

29 Mar 11

0705 Arrived on site

1030 departed site



FTN Associates Calibration Form

Date/Time: 28 Mar 11 0750

Prepared By: DWP

Location: W3

Project #: 6048-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
VSI 556 MPS		pH	7	su	19.52	7.11	<input checked="" type="radio"/> Y <input type="radio"/> N	1.00	
		pH	4	su	19.56	5.94	<input checked="" type="radio"/> Y <input type="radio"/> N	4.00	
		pH	10	su	/	/	<input type="radio"/> Y <input type="radio"/> N	/	
		Cond	0	uS/cm	/	/	<input type="radio"/> Y <input type="radio"/> N	/	
		Cond	447	uS/cm	19.57	475	<input checked="" type="radio"/> Y <input type="radio"/> N	447	
		DO		mm/Hg		mg/l	<input type="radio"/> Y <input type="radio"/> N	mg/l	
		Temp		Degrees C			<input type="radio"/> Y <input type="radio"/> N	N/A	
							<input type="radio"/> Y <input type="radio"/> N		
HF Scientific #1		Turb	1000	NTU	N/A	1022	<input checked="" type="radio"/> Y <input type="radio"/> N	990.7	
			10			10.10	<input checked="" type="radio"/> Y <input type="radio"/> N	1.97	
			0.02			0.19	<input checked="" type="radio"/> Y <input type="radio"/> N	0.08	
							<input type="radio"/> Y <input type="radio"/> N		
							<input type="radio"/> Y <input type="radio"/> N		
							<input type="radio"/> Y <input type="radio"/> N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 3/28/11 0710

Prepared By: DWP

Location: W3

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
YSI 556		pH	7	su	19.92	6.85	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	7.00	
		pH	4	su	20.01	4.16	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	4.00	
		pH	10	su			<input type="checkbox"/> Y <input type="checkbox"/> N		
		Cond	0	uS/cm			<input type="checkbox"/> Y <input type="checkbox"/> N		
		Cond	447	uS/cm	20.34	506	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N		out of range
		DO		mm/Hg			<input type="checkbox"/> Y <input type="checkbox"/> N		
		Temp		Degrees C	20.00	20.65	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	N/A	
		Cond	447	uS/cm	465	20.51	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	447	
HFS Scientific 1		Turb	1000	NTU		991.4	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	999.7	
			10			9.73	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	10.07	
			0.02			0.00	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	0.00	
							<input type="checkbox"/> Y <input type="checkbox"/> N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: W3	Site ID: MW-03	Sampler: DWP
Object Number: 6046-460	Date: 28 Mar 11	Sampler Organization: FTN

Site Description

Weather: Cloudy		Air Temp (°F): 66		Wind: 13 mph	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: 2 inches Total depth from TOC: 37.58 feet TOC below <u>above</u> ground: 2.58 feet	
Damages/repairs needed:					
Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: Leck 320 Tech 200					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	0911	1020	1044	1054	1127	
Depth to Water	feet	6.31	6.30	6.60	6.65	6.74	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 200 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: YSI 556 <input checked="" type="checkbox"/> Other: 14 Scientific #1		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time	24-hour	1032	1035	1040	1042	1044	1047	1049	1051	1053	Remarks
Purge vol.	gallons										
Purge rate	mL/min	300	90	190	120						
pH	su	6.57	6.78	6.81	6.82	6.82	6.83	6.83	6.83	6.83	
Temp.	°C	24.99	23.49	24.20	23.71	24.06	23.84	23.94	24.13	24.06	
Spec. cond.	µS/cm	1467	2036	3043	3006	3042	3054	3059	3065	3060	* bubble in flow cell
D.O.	mg/L										
ORP	mV										
Turbidity	ntu	27.17	33.29	20.99	18.96	25.62	21.06	25.11	15.61	16.92	
Color/tint		clear	→	→	→	→	→	→	→	→	
Odor		None	→	→	→	→	→	→	→	→	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-03	3/28/11	1100	4	No	2 IL Gamma 2 IL Tritium

Sampler's Name (print): Darrell Pennington	Sampler Signature: Darrell Pennington
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Groundwater Sampling Record

Facility: W3	Site ID: mw-04	Sampler: DWP
Object Number: 6045-460	Date: 3/28/11	Sampler Organization: ETN

Site Description

Weather: 280 mph mostly cloudy		Air Temp (°F): 70		Wind: 13 mph	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Production Well <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: 2 inches	
<input type="checkbox"/> Extraction Well <input type="checkbox"/> Borehole <input type="checkbox"/> Spring				Total depth from TOC: 37.74 ft	
Damages/repairs needed:				TOC below/above ground: 3.15 ft 2.73	
				Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: 200'					Remarks
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	
Time	24-hour	0906	1138	1201	1203	1241	
Depth to Water	feet	8.93	8.93	10.05	10.09	10.37	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> Other: YSI 652		<input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: HFS Scientific #1		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	1148	1151	1153	1156	1158	1201	Remarks
Purge vol.	gallons					0.5		
Purge rate	mL/min	180	120		100			
pH	su	6.89	6.47	6.47	6.46	6.50	6.51	
Temp.	°C	23.22	23.59	23.95	24.16	24.26	24.21	
Spec. cond.	µS/cm	4540	4460	4544	4606	4719	4787	
D.O.	mg/L							
ORP	mV							
Turbidity	ntu	37.15	24.26	26.93	23.42	26.88	24.00	
Color/tint		None to clear						
Odor		Clear to none						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-04	3/28/11	1205	4		2 1L Gamm 2 1L titanium

Sampler's Name (print): Darrell Pennington	Sampler Signature: <i>[Signature]</i>
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Groundwater Sampling Record

Facility: <u>W3</u>	Site ID: <u>MW-05</u>	Sampler: <u>DWP</u>
Object Number:	Date: <u>3/29/11</u>	Sampler Organization: <u>ETN</u>

Site Description

Weather: <u>partly cloudy</u>	Air Temp (°F): <u>1 66</u>	Wind: <u>13 mph</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: <u>2</u> inches Total depth from TOC: <u>37.59</u> feet TOC below <u>above</u> ground: <u>2.59</u> feet
Damages/repairs needed:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>1 Leck 50022001</u>				
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour <u>3/28/11 8:40</u>	<u>8:44</u>	<u>9:06</u>	<u>9:21</u>	<u>9:51</u>	
Depth to Water	feet <u>6.30</u>	<u>6.39</u>	<u>6.66</u>	<u>6.67</u>	<u>6.73</u>	
Product	LNAPL/DNAPL					
Prod. thickness	feet					

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: <u>VSI 556</u> <input checked="" type="checkbox"/> Other: <u>HF Scientific</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth	feet <u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No											
Casing vol.	gallons <u>4.67</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408											
Time	24-hour	<u>8:50</u>	<u>8:54</u>	<u>8:57</u>	<u>8:59</u>	<u>9:01</u>	<u>9:03</u>	<u>9:06</u>	<u>9:08</u>	<u>9:10</u>	<u>9:13</u>	<u>9:15</u>	Remarks
Purge vol.	gallons												<u>9:17</u> <u>9:20</u>
Purge rate	mL/min	<u>140</u>	<u>100</u>										<u>0.55 gal</u>
pH	su	<u>7.30</u>	<u>7.28</u>	<u>7.27</u>	<u>7.26</u>	<u>7.25</u>	<u>7.24</u>	<u>7.24</u>	<u>7.23</u>	<u>7.23</u>	<u>7.23</u>	<u>7.22</u>	<u>7.22</u>
Temp.	°C	<u>22.33</u>	<u>22.15</u>	<u>22.20</u>	<u>22.18</u>	<u>22.05</u>	<u>22.40</u>	<u>22.43</u>	<u>22.45</u>	<u>22.44</u>	<u>22.53</u>	<u>22.60</u>	<u>22.64</u>
Spec. cond.	µS/cm	<u>4337</u>	<u>4391</u>	<u>4432</u>	<u>4542</u>	<u>4614</u>	<u>4699</u>	<u>4757</u>	<u>4792</u>	<u>4814</u>	<u>4825</u>	<u>4830</u>	<u>4822</u>
D.O.	mg/L												
ORP	mV												
Turbidity	ntu	<u>15.33</u>	<u>17.37</u>	<u>18.92</u>	<u>16.72</u>	<u>21.36</u>	<u>15.75</u>	<u>13.24</u>	<u>12.48</u>	<u>19.13</u>	<u>21.11</u>	<u>17.44</u>	<u>13.17</u>
Color/tint		<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>	<u>9</u>
Odor		<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>3/29/11</u>	<u>0923</u>	<u>4</u>	<u>No</u>	<u>21L Triton</u>
<u>EOD1</u>	<u>3/29/11</u>	<u>1000</u>	<u>4</u>	<u>NO</u>	<u>21L gamma SAA</u>

Sampler's Name (print): <u>Darrell Pennington</u>	Sampler Signature: <u>Darrell Pennington</u>
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Groundwater Sampling Record

Facility: <u>W3</u>	Site ID: <u>MW-06</u>	Sampler: <u>DWP</u>
Object Number: <u>6049-460</u>	Date: <u>3/28/11</u>	Sampler Organization: <u>FTW</u>

Site Description

Weather: <u>Cloudy</u>		Air Temp (°F): <u>73</u>		Wind: <u>9mph</u>		
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2</u> inches Total depth from TOC: <u>35.40</u> feet TOC below/above ground: <u>2.4</u> feet		Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Damages/repairs needed:						

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Keck probe 200'</u>					
Time	24-hour	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
		<u>0914</u>	<u>1302</u>	<u>1317</u>	<u>1322</u>	<u>1353</u>	<u>After Dup</u>
Depth to Water	feet	<u>35.40</u>	<u>↑</u>	<u>↑</u>	<u>↑</u>	<u>↑</u>	<u>1421</u>
Product	LNAPL/DNAPL	<u>4.45</u>	<u>4.44</u>	<u>5.58</u>	<u>5.66</u>	<u>5.99</u>	<u>6.18</u>
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 200 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: <u>VSI 556</u> <input checked="" type="checkbox"/> Other: <u>HFScientific #1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	<u>28</u>						Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Casing vol.	gallons	<u>4.66</u>						= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408	
Time	24-hour	1306	1308	1310	1313	1317	1319	1322	Remarks
Purge vol.	gallons							<u>0.75</u>	
Purge rate	mL/min	<u>120</u>		<u>140</u>		<u>130</u>			<u>Below 130mL/min, Pump would stop</u>
pH	su	<u>7.73</u>	<u>7.14</u>	<u>7.05</u>	<u>7.01</u>	<u>7.02</u>	<u>7.02</u>	<u>7.03</u>	
Temp.	°C	<u>24.92</u>	<u>24.78</u>	<u>24.21</u>	<u>24.36</u>	<u>24.54</u>	<u>24.58</u>	<u>24.39</u>	
Spec. cond.	µS/cm	<u>2950</u>	<u>2878</u>	<u>2864</u>	<u>2830</u>	<u>2824</u>	<u>2810</u>	<u>2810</u>	
D.O.	mg/L								
ORP	mV								
Turbidity	ntu	<u>6.56</u>	<u>12.15</u>	<u>7.00</u>	<u>4.45</u>	<u>5.77</u>	<u>7.53</u>	<u>4.56</u>	
Color/tint		<u>Clear</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	
Odor		<u>None</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW06</u>	<u>3/28/11</u>	<u>1325</u>	<u>4</u>	<u>NO</u>	<u>211 L Critium, 216 gamma</u>
<u>Dup MW06</u>	<u>3/28/11</u>	<u>1400</u>	<u>4</u>	<u>NO</u>	<u>SAA</u>

Sampler's Name (print): <u>Donnell Pennington</u>	Sampler Signature: <u>Donnell Pennington</u>
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Groundwater Sampling Record

Facility: W3	Site ID: MW07	Sampler: DWP
Object Number: 6046-460	Date: 3/28/11	Sampler Organization: FTN

Site Description

Weather: cloudy		Air Temp (°F): 72		Wind: bump	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: 2 in inches Total depth from TOC: 41.15 feet TOC below/above ground: 3.15 feet	
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: 1 Leg 500' Tech 200'					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	0921	1454	1507	1529	1556	
Depth to Water	feet	6.31	6.93	7.16	7.39	7.34	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: VSI 556 <input checked="" type="checkbox"/> Other: HFScientific #1		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC										
Purge depth	feet	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408												
Time	24-hour	1458	1500	1502	1506	1507	1509	1511	1513	1517	1519	1520	Remarks	
Purge vol.	gallons												1523 1527	
Purge rate	mL/min	140	110										Volume 1.5 gal	
pH	su	7.45	6.99	6.91	6.88	6.87	6.85	6.84	6.82	6.82	6.81	6.80	6.80	
Temp.	°C	25.84	25.20	25.41	25.57	25.75	25.63	25.55	25.54	25.77	25.88	25.72	25.65	25.73
Spec. cond.	µS/cm	1106	1051	1064	1073	1082	1096	1103	1125	1156	1213	1249	1269	1277
D.O.	mg/L													
ORP	mV													
Turbidity	ntu	8.33	21.73	11.36	13.17	14.5	15.18	19.21	24.60	25.29	18.73	53.84	39.11	37.29
Color/tint		clear	→	→	→	→	→	→	→	→	→	→	→	→
Odor		None	→	→	→	→	→	→	→	→	→	→	→	→

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW07	3/28/11	1530	4	NO	2 IL Tritium 2 IL Gamma

Sampler's Name (print): Darrell Pennington	Sampler Signature: Darrell Pennington
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Groundwater Sampling Record

Facility: <u>W3</u>	Site ID: <u>MW-08</u>	Sampler: <u>DWP</u>
Object Number: <u>6045-460</u>	Date: <u>3/28/11</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Cloudy</u>		Air Temp (°F): <u>71</u>		Wind: <u>6 mph</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2</u> inches Total depth from TOC: <u>41.47</u> feet TOC below/above ground: <u>3.97</u> feet	
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>Keck geotech 100'</u>					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0933</u>	<u>1625</u>	<u>1638</u>	<u>1647</u>	<u>1717</u>	
Depth to Water	feet	<u>6.81</u>	<u>5.77</u>	<u>6.15</u>	<u>6.19</u>	<u>6.23</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: <u>VST 556</u> <input checked="" type="checkbox"/> Other: <u>HF Scientific</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	<u>33</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol.	gallons	<u>5.25</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	<u>1630</u>	<u>1632</u>	<u>1634</u>	<u>1637</u>	<u>1639</u>	<u>1641</u>	<u>1643</u>	Remarks
Purge vol.	gallons								
Purge rate	mL/min	<u>140</u>	<u>100</u>						
pH	su	<u>6.98</u>	<u>6.07</u>	<u>6.68</u>	<u>6.72</u>	<u>6.74</u>	<u>6.75</u>	<u>6.75</u>	
Temp.	°C	<u>24.97</u>	<u>20.50</u>	<u>26.90</u>	<u>26.80</u>	<u>26.73</u>	<u>26.41</u>	<u>26.68</u>	
Spec. cond.	µS/cm	<u>1027</u>	<u>20.08</u>	<u>995</u>	<u>1032</u>	<u>1069</u>	<u>1063</u>	<u>1063.5</u>	
D.O.	mg/L								
ORP	mV								
Turbidity	ntu	<u>22.61</u>	<u>25.35</u>	<u>19.95</u>	<u>16.94</u>	<u>15.97</u>	<u>15.05</u>	<u>16.23</u>	
Color/tint		<u>Clear</u>	<u>Clear</u>	<u>Clear</u>	<u>Clear</u>	<u>Clear</u>	<u>Clear</u>	<u>Clear</u>	
Odor		<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>1650</u>	<u>3/28/11</u>	<u>4</u>	<u>No</u>	<u>2th gamma 216 tritium</u>

Sampler's Name (print): <u>Darrell Pennington</u>	Sampler Signature: <u>Darrell Pennington</u>
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Groundwater Sampling Record

Facility: <u>W3</u>	Site ID: <u>MW-09</u>	Sampler: <u>DWP</u>
Object Number: <u>6045-460</u>	Date: <u>3/29/11</u> <i>DWP</i>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Mostly cloudy</u>	Air Temp (°F): <u>66</u>	Wind: <u>7mph</u>
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Irrigation Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter: _____ inches <u>2</u> Total depth from TOC: _____ feet <u>1022</u> TOC below/above ground: _____ feet <u>222</u>
Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Damages/repairs needed:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper-T <input type="checkbox"/> Slope Water Level Indicator <input checked="" type="checkbox"/> Other: <u>1Kokk 500 Tech 200</u>					
Time	24-hour	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
	<u>3/28</u>	<u>0945</u>	<u>0730</u>	<u>751</u>	<u>801</u>	<u>825</u>	
Depth to Water	feet	<u>4.68</u>	<u>4.77</u>	<u>4.85</u>	<u>4.87</u>	<u>4.89</u>	
Product	LNAPL/DNAPL						
Prod. thickness	feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 200 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input type="checkbox"/> Hach 2100P Turbidimeter <input checked="" type="checkbox"/> Other: <u>VSI 556</u> <input type="checkbox"/> Other: <u>AF Scientific 1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	<u>33</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol.	gallons	<u>5.42</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time	24-hour	<u>741</u>	<u>744</u>	<u>747</u>	<u>749</u>	<u>751</u>	<u>753</u>	<u>755</u>	<u>757</u>	Remarks
Purge vol.	gallons							<u>0.5</u>		
Purge rate	mL/min	<u>110</u>								
pH	su	<u>6.40</u>	<u>6.67</u>	<u>6.70</u>	<u>6.76</u>	<u>6.77</u>	<u>6.78</u>	<u>6.79</u>	<u>6.79</u>	
Temp.	°C	<u>19.92</u>	<u>19.95</u>	<u>19.76</u>	<u>19.80</u>	<u>19.85</u>	<u>19.99</u>	<u>20.03</u>	<u>20.15</u>	
Spec. cond.	µS/cm	<u>1797</u>	<u>1839</u>	<u>1895</u>	<u>1901</u>	<u>1896</u>	<u>1898</u>	<u>1899</u>	<u>1899</u>	
D.O.	mg/L						<u>1897</u>			
ORP	mV									
Turbidity	ntu	<u>9.29</u>	<u>6.84</u>	<u>7.98</u>	<u>4.85</u>	<u>6.05</u>	<u>4.79</u>	<u>5.43</u>	<u>5.97</u>	
Color/tint		<u>clear</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	
Odor		<u>None</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	<u>→</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>800</u>	<u>3/28/11</u>	<u>4</u>	<u>No</u>	<u>21L tritium 21L gamma</u>

Sampler's Name (print): <u>Darrell Pennington</u>	Sampler Signature: <u>Darrell Pennington</u>
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Date 3/29/11		Project Name W3			Project Number 6045-460		Project Manager (Print) Bob West				Page 1 of 1				
Laboratory Name RBS				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)				Lab Turn-Around Time			
Phone: ()				Recorded By (Print) Darrell Pennington				TRITIUM GAMMA				<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: <u> </u> / <u> </u> / <u> </u>			
Sampler Signature(s) Darrell Pennington				SAMPLE DESCRIPTION								Laboratory Notes			
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method								
			W	S	O		Comp	Grab							
MW-03	3/28/11	1100	X			4		X	X						
MW-04	↓	1205	X				X	X							
MW-05	3/29/11	0923	X				X	X							
MW-06	3/29/11	1325	X				X	X							
Dup MW-06	↓	1400	X				X	X							
MW-07	↓	1530	X				X	X							
MW-08	↓	1650	X				X	X							
MW-09	3/29/11	0800	X				X	X							
EB-01	↓	1000	X				X	X							
* Matrix: W = Water S = Soil O = Other															
Relinquished By (Signature) Darrell Pennington		Print Name Darrell Pennington		Date 3/29/11		Time 1230		Received By (Signature) B. T. Michaux		Print Name B. T. Michaux		Date 3/29/11		Time 1230	
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time	
Sampler Remarks								Laboratory Remarks:							

Daily Log

Site Location: Waterford 3	Date: 6/21/11
Project Number: 6045-466	Page of
Sunny, Hot 90 to 100°F, Breezy, Humid. Chance of showers	
0700	EJH/JWB arrive on site. Unload trailer near MW-05. JWB calls Rodney & left a message. Calibrate
0715	Eric called & will be late because he missed a turn.
0746	Eric on site.
0800	Rodney on site to have a safety meeting & give us bottles.
0840	EJH heads to MW-05, MW-04, & MW-03 to collect water level measurements.
1000	Sample MW-03
1135	Sample MW-04
1300	Sample MW-05
1400	Sample MW-06 collect a duplicate sample MW-06-D.
1435	JWB & EFN come to MW-06 to pack up & collect an equipment blank.
1530	JWB/EJH/EFN off site. JWB & EJH head to RBS to drop off samples.
<div style="font-size: 2em; font-family: cursive;">EJH</div> <div style="font-size: 1.5em; font-family: cursive;">6/21/11</div>	



FTN Associates Calibration Form

Date/Time: 6/21/2011 0715
 Prepared By: EJB/JWB
 Location: WF-3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
YSI	FTN#1	pH	7	su	29.40	5.92	(Y) N	7.00	
		pH	4	su	28.88	4.30	(Y) N	7.00	
		pH	10	su			Y N		
		Cond	0	uS/cm			Y N		
		Cond	447	uS/cm	30.08	4.53	(Y) N	447	
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	30.06	30	Y (N)	N/A	
HF Scientific	#1	turbidity	0.02	NTU	—	0.00	(Y) N	0.01	
			10		—	10.10	(Y) N	10.01	
			1000		—	1045	(Y) N	1005	
YSI	FTN#2	pH	7	su	32.72	6.97	(Y) N	7.00	
		pH	4	su	32.88	4.02	(Y) N	4.00	
		Cond	447	uS/cm	31.60	4.59	(Y) N	447	
					32.30	32	Y (N)	N/A	

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 6/21/11 0715

Prepared By: EJH/JWB

Location: WF3

Project #: 12045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
HFS Scientific	#2	pH	7	su	29.41	7.14	(Y) N	7.00	
YSI	#2	pH	4	su	29.08	3.88	(Y) N	4.00	
		pH	10	su			Y N		
		Cond	0	uS/cm			Y N		
		Cond	447	uS/cm	28.63	477	(Y) N	447	
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp	—	Degrees C	27.03	27	Y N	(N/A)	
							Y N		
HFS Scientific	#2	TURBIDITY	0.02	NTU	—	0.00	(Y) N	0.02	
		↓	10.0	↓	—	10.16	(Y) N	10.04	
		↓	1000	↓	—	1069	(Y) N	1099.4	
							Y N		
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-03	Sampler: EJJ
Object Number: 6045-460	Date: 6/21/11	Sampler Organization: FTN

Site Description

Weather: Sunny with showers		Air Temp (°F): 90°		Wind: Breezy to Strong	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 37.58 TOC below/above ground: feet 2.58	
Damages/repairs needed: _____					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	0928	0954	→	1000	1048	
Depth to Water	feet TOC +	6.90	7.03		7.10	7.20	
Date	mm/dd/yy PV	6.88					
Product/Thickness	LNAPL/DNAPL feet	6/21/11					

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth	feet	Well goes dry during purging: Yes <input checked="" type="checkbox"/> NO						
Casing vol.	gallons	5.00 = [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time	24-hour	0939	0943	0945	0949	0952	0955	Remarks
Purge vol.	gallons	0.01	0.2	0.25	0.35	0.4	0.5	
Purge rate	mL/min	100	100	100	100	100	100	
pH	su	6.91	6.90	6.90	6.90	6.90	6.90	
Temp.	°C	27.56	27.97	27.82	28.28	28.11	28.01	
Spec. cond.	µS/cm	3472	3480	3475	3470	3483	3493	
D.O.	mg/L	—						
ORP	mV	—						
Turbidity	NTU	132.2	85.6	70.82	44.33	32.85	27.52	
Color/tint		cloudy orange						
Odor		—						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-03	6/21/11	1000	4	—	2 1L titanium (glass) 2 1L gamma (plastic)

Sampler's Name (print): Emily Hollingworth	Sampler Signature: Emily Hollingworth
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-04	Sampler: <i>EJH</i>
Project Number: 6045-460	Date: <i>6/21/11</i>	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>87°</i>		Wind: <i>Breezy</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <i>2</i> Total depth from TOC: feet <i>37.73</i> TOC below/above ground: feet <i>2.73</i>	
Damages/repairs needed: <i>None</i>					
Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>0915</i>	<i>1105</i>	<i>1123</i>	<i>1134</i>	<i>1205</i>	
Depth to Water	feet <i>TOC</i>	<i>9.27</i>	<i>9.31</i>	<i>9.95</i>	<i>10.04</i>	<i>11.23</i>	
Date	mm/dd/yy <i>PVC</i>	<i>9.24</i>					
Product/Thickness	LNAPL/DNAPL feet	<i>6/21/11</i>	<i>→</i>				

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (<u>dedicated</u> / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	Well goes dry during purging: Yes No							
Casing vol.	gallons	<i>4.64</i> = [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408							
Time	24-hour	<i>1111</i>	<i>1116</i>	<i>1119</i>	<i>1122</i>	<i>1126</i>	<i>1129</i>	<i>1132</i>	Remarks
Purge vol.	gallons	<i>0.01</i>	<i>0.2</i>	<i>0.25</i>	<i>0.3</i>	<i>0.4</i>	<i>0.45</i>	<i>0.5</i>	
Purge rate	mL/min	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	
pH	su	<i>6.68</i>	<i>6.60</i>	<i>6.61</i>	<i>6.61</i>	<i>6.61</i>	<i>6.64</i>	<i>6.67</i>	
Temp.	°C	<i>24.70</i>	<i>24.40</i>	<i>24.54</i>	<i>24.88</i>	<i>25.12</i>	<i>24.38</i>	<i>24.19</i>	
Spec. cond.	µS/cm	<i>5043</i>	<i>4849</i>	<i>4873</i>	<i>4919</i>	<i>5056</i>	<i>5065</i>	<i>5155</i>	
D.O.	mg/L	<i>---</i>							
ORP	mV	<i>---</i>							
Turbidity	NTU	<i>16.72</i>	<i>10.09</i>	<i>8.31</i>	<i>9.07</i>	<i>7.30</i>	<i>6.66</i>	<i>5.2</i>	
Color/tint		<i>clear</i>							
Odor		<i>None</i>							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-04	<i>6/21/11</i>	<i>1125</i>	<i>4</i>	<i>---</i>	<i>2 1L titanium (glass)</i> <i>2 1L gamma (plastic)</i>

Sampler's Name (print): <i>Emily Hollingsworth</i>	Sampler Signature: <i>Emily Hollingsworth</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-05	Sampler: <i>EJH</i>
Project Number: 6045-460	Date: <i>6/21/11</i>	Sampler Organization: FTN <i>FTN</i>

Site Description

Weather: <i>Sunny</i>		Air Temp (°F):		Wind: <i>Breezy</i>		
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Other:	<input type="checkbox"/> Extraction Well <input type="checkbox"/> Borehole <input type="checkbox"/> Spring	Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:	Well diameter		inches 2	
			Total depth from TOC		feet	37.59
			TOC below/above ground		feet	2.59
Damages/repairs needed:						

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>8:41</i>	<i>12:34</i>	<i>12:53</i>	<i>1:00</i>	<i>1:45</i>	
Depth to Water	feet	<i>8.11</i>	<i>8.14</i>	<i>8.33</i>	<i>8.32</i>	<i>8.45</i>	
Date	mm/dd/yy	<i>6/21/11</i>					
Product/Thickness	LNAPL/DNAPL	<i>LNAPL/DNAPL 4/21/11 →</i>					

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> YSI MPS 556		<input type="checkbox"/> LaMotte 2020 Turbidimeter <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated/portable) <input type="checkbox"/> Bladder (dedicated/portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC	
Purge depth	feet	Well goes dry during purging: Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	<i>4.81</i> = [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<i>12:45</i>	<i>12:50</i>	<i>12:54</i>	<i>12:58</i>		Remarks
Purge vol.	gallons	<i>0.01</i>	<i>0.15</i>	<i>0.25</i>	<i>0.35</i>		
Purge rate	mL/min	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>		
pH	su	<i>7.38</i>	<i>7.20</i>	<i>7.20</i>	<i>7.20</i>		
Temp.	°C	<i>26.14</i>	<i>25.26</i>	<i>25.56</i>	<i>25.78</i>		
Spec. cond.	µS/cm	<i>5341</i>	<i>6081</i>	<i>6059</i>	<i>6039</i>		
D.O.	mg/L	—					
ORP	mV	—					
Turbidity	NTU	<i>10.89</i>	<i>2.33</i>	<i>3.03</i>	<i>2.74</i>		
Color/tint		<i>clear</i>	<i>#11011</i>	<i>yellow</i>	<i>tint</i>		
Odor		<i>None</i>					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-05	<i>6/21/11</i>	<i>13:00</i>	<i>4</i>	<i>—</i>	<i>7 IL Tritium 2 IL gamma</i>

Sampler's Name (print): <i>Emily Hollingsworth</i>	Sampler Signature: <i>Emily Hollingsworth</i>
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Groundwater Sampling Record

Locality: <u>Waterford-3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EJH</u>
Project Number: <u>6045-460</u>	Date: <u>6/21/11</u>	Sampler Organization: <u>FTN</u>

Site Description

Weather: <u>Overcast to Stormy</u>		Air Temp (°F): <u>90°</u>		Wind: <u>Breezy</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: <u>2"</u> inches Total depth from TOC: <u>35.40</u> feet TOC below/above ground: <u>2.4</u> feet	
Damages/repairs needed: _____					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0845</u>	<u>1341</u>	<u>1356</u>	<u>1400</u>	<u>1445</u>	
Depth to Water	feet <u>TOC+</u>	<u>5.45</u>	<u>6.49</u>	<u>6.46</u>	<u>6.49</u>	<u>6.88</u>	
Date	mm/dd/yy <u>PVC</u>	<u>6.44</u>	<u>6/21/11</u>	<u>→</u>			
Product/Thickness	LNAPL/DNAPL feet	<u>6/21/11</u>					

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 <input type="checkbox"/> Other:		Pump description: <input type="checkbox"/> Peristaltic <input checked="" type="checkbox"/> Bladder (<u>dedicated</u>) portable <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
Casing vol.	gallons	<u>4.89</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408				
Time	24-hour	<u>1346</u>	<u>1358</u>	<u>1354</u>	<u>1358</u>		Remarks
Purge vol.	gallons	<u>0.01</u>	<u>0.15</u>	<u>0.2</u>	<u>0.5</u>		
Purge rate	mL/min	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>		
pH	su	<u>7.16</u>	<u>7.14</u>	<u>7.13</u>	<u>7.13</u>		
Temp.	°C	<u>27.30</u>	<u>27.53</u>	<u>27.53</u>	<u>27.54</u>		
Spec. cond.	µS/cm	<u>316</u>	<u>304</u>	<u>301</u>	<u>301</u>		
D.O.	mg/L	<u>—</u>					
ORP	mV	<u>—</u>					
Turbidity	NTU	<u>4.84</u>	<u>2.86</u>	<u>5.60</u>	<u>4.27</u>		
Color/tint		<u>clear</u>					
Odor		<u>None</u>					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>6/21/2011</u>	<u>1400</u>	<u>4</u>	<u>—</u>	<u>2 Tritium 1L, 2 Gamma 1L</u>
<u>MW-06-D</u>	<u>6/21/2011</u>	<u>1405</u>	<u>4</u>	<u>—</u>	<u>" "</u>
<u>EB-MW-06</u>	<u>" "</u>	<u>1500</u>	<u>4</u>	<u>—</u>	<u>" "</u>

Sampler's Name (print): <u>E. J. Hollingsworth</u>	Sampler Signature: <u>Emily Hollingsworth</u>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-07	Sampler: <i>Eric Nechaise</i>
Project Number: 6045-460	Date: 6/21/11	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>88°</i>		Wind: <i>5-15"</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <i>2</i> Total depth from TOC: feet <i>41.15</i> TOC below/above ground: feet <i>3.15</i>	
Well locked? Yes					
Damages/repairs needed: _____					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input type="checkbox"/> Keck 100' <input checked="" type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>0857</i>	<i>1251</i>	<i>13:05</i>	<i>1330</i>	<i>14:10</i>	
Depth to Water	feet	<i>6.68/6.73</i>	<i>6.74</i>	<i>7.42</i>	<i>7.51</i>	<i>7.75</i>	
Date	mm/dd/yy	<i>6/21/11</i>					
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (<u>dedicated</u>) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>								
Casing vol.	gallons	<i>5.67</i> = [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408								
Time	24-hour	<i>1251</i>	<i>1301</i>	<i>1305</i>	<i>1310</i>	<i>1315</i>	<i>1320</i>	<i>1325</i>	<i>1330</i>	Remarks
Purge vol.	gallons	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.2</i>	<i>0.3</i>	<i>0.5</i>	<i>0.4</i>	<i>0.7</i>	
Purge rate	mL/min	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	
pH	su	<i>6.80</i>	<i>6.80</i>	<i>6.81</i>	<i>6.83</i>	<i>6.85</i>	<i>6.84</i>	<i>6.86</i>	<i>6.86</i>	
Temp.	°C	<i>25.73</i>	<i>25.82</i>	<i>25.88</i>	<i>25.96</i>	<i>25.82</i>	<i>25.95</i>	<i>25.90</i>	<i>26.14</i>	
Spec. cond.	µS/cm	<i>1199</i>	<i>1166</i>	<i>1220</i>	<i>1675</i>	<i>2233</i>	<i>2277</i>	<i>2294</i>	<i>2300</i>	
D.O.	mg/L	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	
ORP	mV	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	
Turbidity	NTU	<i>4.90</i>	<i>141.3</i>	<i>50.94</i>	<i>166.5</i>	<i>154.3</i>	<i>4.21</i>	<i>3.98</i>	<i>3.51</i>	
Color/tint										
Odor		<i>Sulf dioxide SO₂</i>	<i>SO₂</i>	<i>SO₂</i>	<i>SO₂</i>	<i>SO₂</i>	<i>SO₂</i>	<i>SO₂</i>	<i>SO₂</i>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-07	<i>6/21/2011</i>	<i>7:57</i> <i>1335</i>	<i>4</i>	<i>-</i>	

Sampler's Name (print): <i>Eric Nechaise</i>	Sampler Signature: <i>Eric Nechaise</i>
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Groundwater Sampling Record

Facility: ENERGENCY Waterford-3	Site ID: MW-08	Sampler: <i>JWB / EFN</i>
Project Number: 6045-460	Date: <i>6/21/2011</i>	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>88°</i>		Wind: <i>S-15</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 41.97 TOC below/above ground: feet 3.47	
Damages/repairs needed: <i>None</i>					

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>0924</i>	<i>1115</i>	<i>1127</i>	<i>1140</i>	<i>12:20</i>	
Depth to Water	feet	<i>5.71/5.75</i>	<i>5.77</i>	<i>6.01</i>	<i>6.06</i>	<i>5.81</i>	
Date	mm/dd/yy						
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth	feet	Well goes dry during purging: Yes <input checked="" type="checkbox"/> No						
Casing vol.	gallons	$5.91 = [\text{total depth (feet)} - \text{depth to water (feet)}] \cdot [\text{well ID (inches)}^2] \cdot 0.0408$						
Time	24-hour	<i>1120</i>	<i>1123</i>	<i>1127</i>	<i>1131</i>	<i>1135</i>	<i>1139</i>	Remarks
Purge vol.	gallons	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>0.3</i>	<i>0.4</i>	
Purge rate	mL/min	<i>170</i>	<i>95</i>	<i>95</i>	<i>95</i>	<i>95</i>	<i>105</i>	
pH	su	<i>6.88</i>	<i>6.86</i>	<i>6.87</i>	<i>6.89</i>	<i>6.90</i>	<i>6.90</i>	
Temp.	°C	<i>25.45</i>	<i>25.71</i>	<i>26.24</i>	<i>26.32</i>	<i>26.06</i>	<i>26.01</i>	
Spec. cond.	µS/cm	<i>1414</i>	<i>1469</i>	<i>1446</i>	<i>1509</i>	<i>1538</i>	<i>1532</i>	
D.O.	mg/L	<i>0.46</i>	<i>0.8</i>	-	-	-	-	
ORP	mV	-	-	-	-	-	-	
Turbidity	NTU	-	<i>8.54</i>	<i>7.87</i>	<i>8.43</i>	<i>5.82</i>	<i>5.04</i>	
Color/tint								
Odor		<i>Sulf</i>	<i>SO2</i>	<i>SO2</i>	<i>SO2</i>	<i>SO2</i>	<i>SO2</i>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-08	<i>6/21/2011</i>	<i>1140</i>	<i>4</i>	<i>-</i>	

Sampler's Name (print): <i>ERIC NECAISE</i>	Sampler Signature: <i>Eric Necaise</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-09	Sampler: <u>JOB/EFW</u>
Project Number: 6045-460	Date: <u>6/21/11</u>	Sampler Organization: FTN

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>85°</u>		Wind: <u>7-15</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: _____ inches: <u>2</u> Total depth from TOC: _____ feet: <u>40.22</u> TOC below/above ground: _____ feet: <u>2.22</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>0932</u>	<u>0940</u>	<u>0955</u>	<u>1035</u>	<u>1103</u>	
Depth to Water	feet	<u>8.01/8.02</u>	<u>8.03</u>	<u>8.09</u>	<u>8.12</u>	<u>8.13</u>	
Date	mm/dd/yy						
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (<u>dedicated</u> / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth	feet	Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>											
Casing vol.	gallons	$5.25 = [\text{total depth (feet)} - \text{depth to water (feet)}] \cdot [\text{well ID (inches)}^2] \cdot 0.0408$											
Time	24-hour	<u>9147</u>	<u>9151</u>	<u>9155</u>	<u>9159</u>	<u>1003</u>	<u>1007</u>	<u>1011</u>	<u>1015</u>	<u>1019</u>	<u>1023</u>	<u>1027</u>	Remarks
Purge vol.	gallons	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.1</u>	<u>1.2</u>
Purge rate	mL/min	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>	<u>105</u>
pH	su	<u>6.93</u>	<u>6.96</u>	<u>6.97</u>	<u>6.98</u>	<u>6.97</u>	<u>6.97</u>	<u>6.96</u>	<u>6.95</u>	<u>6.95</u>	<u>6.95</u>	<u>6.94</u>	<u>6.94</u>
Temp.	°C	<u>25.07</u>	<u>24.72</u>	<u>24.47</u>	<u>23.77</u>	<u>23.49</u>	<u>23.26</u>	<u>23.14</u>	<u>23.07</u>	<u>23.08</u>	<u>23.04</u>	<u>23.04</u>	<u>23.12</u>
Spec. cond.	µS/cm	<u>2011</u>	<u>2011</u>	<u>2037</u>	<u>2185</u>	<u>2192</u>	<u>2152</u>	<u>21.02</u>	<u>2878</u>	<u>2848</u>	<u>2825</u>	<u>2796</u>	<u>2765</u>
D.O.	mg/L	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
ORP	mV	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>
Turbidity	NTU	<u>33.81</u>	<u>19.04</u>	<u>9.16</u>	<u>15.08</u>	<u>5.22</u>	<u>4.70</u>	<u>4.70</u>	<u>4.59</u>	<u>3.31</u>	<u>4.19</u>	<u>2.81</u>	<u>3.04</u>
Color/tint		<u>clear</u>	<u>→</u>										
Odor		<u>sulfur odors</u>											

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-09	<u>6/21/11</u>	<u>1035</u>	<u>4</u>	<u>---</u>	

Sampler's Name (print): <u>Jared Brickman</u>	Sampler Signature: <u>Jared Brickman</u>
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FTN Associates Calibration Form

Date/Time: 9/13/2011 1045

Prepared By: EFN

Location: Waterford 3

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments	
YSI #3		pH	7	su	29.94	7.08	<input checked="" type="radio"/> Y <input type="radio"/> N	7.00		
		pH	4	su	31.77	3.94	<input checked="" type="radio"/> Y <input type="radio"/> N	4.00		
		pH	10	su			<input type="radio"/> Y <input type="radio"/> N			
		Cond		uS/cm		445	<input checked="" type="radio"/> Y <input type="radio"/> N	447		
		DO			mm/Hg		<input type="radio"/> Y <input type="radio"/> N		mg/l	
		Temp			Degrees C	33.2	33.25	<input type="radio"/> Y <input type="radio"/> N	N/A	
							<input type="radio"/> Y <input type="radio"/> N			
HF Sci 2		Turbidity	1000	NTU	N/A	851.7	<input checked="" type="radio"/> Y <input type="radio"/> N	1000		
		Turbidity	10.0	NTU	N/A	9.70	<input checked="" type="radio"/> Y <input type="radio"/> N	10.02		
		Turbidity	0.02	NTU	N/A	0.58	<input checked="" type="radio"/> Y <input type="radio"/> N	0.52		
							<input type="radio"/> Y <input type="radio"/> N			
						<input type="radio"/> Y <input type="radio"/> N				
						<input type="radio"/> Y <input type="radio"/> N				
						<input type="radio"/> Y <input type="radio"/> N				

Notes:

pH Calibration (pH Method: EPA 150.1)

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 9/14/2011 0910
 Prepared By: EFW
 Location: Waterford 3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
YSE #3		pH	7	su	27.84	6.70	Ⓢ N	7.00	
		pH	4	su	27.95	4.21	Ⓢ N	4.00	
		pH	10	su			Y N		
		Cond		uS/cm	28.69	468	Ⓢ N	447	
		DO					Y N		
		Temp			Degrees C	28.85 28.75	Y N	N/A	
HF Sci #2		Turbidity	1000	NTU	N/A	1100	Ⓢ N	931.8	
		Turbidity	10.0	NTU	N/A	10.07	Ⓢ N	9.54	
		Turbidity	0.02	NTU	N/A	0.00	Ⓢ N	0.00	
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Locality: ENTERGY Waterford-3	Site ID: MW-03	Sampler: EFN
Project Number: 6045-460	Date: 9/13	Sampler Organization: FTN

Site Description

Weather: Sunny		Air Temp (°F): 83		Wind: S-10(LW)	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 37.58 TOC below/above ground: feet 2.58	
Well locked? Yes					
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input type="checkbox"/> Keck 100' <input checked="" type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	5:59:24	5:58:109	11:15	11:20	11:40	
Depth to Water	feet	5.59	5.58	6.05	6.10	5.96	
Date	mm/dd/yy	9/13/11	9/13/11	9/13/11	9/13/11	9/13/11	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter 2 <input checked="" type="checkbox"/> YSI MPS 556 #3 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	32.58	Well goes dry during purging: Yes No						
Casing vol.	gallons	5.2	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	11:09	11:11	11:12	11:13	11:15	11:16	11:18	Remarks
Purge vol.	gallons	-	0.25	0.4	0.5	0.6	0.7	0.75	
Purge rate	mL/min	300	300	300	300	300	300	300	
pH	su	6.72	6.78	6.80	6.82	6.84	6.86	6.87	
Temp.	°C	27.87	27.42	27.46	27.46	27.40	27.57	27.59	
Spec. cond.	µS/cm	2860	2881	2886	2893	2901	2906	2908	
D.O.	mg/L	-	-	-	-	-	-	-	
ORP	mV	-	-	-	-	-	-	-	
Turbidity	NTU	11.63	7.41	6.34	10.90	6.92	7.23	14.92	
Color/tint		-	-	-	-	-	-	-	
Odor		-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-03	9/13/11	11:20	2-H3; 2-α	None	Total of 4-1L

Sampler's Name (print): Darrell Pennington	Sampler Signature: <i>[Signature]</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-04	Sampler: <u>EFN</u>
Project Number: 6045-460	Date: <u>9/13/11</u>	Sampler Organization: FTN

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>85°</u>		Wind: <u>5-10 (W)</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 37.73 TOC below/above ground: feet 2.73	
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>9:13</u>	<u>12:00</u>	<u>1210</u>	<u>1215</u>	<u>1235</u>	
Depth to Water	feet	<u>8.63</u>	<u>8.63</u>	<u>9.12</u>	<u>10.05</u>	<u>9.90</u>	
Date	mm/dd/yy	<u>9/13/11</u>	<u>9/13/11</u>	<u>9/13/11</u>	<u>9/13/11</u>	<u>9/13/11</u>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter 2 <input checked="" type="checkbox"/> YSI MPS 556 #3 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (<u>dedicated</u>) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	32.73	Well goes dry during purging: Yes <u>No</u>							
Casing vol.	gallons	<u>4.7</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time	24-hour	1207	<u>1207</u>	<u>1208</u>	<u>1209</u>	<u>1210</u>	<u>1211</u>	<u>1212</u>	<u>1213</u>	Remarks
Purge vol.	gallons	-	-	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.75</u>	
Purge rate	mL/min		<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	
pH	su		<u>6.76</u>	<u>6.74</u>	<u>6.74</u>	<u>6.72</u>	<u>6.73</u>	<u>6.73</u>	<u>6.74</u>	
Temp.	°C		<u>28.20</u>	<u>27.80</u>	<u>27.67</u>	<u>27.43</u>	<u>27.40</u>	<u>27.40</u>	<u>27.30</u>	
Spec. cond.	µS/cm		<u>5190</u>	<u>5210</u>	<u>5205</u>	<u>5223</u>	<u>5237</u>	<u>5257</u>	<u>5248</u>	
D.O.	mg/L		-	-						
ORP	mV		-	-						
Turbidity	NTU		<u>10.38</u>	<u>18.22</u>	<u>8.83</u>	<u>13.09</u>	<u>8.88</u>	<u>8.41</u>	<u>7.74</u>	
Color/tint										
Odor										

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-04	<u>9/13/11</u>	<u>1220</u>	<u>(4) 243, 2α</u>	<u>None</u>	

Sampler's Name (print): <u>ERIC F. NECAISE</u>	Sampler Signature: <u>Eric F. Necaise</u>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-05	Sampler: EFN
Project Number: 6045-460	Date: 9/13/11	Sampler Organization: FTN

Site Description

Weather: Sunny		Air Temp (°F): 85°		Wind: 5-10 W	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 37.59 TOC below/above ground: feet 2.59	
Well locked? Yes					
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	903	1410	1417	1419	1444	
Depth to Water	feet	6.06	6.08	6.65	6.67	6.40	
Date	mm/dd/yy	9/13/11	9/13/11	9/13/11	9/13/11	9/13/11	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter 2 <input checked="" type="checkbox"/> YSI MPS 556 3 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	32.59	Well goes dry during purging: Yes No							
Casing vol.	gallons	5.1	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time	24-hour	1412	1413	1414	1415	1416	1417	1418	1419	Remarks
Purge vol.	gallons	0.1 0.1	0.2	0.3	0.4	0.5	0.6	0.7		
Purge rate	mL/min	250	250	250	250	250	250	250		
pH	su	7.42	7.29	7.26	7.22	7.21	7.20	7.19	7.17	
Temp.	°C	29.60	28.96	28.77	28.54	27.84	27.72	28.62	27.79	
Spec. cond.	µS/cm	2903	2772	2738	2718	2701	2678	2653	2662	
D.O.	mg/L	-	-							
ORP	mV	-	-							
Turbidity	NTU	180.5	10.24	12.32	11.01	12.36	9.88	9.80	9.97	
Color/tint										
Odor										

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-05	9/13/11	1420	243, 200	No	4 LC Bottles

Sampler's Name (print): ERIC F. NECAISE	Sampler Signature: <i>Eric F. Necaise</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-06	Sampler: EFN
Project Number: 6045-460	Date: 9/13/11	Sampler Organization: FTN

Site Description

Weather: Sunny		Air Temp (°F): 85		Wind: 5-10 (W)		
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 35.40 TOC below/above ground: feet 2.4		Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Damages/repairs needed:						

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	937	1312	1329	1355	1408	
Depth to Water	feet	398	3.95	5.27	5.98	6.10	
Date	mm/dd/yy						
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter 2 <input checked="" type="checkbox"/> YSI MPS 556 3 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth	feet	30.40	Well goes dry during purging: Yes <input checked="" type="checkbox"/> No					
Casing vol.	gallons	5.1	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time	24-hour	1326	1327	1328	1329	1330	1331	Remarks
Purge vol.	gallons	2.50	0.1	0.2	0.3	0.4	0.5	
Purge rate	mL/min	250	250	250	250	250	250	
pH	su	7.62	7.43	7.37	7.32	7.29	7.25	
Temp.	°C	30.95	29.37	29.14	29.10	29.12	29.26	
Spec. cond.	µS/cm	3430	3368	3342	3260	3181	3092	
D.O.	mg/L	-	-					
ORP	mV	-	-					
Turbidity	NTU	23.4	12.42	10.61	15.17	18.39	12.42	
Color/tint		-						
Odor		-						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-06	9/13/11	1335	2-43; 2x	None	(4) Total; 1 L Bottles

Sampler's Name (print): ERIC F. NECAISE	Sampler Signature: <i>Eric F. Necaise</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-07	Sampler: <i>EFN</i>
Project Number: 6045-460	Date: <i>9/14/11</i>	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>80°</i>		Wind: <i>0-5 W</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 41.15 TOC below/above ground: feet 3.15	
Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>945</i>	<i>930</i>	<i>1007</i>	<i>1010</i>	<i>1030</i>	
Depth to Water	feet	<i>5.54</i>	<i>5.58</i>	<i>8.72</i>	<i>9.61</i>	<i>9.83</i>	
Date	mm/dd/yy	<i>9/13/11</i>	<i>9/14/11</i>	<i>9/14/11</i>	<i>9/14/11</i>	<i>9/14/11</i>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #3 <input type="checkbox"/> Other: #2		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth	feet	36.15 Well goes dry during purging: Yes <input checked="" type="checkbox"/> No								
Casing vol.	gallons	<i>5.8</i> = [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time	24-hour	<i>1002</i>	<i>1003</i>	<i>1004</i>	<i>1005</i>	<i>1006</i>	<i>1007</i>	<i>1008</i>	<i>1009</i>	Remarks
Purge vol.	gallons	-	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>0.4</i>	<i>0.5</i>	<i>0.6</i>	<i>0.7</i>	
Purge rate	mL/min	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	
pH	su	<i>6.90</i>	<i>6.91</i>	<i>6.93</i>	<i>6.95</i>	<i>6.97</i>	<i>6.99</i>	<i>7.00</i>	<i>7.01</i>	
Temp.	°C	<i>25.71</i>	<i>25.73</i>	<i>25.72</i>	<i>25.74</i>	<i>25.64</i>	<i>25.60</i>	<i>25.57</i>	<i>25.63</i>	
Spec. cond.	µS/cm	<i>1237</i>	<i>1293</i>	<i>1318</i>	<i>1340</i>	<i>1407</i>	<i>1500</i>	<i>1530</i>	<i>1562</i>	
D.O.	mg/L	-	-	-	-	-	-	-	-	
ORP	mV	-	-	-	-	-	-	-	-	
Turbidity	NTU	<i>12.66</i>	<i>12.11</i>	<i>10.25</i>	<i>12.54</i>	<i>9.44</i>	<i>10.31</i>	<i>19.69</i>	<i>12.47</i>	
Color/tint		-								
Odor		-								

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-07	<i>09/14/11</i>	<i>1010</i>	<i>2 1L-43; 2 1L</i>	<i>None</i>	
DUP MW-07	<i>09/14/11</i>	<i>1010</i>	<i>2 1L-43; 2 1L</i>	<i>None</i>	

For EFN

Sampler's Name (print): <i>Durrell Penniston</i>	Sampler Signature: <i>Durrell Penniston</i>
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Groundwater Sampling Record

City: ENTERGY Waterford-3	Site ID: MW-08	Sampler: EFN
Project Number: 6045-460	Date: 9/14/11	Sampler Organization: FTN

Site Description

Weather: 90 Sunny		Air Temp (°F): 90°		Wind: Wind S W	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 41.97 TOC below/above ground: feet 3.47	
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	952	1102	1110	1114	1130	
Depth to Water	feet	6.68	6.74	7.36	7.43	7.41	
Date	mm/dd/yy	9/13/11	9/14/11	9/14/11	9/14/11	9/14/11	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #3 <input type="checkbox"/> Other: #2		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	36.97	Well goes dry during purging: Yes (No)						
Casing vol.	gallons	518	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	1107	1108	1109	1110	1111	1112	1113	Remarks
Purge vol.	gallons	250	0.1	0.2	0.3	0.4	0.5	0.6	
Purge rate	mL/min	250	250	250	250	250	250	250	
pH	su	7.12	6.94	6.90	6.89	6.90	6.91	6.92	
Temp.	°C	27.58	27.09	26.88	26.44	26.58	26.50	26.51	
Spec. cond.	µS/cm	1117	1090	1086	1092	1104	1107	1114	
D.O.	mg/L	-				-			
ORP	mV	-				-			
Turbidity	NTU	35.89	26.37	14.28	17.10	12.52	13.29	9.21	
Color/tint		-	-	-					
Odor		-	-	-					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-08	9/14/11	1115			
MW-08	9/14/11	1115	21L#3; 21L#2	None	

Sampler's Name (print): Darrell Pennington Sampler Signature: Darrell Pennington

Groundwater Sampling Record

City: ENTERGY Waterford-3	Site ID: MW-09	Sampler: <i>EFN</i>
Project Number: 6045-460	Date: <i>9/14/11</i>	Sampler Organization: FTN

Site Description

Weather: <i>90 Sunny</i>		Air Temp (°F): <i>90</i>		Wind: <i>W - 5 mph</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 40.22 TOC below/above ground: feet 2.22	
Well locked? Yes					
Damages/repairs needed:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>1006</i>	<i>1146</i>	<i>1154</i>	<i>1155</i>	<i>12:32</i>	
Depth to Water	feet	<i>4.46</i>	<i>4.61</i>	<i>4.75</i>	<i>4.79</i>	<i>4.75</i>	
Date	mm/dd/yy	<i>9/13/11</i>	<i>9/14/11</i>	<i>9/14/11</i>	<i>9/14/11</i>	<i>9/14/11</i>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #3 <input type="checkbox"/> Other: #2		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	35.22		Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			
Casing vol.	gallons	<i>5.6</i> = [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time	24-hour	<i>1151</i>	<i>1152</i>	<i>1153</i>	<i>1154</i>	<i>1155</i>	Remarks
Purge vol.	gallons	-	-				
Purge rate	mL/min	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	<i>250</i>	
pH	su	<i>7.11</i>	<i>7.07</i>	<i>7.06</i>	<i>7.06</i>	<i>7.06</i>	
Temp.	°C	<i>29.30</i>	<i>27.93</i>	<i>27.50</i>	<i>27.38</i>	<i>27.31</i>	
Spec. cond.	µS/cm	<i>2210</i>	<i>2140</i>	<i>2116</i>	<i>2111</i>	<i>2113</i>	
D.O.	mg/L	-	-				
ORP	mV	-	-				
Turbidity	NTU	<i>19.53</i>	<i>20.36</i>	<i>13.28</i>	<i>19.74</i>	<i>13.71</i>	
Color/tint		-					
Odor		-					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-09	<i>9/14/11</i>	<i>1200</i>	<i>2-1L H-3; 24-L</i>	<i>NO</i>	<i>1 Gal samples filled w/ 2000m</i>
<i>EBMW09</i>	<i>9/14/11</i>	<i>1240</i>	<i>2-1L H-3; 24-L</i>	<i>NO</i>	

Sampler's Name (print): <i>Daniel J. ...</i>	Sampler Signature: <i>[Signature]</i>
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Date 9/14/11	Project Name Waterford 3	Project Number 6045-460	Project Manager (Print) BOB WEST			Page ___ of ___													
Laboratory Name RBS		Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338			Parameters (Method Number)	Lab Turn-Around Time													
Phone: ()		Recorded By (Print)			<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: ___/___/___	Laboratory Notes													
Sampler Signature(s) <i>Eric F. Nease</i>		SAMPLE DESCRIPTION																	
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method												
			W	S	O		Comp	Grab											
MW-03	9/13/11	11:20	X			4		X	X	X									
MW-04	9/13/11	12:20	X			4		X	X	X									
MW-05	9/13/11	14:20	X			4		X	X	X									
MW-06	9/13/11	13:35	X			4		X	X	X									
MW-07	9/14/11	10:10	X			4		X	X	X									
DUP MW-07	9/14/11	10:10	X			4		X	X	X									
MW-08	9/14/11	11:15	X			4		X	X	X									
MW-09	9/14/11	12:00	X			4		X	X	X									
EBMW-09	9/14/11	12:40	X			4		X	X	X									
* Matrix: W = Water S = Soil O = Other																			
Relinquished By (Signature) <i>Eric F. Nease</i>			Print Name ERIC F. NEASE			Date Time 9/14/11 1604			Received By (Signature) <i>B.T. Michura</i>			Print Name B.T. Michura			Date Time 9/14/11 1604				
Relinquished By (Signature)			Print Name			Date Time			Received By Laboratory (Signature)			Print Name			Date Time				
Sampler Remarks									Laboratory Remarks:										



FTN Associates Calibration Form

Date/Time: 12/13/11 1200

Prepared By: EFN

Location: W-3

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		pH	7	su	19.26	6.98	Ⓢ N	7.00	
VSI #	#2	pH	4	su	18.93	7.01	Ⓢ N	4.00	
		pH	10	su			Y N		
		Cond		uS/cm	18.90	515	Ⓢ N	447	
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C			Y N	N/A	
							Y N		
HFSCI #2	#2	Turbidity	1000	NTU	N/A	949.7 9.01	Ⓢ N	1000	
		Turbidity	10.0	NTU	N/A	9.01	Ⓢ N	10.0	
		Turbidity	0.02	NTU	N/A	0.00	Ⓢ N	0.0	
							Y N		
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup. Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-03	Sampler: EFN
Project Number: 6045-460	Date: 12/13/11	Sampler Organization: FTN

Site Description

Weather: Sunny		Air Temp (°F): 57		Wind: 5-10 (E)	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 37.58 TOC below/above ground: feet 2.58	
Damages/repairs needed: NONE					
Well locked? Yes No					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper - T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	1025	1538	1542	1545	1615	
Depth to Water	feet	6.72	6.71	7.27	6.31	7.02	
Date	mm/dd/yy	12/13/11	12/13/11	12/13/11	12/13/11	12/13/11	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #2 <input type="checkbox"/> Other: #2		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth	feet	Well goes dry during purging: Yes No				
Casing vol.	gallons	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408				
Time	24-hour	1540	1541	1542	1543	Remarks
Purge vol.	gallons	0	6.1	0.2	2.3	
Purge rate	mL/min	300	300	300	300	
pH	su	6.86	6.86	6.86	6.87	
Temp.	°C	22.34	22.33	22.30	22.26	
Spec. cond.	µS/cm	2499	2502	2518	2532	
D.O.	mg/L	-				
ORP	mV	-				
Turbidity	NTU	1.14	3.23	4.53	6.43	
Color/tint						
Odor						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-03	12/13/11	15:50	2-1L #3; 2-1L #2	-	Total of 4-1 Liter
Dup MW-03	12/13/11	16:00	2-1L #3; 2-1L #2	-	Total of 4-1 Liter

Sampler's Name (print): ERIC NECAISE	Sampler Signature: <i>Eric Neaise</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-04	Sampler: EFN
Project Number: 6045-460	Date: 12/13/11	Sampler Organization: FTN

Site Description

Weather: Sunny		Air Temp (°F): 57		Wind: 5-10 (E)	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches 2 Total depth from TOC: feet 37.73 TOC below/above ground: feet 2.73	
Damages/repairs needed: NONE					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	1017	1630	1638	1639	1658 1658	
Depth to Water	feet	9.30	9.30	10.44	10.81	11.78	
Date	mm/dd/yy	12/13/11	12/13/11	12/13/11	12/13/11	12/13/11	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #2 <input type="checkbox"/> Other: #2		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth	feet	32.73	Well goes dry during purging: Yes (No)					
Casing vol.	gallons	4.64	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time	24-hour	1634	1635	1636	1637	1638	1639	Remarks
Purge vol.	gallons	0	0.1	0.2	0.3	0.4	0.5	
Purge rate	mL/min	300	300	300	300	300	300	
pH	su	6.72	6.65	6.63	6.61	6.63	6.64	
Temp.	°C	20.44	20.94	21.03	21.14	21.26	21.30	
Spec. cond.	µS/cm	4420	4230	4190	4130	4133	4143	
D.O.	mg/L	-	-					
ORP	mV	-	-					
Turbidity	NTU	9.32	4.50	1.43	3.15	0.63	3.02	
Color/tint								
Odor								

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-04	12/13/11	1640	2-1L H-3; 2-1L	—	Total of 4-1L bottles

Sampler's Name (print): ERIC NECAISE	Sampler Signature: <i>Eric Neccaise</i>
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-05	Sampler: EFN
Project Number: 6045-460	Date: 12/13/11	Sampler Organization: FTN

Site Description

Weather: Sunny		Air Temp (°F): 57°		Wind: 5-10 (E)	
Site type:		Well casing material:		Well diameter	
<input checked="" type="checkbox"/> Monitoring Well	<input type="checkbox"/> Extraction Well	<input checked="" type="checkbox"/> PVC		inches	2
<input type="checkbox"/> Production Well	<input type="checkbox"/> Borehole	<input type="checkbox"/> Steel		Total depth from TOC	feet
<input type="checkbox"/> Dewatering Well	<input type="checkbox"/> Spring	<input type="checkbox"/> Iron		feet	37.59
<input type="checkbox"/> Other:		<input type="checkbox"/> Other:		TOC below/above ground	feet
				feet	2.59
Damages/repairs needed: NONE					

Water Level Data

Measuring point description:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200'				
<input checked="" type="checkbox"/> Mark/notch on TOC		<input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:				
<input type="checkbox"/> North rim of TOC		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling
<input type="checkbox"/> Other:						Remarks
Time	24-hour	10:04	10:05	17:10	17:12	17:30
Depth to Water	feet	7.27	7.29	8.02	8.12	8.28
Date	mm/dd/yy	12/13/11	12/13/11	12/13/11	12/13/11	12/13/11
Product/Thickness	LNAPL/DNAPL					

Field Data

Field data meters:		Pump description:		Bailer description:	
<input type="checkbox"/> Hydrolab MiniSonde	<input type="checkbox"/> LaMotte 2020 Turbidimeter	<input checked="" type="checkbox"/> Peristaltic (dedicated / portable)	<input type="checkbox"/> Disposable polyethylene		
<input type="checkbox"/> Hydrolab DataSonde	<input checked="" type="checkbox"/> H. F. Scientific Turbidimeter	<input type="checkbox"/> Bladder (dedicated / portable)	<input type="checkbox"/> Disposable Teflon		
<input checked="" type="checkbox"/> YSI MPS 556 #2	<input type="checkbox"/> Other: #2	<input type="checkbox"/> Submersible	<input type="checkbox"/> Disposable PVC		
Purge depth	feet	39.59	Well goes dry during purging: Yes (No)		
Casing vol.	gallons	4.95	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408		
Time	24-hour	1708	1709	1710	1711
Purge vol.	gallons	0.0	0.1	0.1	0.2
Purge rate	mL/min	300	300	300	300
pH	su	7.31	7.26	7.25	7.25
Temp.	°C	21.94	22.24	22.28	22.34
Spec. cond.	µS/cm	5105	5242	5249	5252
D.O.	mg/L	-	-	-	-
ORP	mV	-	-	-	-
Turbidity	NTU	5.98	0.61	3.90	2.65
Color/tint		-			
Odor		-			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-05	12/13/11	1715	2-1L #3; 2-1L #2	-	Total of 4 1-liter bottles
EBMW-05	12/13/11	1740		-	

Sampler's Name (print): Eric Neccaise	Sampler Signature: Eric Neccaise
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Groundwater Sampling Record

Facility: ENTERGY Waterford-3	Site ID: MW-06	Sampler: <i>EFN</i>
Project Number: 6045-460	Date: <i>12/13/11</i>	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>60</i>		Wind: <i>10-15 (E)</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <i>2</i> Total depth from TOC: feet <i>35.40</i> TOC below/above ground: feet <i>2.4</i>	
Damages/repairs needed: <div style="text-align: center;"><i>NONE</i></div>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
Time	24-hour	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	<i>24-hour</i>	<i>1035</i>	<i>1502</i>	<i>1509</i>	<i>1512</i>	<i>1522</i>	
Depth to Water	feet	<i>5.29</i>	<i>5.23</i>	<i>6.83</i>	<i>7.22</i>	<i>8.19</i>	
Date	mm/dd/yy	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter #2 <input checked="" type="checkbox"/> YSI MPS 556 #2 <input type="checkbox"/> Other:		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailor description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	<i>30.4</i>	Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Casing vol.	gallons	<i>4.91</i>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408				
Time	24-hour	<i>1506</i>	<i>1507</i>	<i>1508</i>	<i>1509</i>	<i>1510</i>	Remarks
Purge vol.	gallons	<i>300</i>	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>0.4</i>	
Purge rate	mL/min	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	
pH	su	<i>7.22</i>	<i>7.19</i>	<i>7.19</i>	<i>7.19</i>	<i>7.19</i>	
Temp.	°C	<i>22.39</i>	<i>22.41</i>	<i>22.44</i>	<i>22.42</i>	<i>22.44</i>	
Spec. cond.	µS/cm	<i>2890</i>	<i>2762</i>	<i>2736</i>	<i>2718</i>	<i>2719</i>	
D.O.	mg/L	-	-	-	-	-	
ORP	mV	-	-	-	-	-	
Turbidity	NTU	<i>3.39</i>	<i>11.11</i>	<i>0.08</i>	<i>0.06</i>	<i>0.20</i>	
Color/tint		-					
Odor		-					

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-06	<i>12/13/11</i>	<i>1515</i>	<i>2 1L + 3; 2 1L</i>	<i>-</i>	<i>Total of 4 1-L Bottles</i>

Sampler's Name (print): <i>Eric Nequise</i>	Sampler Signature: <i>Eric Nequise</i>
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Groundwater Sampling Record

Facility: ENERGY Waterford-3	Site ID: MW-07	Sampler: EFN
Project Number: 6045-460	Date: 12/13/11	Sampler Organization: FTN

Site Description

Weather: <u>Sunny</u>		Air Temp (°F): <u>60</u>		Wind: <u>10-15 (E)</u>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <u>2</u> Total depth from TOC: feet <u>41.15</u> TOC below <u>above</u> ground: feet <u>3.15</u>	
Damages/repairs needed: <u>NONE</u>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<u>1048</u>	<u>1333</u>	<u>1413</u>	<u>1415</u>	<u>1432</u>	
Depth to Water	feet	<u>7.15</u>	<u>7.15</u>	<u>9.52</u>	<u>9.56</u>	<u>9.61</u>	
Date	mm/dd/yy	<u>12/13/11</u>	<u>12/13/11</u>	<u>12/13/11</u>	<u>12/13/11</u>	<u>12/13/11</u>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #2 <input type="checkbox"/> Other: #2			Pump description: <input checked="" type="checkbox"/> Peristaltic (<u>dedicated</u> / portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	<u>36.15</u>	Well goes dry during purging: Yes <u>(No)</u>						
Casing vol.	gallons	<u>5.60</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time	24-hour	<u>1408</u>	<u>1409</u>	<u>1410</u>	<u>1411</u>	<u>1412</u>	<u>1413</u>	<u>1414</u>	Remarks
Purge vol.	gallons	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate	mL/min	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	
pH	su	<u>6.84</u>	<u>6.85</u>	<u>6.85</u>	<u>6.84</u>	<u>6.87</u>	<u>6.88</u>	<u>6.88</u>	
Temp.	°C	<u>22.88</u>	<u>22.88</u>	<u>22.90</u>	<u>22.89</u>	<u>22.86</u>	<u>22.83</u>	<u>22.85</u>	
Spec. cond.	µS/cm	<u>1006</u>	<u>1093</u>	<u>1153</u>	<u>1200</u>	<u>1300</u>	<u>1357</u>	<u>1405</u>	
D.O.	mg/L	-							
ORP	mV	-							
Turbidity	NTU	<u>2.67</u>	<u>0.19</u>	<u>0.23</u>	<u>0.00</u>	<u>0.10</u>	<u>1.05</u>	<u>1.27</u>	
Color/tint									
Odor									

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-07	12/13/11	1416	<u>2-1L #3, 2-1L #2</u>	-	<u>Total of 4 1-Liter bottles</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>Eric Necaise</u>
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Groundwater Sampling Record

Facility: ENERGENCY Waterford-3	Site ID: MW-08	Sampler: <i>EFN</i>
Project Number: 6045-460	Date: <i>12/13/11</i>	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>60</i>		Wind: <i>10-15 (E)</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <i>2</i> Total depth from TOC: feet <i>41.97</i> TOC below above ground: feet <i>3.47</i>	
Damages/repairs needed: <i>NONE</i>					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>10:53</i>	<i>12:40</i>	<i>12:45</i>	<i>12:47</i>	<i>1:03</i>	
Depth to Water	feet	<i>7.24</i>	<i>7.23</i>	<i>7.82</i>	<i>7.89</i>	<i>8.00</i>	
Date	mm/dd/yy	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556 #12 <input type="checkbox"/> Other: # <i>2</i>		Pump description: <input checked="" type="checkbox"/> Peristaltic (<u>dedicated</u> portable) <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth	feet	Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>					
Casing vol.	gallons	$= [\text{total depth (feet)} - \text{depth to water (feet)}] \cdot [\text{well ID (inches)}]^2 \cdot 0.0408$					
Time	24-hour	<i>1242</i>	<i>1243</i>	<i>1244</i>	<i>1245</i>	<i>1246</i>	Remarks
Purge vol.	gallons	<i>306.0</i>	<i>0.2</i>	<i>0.3</i>	<i>0.4</i>	<i>0.5</i>	
Purge rate	mL/min	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	
pH	su	<i>6.89</i>	<i>6.77</i>	<i>6.78</i>	<i>6.79</i>	<i>6.83</i>	
Temp.	°C	<i>22.83</i>	<i>23.01</i>	<i>23.05</i>	<i>22.97</i>	<i>22.71</i>	
Spec. cond.	µS/cm	<i>1036</i>	<i>1008</i>	<i>1015</i>	<i>1024</i>	<i>1037</i>	
D.O.	mg/L	-					
ORP	mV	-					
Turbidity	NTU	<i>3.47</i>	<i>4.09</i>	<i>3.49</i>	<i>4.33</i>	<i>4.07</i>	
Color/tint		<i>N/A</i>	<i>none</i>	<i>none</i>	<i>none</i>	<i>none</i>	
Odor		<i>none</i>	<i>none</i>	<i>none</i>	<i>none</i>	<i>none</i>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-08	<i>12/13/11</i>	<i>12:50</i>	<i>2-1L, #3, 2-1L</i>	<i>---</i>	<i>Total of 4 1-Liter bottles</i>

Sampler's Name (print): <i>ERIC NECHASE</i>	Sampler Signature: <i>Eric Nechase</i>
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Groundwater Sampling Record

Locality: ENERGENCY Waterford-3	Site ID: MW-09	Sampler: <i>EFN</i>
Project Number: 6045-460	Date: <i>12/13/11</i>	Sampler Organization: FTN

Site Description

Weather: <i>Sunny</i>		Air Temp (°F): <i>10</i>		Wind: <i>10-15(E)</i>	
Site type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Borehole <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Spring <input type="checkbox"/> Other:		Well casing material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Steel <input type="checkbox"/> Iron <input type="checkbox"/> Other:		Well diameter: inches <i>2</i> Total depth from TOC: feet <i>40.22</i> TOC below/above ground: feet <i>2.22</i>	
Damages/repairs needed: <i>NONE</i>					
Well locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:		Water level meter: <input type="checkbox"/> Heron Dipper -T <input checked="" type="checkbox"/> Keck 100' <input type="checkbox"/> Keck 200' <input type="checkbox"/> Solonist Interface Probe <input type="checkbox"/> Other:					
		Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time	24-hour	<i>1100</i>	<i>1147</i>	<i>1153</i>	<i>1156</i>	<i>12:10</i>	
Depth to Water	feet	<i>6.74</i>	<i>6.74</i>	<i>6.85</i>	<i>6.96</i>	<i>6.85</i>	
Date	mm/dd/yy	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	<i>12/13/11</i>	
Product/Thickness	LNAPL/DNAPL feet						

Field Data

Field data meters: <input type="checkbox"/> Hydrolab MiniSonde <input type="checkbox"/> LaMotte 2020 Turbidimeter <input type="checkbox"/> Hydrolab DataSonde <input checked="" type="checkbox"/> H. F. Scientific Turbidimeter <input checked="" type="checkbox"/> YSI MPS 556-#2 <input type="checkbox"/> Other: #2		Pump description: <input checked="" type="checkbox"/> Peristaltic (dedicated) portable <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth	feet	<i>35.22</i>					Well goes dry during purging: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Casing vol.	gallons	<i>5.5</i>					= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408		
Time	24-hour	<i>1149</i>	<i>1150</i>	<i>1151</i>	<i>1152</i>	<i>1153</i>	<i>1154</i>	<i>1155</i>	Remarks
Purge vol.	gallons	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>0.5</i>	<i>0.6</i>	<i>0.8</i>	<i>1.0</i>	
Purge rate	mL/min	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	<i>300</i>	
pH	su	<i>6.94</i>	<i>6.96</i>	<i>6.96</i>	<i>6.96</i>	<i>6.96</i>	<i>6.96</i>	<i>6.96</i>	
Temp.	°C	<i>21.14</i>	<i>20.30</i>	<i>21.17</i>	<i>21.29</i>	<i>21.24</i>	<i>21.26</i>	<i>21.26</i>	
Spec. cond.	µS/cm	<i>1977</i>	<i>1978</i>	<i>1969</i>	<i>1979</i>	<i>1982</i>	<i>1984</i>	<i>1984</i>	
D.O.	mg/L	-							
ORP	mV	-							
Turbidity	NTU	<i>31.82</i>	<i>9.29</i>	<i>1.81</i>	<i>2.00</i>	<i>1.29</i>	<i>1.73</i>	<i>2.72</i>	
Color/tint		-							
Odor		-							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
MW-09	<i>12/13/11</i>	<i>1156</i>	<i>2-1L H-3, 2-1L</i>	<i>-</i>	<i>Total of 4-1L</i>

Sampler's Name (print): <i>ERIC NECAISE</i>	Sampler Signature: <i>Eric Necaise</i>
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Date 12/13/11		Project Name Energy - Waterford-3			Project Number 6045-460		Project Manager (Print) BOB WEST			Page ___ of ___					
Laboratory Name RBS				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)				Lab Turn-Around Time			
Phone: ()				Recorded By (Print) ERIC NECAISE				R F W 2 1 1				<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: ___/___/___			
Sampler Signature(s) <i>Eric Necaise</i>				SAMPLE DESCRIPTION								Laboratory Notes			
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method								
			W	S	O		Comp	Grab							
MW-03	12/12/11	15:50	X			4		X	X	X					
Dup MW-03	12/13/11	16:00	X			4		X	X	X					
MW-04	12/13/11	16:40	X			4		X	X	X					
MW-05	12/13/11	17:15	X			4		X	X	X					
EB MW-05	12/13/11	17:40	X			4		X	X	X					
MW-06	12/13/11	15:15	X			4		X	X	X					
MW-07	12/13/11	14:16	X			4		X	X	X					
MW-08	12/13/11	12:50	X			4		X	X	X					
MW-09	12/13/11	11:56	X			4		X	X	X					
* Matrix: W = Water S = Soil O = Other															
Relinquished By (Signature) <i>Eric Necaise</i>		Print Name ERIC NECAISE		Date 12/13/11		Time 17:50		Received By (Signature) <i>Bob West</i>		Print Name Bob West		Date 12/13/11		Time 17:50	
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time	
Sampler Remarks								Laboratory Remarks:							



FTN Associates Calibration Form

Date/Time: 3/20/12 9:20
 Prepared By: EFN
 Location: Winterset 3
 Project #: 6045-480

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	23.14	1200	Ⓢ N	1413	1A14601 Exp 8/12
VSI MPS	#1	pH	7	su	23.79	7.03	Ⓢ N	7.00	1A12418 Exp 9/13
556		pH	4/10	su	23.16 23.16	7.09	Ⓢ N	7.00	1A1238 Exp 9/13
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	23.16	23.00	N	N/A	
							Y N		
AF Scientific	#1	Turbidity	1000	NTU	N/A	999.1	Y N		10903 Exp 9/13
		Turbidity	10.0	NTU	N/A	9.92	Y N		10901 Exp 9/13
		Turbidity	0.02	NTU	N/A	0.03	Y N		N0106 Exp 11/4/4
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

- Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
- pH Calibration (pH Method: EPA 150.1)
- DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
- Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 3/21/12 0845
 Prepared By: EFN
 Location: Watcoford 3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
VSI mcs		Cond	0	uS/cm			Y N		
556	#1	Cond	1413	uS/cm	21.75	1660	(Y) N	1413	LOT 1A H 601 Exp 8/12
		pH	7	su	22.31	6.94	(Y) N	7.00	LOT 1A 412 Exp 9/13
		pH	4.10	su	22.75	4.23	(Y) N	4.00	LOT 1A G 214 Exp 7/13
		DO		mm/Hg			Y N		
		Temp		Degrees C	22.75	23.00	N	N/A	
HF							Y N		
Seawater	#1	Turbidity	1000	NTU	N/A	1100	(Y) N	1006	10903 Exp 9/13
		Turbidity	10.0	NTU	N/A	10.46	Y N	10.65	10901 Exp 9/13
		Turbidity	0.02	NTU	N/A	0.00	(Y) N	0.05	N0104 Exp 11/4/11
		Turbidity		NTU	N/A		Y N		

Comments:

Notes:

- Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
- pH Calibration (pH Method: EPA 150.1)
- DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
- Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.
 Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: Waterford 3	Project Number: 6045 460	Investigator: EEW	Page <u>1</u> of <u>1</u>
Weather Conditions: overcast 70°	Measuring Device: Keck 100 #3		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW03	3/20/12	0832	8.93	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW04	3/20/12	0841	9.38	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW05	3/20/12	0847	5.64	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW06	3/20/12	0853	4.24	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW07	3/20/12	0859	6.25	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW08	3/20/12	0909	6.10	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <i>check</i> <input type="checkbox"/> Lacks access <i>hole</i> <input checked="" type="checkbox"/> See gw sample record
MW09	3/20/12	0919	3.73	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW03</u>	Sampler: <u>EPN</u>
Project Number: <u>6045-460</u>	Date: <u>3/21/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Overcast / Rain</u>		Air Temp (°F): <u>68°</u>	Wind: <u>10-15 w</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft): <u>37.58</u>	Damage/repairs needed:	
Remarks:			

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0832</u>	<u>1715</u>	<u>1730</u>	<u>1745</u>	<u>1835</u>	
Depth to Water (ft)	<u>8.93</u>	<u>5.94</u>	<u>6.15</u>	<u>6.34</u>	<u>6.45</u>	
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSE 556</u> <u>HF Scientific</u>	Unit or Serial No.: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>22.75</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>1720</u>	<u>1724</u>	<u>1728</u>	<u>1732</u>	<u>1736</u>	<u>1740</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.94</u>	<u>6.91</u>	<u>6.84</u>	<u>6.81</u>	<u>6.82</u>	<u>6.84</u>	
Temp. (°C)	<u>17.78</u>	<u>17.80</u>	<u>17.58</u>	<u>17.58</u>	<u>17.92</u>	<u>17.98</u>	
Spec. cond. (µS/cm)	<u>2973</u>	<u>2910</u>	<u>2850</u>	<u>2861</u>	<u>2880</u>	<u>2923</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	<u>219</u>	
Turbidity (NTU)	<u>9.23</u>	<u>21.23</u>	<u>11.56</u>	<u>10.67</u>	<u>18.43</u>	<u>8.67</u>	
Color/tint	<u>non</u>	<u>non</u>	<u>non</u>	<u>non</u>	<u>non</u>	<u>non</u>	
Odor	<u>non</u>	<u>non</u>	<u>non</u>	<u>non</u>	<u>non</u>	<u>non</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW03</u>	<u>3/21/12</u>	<u>1745</u>	<u>7</u>	<u>None</u>	<u>1-500ml (1-3); 2-750ml (4); 4-750ml (13)</u>
<u>EB MW03</u>	<u>3/21/12</u>	<u>1705</u>	<u>7</u>	<u>None</u>	<u>" " " " " "</u>

Sampler's Name (print): <u>ERIC NOCAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-04</u>	Sampler: <u>EFN</u>
Object Number: <u>6045-466</u>	Date: <u>3/21/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Overcast</u>	Air Temp (°F): <u>75</u>	Wind: <u>20-30 (SE)</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.73</u>	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECIC 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0841</u>	<u>1317</u>	<u>1530</u>	<u>1535</u>	<u>1705</u>	
Depth to Water (ft)	<u>9.38</u>	<u>4.29</u>	<u>9.73</u>	<u>9.77</u>	<u>9.83</u>	
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSE 556</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth (ft): <u>29.75</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408				
Time ("24:00" hr)	<u>1523</u>	<u>1527</u>	<u>1531</u>	<u>1535</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.0</u>	<u>0.2</u>	<u>0.3</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.57</u>	<u>6.50</u>	<u>6.48</u>	<u>6.51</u>	
Temp. (°C)	<u>19.44</u>	<u>20.21</u>	<u>20.14</u>	<u>20.00</u>	
Spec. cond. (µS/cm)	<u>5233</u>	<u>5229</u>	<u>5090</u>	<u>5267</u>	
D.O. (mg/L)	-	-	-	-	
ORP (mV)	-	-	-	-	
Turbidity (NTU)	<u>83.54</u>	<u>88.22</u>	<u>12.41</u>	<u>56.27</u>	
Color/tint	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	
Odor	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW04</u>	<u>3/21/12</u>	<u>1540</u>	<u>7</u>	<u>None</u>	<u>1-500mL H-3, 2-750mL DR, 4-750mL I-01</u>
<u>Dup MW04</u>	<u>3/21/12</u>	<u>1540</u>	<u>7</u>	<u>None</u>	<u>" " " "</u>

Sampler's Name (print): <u>Eric Neuman</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Wakeford - 3</u>	Site ID: <u>MW 05</u>	Sampler: <u>EFA</u>
Project Number: <u>6045-460</u>	Date: <u>3/21/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Overcast</u>		Air Temp (°F): <u>73°</u>		Wind: <u>20-30 (SE)</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>37.59</u>		Damage/repairs needed:	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0847</u>	<u>13.19</u>	<u>13.41</u>	<u>1414</u>	<u>1510</u>	
Depth to Water (ft)	<u>5.66</u>	<u>5.55</u>	<u>5.84</u>	<u>5.85</u>	<u>5.84</u>	
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI 556</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC										
Purge depth (ft): <u>29.75</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID] (inches) ² * 0.0408 (14.31 - 14.16)												
Time ("24:00" hr)	<u>1329</u>	<u>1334</u>	<u>1337</u>	<u>1341</u>	<u>1344</u>	<u>1346</u>	<u>1352</u>	<u>1356</u>	<u>1400</u>	<u>1404</u>	<u>1408</u>	Remarks	
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.8</u>	<u>0.9</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.1</u>	<u>1.2</u>
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
pH (su)	<u>7.26</u>	<u>7.18</u>	<u>7.16</u>	<u>7.15</u>	<u>7.14</u>	<u>7.13</u>	<u>7.11</u>	<u>7.09</u>	<u>7.08</u>	<u>7.04</u>	<u>7.01</u>	<u>7.02</u>	<u>7.01</u>
Temp. (°C)	<u>19.72</u>	<u>19.62</u>	<u>19.49</u>	<u>19.31</u>	<u>19.14</u>	<u>18.97</u>	<u>18.77</u>	<u>18.73</u>	<u>18.89</u>	<u>20.13</u>	<u>20.31</u>	<u>20.57</u>	<u>20.43</u>
Spec. cond. (µS/cm)	<u>3012</u>	<u>2890</u>	<u>2710</u>	<u>2426</u>	<u>2300</u>	<u>2210</u>	<u>2098</u>	<u>2038</u>	<u>1998</u>	<u>1923</u>	<u>1911</u>	<u>1923</u>	<u>1918</u>
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity (NTU)	<u>8.26</u>	<u>2.09</u>	<u>1.83</u>	<u>1.43</u>	<u>1.23</u>	<u>0.77</u>	<u>42.60</u>	<u>1.13</u>	<u>1.08</u>	<u>9.67</u>	<u>13.24</u>	<u>11.21</u>	<u>2.56</u>
Color/tint	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>
Odor	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW 05</u>	<u>3/21/12</u>	<u>1420</u>	<u>7</u>	<u>none</u>	<u>1500ml H-3; 2 750ml H-3; 4 750ml I-171</u>

Sampler's Name (print): <u>EUCNERAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW04</u>	Sampler: <u>EFN</u>
Object Number: <u>6045-440</u>	Date: <u>3/21/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>overcast</u>	Air Temp (°F): <u>72°</u>	Wind: <u>20-30 (SE)</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>35.40</u>	Damage/repairs needed:	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Keck 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)		<u>0900</u>	<u>0929</u>	<u>0932</u>	<u>10:45</u>	<u>Dropped</u>
Depth to Water (ft)	<u>4.24</u>	<u>4.24</u>	<u>5.58</u>	<u>5.61</u>	<u>4.64</u>	<u>1.3 ft pumping</u>
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/21/12</u>	<u>3/21/12</u>	<u>3/21/12</u>		<u>as slow as possible</u>
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						<u>during purging</u>

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI MP355C</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>25.7</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24.00" hr)	<u>0909</u>	<u>0913</u>	<u>0917</u>	<u>0921</u>	<u>0925</u>	<u>0929</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.29</u>	<u>0.3</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>6.90</u>	<u>6.95</u>	<u>6.98</u>	<u>6.98</u>	<u>7.00</u>	<u>6.98</u>	
Temp. (°C)	<u>24.13</u>	<u>24.25</u>	<u>23.66</u>	<u>23.64</u>	<u>23.45</u>	<u>23.39</u>	
Spec. cond. (µS/cm)	<u>3224</u>	<u>3207</u>	<u>3212</u>	<u>3207</u>	<u>3209</u>	<u>3219</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>112.7</u>	<u>9.12</u>	<u>48.05</u>	<u>2.44</u>	<u>2.18</u>	<u>12.24</u>	
Color/tint	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	
Odor	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW04</u>	<u>3/21/12</u>	<u>0935</u>	<u>7</u>	<u>None</u>	<u>1500ml H.3; 2750ml D; 4750ml L31</u>

Sampler's Name (print): <u>ERIC NECAISO</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Watersford 3</u>	Site ID: <u>MW07</u>	Sampler: <u>EGN</u>
Project Number: <u>6045-460</u>	Date: <u>3/20/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Overcast</u>	Air Temp (°F): <u>75</u>	Wind: <u>20-25</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>41.17</u>	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0859</u>	<u>1340</u>	<u>1400</u>	<u>1405</u>	<u>1520</u>	
Depth to Water (ft)	<u>6.25</u>	<u>6.25</u>	<u>6.82</u>	<u>6.84</u>	<u>6.56</u>	
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI 534</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>32.7</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time ("24:00" hr)	<u>1347</u>	<u>1351</u>	<u>1355</u>	<u>1359</u>	<u>1403</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.15</u>	<u>0.2</u>	<u>0.25</u>	
Purge rate (mL/min)	<u>100</u>	<u>75</u>	<u>75</u>	<u>75</u>	<u>75</u>	
pH (su)	<u>6.66</u>	<u>6.52</u>	<u>6.52</u>	<u>6.54</u>	<u>6.55</u>	
Temp. (°C)	<u>25.14</u>	<u>24.95</u>	<u>25.52</u>	<u>25.55</u>	<u>25.63</u>	
Spec. cond. (µS/cm)	<u>1778</u>	<u>1392</u>	<u>1347</u>	<u>1332</u>	<u>1411</u>	
D.O. (mg/L)	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	
Turbidity (NTU)	<u>15.91</u>	<u>11.84</u>	<u>12.72</u>	<u>17.82</u>	<u>21.31</u>	
Color/tint	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	
Odor	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW07</u>	<u>3/20/12</u>	<u>1405</u>	<u>7</u>	<u>None</u>	<u>1500ml #1; 2-750ml #2; 4-150ml #131</u>

Sampler's Name (print): <u>ERIC NGCHING</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW 08</u>	Sampler: <u>EFW</u>
Object Number: <u>6845</u>	Date: <u>3/20/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other					
Weather: <u>Overcast</u>		Air Temp (°F): <u>73</u>		Wind: <u>20 25 (SE)</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>41.47</u>		Damage/repairs needed: <u>hole app 3ft from prod</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Keck 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0909</u>	<u>1112</u>	<u>1130</u>	<u>1152</u>	<u>1300</u>	
Depth to Water (ft)	<u>6.10</u>	<u>6.11</u>	<u>6.40</u>	<u>6.45</u>	<u>6.38</u>	
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI MPS 556</u> <u>HF Scientific</u>		Unit or Serial No: <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>32.7</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable)		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24:00" hr)	<u>1115</u>	<u>1117</u>	<u>1123</u>	<u>1127</u>	<u>1131</u>	<u>1135</u>	<u>1139</u>	<u>1143</u>	<u>1147</u>	<u>1151</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.8</u>	<u>0.25</u>	<u>0.35</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	
Purge rate (mL/min)	<u>150</u>	<u>160</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>6.50</u>	<u>6.51</u>	<u>6.55</u>	<u>6.60</u>	<u>6.62</u>	<u>6.64</u>	<u>6.63</u>	<u>6.64</u>	<u>6.61</u>	<u>6.60</u>	
Temp. (°C)	<u>23.64</u>	<u>24.02</u>	<u>23.90</u>	<u>24.35</u>	<u>24.37</u>	<u>24.20</u>	<u>24.04</u>	<u>24.35</u>	<u>24.12</u>	<u>23.98</u>	
Spec. cond. (µS/cm)	<u>1372</u>	<u>1386</u>	<u>1425</u>	<u>1500</u>	<u>1525</u>	<u>1548</u>	<u>15.55</u>	<u>1564</u>	<u>1542</u>	<u>1557</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>447.3</u>	<u>8.52</u>	<u>8.04</u>	<u>18.00</u>	<u>9.13</u>	<u>8.51</u>	<u>6.65</u>	<u>5.19</u>	<u>12.13</u>	<u>18.13</u>	
Color/tint	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	
Odor	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	<u>None</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW 08</u>	<u>3/20/12</u>	<u>1155</u>	<u>7</u>	<u>None</u>	<u>150 mL #3, 2750 mL #4, 4750 mL #156</u>

Sampler's Name (print): <u>ERIC NECKISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW 09</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Object Number: <u>6045-460</u>	Date: <u>3/20/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>SKYNY</u>	Air Temp (°F): <u>73°</u>	Wind: <u>20-25 (SE)</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>40.22</u>	Damage/repairs needed:	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional): <u>4260</u>		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0919</u>	<u>0940</u>	<u>1000</u>	<u>1016</u>	<u>1058</u>	
Depth to Water (ft)	<u>3.73</u>	<u>3.73</u>	<u>3.86</u>	<u>3.88</u>	<u>3.87</u>	
Date (mm/dd/yy)	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	<u>3/20/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSE</u> <u>576MPS #1</u> <u>HF Scientific</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>32.7</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408									
Time ("24:00" hr)	<u>944</u>	<u>948</u>	<u>0952</u>	<u>0956</u>	<u>1000</u>	<u>1004</u>	<u>1008</u>	<u>1012</u>	<u>1016</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.5</u>	<u>0.7</u>	<u>0.9</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	
Purge rate (mL/min)	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	<u>120</u>	
pH (su)	<u>6.52</u>	<u>6.53</u>	<u>6.59</u>	<u>6.57</u>	<u>6.62</u>	<u>6.64</u>	<u>6.65</u>	<u>6.62</u>	<u>6.61</u>	
Temp. (°C)	<u>22.45</u>	<u>22.26</u>	<u>22.23</u>	<u>22.40</u>	<u>22.31</u>	<u>22.33</u>	<u>22.32</u>	<u>22.42</u>	<u>22.53</u>	
Spec. cond. (µS/cm)	<u>2747</u>	<u>2734</u>	<u>2742</u>	<u>2763</u>	<u>2781</u>	<u>2796</u>	<u>2800</u>	<u>2785</u>	<u>2792</u>	
D.O. (mg/L)	<u>-</u>									
ORP (mV)	<u>-</u>									
Turbidity (NTU)	<u>4.06</u>	<u>56.90</u>	<u>41.11</u>	<u>2.60</u>	<u>39.15</u>	<u>1.42</u>	<u>1.37</u>	<u>21.17</u>	<u>31.30</u>	
Color/tint										
Odor										

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW 09</u>	<u>3/20/12</u>	<u>1020</u>	<u>7</u>	<u>None</u>	<u>1500 µl H₂O; 2.750 µl H₂O; 4.750 µl Iodine 131</u>

Sampler's Name (print): <u>ERIC NECKISE</u>	Sampler Signature:
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Daily Log

Site Location:	Date: 6/19/12
Project Number:	Page 2 of 2
0730 - Calibrate Equipment	
0800 - Arrive on site meet Rodney	
0830 - Begin Sampling MWO 4	
1115 - Left site	



FTN Associates Calibration Form

Date/Time: 6/19/12 0725
 Prepared By: EFN
 Location: Waterford - 3
 Project #: 6045 - 460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		pH	7	su	25.69	7.07	Ⓢ N	7.00	
YSI	#1	pH	4	su	25.94	4.09	Ⓢ N	4.00	
		pH	10	su			Y N		
		Cond	1413	uS/cm	25.41	1444	Ⓢ N	1413	1AH601 Ex 8/12
		DO		mm/Hg			Y N		1AL480 Ex 12/13
		Temp		Degrees C			Y N	N/A	B025-11 Ex 1/26/14
							Y N		
		Turbidity	1000	NTU	N/A	883	Ⓢ N	0.83	10612 Ex 12/12
HF Scientific	#2	Turbidity	10.0	NTU	N/A	4.58	Ⓢ N	9.87	20239 Ex 2/14
		Turbidity	0.02	NTU	N/A	1.43	Ⓢ N	963.2	10605 Ex 12/12
							Y N		
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 6/18/12 0950

Prepared By: EFN

Location: Waterford - 3

Project #: 6045 - 400

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
YSI	#1	Cond	1413	uS/cm	29.62	1359	Ⓢ N	1413	1A4601 Ex 8/12
		pH	7	su	29.60	7.16	Ⓢ N	7.00	1AL 480 Ex 12/13
		pH	(4) 10	su	25.94	4.08	Ⓢ N	4.00	B025-11 Ex 1/26/14
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	26.20	26.0	N	N/A	
							Y N		
		Turbidity	0.02	NTU	N/A	0.82	Y N	0.32	10605 Ex 12/12
HF Scientific	#2	Turbidity	10.0	NTU	N/A	1.07	Y N	12.43	20239 Ex 2/14
		Turbidity	1000	NTU	N/A	808.9	Y N	988.3	10612 Ex 12/12
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup. Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: Waterford - 3	Project Number: 6045-460	Investigator: EFN	Page <u>1</u> of <u>1</u>
Weather Conditions: Partly Cloud	Measuring Device: KECK 100 # 3		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-03	6/18/12	1033	5.61	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-04	6/18/12	1042	8.96	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-05	6/18/12	1052	5.03	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-06	6/18/12	1058	4.06	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-07	6/18/12	1105	5.95	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-08	6/18/12	1110	7.22	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record (hole)
MW-09	6/18/12	1115	3.59	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

R. DeBlaine / WFS 6-19-12 11:00

Groundwater Sampling Record

Facility: <u>6045-46 Waterford 3</u>	Site ID: <u>MW-03</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>6/19/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other				
Weather: <u>Sunny 85</u>		Air Temp (°F): <u>85</u>		Wind: <u>10 mph w</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft): <u>37.58</u>	Damage/repairs needed: <u>None</u>		
Remarks:				

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECI 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>10:33</u>	<u>09:50</u>	<u>10:00</u>	<u>10:12</u>	<u>10:50</u>	
Depth to Water (ft)	<u>5.61</u>	<u>5.51</u>	<u>5.97</u>	<u>6.04</u>	<u>6.09</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/19/12</u>	<u>6/19/12</u>	<u>6/19/12</u>	<u>6/19/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u>		Unit or Serial No: <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth (ft): <u>32.58</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>09:53</u>	<u>09:56</u>	<u>09:59</u>	<u>10:02</u>	<u>10:05</u>	<u>10:08</u>	<u>10:11</u>	<div style="font-size: 2em;">}</div> Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.6</u>	<u>0.9</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.08</u>	<u>6.68</u>	<u>6.64</u>	<u>6.63</u>	<u>6.64</u>	<u>6.64</u>	<u>6.63</u>	
Temp. (°C)	<u>25.98</u>	<u>25.94</u>	<u>25.97</u>	<u>25.98</u>	<u>25.66</u>	<u>25.59</u>	<u>25.98</u>	
Spec. cond. (µS/cm)	<u>2563</u>	<u>2339</u>	<u>2396</u>	<u>2500</u>	<u>2505</u>	<u>2583</u>	<u>2595</u>	
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Turbidity (NTU)	<u>20.15</u>	<u>21.37</u>	<u>26.16</u>	<u>17.83</u>	<u>12.92</u>	<u>22.43</u>	<u>18.23</u>	
Color/tint	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Odor	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>6/19/12</u>	<u>10:15</u>	<u>7</u>	<u>None</u>	<u>1-500ml H-3; 4-1L T-131; 2-1L</u>
<u>EB MW-03</u>	<u>"</u>	<u>10:15</u>	<u>7</u>	<u>None</u>	<u>" 1</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-04</u>	Sampler: <u>FTN</u>
Project Number: <u>6045-460</u>	Date: <u>6/19/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny 80</u>	Air Temp (°F): <u>80</u>	Wind: <u>10 mph W</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft): <u>37.73</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1042</u>	<u>0827</u>	<u>0840</u>	<u>0853</u>	<u>0940</u>	
Depth to Water (ft)	<u>8.96</u>	<u>8.96</u>	<u>9.63</u>	<u>9.73</u>	<u>9.97</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/19/12</u>	<u>6/19/12</u>	<u>6/19/12</u>	<u>6/19/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24:00" hr)	<u>0830</u>	<u>0833</u>	<u>0836</u>	<u>0839</u>	<u>0841</u>	<u>0843</u>	<u>0846</u>	<u>0849</u>	<u>0851</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.5</u>	<u>0.75</u>	<u>1.0</u>	<u>1.2</u>	<u>1.5</u>	
Purge rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	
pH (su)	<u>6.26</u>	<u>6.39</u>	<u>6.41</u>	<u>6.49</u>	<u>6.53</u>	<u>6.58</u>	<u>6.61</u>	<u>6.61</u>	<u>6.60</u>	
Temp. (°C)	<u>24.33</u>	<u>24.41</u>	<u>24.31</u>	<u>24.08</u>	<u>24.15</u>	<u>24.04</u>	<u>24.18</u>	<u>24.20</u>	<u>24.07</u>	
Spec. cond. (µS/cm)	<u>5252</u>	<u>4974</u>	<u>5052</u>	<u>5240</u>	<u>5396</u>	<u>5509</u>	<u>5660</u>	<u>5712</u>	<u>5695</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>16.90</u>	<u>20.11</u>	<u>20.69</u>	<u>20.16</u>	<u>22.12</u>	<u>19.87</u>	<u>13.80</u>	<u>18.76</u>	<u>23.21</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>6/19/12</u>	<u>0855</u>	<u>7</u>	<u>None</u>	<u>1-500ml H-3, 4-1L I-131; 2-1L</u>

Sampler's Name (print): <u>ERIC NECAUSE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-05</u>	Sampler: <u>EPN</u>
Project Number: <u>6045-460</u>	Date: <u>6/18/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny</u>	Air Temp (°F): <u>85°</u>	Wind: <u>S 15</u>
Well Locked? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total Depth (ft): <u>37.59</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1052</u>	<u>1652</u>	<u>1705</u>	<u>1722</u>	<u>1825</u>	
Depth to Water (ft)	<u>5.03</u>	<u>5.06</u>	<u>5.57</u>	<u>5.58</u>	<u>5.67</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>KE Scientific</u>	Unit or Serial No: <u># 1</u> <u># 2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth (ft): <u>32.59</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408											
Time ("24:00" hr)	<u>1652</u>	<u>1655</u>	<u>1658</u>	<u>1701</u>	<u>1704</u>	<u>1707</u>	<u>1710</u>	<u>1713</u>	<u>1716</u>	<u>1719</u>	<u>1722</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.30</u>	<u>0.45</u>	<u>0.50</u>	<u>0.75</u>	<u>1.0</u>	<u>1.1</u>	<u>1.25</u>	<u>1.4</u>	<u>1.6</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>7.24</u>	<u>7.22</u>	<u>7.15</u>	<u>7.13</u>	<u>7.09</u>	<u>7.07</u>	<u>7.06</u>	<u>7.05</u>	<u>7.04</u>	<u>7.04</u>	<u>7.08</u>	
Temp. (°C)	<u>26.11</u>	<u>25.99</u>	<u>25.93</u>	<u>25.69</u>	<u>25.62</u>	<u>25.61</u>	<u>25.43</u>	<u>25.30</u>	<u>25.19</u>	<u>25.25</u>	<u>25.24</u>	
Spec. cond. (µS/cm)	<u>2168</u>	<u>2166</u>	<u>2064</u>	<u>2049</u>	<u>1976</u>	<u>1964</u>	<u>1944</u>	<u>1932</u>	<u>1926</u>	<u>1918</u>	<u>1922</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>4.97</u>	<u>7.36</u>	<u>8.72</u>	<u>6.36</u>	<u>16.24</u>	<u>6.50</u>	<u>5.99</u>	<u>5.61</u>	<u>8.03</u>	<u>12.72</u>	<u>11.36</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>6/18/12</u>	<u>1725</u>	<u>EPN 7</u>	<u>none</u>	<u>1-500ml H-3; 4-1L I-131; 2-1L α</u>
<u>DUP MW-05</u>	<u>6/18/12</u>	<u>1725</u>	<u>EPN 7</u>	<u>none</u>	<u>" " "</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EFN</u>
Project Number: <u>10045-460</u>	Date: <u>6/18/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Partly cloudy</u>		Air Temp (°F): <u>85°</u>		Wind: <u>SE 15</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>35.40</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>ICECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1058</u>	<u>1540</u>	<u>1550</u>	<u>1600</u>	<u>1630</u>	
Depth to Water (ft)	<u>4.06</u>	<u>4.00</u>	<u>5.56</u>	<u>5.87</u>	<u>5.93</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VST</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>30.40</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal) (where applicable): <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time ("24:00" hr)	<u>1545</u>	<u>1548</u>	<u>1551</u>	<u>1554</u>	<u>1557</u>	<u>1600</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	
pH (su)	<u>7.17</u>	<u>7.16</u>	<u>7.15</u>	<u>7.15</u>	<u>7.15</u>	<u>7.16</u>	
Temp. (°C)	<u>27.04</u>	<u>26.68</u>	<u>26.59</u>	<u>26.67</u>	<u>26.79</u>	<u>26.76</u>	
Spec. cond. (µS/cm)	<u>3119</u>	<u>3126</u>	<u>3133</u>	<u>3164</u>	<u>3170</u>	<u>3159</u>	
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Turbidity (NTU)	<u>5.39</u>	<u>6.80</u>	<u>7.63</u>	<u>12.32</u>	<u>14.23</u>	<u>11.43</u>	
Color/tint	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Odor	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>6/18/12</u>	<u>1600</u>	<u>6</u>	<u>None</u>	<u>1-500ml H3; 4-1L I-131; 1-1L X</u>

Sampler's Name (print): <u>BK NECAIST</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>6/12/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Partly Cloudy</u>	Air Temp (°F): <u>85</u>	Wind: <u>SW-15</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total Depth (ft): <u>41.15</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		Remarks
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	
Time ("24:00" hr)	<u>1105</u>	<u>1431</u>	<u>1445</u>	<u>1503</u>	<u>1530</u>	
Depth to Water (ft)	<u>5.98</u>	<u>5.96</u>	<u>6.43</u>	<u>6.56</u>	<u>6.63</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC								
Purge depth (ft): <u>36.15</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408										
Time ("24:00" hr)	<u>1435</u>	<u>1438</u>	<u>1441</u>	<u>1444</u>	<u>1447</u>	<u>1450</u>	<u>1453</u>	<u>1456</u>	<u>1459</u>	<u>1502</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.3</u>	<u>0.45</u>	<u>0.6</u>	<u>0.75</u>	<u>0.90</u>	<u>1.0</u>	<u>1.1</u>	<u>1.2</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>6.83</u>	<u>6.81</u>	<u>6.80</u>	<u>6.79</u>	<u>6.78</u>	<u>6.78</u>	<u>6.79</u>	<u>6.78</u>	<u>6.79</u>	<u>6.80</u>	
Temp. (°C)	<u>26.67</u>	<u>27.98</u>	<u>28.14</u>	<u>28.13</u>	<u>27.85</u>	<u>26.62</u>	<u>27.13</u>	<u>27.19</u>	<u>27.33</u>	<u>27.35</u>	
Spec. cond. (µS/cm)	<u>1119</u>	<u>1175</u>	<u>1184</u>	<u>1207</u>	<u>1257</u>	<u>1310</u>	<u>1348</u>	<u>1349</u>	<u>1342</u>	<u>1340</u>	
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>I</u>	
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>I</u>	
Turbidity (NTU)	<u>1.06</u>	<u>7.85</u>	<u>12.36</u>	<u>22.43</u>	<u>13.64</u>	<u>15.63</u>	<u>11.23</u>	<u>12.36</u>	<u>10.11</u>	<u>7.63</u>	
Color/tint	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Odor	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>6/18/12</u>	<u>1505</u>	<u>6</u>	<u>None</u>	<u>1-500ml H-3; 4-1L I-131; 1-1L α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>mw-08</u>	Sampler: <u>EEN</u>
Project Number: <u>6045-460</u>	Date: <u>6/18/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Partly Cloudy</u>	Air Temp (°F): <u>85</u>	Wind: <u>SW 15 mph</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>41.47</u>	Damage/repairs needed: <u>Hole in culvert</u>
Remarks: <u>safety hazard near well pad.</u>		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1110</u>	<u>1315</u>	<u>1328</u>	<u>1340</u>	<u>1420</u>	
Depth to Water (ft)	<u>7.22</u>	<u>7.22</u>	<u>7.62</u>	<u>7.64</u>	<u>7.73</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI HF3CE</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>36.94</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal) (where applicable): <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408									
Time ("24:00" hr)	<u>1317</u>	<u>1320</u>	<u>1323</u>	<u>1326</u>	<u>1329</u>	<u>1331</u>	<u>1334</u>	<u>1337</u>	<u>1340</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	<u>1.6</u>	
Purge rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>6.50</u>	
pH (su)	<u>6.82</u>	<u>6.71</u>	<u>6.65</u>	<u>6.67</u>	<u>6.71</u>	<u>6.72</u>	<u>6.74</u>	<u>6.74</u>	<u>6.74</u>	
Temp. (°C)	<u>25.81</u>	<u>25.85</u>	<u>25.61</u>	<u>25.79</u>	<u>25.51</u>	<u>25.51</u>	<u>25.65</u>	<u>25.42</u>	<u>25.54</u>	
Spec. cond. (µS/cm)	<u>1118</u>	<u>1110</u>	<u>1146</u>	<u>1213</u>	<u>1261</u>	<u>1290</u>	<u>1309</u>	<u>1313</u>	<u>1308</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>10.40</u>	<u>6.45</u>	<u>6.65</u>	<u>11.07</u>	<u>9.83</u>	<u>7.67</u>	<u>8.69</u>	<u>7.66</u>	<u>8.43</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>6/18/12</u>	<u>1345</u>	<u>6</u>	<u>None</u>	

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
<u>[Signature]</u>	

Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-09</u>	Sampler: <u>EFN</u>	
Project Number: <u>6045-460</u>	Date: <u>6/18/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Partly cloudy</u>		Air Temp (°F): <u>80°</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>40.22</u> Damage/repairs needed: <u>NONE</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1115</u>	<u>1121</u>	<u>1134</u>	<u>1143</u>	<u>1310</u>	
Depth to Water (ft)	<u>35.7</u>	<u>3.57</u>	<u>3.73</u>	<u>3.78</u>	<u>3.89</u>	
Date (mm/dd/yy)	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	<u>6/18/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VST</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth (ft): <u>35.22</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408								
Time ("24:00" hr)	<u>1121</u>	<u>1124</u>	<u>1127</u>	<u>1130</u>	<u>1133</u>	<u>1136</u>	<u>1139</u>	<u>1142</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	
Purge rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	
pH (su)	<u>6.51</u>	<u>6.59</u>	<u>6.62</u>	<u>6.66</u>	<u>6.71</u>	<u>6.73</u>	<u>6.75</u>	<u>6.74</u>	
Temp. (°C)	<u>24.91</u>	<u>24.90</u>	<u>24.47</u>	<u>24.27</u>	<u>24.06</u>	<u>24.07</u>	<u>24.08</u>	<u>24.11</u>	
Spec. cond. (µS/cm)	<u>2334</u>	<u>2349</u>	<u>2367</u>	<u>2375</u>	<u>2387</u>	<u>2350</u>	<u>2396</u>	<u>2393</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>10.23</u>	<u>8.95</u>	<u>5.96</u>	<u>5.27</u>	<u>6.42</u>	<u>4.96</u>	<u>7.18</u>	<u>11.13</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>6/18/12</u>	<u>1145</u>	<u>5</u>	<u>none</u>	<u>1-500mVH-3; 4-1L I-131; 1-10</u>

Sampler's Name (print): <u>ERIC NECAIST</u>	Sampler Signature: <u>[Signature]</u>
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T. Halloran / WF3



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: _____ of _____
Company: ENTERGY WATERFORD 3		Report To: Rodney LeBlanc		Attention: SAME		REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____
Address: 17265 River Road		Copy To:		Company Name:		
Killona, LA 70057				Address:		Site Location: _____ STATE: _____
Email To: rleblan@entergy.com		Purchase Order No.:		Pace Quote Reference:		
Phone: (504) 464-3267 Fax:		Project Name:		Pace Project Manager: Cindy Olavesen (504) 305-3626		Requested Analysis Filtered (Y/N)
Requested Due Date/TAT: 15 WORKING DAYS		Project Number:		Pace Profile #:		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SOLID DL SOLID DL OIL WP WIFE AR AIR OT OTHER TS TISSE	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other				
			DATE	TIME	DATE	TIME														
1	MW # 9		6/18/12		1145	7	5													
2	MW # 8		6/18/12		1345															
3	MW # 7		6/18/12		1505															
4	MW # 6		6/18/12		1600															
5	MW # 5		6/18/12		1725															
6	MW # 5 duplicate		6/18/12		1725															
7	MW # 4 R/L 6/18/12		6/18/12																	
8	MW # 3 R/L 6/18/12		6/18/12																	
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS					
NW#9 one 1-L I-135 bottle broken	Eric NeCase / FTN	6/18/12	1830	R/L / Entergy	6/18/12	1830	N ^o	N ^o				
SAMPLER NAME AND SIGNATURE							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooled (Y/N)	Samples Intact (Y/N)		
PRINT Name of SAMPLER: ERIC NECASE												
SIGNATURE of SAMPLER: <i>Eric NeCase</i>											DATE Signed (MM/DD/YY): 6/19/12	

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	Page: _____ of _____
Company: ENTERGY WATERFORD 3	Report To: Rodney LeBlanc	Attention: SAME	
Address: 17265 River Road	Copy To:	Company Name:	REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____
Killona, LA 70057		Address:	
Email To: rleblan@entergy.com	Purchase Order No.:	Pace Quote Reference:	Site Location STATE: _____
Phone: (504) 464-3267 Fax:	Project Name:	Pace Project Manager: Cindy Olavsen (504) 305-3626	
Requested Due Date/TAT: 15 WORKING DAYS	Project Number:	Pace Profile #:	

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	Preservatives										Requested Analysis Filtered (Y/N)			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
		MATRIX	CODE			COMPOSITE		# OF CONTAINERS	Unpreserved		H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test ↓	GAMMA	GROSS BETA I-131	TRITIUM					
		DRINKING WATER WATER	DW WT			START	END/GRAB															DATE	TIME			DATE
1	MW # 4	OT	G			6/19/12		0855	7	5	2															
2	MW # 3	DTG	G			6/19/12		1015	7	5	2															
3	EB (Equip. Blank)	DTG	G			6/19/12		1015	7	5	2															
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELEASHER BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	ERIC NECAISE FTN	6/19/12	1050	<i>[Signature]</i>	6/19/12	1050	

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	<i>ERIC NECAISE</i>				
SIGNATURE of SAMPLER:	<i>[Signature]</i>	DATE Signed (MM/DD/YY):	6/19/12		

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

MW-04 RESAMPLE

Daily Log

Site Location: <i>Waterford-3</i>	Date: <i>9/6/12</i>
Project Number:	Page <i>1</i> of <i>1</i>

0915 - Arrived on Site - Calibrate Equipment

0930 - Prejob Safety Meeting with Rodney

0940 - Setup Equipment at MW-07 and begin Sampling

1030 - Complete Sampling

1045 - Install new tubing in MW-07 well

1055 - Leave site



FTN Associates Calibration Form

Date/Time: 9/16/12 0900

Prepared By: EEN

Location: Watertford-3

Project #: _____

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		pH	7	su	23.72	7.24	Ⓢ N	7.00	2AC244 Ex 3/14
		pH	4	su	22.93	4.07	Ⓢ N	4.00	1A1238 Ex 9/13
√SI	# 1	pH	10	su			Y N		
		Cond	1413	uS/cm	23.42	1223	Ⓢ N	1413	1AH601 Ex 8/12
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C			Y N	N/A	
							Y N		
		Turbidity	1000	NTU	N/A	762.6	Ⓢ N	999.0	Lot 10932 Ex 9/13
HF Scientific	# 2	Turbidity	10.0	NTU	N/A	14.34	Ⓢ N	12.25	Lot 20239 Ex 2/11
		Turbidity	0.02	NTU	N/A	3.75	Ⓢ N	0.01	Lot 10901 Ex 9/13
							Y N		
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record sonce temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-04</u>	Sampler: <u>FTN</u>
Project Number: <u>6045-460</u>	Date: <u>9/6/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather:	Air Temp (°F): <u>80.0</u>	Wind: <u>North-5 mph</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.73</u>	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0940</u>	<u>1005</u>	<u>1015</u>			
Depth to Water (ft)	<u>9.46</u>	<u>10.03</u>	<u>10.06</u>			
Date (mm/dd/yy)	<u>9/6/12</u>	<u>9/6/12</u>	<u>9/6/12</u>			
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No: <u># 1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
<u>HF Scientific Inc</u>	<u># 2</u>		

Purge depth (ft): <u>32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Casing vol. (gal): (where applicable) <u>4.6</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408
Time ("24:00" hr)	<u>0941</u> <u>0944</u> <u>0947</u> <u>0950</u> <u>0953</u> <u>0956</u> <u>0959</u> <u>1002</u> <u>1005</u> <u>1008</u> <u>1011</u> <u>1014</u> <u>1017</u>
Purge vol. (gal)	<u>0.0</u> <u>0.15</u> <u>0.3</u> <u>0.45</u> <u>0.6</u> <u>0.75</u> <u>0.9</u> <u>1.0</u> <u>1.2</u> <u>1.3</u> <u>1.5</u> <u>1.6</u> <u>1.75</u>
Purge rate (mL/min)	<u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u> <u>100</u>
pH (su)	<u>6.99</u> <u>6.98</u> <u>6.99</u> <u>7.02</u> <u>7.08</u> <u>7.06</u> <u>7.06</u> <u>7.06</u> <u>7.11</u> <u>7.09</u> <u>7.07</u> <u>7.04</u> <u>7.04</u>
Temp. (°C)	<u>24.97</u> <u>24.52</u> <u>24.44</u> <u>24.84</u> <u>24.88</u> <u>24.90</u> <u>24.74</u> <u>24.98</u> <u>25.31</u> <u>25.21</u> <u>25.17</u> <u>25.03</u> <u>25.13</u>
Spec. cond. (µS/cm)	<u>4646</u> <u>4701</u> <u>4805</u> <u>4910</u> <u>5125</u> <u>5145</u> <u>5237</u> <u>5315</u> <u>5376</u> <u>5431</u> <u>5448</u> <u>5451</u> <u>5446</u>
D.O. (mg/L)	- - - - - - - - - - - - - -
ORP (mV)	- - - - - - - - - - - - - -
Turbidity (NTU)	<u>5.26</u> <u>1.37</u> <u>0.36</u> <u>0.00</u> <u>0.00</u> <u>18.87</u> <u>0.99</u> <u>1.25</u> <u>0.03</u> <u>0.25</u> <u>0.00</u> <u>2.32</u> <u>1.36</u>
Color/tint	<u>none</u> <u>none</u> - - - - - - - - - - - - - -
Odor	<u>none</u> <u>none</u> - - - - - - - - - - - - - -

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>9/6/12</u>	<u>1020</u>	<u>2</u>	<u>none</u>	<u>2-1 L</u>
<u>EBMW-04</u>	<u>9/6/12</u>	<u>1040</u>	<u>2</u>	<u>none</u>	<u>"</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
---	--



Date	Project Name <i>10/6/12</i>	Project Number	Project Manager (Print) <i>Ross</i>	Page <u>1</u> of <u>1</u>																																	
Laboratory Name <i>RBS</i>		Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338			Parameters (Method Number)	Lab Turn-Around Time																															
Phone: ()		Recorded By (Print) <i>Eric Williams</i>			<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: <u> </u> / <u> </u> / <u> </u>	Laboratory Notes																															
Sampler Signature(s) <i>Eric Williams</i>		SAMPLE DESCRIPTION																																			
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method																														
			W	S	O		Comp	Grab																													
<i>MW 011</i>	<i>11/6/12</i>	<i>10:20</i>	<i>X</i>			<i>2</i>		<i>X</i>	<i>X</i>																												
<i>ES MW 011</i>	<i>"</i>	<i>10:40</i>	<i>X</i>			<i>2</i>		<i>X</i>	<i>X</i>																												
* Matrix: W = Water S = Soil O = Other																																					
Relinquished By (Signature) <i>Eric Williams</i>		Print Name <i>Eric Williams</i>		Date <i>11/6/12</i>		Time <i>1100</i>		Received By (Signature)				Print Name				Date		Time																			
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)				Print Name				Date		Time																			
Sampler Remarks										Laboratory Remarks:																											

Daily Log

Site Location:	Waterford - 3	Date:	9/19/12
Project Number:	6045-460	Page	2 of 2
0830 - Arrived on site for Prejob safety meeting			
0900 - Begin sampling MW-05			
1345 - Finished sampling MW-03. Proceed to warehouse to make copies			
1400 - Left site			
1420 - Drop off samples at Pace			
1430 - Left Pace			



FTN Associates Calibration Form

Date/Time: 9/18/12 0910
 Prepared By: EFN
 Location: WATERFORD - 3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
YSI	#1	Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	22.75	1187	Y N	1413	LOT 1A H601 Ex 8/12
		pH	7	su	22.94	7.32	Y N	7.00	LOT 2AC244 Ex 3/14
		pH	4/10	su	22.59	4.03	Y N	4.00	LOT 1AT238 Ex 9/13
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	22.73	23.0	N	N/A	
							Y N		
		Turbidity	0.02	NTU	N/A	0.00	Y N	0.03	LOT 10901 Ex 9/13
HFScorpio	#2	Turbidity	16.0	NTU	N/A	15.30	Y N	9.67	LOT 20239 Ex 2/14
		Turbidity	1000	NTU	N/A	7100	Y N	985.4	LOT 10932 Ex 9/13
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 9/19/12 0930
 Prepared By: ~~9/17/12 EFN~~
 Location: Waterford-3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
YSI	#1	Cond	1413	uS/cm	22.93	1383	Ⓢ N	1413	LOT 1A4601 Ex 9/12
		pH	7	su	23.12	7.20	Ⓢ N	7.00	LOT 2AC244 Ex 9/14
		pH	4/10	su	22.87	4.06	Ⓢ N	4.00	LOT 1A7238 Ex 9/13
		DO		mm/Hg		mg/l	Y N	mg/l	
Thermometer		Temp		Degrees C	22.93	23.0	N	N/A	
							Y N		
		Turbidity		NTU	N/A	442.6	Ⓢ N	1006	Lot 10932 Ex 9/13
HE Scientific	#2	Turbidity		NTU	N/A	16.46	Ⓢ N	9.76	Lot 20239 Ex 2/14
		Turbidity		NTU	N/A	0.13	Ⓢ N	0.01	Lot 10901 Ex 9/13
		Turbidity		NTU	N/A		Y N		
Comments: 									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.
 Then record sonde temperature reading.

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$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: Waterford -3	Project Number: 6045-460	Investigator: ERIC NECAISE	Page 1 of 1
Weather Conditions: Partly Cloudy	Measuring Device: KECK 100 #3		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-05	9/19/12	920	4.92	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-04	"	1010	8.42	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-03	"	1020	5.55	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-06	"	1028	4.02	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-07	"	1035	5.53	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-08	"	1045	6.90	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-09	"	1051	3.87	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record

Notes:
 RP - Reference Point
 TOC - Top of Casing
 gw = groundwater

Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-03</u>	Sampler: <u>ERIC NECAISE</u>
Project Number: <u>6045-460</u>	Date: <u>9/19/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>	Air Temp (°F): <u>85</u>	Wind: <u>N-5-10</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft): <u>37.58</u>	Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>ICEC 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1020</u>	<u>1110</u>	<u>1220</u>	<u>1239</u>	<u>1310</u>	
Depth to Water (ft)	<u>5.55</u>	<u>5.49</u>	<u>5.92</u>	<u>5.96</u>	<u>6.08</u>	
Date (mm/dd/yy)	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HE Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>32.58</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24:00" hr)	<u>1213</u>	<u>1216</u>	<u>1219</u>	<u>1222</u>	<u>1225</u>	<u>1228</u>	<u>1231</u>	<u>1234</u>	<u>1237</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.75</u>	<u>0.8</u>	<u>1.0</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.48</u>	<u>6.91</u>	<u>6.82</u>	<u>6.65</u>	<u>6.56</u>	<u>6.48</u>	<u>6.46</u>	<u>6.46</u>	<u>6.47</u>	
Temp. (°C)	<u>26.92</u>	<u>25.95</u>	<u>25.72</u>	<u>25.38</u>	<u>25.35</u>	<u>25.26</u>	<u>25.27</u>	<u>25.29</u>	<u>25.30</u>	
Spec. cond. (µS/cm)	<u>3200</u>	<u>2936</u>	<u>2939</u>	<u>2950</u>	<u>3011</u>	<u>3080</u>	<u>3213</u>	<u>3253</u>	<u>3247</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>2.51</u>	<u>2.49</u>	<u>2.01</u>	<u>2.78</u>	<u>2.42</u>	<u>5.21</u>	<u>3.50</u>	<u>4.25</u>	<u>8.41</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>9/19/12</u>	<u>1240</u>	<u>7</u>	<u>None</u>	<u>1500ml H-3; 41L I-131; 2500ml O2</u>
<u>DUP MW-03</u>	<u>9/19/12</u>	<u>1320</u>	<u>7</u>	<u>None</u>	<u>" " " "</u>
<u>EB MW-03</u>	<u>9/19/12</u>	<u>1320</u>	<u>7</u>	<u>None</u>	<u>" " " "</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-04</u>	Sampler: <u>EFA</u>	
Project Number:	Date: <u>9/19/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>80°</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>37.73</u> Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>1010</u>	<u>1050</u>	<u>1105</u>	<u>1110</u>	<u>1200</u>	
Depth to Water (ft)	<u>8.42</u>	<u>8.43</u>	<u>9.41</u>	<u>9.57</u>	<u>10.02</u>	
Date (mm/dd/yy)	<u>9/18/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HE Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): <u>N/A</u> (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24.00" hr)	<u>1055</u>	<u>1058</u>	<u>1101</u>	<u>1104</u>	<u>1107</u>	<u>1110</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>7.21</u>	<u>6.70</u>	<u>6.54</u>	<u>6.45</u>	<u>6.40</u>	<u>6.41</u>	
Temp. (°C)	<u>25.15</u>	<u>24.68</u>	<u>24.69</u>	<u>24.79</u>	<u>24.71</u>	<u>24.73</u>	
Spec. cond. (µS/cm)	<u>6150</u>	<u>5680</u>	<u>5710</u>	<u>5860</u>	<u>5956</u>	<u>5985</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>11.19</u>	<u>5.83</u>	<u>2.80</u>	<u>2.58</u>	<u>3.44</u>	<u>6.16</u>	
Color/tint							
Odor							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>9/19/12</u>	<u>1115</u>	<u>7</u>	<u>None</u>	<u>1-500ml H-3; 4-1L I-181; 2 500ml</u>

Sampler's Name (print): <u>Eric N. Caruso</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-05</u>	Sampler: <u>FTN</u>	
Project Number: <u>6045-460</u>	Date: <u>9/19/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>75</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>37.59</u>	
Remarks:		Damage/repairs needed: <u>None</u>	

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>ICECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0920</u>	<u>0825</u>	<u>0920</u>	<u>0942</u>	<u>1035</u>	
Depth to Water (ft)	<u>4.92</u>	<u>5.04</u>	<u>5.38</u>	<u>5.31</u>	<u>5.40</u>	
Date (mm/dd/yy)	<u>9/19/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	<u>9/19/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u># 1</u> <u># 2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC											
Purge depth (ft): <u>32.59</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No													
Casing vol. (gal): (where applicable) <u>NA</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408													
Time ("24:00" hr)	<u>0905</u>	<u>0908</u>	<u>911</u>	<u>914</u>	<u>0917</u>	<u>0920</u>	<u>0923</u>	<u>0926</u>	<u>0929</u>	<u>0932</u>	<u>0935</u>	Remarks	<u>0938</u>	<u>0941</u>
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.5</u>	<u>0.7</u>	<u>0.9</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	<u>1.6</u>	<u>1.7</u>	<u>1.8</u>	<u>2.0</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.40</u>	<u>7.30</u>	<u>7.23</u>	<u>7.15</u>	<u>7.08</u>	<u>6.99</u>	<u>6.97</u>	<u>6.95</u>	<u>6.94</u>	<u>6.93</u>	<u>6.95</u>	<u>6.96</u>	<u>6.98</u>	
Temp. (°C)	<u>24.61</u>	<u>24.84</u>	<u>24.78</u>	<u>24.83</u>	<u>24.61</u>	<u>24.74</u>	<u>24.83</u>	<u>24.99</u>	<u>25.06</u>	<u>25.09</u>	<u>25.06</u>	<u>25.09</u>	<u>25.11</u>	
Spec. cond. (µS/cm)	<u>4294</u>	<u>4325</u>	<u>4117</u>	<u>3912</u>	<u>3749</u>	<u>3650</u>	<u>3623</u>	<u>3399</u>	<u>3285</u>	<u>3260</u>	<u>3220</u>	<u>3220</u>	<u>3234</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>4.52</u>	<u>2.43</u>	<u>3.82</u>	<u>2.49</u>	<u>3.13</u>	<u>2.43</u>	<u>2.52</u>	<u>2.73</u>	<u>7.14</u>	<u>5.62</u>	<u>6.18</u>	<u>4.12</u>	<u>3.22</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>9/19/12</u>	<u>0945</u>	<u>7</u>	<u>None</u>	<u>1.500ml H-3; 4 IL I-131; 2500ml α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EFN</u>	
Project Number: <u>6045-460</u>	Date: <u>9/18/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Partly Cloudy</u>		Air Temp (°F): <u>85</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>35.46</u>	
Remarks:		Damage/repairs needed: <u>None</u>	

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1028</u>	<u>1605</u>	<u>1615</u>	<u>1630</u>	<u>1715</u>	
Depth to Water (ft)	<u>4.02</u>	<u>3.98</u>	<u>4.32</u>	<u>5.31</u>	<u>5.61</u>	
Date (mm/dd/yy)	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No.: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth (ft): <u>30.4</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1610</u>	<u>1613</u>	<u>1616</u>	<u>1619</u>	<u>1622</u>	<u>1625</u>	<u>1628</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.75</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.07</u>	<u>7.03</u>	<u>7.01</u>	<u>6.98</u>	<u>6.97</u>	<u>6.98</u>	<u>6.96</u>	
Temp. (°C)	<u>26.12</u>	<u>26.34</u>	<u>26.23</u>	<u>26.34</u>	<u>26.26</u>	<u>26.30</u>	<u>26.24</u>	
Spec. cond. (µS/cm)	<u>3349</u>	<u>3351</u>	<u>3361</u>	<u>3371</u>	<u>3382</u>	<u>3375</u>	<u>3373</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>6.58</u>	<u>6.09</u>	<u>7.42</u>	<u>9.91</u>	<u>12.24</u>	<u>13.82</u>	<u>6.19</u>	
Color/tint	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>9/18/12</u>	<u>1630</u>	<u>7</u>	<u>None</u>	<u>1-500ml H-3; 4-1L I-131; 2 500ml</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>6045-460</u>	Date: <u>9/18/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Partly Cloudy</u>	Air Temp (°F): <u>89</u>	Wind: <u>N-5 mph</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft): <u>41.15</u>	Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100H3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1035</u>	<u>1445</u>	<u>1502</u>	<u>1512</u>	<u>1600</u>	
Depth to Water (ft)	<u>5.53</u>	<u>5.55</u>	<u>6.25</u>	<u>6.42</u>	<u>6.58</u>	
Date (mm/dd/yy)	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if seep is observed.

Field Data

Instrument Make/Model No: <u>VSI</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
Purge depth (ft): <u>36.15</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408	

Time ("24:00" hr)	1447	1450	1453	1456	1459	1502	1505	1508	1511	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.25</u>	<u>0.3</u>	<u>0.5</u>	<u>0.4</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	
Purge rate (ml/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>7.57</u>	<u>6.96</u>	<u>6.79</u>	<u>6.70</u>	<u>6.60</u>	<u>6.48</u>	<u>6.48</u>	<u>6.48</u>	<u>6.49</u>	
Temp. (°C)	<u>27.28</u>	<u>27.25</u>	<u>27.33</u>	<u>27.18</u>	<u>26.85</u>	<u>26.74</u>	<u>26.80</u>	<u>26.79</u>	<u>26.78</u>	
Spec. cond. (µS/cm)	<u>1179</u>	<u>1140</u>	<u>1139</u>	<u>1141</u>	<u>1140</u>	<u>1146</u>	<u>1143</u>	<u>1146</u>	<u>1144</u>	
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Turbidity (NTU)	<u>4.47</u>	<u>5.03</u>	<u>6.12</u>	<u>3.23</u>	<u>11.18</u>	<u>5.31</u>	<u>5.62</u>	<u>5.11</u>	<u>4.12</u>	
Color/tint	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	
Odor	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>9/18/12</u>	<u>1515</u>	<u>7</u>	<u>None</u>	<u>1-500 ml H-3; 4 L I-131; 2 500ml α</u>

Sampler's Name (print): <u>ERIC NECA 76</u>	Sampler Signature: <u>Eric Necca</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-08</u>	Sampler: <u>EFW</u>
Project Number: <u>6045-460</u>	Date: <u>9/18/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Partly Cloudy</u>	Air Temp (°F): <u>85</u>	Wind: <u>N-S</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>41.47</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>ICEEK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>1045</u>	<u>1255</u>	<u>1310</u>	<u>1324</u>	<u>1405</u>	
Depth to Water (ft)	<u>6.90</u>	<u>6.92</u>	<u>7.28</u>	<u>7.30</u>	<u>7.32</u>	
Date (mm/dd/yy)	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HF Scientific</u>	Unit or Serial No.: <u># 1</u> <u># 2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>36.97</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24.00" hr)	<u>1300</u>	<u>1303</u>	<u>1304</u>	<u>1309</u>	<u>1312</u>	<u>1315</u>	<u>1318</u>	<u>1321</u>	<u>1323</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	<u>1.6</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.28</u>	<u>6.94</u>	<u>6.65</u>	<u>6.59</u>	<u>6.45</u>	<u>6.37</u>	<u>6.37</u>	<u>6.37</u>	<u>6.38</u>	
Temp. (°C)	<u>26.84</u>	<u>27.31</u>	<u>27.34</u>	<u>27.16</u>	<u>27.43</u>	<u>26.23</u>	<u>26.63</u>	<u>26.74</u>	<u>26.72</u>	
Spec. cond. (µS/cm)	<u>1218</u>	<u>1205</u>	<u>209</u>	<u>1227</u>	<u>1272</u>	<u>1368</u>	<u>1407</u>	<u>1414</u>	<u>1412</u>	
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Turbidity (NTU)	<u>4.70</u>	<u>11.74</u>	<u>8.23</u>	<u>6.72</u>	<u>8.17</u>	<u>12.41</u>	<u>5.27</u>	<u>3.02</u>	<u>2.82</u>	
Color/tint	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Odor	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>9/18/12</u>	<u>1325</u>	<u>7</u>	<u>None</u>	<u>1-500ml H3; 41L-I-131; 250ml 2</u>

Sampler's Name (print): <u>ERIC NECKASE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>6045 460</u>	Date: <u>9/18/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Partly Cloudy</u>		Air Temp (°F): <u>80°</u>	
Well Locked? <input type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>40.22</u>	
Damage/repairs needed: <u>None</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>1051</u>	<u>1054</u>	<u>1112</u>	<u>1117</u>	<u>1240</u>	
Depth to Water (ft)	<u>3.87</u>	<u>3.87</u>	<u>3.94</u>	<u>3.95</u>	<u>3.98</u>	
Date (mm/dd/yy)	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	<u>9/18/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>NSE</u> <u>HF Scientific</u>	Unit or Serial No.: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth (ft): <u>35.22</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time ("24.00" hr)	<u>1055</u>	<u>1058</u>	<u>1101</u>	<u>1104</u>	<u>1107</u>	<u>1110</u>	<u>1113</u>	<u>1116</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.7</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>6.39</u>	<u>6.47</u>	<u>6.49</u>	<u>6.52</u>	<u>6.54</u>	<u>6.55</u>	<u>6.54</u>	<u>6.53</u>	
Temp. (°C)	<u>25.56</u>	<u>25.29</u>	<u>25.32</u>	<u>25.31</u>	<u>25.32</u>	<u>25.43</u>	<u>25.40</u>	<u>25.36</u>	
Spec. cond. (µS/cm)	<u>2780</u>	<u>2527</u>	<u>2533</u>	<u>2541</u>	<u>2545</u>	<u>2559</u>	<u>2566</u>	<u>2563</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>6.15</u>	<u>6.80</u>	<u>7.14</u>	<u>2.92</u>	<u>4.43</u>	<u>8.16</u>	<u>7.24</u>	<u>4.12</u>	
Color/tint	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	
Odor	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	<u>none</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>9/18/12</u>	<u>1120</u>	<u>7</u>	<u>None</u>	<u>1-500ml #3; 4 L I-131; 2500ml of</u>
<u>Dup MW-07</u>	<u>"</u>	<u>1155</u>	<u>7</u>	<u>None</u>	<u>" " "</u>

Sampler's Name (print): <u>ERIC NECRUSE</u>	Sampler Signature: <u>[Signature]</u>
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FTN Associates Calibration Form

Date/Time: 10/31/12 0915
 Prepared By: EPN
 Location: Energy District 3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
YSI	#1	Cond	1413	uS/cm	16.07	1325	⊙ N	1413	LOT 1A10044 Ex 12/12
		pH	7	su	14.25	6.98	⊙ N	7.00	LOT 2AC244 Ex 3/14
		pH	4/10	su	16.49	4.14	⊙ N	4.00	LOT 2AC547 Ex 3/14
		DO		mm/Hg			Y N		
		Temp		Degrees C	17.0	16.53	N	N/A	
							Y N		
HFS	#2	Turbidity	1000	NTU	N/A	602.2	⊙ N	1073	Lot 10932 Ex 9/13
		Turbidity	10.0	NTU	N/A	15.82	⊙ N	12.04	10931 Ex 9/13
		Turbidity	0.52	NTU	N/A	4.72	⊙ N	0.14	10901 Ex 9/13
		Turbidity		NTU	N/A		Y N		

Comments:

Notes:

- Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
 - pH Calibration (pH Method EPA 150.1)
 - DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
 - Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup. Then record sonde temperature reading.
- Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:
- $$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$
- The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:
- $$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 11/1/12 0730
 Prepared By: EFN
 Location: Waterford-3
 Project #: 10045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	17.93	1487	Y N	1413	LOT 1AK064 Ex 11/12
VSE	#1	pH	7	su	18.21	7.04	Y N	7.00	2AC244 Ex 3/14
		pH	4/10	su	18.07	4.11	Y N	4.00	2AC547 Ex 3/14
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	18.0	18.11	N	N/A	
HF Scientific	#2						Y N		
		Turbidity	1000	NTU	N/A	912.2	Y N	1013	10932 Ex 9/13
		Turbidity	10.0	NTU	N/A	8.73	Y N	10.18	10931 Ex 9/13
		Turbidity	0.22	NTU	N/A	0.23	Y N	0.01	10901 Ex 9/13
		Turbidity		NTU	N/A		Y N		
Comments: 									

Notes

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
 2. pH Calibration (pH Method: EPA 150.1)
 3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
 4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.
 Then record sonde temperature reading.
- Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:
- $$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$
- The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:
- $$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 11/2/12 0845
 Prepared By: EFN
 Location: Waterford - 3
 Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		pH	7	su	17.34	7.07	Y N	7.00	LOT 2AC244 Ex 3/14
		pH	4	su	17.43	4.13	Y N	4.00	2AC547 Ex 3/14
<u>VSE</u>	<u>#1</u>	pH	10	su			Y N		
		Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	18.23	1426	Y N	1413	LOT 1A16064 Ex 11/12
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	18.0	18.17	Y N	N/A	
							Y N		
							Y N		
<u>HF Scientific</u>	<u>#2</u>	<u>Turb</u>	<u>1000</u>	<u>NTU</u>	<u>N/A</u>	<u>876.3</u>	<u>Y N</u>	<u>1017</u>	<u>10932 Ex 9/13</u>
		<u>Turb</u>	<u>10.0</u>	<u>NTU</u>	<u>N/A</u>	<u>12.14</u>	<u>Y N</u>	<u>10.82</u>	<u>10931 Ex 9/13</u>
		<u>Turb</u>	<u>0.02</u>	<u>NTU</u>	<u>N/A</u>	<u>0.01</u>	<u>Y N</u>	<u>0.02</u>	<u>10901 Ex 9/13</u>
							Y N		
							Y N		
							Y N		

Notes:

pH Calibration (pH Method: EPA 150.1)

Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.

DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.

Temperature Calibration: No calibration is necessary. Simply record temperature of standard using thermometer while in calibration cup.

Then record hydrolab temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: 6045-460	Project Number: 6045 460	Investigator: EFN	Page 1 of 1
Weather Conditions:	Measuring Device: KECK 100#3		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-09	11/2/12	0735	6.11	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-08	"	0745	8.22	<input checked="" type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-07	"	0755	6.98	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-06	"	0805	4.95	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-05	"	0810	7.14	<input checked="" type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input checked="" type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-04	"	0815	8.69	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-03	"	0825	6.18	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-10	"	0835	9.48	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-11	"	0840	9.72	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record

Notes:
 RP - Reference Point
 TOC - Top of Casing
 gw - groundwater

Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-03</u>	Sampler: <u>ERIC NECAISE</u>
Project Number: <u>6045-460</u>	Date: <u>11/1/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny</u>	Air Temp (°F): <u>78°</u>	Wind: <u>S-Sw Pl</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.58</u>	Damage/repairs needed: <u>Ballards need painting</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0825</u>	<u>1300</u>	<u>1315</u>	<u>1325</u>	<u>14.25</u>	
Depth to Water (ft)	<u>6.18</u>	<u>6.15</u>	<u>6.59</u>	<u>6.62</u>	<u>6.65</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>32.58</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>NA</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24:00" hr)	<u>1301</u>	<u>1304</u>	<u>1307</u>	<u>1310</u>	<u>1313</u>	<u>1316</u>	<u>1319</u>	<u>1322</u>	<u>1325</u>	Remarks
Purge vol (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.24</u>	<u>7.27</u>	<u>7.29</u>	<u>7.20</u>	<u>7.11</u>	<u>7.08</u>	<u>7.03</u>	<u>7.01</u>	<u>7.02</u>	
Temp. (°C)	<u>25.26</u>	<u>24.62</u>	<u>24.67</u>	<u>24.64</u>	<u>24.65</u>	<u>24.57</u>	<u>24.48</u>	<u>24.53</u>	<u>24.58</u>	
Spec. cond. (µS/cm)	<u>3199</u>	<u>3095</u>	<u>3109</u>	<u>3263</u>	<u>3306</u>	<u>3390</u>	<u>3496</u>	<u>3492</u>	<u>3492</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>12.34</u>	<u>11.24</u>	<u>9.81</u>	<u>17.22</u>	<u>14.11</u>	<u>8.26</u>	<u>7.19</u>	<u>6.18</u>	<u>9.47</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>11/1/12</u>	<u>1330</u>	<u>7</u>	<u>None</u>	<u>1-300ml H.3, 2-100ml, 4-1L I-13°</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
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Groundwater Sampling Record

Facility: <u>Wabertford - 3</u>	Site ID: <u>MW-04</u>	Sampler: <u>EFA</u>	FTN Associates, Ltd
Project Number: <u>6045-460</u>	Date: <u>10/31/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>75°</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>37.73</u>	
Damage/repairs needed: <u>Ballards need painting</u>			
Remarks:			

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0815</u>	<u>1448</u>	<u>1455</u>	<u>1502</u>	<u>1605</u>	
Depth to Water (ft)	<u>8.69</u>	<u>8.68</u>	<u>9.74</u>	<u>10.14</u>	<u>11.28</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u># 1</u> <u># 2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
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Purge depth (ft): <u>32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable)	- [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time ("24:00" hr)	<u>1450</u>	<u>1453</u>	<u>1458</u>	<u>1459</u>	<u>1502</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.30</u>	<u>0.45</u>	<u>0.60</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>6.99</u>	<u>6.83</u>	<u>6.70</u>	<u>6.77</u>	<u>6.74</u>	
Temp. (°C)	<u>24.57</u>	<u>24.60</u>	<u>24.11</u>	<u>24.16</u>	<u>24.02</u>	
Spec. cond. (µS/cm)	<u>5380</u>	<u>5282</u>	<u>5358</u>	<u>5412</u>	<u>5443</u>	
D.O. (mg/L)	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	
Turbidity (NTU)	<u>20.72</u>	<u>15.38</u>	<u>8.14</u>	<u>9.73</u>	<u>8.68</u>	
Color/tint	-	-	-	-	-	
Odor	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>10/31/12</u>	<u>1505</u>	<u>7</u>	<u>none</u>	<u>1-500ml H-3, 2-1L, 4-1L I-131</u>
<u>Dup MW-04</u>	<u>"</u>	<u>1535</u>	<u>7</u>	<u>none</u>	<u>" " "</u>

Sampler's Name (print): <u>ERIC NECHIST</u>	Sampler Signature: <u>Eric Nechist</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-05</u>	Sampler: <u>EFN</u>	FIN Associates, Ltd
Project Number: <u>6045-440</u>	Date: <u>10/31/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>68°</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>37.59</u>	
Damage/repairs needed: <u>Bollards need painting and erosion near pad.</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge 13.82	After sampling	Remarks
Time ("24:00" hr)	<u>0810</u>	<u>1000</u>	<u>1020</u>	1124	<u>1424</u>	
Depth to Water (ft)	<u>7.14</u>	<u>7.08</u>	<u>7.62</u>	<u>7.64</u>	<u>7.64</u>	
Date (mm/dd/yy)	<u>11/4/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	<u>10/31/12</u>		
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HE Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
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Purge depth (ft): <u>32.59</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Casing vol. (gal) (where applicable): <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408

Time ("24:00" hr)	1012	1015	1018	1021	1024	1027	1030	1033	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.30</u>	<u>0.45</u>	<u>0.60</u>	<u>0.75</u>	<u>0.9</u>	<u>1.05</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>6.67</u>	<u>7.27</u>	<u>7.30</u>	<u>7.31</u>	<u>7.31</u>	<u>7.31</u>	<u>7.30</u>	<u>7.31</u>	
Temp. (°C)	<u>23.91</u>	<u>24.02</u>	<u>23.75</u>	<u>24.16</u>	<u>23.74</u>	<u>23.92</u>	<u>23.96</u>	<u>23.94</u>	
Spec. cond. (µS/cm)	<u>5856</u>	<u>6226</u>	<u>5183</u>	<u>5474</u>	<u>5601</u>	<u>5675</u>	<u>5685</u>	<u>5643</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>9.00</u>	<u>6.40</u>	<u>7.38</u>	<u>10.63</u>	<u>8.27</u>	<u>10.72</u>	<u>8.41</u>	<u>7.17</u>	
Color/tint									
Odor									

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>10/31/12</u>	<u>1330</u>	<u>7</u>	<u>None</u>	<u>1-500mL H-3; 2-16oz; 4-1L I-171</u>

Sampler's Name (print): <u>ERIC NEGRUSE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>11/2/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Foggy</u>	Air Temp (°F): <u>70°</u>	Wind: <u>None</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>35.10</u>	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0805</u>	<u>0900</u>	<u>0912</u>	<u>0920</u>	<u>1010</u>	
Depth to Water (ft)	<u>4.95</u>	<u>4.97</u>	<u>5.89</u>	<u>6.21</u>	<u>6.52</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>11/2/12</u>	<u>11/2/12</u>	<u>11/2/12</u>	<u>11/2/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>USE</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>30.10</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable) <u>N/A</u>	- [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>0905</u>	<u>0908</u>	<u>0911</u>	<u>0914</u>	<u>0917</u>	<u>0920</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.35</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>175</u>	<u>175</u>	<u>175</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>7.97</u>	<u>7.64</u>	<u>7.53</u>	<u>7.48</u>	<u>7.47</u>	<u>7.48</u>	
Temp. (°C)	<u>22.57</u>	<u>23.02</u>	<u>23.00</u>	<u>23.12</u>	<u>23.14</u>	<u>23.11</u>	
Spec. cond. (µS/cm)	<u>3249</u>	<u>3265</u>	<u>3272</u>	<u>3277</u>	<u>3271</u>	<u>3264</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>15.26</u>	<u>11.27</u>	<u>17.74</u>	<u>19.18</u>	<u>16.73</u>	<u>17.01</u>	
Color/tint	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>11/2/12</u>	<u>0920</u>	<u>7</u>	<u>None</u>	<u>1-500 mL #3; 2-1L #2; 4-1L I-131</u>

Sampler's Name (print): <u>ERIC NEAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-7</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>6045-460</u>	Date: <u>10/31/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>68</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>41.15</u> Damage/repairs needed:	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>0755</u>	<u>1738</u>	<u>1750</u>	<u>1806</u>	<u>1845</u>	
Depth to Water (ft)	<u>6.98</u>	<u>6.84</u>	<u>8.38</u>	<u>8.54</u>	<u>8.60</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	<u>10/31/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HF Scientific</u>		Unit or Serial No: <u>#1</u> <u>#2</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible				Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>36.15</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24.00" hr)	<u>1739</u>	<u>1742</u>	<u>1745</u>	<u>1748</u>	<u>1751</u>	<u>1754</u>	<u>1757</u>	<u>1800</u>	<u>1803</u>	<u>1806</u>	Remarks
Purge vol (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.3</u>	<u>0.49</u>	<u>0.60</u>	<u>0.75</u>	<u>0.90</u>	<u>1.0</u>	<u>1.2</u>	<u>1.3</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>7.43</u>	<u>7.24</u>	<u>7.08</u>	<u>7.03</u>	<u>6.98</u>	<u>6.97</u>	<u>6.96</u>	<u>6.95</u>	<u>6.95</u>	<u>6.95</u>	
Temp. (°C)	<u>24.34</u>	<u>24.26</u>	<u>24.16</u>	<u>24.09</u>	<u>24.08</u>	<u>24.02</u>	<u>24.00</u>	<u>23.98</u>	<u>23.99</u>	<u>24.02</u>	
Spec. cond. (µS/cm)	<u>1139</u>	<u>1112</u>	<u>1079</u>	<u>1085</u>	<u>1088</u>	<u>1113</u>	<u>1135</u>	<u>1188</u>	<u>1240</u>	<u>1232</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>16.50</u>	<u>7.42</u>	<u>12.18</u>	<u>18.22</u>	<u>11.26</u>	<u>5.73</u>	<u>4.15</u>	<u>9.24</u>	<u>8.91</u>	<u>6.37</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>10/31/12</u>	<u>1810</u>	<u>7</u>	<u>None</u>	<u>1.500ml 4-3, 2-12A; 4 12B-131</u>

Sampler's Name (print): <u>Eric Nechase</u>	Sampler Signature: <u>Eric Nechase</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-08</u>	Sampler: <u>ETN</u>	FTN Associates, Ltd
Project Number: <u>6045-460</u>	Date: <u>11/1/12</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>80</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>41.47</u>	
Remarks:		Damage/repairs needed: <u>Well needs dirt under pad</u>	

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0745</u>	<u>1608</u>	<u>1625</u>	<u>1630</u>	<u>1730</u>	
Depth to Water (ft)	<u>8.22</u>	<u>8.24</u>	<u>8.54</u>	<u>8.54</u>	<u>8.58</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
<u>HF Scientific</u>	<u>#2</u>		

Purge depth (ft): <u>36.77</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408
Time ("24:00" hr)	<u>1610</u> <u>1613</u> <u>1616</u> <u>1619</u> <u>1622</u> <u>1625</u> <u>1627</u> <u>1630</u>
Purge vol. (gal)	<u>0.0</u> <u>0.1</u> <u>0.2</u> <u>0.3</u> <u>0.4</u> <u>0.5</u> <u>0.6</u> <u>0.7</u>
Purge rate (mL/min)	<u>150</u> <u>150</u> <u>150</u> <u>150</u> <u>150</u> <u>150</u> <u>150</u> <u>150</u>
pH (su)	<u>7.80</u> <u>6.99</u> <u>6.88</u> <u>6.89</u> <u>6.89</u> <u>6.90</u> <u>6.90</u> <u>6.92</u>
Temp. (°C)	<u>25.04</u> <u>24.77</u> <u>24.67</u> <u>24.60</u> <u>24.52</u> <u>24.50</u> <u>24.52</u> <u>24.50</u>
Spec. cond. (µS/cm)	<u>1248</u> <u>1156</u> <u>1149</u> <u>1150</u> <u>1182</u> <u>1243</u> <u>1267</u> <u>1288</u>
D.O. (mg/L)	<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
ORP (mV)	<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
Turbidity (NTU)	<u>17.84</u> <u>12.63</u> <u>13.57</u> <u>12.11</u> <u>13.86</u> <u>11.44</u> <u>16.83</u> <u>11.31</u>
Color/tint	<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>
Odor	<u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u> <u>-</u>

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>11/1/12</u>	<u>1630</u>	<u>7</u>	<u>None</u>	<u>1-500mL H3, 2-1200, 4-12 T-131</u>

Sampler's Name (print): <u>ERIC NECHUSE</u>	Sampler Signature: <u>Eric Nechuse</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-09</u>	Sampler:
Project Number: <u>6045-460</u>	Date: <u>11/1/12</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny</u>	Air Temp (°F): <u>75</u>	Wind: <u>None</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>40.22</u>	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>HECK 100 H 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0735</u>	<u>1740</u>	<u>1754</u>	<u>1756</u>	<u>1830</u>	
Depth to Water (ft)	<u>6.11</u>	<u>6.08</u>	<u>6.19</u>	<u>6.21</u>	<u>6.18</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u> <u>YS Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
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Purge depth (ft): <u>35.22</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>1741</u>	<u>1744</u>	<u>1747</u>	<u>1750</u>	<u>1753</u>	<u>1756</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.30</u>	<u>0.49</u>	<u>0.60</u>	<u>0.75</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>7.28</u>	<u>7.20</u>	<u>7.18</u>	<u>7.17</u>	<u>7.17</u>	<u>7.18</u>	
Temp. (°C)	<u>22.87</u>	<u>22.74</u>	<u>22.72</u>	<u>22.76</u>	<u>22.74</u>	<u>22.70</u>	
Spec. cond. (µS/cm)	<u>2621</u>	<u>2641</u>	<u>2643</u>	<u>2690</u>	<u>2683</u>	<u>2681</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>20.47</u>	<u>11.16</u>	<u>13.79</u>	<u>11.27</u>	<u>7.69</u>	<u>7.85</u>	
Color/tint	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>11/1/12</u>	<u>1800</u>	<u>7</u>	<u>NONE</u>	<u>1-500ml 4-3; 2-1L; 4-1L I-131</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-10</u>	Sampler: <u>EFN</u>	
Project Number: <u>6045 463</u>	Date: <u>11/2/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>80</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>—</u>	
Damage/repairs needed:			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>8:35</u>	<u>12:20</u>	<u>12:40</u>	<u>12:50</u>	<u>13:20</u>	
Depth to Water (ft)	<u>9.48</u>	<u>10.48</u>	<u>10.46</u>	<u>10.46</u>	<u>10.42</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>11/2/12</u>	<u>11/2/12</u>	<u>11/2/12</u>	<u>11/2/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u># 1</u> <u># 2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>—</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal) (where applicable): <u>1/4</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24.00" hr)	<u>12:25</u>	<u>12:28</u>	<u>12:31</u>	<u>12:34</u>	<u>12:37</u>	<u>12:40</u>	<u>12:43</u>	<u>12:46</u>	<u>12:49</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>	<u>1.2</u>	<u>1.4</u>	<u>1.6</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>7.04</u>	<u>7.00</u>	<u>6.99</u>	<u>6.99</u>	<u>6.98</u>	<u>6.98</u>	<u>6.98</u>	<u>6.98</u>	<u>7.00</u>	
Temp. (°C)	<u>26.32</u>	<u>26.11</u>	<u>25.98</u>	<u>26.03</u>	<u>25.68</u>	<u>25.81</u>	<u>25.73</u>	<u>25.84</u>	<u>25.98</u>	
Spec. cond. (µS/cm)	<u>7045</u>	<u>7057</u>	<u>7049</u>	<u>7036</u>	<u>7072</u>	<u>7057</u>	<u>7037</u>	<u>7040</u>	<u>7048</u>	
D.O. (mg/L)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	
ORP (mV)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	
Turbidity (NTU)	<u>353.8</u>	<u>304.7</u>	<u>261.3</u>	<u>185.4</u>	<u>107.6</u>	<u>143.6</u>	<u>172.3</u>	<u>186.2</u>	<u>261.3</u>	
Color/tint	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	
Odor	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-10</u>	<u>11/2/12</u>	<u>12:50</u>	<u>7</u>	<u>None</u>	<u>1-500mD H-3; 2-16x; 4-16 I-131</u>

Sampler's Name (print): <u>ERIC NECA 156</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-11</u>	Sampler: <u>EFN</u>	
Project Number: <u>6045-463</u>	Date: <u>11/1/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>75</u>	
Wind: <u>S-5mph</u>			
Well Locked? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total Depth (ft) _____	Damage/repairs needed: _____	
Remarks: <u>New well</u>			

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input checked="" type="checkbox"/> North rim of TOC <input type="checkbox"/> Other: _____	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional): _____		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0840</u>	<u>1004</u>	<u>1039</u>	<u>1057</u>	<u>1145</u>	
Depth to Water (ft)	<u>9.72</u>	<u>19.02</u>	<u>13.13</u>	<u>13.54</u>	<u>13.48</u>	
Date (mm/dd/yy)	<u>11/2/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	<u>11/1/12</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u> <u>4F Scientific</u>	Unit or Serial No: <u>#1</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC										
Purge depth (ft): <u>-</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No												
Casing vol. (gal): (where applicable) <u>n/a</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408												
Time ("24:00" hr)	<u>10:12</u>	<u>10:15</u>	<u>10:18</u>	<u>10:21</u>	<u>10:24</u>	<u>10:27</u>	<u>10:30</u>	<u>10:33</u>	<u>10:36</u>	<u>10:39</u>	<u>10:42</u>	Remarks	<u>10:48</u>
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.1</u>	<u>1.25</u>
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>200</u>
pH (su)	<u>7.05</u>	<u>6.99</u>	<u>6.98</u>	<u>6.97</u>	<u>6.96</u>	<u>6.94</u>	<u>6.93</u>	<u>6.92</u>	<u>6.95</u>	<u>6.92</u>	<u>6.91</u>	<u>6.84</u>	<u>6.85</u>
Temp. (°C)	<u>22.87</u>	<u>22.90</u>	<u>22.94</u>	<u>23.03</u>	<u>23.01</u>	<u>22.99</u>	<u>23.00</u>	<u>23.02</u>	<u>23.05</u>	<u>23.09</u>	<u>23.42</u>	<u>23.29</u>	<u>23.18</u>
Spec. cond. (µS/cm)	<u>7119</u>	<u>7163</u>	<u>7201</u>	<u>7169</u>	<u>7167</u>	<u>6899</u>	<u>6820</u>	<u>6741</u>	<u>6670</u>	<u>6563</u>	<u>6084</u>	<u>5296</u>	<u>5210</u>
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity (NTU)	<u>648.3</u>	<u>517.4</u>	<u>443.5</u>	<u>320.6</u>	<u>279.0</u>	<u>263.1</u>	<u>211.3</u>	<u>156.9</u>	<u>124.4</u>	<u>100.6</u>	<u>75.36</u>	<u>49.10</u>	<u>20.46</u>
Color/tint	-	-	-	-	-	-	-	-	-	-	-	-	-
Odor	-	-	-	-	-	-	-	-	-	-	-	-	-

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>11/1/12</u>	<u>1100</u>	<u>7</u>	<u>None</u>	<u>1-500ml H.7; 2-1L X; 4-1L I-13C</u>

Sampler's Name (print): <u>Eric N Krause</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility:	Site ID: <u>MW-11 cont</u>	Sampler:
Project Number:	Date:	FTN Associates, Ltd

Site Description

Type: <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather:	Air Temp (°F):	Wind:
Well Locked? <input type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft):	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No.			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24 00" hr)						
Depth to Water (ft)						
Date (mm/dd/yy)						
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No:	Unit or Serial No:	Pump description:	Bailer description:
<u>YSI</u>	<u>#1</u>	<input checked="" type="checkbox"/> Peristaltic	<input type="checkbox"/> Disposable polyethylene
<u>HF Scientific</u>	<u>#2</u>	<input type="checkbox"/> Bladder (dedicated / portable)	<input type="checkbox"/> Disposable Teflon
		<input type="checkbox"/> Submersible	<input type="checkbox"/> Disposable PVC

Purge depth (ft):	Well goes dry during purging: <input type="checkbox"/> Yes <input type="checkbox"/> No
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408
Time ("24 00" hr)	Remarks
Purge vol. (gal)	
Purge rate (mL/min)	
pH (su)	
Temp. (°C)	
Spec. cond. (µS/cm)	
D.O. (mg/L)	
ORP (mV)	
Turbidity (NTU)	
Color/tint	
Odor	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>11/1/12</u>	<u>1600</u>	<u>7</u>	<u>None</u>	<u>1-500mL H-3; 2-100 ; 4-100 I-131</u>

Sampler's Name (print): <u>ERIC NECHAY</u>	Sampler Signature: <u>[Signature]</u>
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: ENERGY WATERFORD 3		Report To: Rodney LeBlanc		Attention: SAME	
Address: 17265 River Road		Copy To:		Company Name:	
Killona, LA 70057				Address:	
Email To: rleblan@energy.com		Purchase Order No.:		Pace Quote Reference:	
Phone: (504) 464-3267 Fax:		Project Name: Radiology		Pace Project Manager: Cindy Olavesen (504) 305-3626	
Requested Due Date/TAT: 15 WORKING DAYS		Project Number:		Pace Profile #: 5448	
REGULATORY AGENCY					
<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER					
Site Location: _____					
STATE: _____					

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WP WIPE AIR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Requested Analysis Filtered (Y/N)				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test					
					DATE	TIME	DATE	TIME											GAMMA	GROSS BETA	I-131	TRITIUM		
1	MW-05		OT	G	11/1	1350	-	-	7	5	2								X	X	X	X		
2	MW-04				11/3	1535	-	-	7	5	2								X	X	X	X		
3	MW-07				11/7	1810	-	-	7	5	2								X	X	X	X		
4	DUP MW-04				11/7	1535			7	5	2								X	X	X	X		
5	MW-11				11/1	1100			7	5	2								X	X	X	X		
6	MW-03				11/1	1330			7	5	2								X	X	X	X		
7																								
8																								
9																								
10																								
11																								
12																								
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS													
			Eric Herain / FTN		11/1/12	1510	J. Miller		11/1/12	1510	A	2	2	2	2									
SAMPLER NAME AND SIGNATURE										Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)											
PRINT Name of SAMPLER: ERIC NEGRASE																								
SIGNATURE of SAMPLER: <i>Eric NeGrase</i> DATE Signed (MM/DD/YY): 11/1/12																								

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		REGULATORY AGENCY	
Company: ENTERGY WATERFORD 3		Report To: Rodney LeBlanc		Attention: SAME		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
Address: 17265 River Road		Copy To:		Company Name:		<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Killona, LA 70057		Purchase Order No.:		Address:		Site Location	
Email To: rleblan@entergy.com		Project Name: Waterford 3		Pace Quote Reference:		STATE: _____	
Phone: (504) 464-3267 Fax:		Project Number: 6045-460		Pace Project Manager: Cindy Olavesen (504) 305-3626			
Requested Due Date/TAT: 15 WORKING DAYS				Pace Profile #: 5448			

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SOLID SL OIL CL WIPE WP AIR AR OTHER OT ISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB, C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analyte Test	Requested Analysis Filtered (Y/N)				Residual Chlorine (Y/N)			
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other		GAMMA	GROSS BETA	I-131	TRITIUM				
					DATE	TIME	DATE	TIME																			
1	MW-08		OT	G	11/1	1630			7	5		2								X	X	X	X				
2	MW-09				11/1	1800														X	X	X	X				
3	MW-06				11/2	920														X	X	X	X				
4	MW-10				11/2	1250														X	X	X	X				
5	EB-MW-10				11/2	1350														X	X	X	X				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	ERIC NECAISE / BTN	11/2/12	1400	J. Miller	11-2-12	1400	A O N N

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	ERIC NECAISE				
SIGNATURE of SAMPLER:	<i>[Signature]</i>				
DATE Signed (MM/DD/YY):		11/2/12			

Daily Log

Site Location: <i>Energy-Waterford-3</i>	Date: <i>12/10/12</i>
Project Number:	Page <i>1</i> of <i>1</i>

1230- Arrive on site and calibrate equipment
1300- Prejob safety meeting with Rodney
1325- Begin sampling well
1500- Turn in samples and leave site



FTN Associates Calibration Form

Date/Time: 12/10/12 1230
 Prepared By: FFN
 Location: Waterford-3
 Project #: Energy ~~at~~ Waterford-3

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	19.12	1380	(Y) N	1413	
VSI	#1	pH	7	su	18.60	6.99	(Y) N	7.0	
		pH	4/10	su	18.83	4.03	(Y) N	4.0	
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	18.93	19.0	N	N/A	
HF							Y N		
		Turbidity	0.02	NTU	N/A	0.12	(Y) N	0.03	
Scientific	#1	Turbidity	10.0	NTU	N/A	10.33	(Y) N	10.11	
		Turbidity	1000	NTU	N/A	1022	(Y) N	998.1	
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$

Groundwater Sampling Record

Page 1 of 2

Facility: <u>Waterford 3</u>	Site ID: <u>MW-11</u>	Sampler: <u>FTN</u>
Project Number: <u>6045-460</u>	Date: <u>12/10/12</u>	FTN Associates, Ltd

Site Description

Type: Monitoring Well Temporary Well Extraction Well Production Well Dewatering Well Borehole Other _____

Weather: Overcast Air Temp (°F): 65 Wind: W-Simpl

Well Locked? Yes No Total Depth (ft) _____ Damage/repairs needed: None

Remarks:

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>	Serial No. (Optional):				
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)		<u>1325</u>	<u>1400</u>	<u>1426</u>	<u>1459</u>	
Depth to Water (ft)	<u>N/A</u>	<u>9.99</u>	<u>10.37</u>	<u>10.83</u>	<u>11.21</u>	
Date (mm/dd/yy)		<u>12/10/12</u>	<u>12/10/12</u>	<u>12/10/12</u>	<u>12/10/12</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
---	--	---	--

Purge depth (ft):	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408										
Time ("24:00" hr)	<u>1327</u>	<u>1330</u>	<u>1333</u>	<u>1336</u>	<u>1339</u>	<u>1342</u>	<u>1345</u>	<u>1348</u>	<u>1351</u>	<u>1354</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.09</u>	<u>6.49</u>	<u>6.59</u>	<u>6.42</u>	<u>6.70</u>	<u>6.71</u>	<u>6.72</u>	<u>6.73</u>	<u>6.83</u>	<u>6.77</u>	
Temp. (°C)	<u>20.21</u>	<u>20.66</u>	<u>20.51</u>	<u>20.45</u>	<u>20.17</u>	<u>20.20</u>	<u>20.30</u>	<u>20.36</u>	<u>20.33</u>	<u>20.44</u>	
Spec. cond. (µS/cm)	<u>5250</u>	<u>5242</u>	<u>5227</u>	<u>5235</u>	<u>5211</u>	<u>5382</u>	<u>5465</u>	<u>5480</u>	<u>5672</u>	<u>5726</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>3.29</u>	<u>3.61</u>	<u>14.79</u>	<u>3.39</u>	<u>4.23</u>	<u>6.21</u>	<u>5.17</u>	<u>2.77</u>	<u>3.51</u>	<u>2.27</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks

Sampler's Name (print):	Sampler Signature:
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-11</u>	Sampler: <u>EPN</u>	
Project Number: <u>6045-460</u>	Date: <u>12/10/12</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Overcast</u>		Air Temp (°F): <u>65</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): _____	
Remarks:		Damage/repairs needed: <u>None</u>	

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)						
Depth to Water (ft)						
Date (mm/dd/yy)						
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>HF Scientific</u> <u>YSI</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
---	--	---	--

Purge depth (ft):	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol. (gal) (where applicable)	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408										
Time ("24:00" hr)	<u>1357</u>	<u>1400</u>	<u>1403</u>	<u>1406</u>	<u>1409</u>	<u>1422</u>	<u>1415</u>	<u>1418</u>	<u>1421</u>	<u>1424</u>	Remarks
Purge vol. (gal)	<u>1.0</u>	<u>1.0</u>	<u>1.2</u>	<u>1.3</u>	<u>1.4</u>	<u>1.5</u>	<u>1.6</u>	<u>1.7</u>	<u>1.8</u>	<u>1.9</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.76</u>	<u>6.74</u>	<u>6.71</u>	<u>6.71</u>	<u>6.69</u>	<u>6.70</u>	<u>6.69</u>	<u>6.67</u>	<u>6.67</u>	<u>6.66</u>	
Temp. (°C)	<u>20.49</u>	<u>20.61</u>	<u>20.68</u>	<u>20.82</u>	<u>20.79</u>	<u>20.63</u>	<u>20.62</u>	<u>20.60</u>	<u>20.59</u>	<u>20.60</u>	
Spec. cond. (µS/cm)	<u>5963</u>	<u>5976</u>	<u>6031</u>	<u>6209</u>	<u>6369</u>	<u>6433</u>	<u>6473</u>	<u>6581</u>	<u>6578</u>	<u>6523</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>3.82</u>	<u>4.57</u>	<u>3.30</u>	<u>4.24</u>	<u>3.22</u>	<u>3.53</u>	<u>3.27</u>	<u>3.82</u>	<u>4.57</u>	<u>5.81</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>12/10/12</u>	<u>1440</u>	<u>1</u>	<u>None</u>	<u>1-500ml H-3</u>
<u>Dup MW-11</u>	<u>"</u>	<u>1445</u>	<u>"</u>	<u>"</u>	<u>"</u>
<u>EB MW-11</u>	<u>"</u>	<u>1450</u>	<u>"</u>	<u>"</u>	<u>"</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Information:	
Company:	ENTERGY WATERFORD 3	Report To:	Rodney LeBlanc	on:	SAME
Address:	17265 River Road Killona, LA 70057	Copy To:		Company Name:	
Email To:	rleblan@entergy.com	Purchase Order No.:		Address:	
Phone: (504) 464-3267	Fax:	Project Name:		Pace Quote Reference:	
Requested Due Date/TAT:	15 WORKING DAYS	Project Number:		Pace Project Manager:	Cindy Olavesen (504) 305-3626
				Pace Profile #:	

REGULATORY AGENCY		
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input type="checkbox"/> DRINKING WATER
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER
Site Location:		
STATE:		

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / . -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SL SOIL/SOLID OL OIL WP WIPE AR AIR OT OTHER TS TISSUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Requested Analysis Filtered (Y/N)				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.				
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test	GAMMA	GROSS BETA			I-131	TRITIUM		
					DATE	TIME	DATE	TIME																			
1	MW-11		OT	G	12/10/12	1410			2																		
2	DUP MW11								1																		
3	E13 MW-11								1																		
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Re sample for Tritium	ERIC NECAISE, FTN	12/10/12	1500	R. LeBlanc / Entergy	12/10/12	1500	

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	ERIC NECAISE				
SIGNATURE of SAMPLER:	<i>Eric Necaise</i>	DATE Signed (MM/DD/YY):	12/10/12		

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: <u>1</u> of <u>1</u>	
Company: ENTERGY WATERFORD 3		Report To: Rodney LeBlanc		Attention: SAME		REGULATORY AGENCY <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Address: 17265 River Road Killona, LA 70057		Copy To:		Company Name:			
Email To: rleblan@entergy.com		Purchase Order No.:		Pace Quote Reference:		Site Location: Waterford STATE: LA	
Phone: (504) 464-3267 Fax:		Project Name:		Pace Project Manager: Cindy Olavesen (504) 305-3626			
Requested Due Date/TAT: 15 WORKING DAYS		Project Number:		Pace Profile #:			

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SL SOL/SOLID CL OIL WP WIPE AR AIR OT OTHER TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Requested Analysis Filtered (Y/N)			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.				
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₈	Methanol		Other	GAMMA	GROSS BETA			I-131	TRITIUM		
					DATE	TIME	DATE	TIME																			
1	MW-09 DUP MW-09		OT	G	9/18	1120			7	5	2																
2	MW-08				9/18	1155																					
3	MW-07				9/18	1325																					
4	MW-06				9/18	515																					
5	MW				9/18	1630																					
6					9/19	945																					
7	MW-05				9/19	1115																					
8	MW-04				9/19	1320																					
9	MW-03				9/19	1320																					
10	50 MW-03																										

ADDITIONAL COMMENT	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	ERIC NECAISE / FTN	9/19/12	1425	[Signature]	9-19-12	1425	A	N	N	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	[Signature]				
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):				
[Signature]	9/19/12				



FTN Associates Calibration Form

Date/Time: 2/26/13 1120

Prepared By: EFF

Location: Waterford

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
VSI	#1	Cond	1413	uS/cm	17.79	1410	(Y) N	1413	1AK064 Ex 11/12
		pH	7	su	17.56	6.97	(Y) N	7.00	2AC244 Ex 3/14
		pH	4.10	su	16.75	4.07	(Y) N	4.00	2AD590 Ex 4/14
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	17.23	17.1	N	N/A	
							Y N		
HF Scientific	#1	Turbidity	1000	NTU	N/A	873	(Y) N	1023	20404 Ex 4/14
		Turbidity	10.0	NTU	N/A	9.87	(Y) N	10.10	20239 Ex 2/14
		Turbidity	0.02	NTU	N/A	0.01	(Y) N	0.02	20201 Ex 2/14
		Turbidity		NTU	N/A			Y N	
Comments:									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup. Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 2/27/13 0700

Prepared By: ETN

Location: Waterford 3

Project #: 6045-460

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
		Cond	1417	uS/cm	9.87	1287	(Y) N	1413	1AK064 Ex 1/12
YSI	#1	pH	7	su	9.24	7.18	(Y) N	7.00	2AC244 Ex 3/14
		pH	(4) 10	su	9.41	3.96	(Y) N	4.00	2AD530 Ex 4/14
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C			N	N/A	
							Y N		
		Turbidity	1000	NTU	N/A	10.13	(Y) N	9.89	20404 Ex 4/14
HFGreatDuo	#1	Turbidity	10.0	NTU	N/A	11.32	(Y) N	10.02	20239 Ex 2/14
		Turbidity	0.02	NTU	N/A	0.17	(Y) N	0.01	20201 Ex 2/14
		Turbidity		NTU	N/A		Y N		
Comments: 									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: <i>Energy Waterford</i>	Project Number: <i>6045-460</i>	Investigator: <i>EFN</i>	Page <i>1</i> of <i>1</i>
Weather Conditions: <i>Sunny 55°</i>	Measuring Device: <i>KECK 100 #3</i>		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-05	2/26/13	1145	4.28	<input checked="" type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input checked="" type="checkbox"/> See gw sample record
MW-03	"	1200	5.35	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-04	"	1210	8.94	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-06	"	1220	3.71	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-07	"	1230	5.30	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-08	"	1240	5.49	<input checked="" type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-09	"	1250	3.03	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input checked="" type="checkbox"/> See gw sample record
MW-10	"	1300	9.90	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-11	"	1310	10.18	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

T. J. L. Lane 2/27/13 1800

Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-03</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>2/27/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Overcast</u>		Air Temp (°F): <u>60</u>		Wind: <u>None</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>37.58</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>LEICK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1200</u>	<u>0900</u>	<u>0920</u>	<u>0937</u>	<u>10.25</u>	
Depth to Water (ft)	<u>5.35</u>	<u>5.36</u>	<u>5.73</u>	<u>5.91</u>	<u>5.89</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI HF Scientific</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth (ft): <u>32.58</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Casing vol. (gal) (where applicable): <u>32.58 - 5.36 x 2^2.0468 = 4.44</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches)^2] * 0.0408											
Time ("24:00" hr)	<u>0903</u>	<u>0904</u>	<u>0909</u>	<u>0912</u>	<u>0915</u>	<u>0918</u>	<u>0921</u>	<u>0924</u>	<u>0927</u>	<u>0930</u>	<u>0933</u>	Remarks <u>936</u>
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.8</u>
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>
pH (su)	<u>6.66</u>	<u>6.64</u>	<u>6.67</u>	<u>6.67</u>	<u>6.69</u>	<u>6.67</u>	<u>6.66</u>	<u>6.67</u>	<u>6.69</u>	<u>6.70</u>	<u>6.69</u>	<u>6.68</u>
Temp. (°C)	<u>17.55</u>	<u>18.68</u>	<u>18.92</u>	<u>19.12</u>	<u>19.42</u>	<u>19.84</u>	<u>19.86</u>	<u>20.06</u>	<u>20.08</u>	<u>20.03</u>	<u>20.05</u>	<u>20.07</u>
Spec. cond. (µS/cm)	<u>2870</u>	<u>2844</u>	<u>2818</u>	<u>2760</u>	<u>2603</u>	<u>2521</u>	<u>2597</u>	<u>2683</u>	<u>2763</u>	<u>2803</u>	<u>2796</u>	<u>2810</u>
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity (NTU)	<u>16.31</u>	<u>18.32</u>	<u>27.41</u>	<u>15.83</u>	<u>28.41</u>	<u>12.11</u>	<u>9.41</u>	<u>6.17</u>	<u>3.21</u>	<u>3.83</u>	<u>4.18</u>	<u>4.74</u>
Color/tint	-	-	-	-	-	-	-	-	-	-	-	-
Odor	-	-	-	-	-	-	-	-	-	-	-	-

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>2/27/13</u>	<u>0940</u>	<u>7</u>	<u>None</u>	<u>1-500ml H-3; 4-1L I-131; 2-1L α</u>

Sampler's Name (print): <u>ERIC NECHISE</u>	Sampler Signature: <u>Eric Nechise</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-04</u>	Sampler: <u>ETN</u>
Project Number: <u>6045-460</u>	Date: <u>2/27/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny</u>	Air Temp (°F): <u>20</u>	Wind: <u>N-Smp^L</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.73</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1210</u>	<u>1040</u>	<u>1100</u>	<u>1105</u>	<u>1210</u>	
Depth to Water (ft)	<u>8.94</u>	<u>8.95</u>	<u>9.27</u>	<u>9.34</u>	<u>9.68</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth (ft): 32.73 <u>32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal) (where applicable): 3.889 <u>3.889</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1045</u>	<u>1048</u>	<u>1051</u>	<u>1054</u>	<u>1057</u>	<u>1100</u>	<u>1103</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.25</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>6.59</u>	<u>6.44</u>	<u>6.45</u>	<u>6.43</u>	<u>6.44</u>	<u>6.46</u>	<u>6.45</u>	
Temp. (°C)	<u>21.71</u>	<u>21.63</u>	<u>21.51</u>	<u>21.44</u>	<u>21.47</u>	<u>21.39</u>	<u>21.48</u>	
Spec. cond. (µS/cm)	<u>4967</u>	<u>4960</u>	<u>4935</u>	<u>4993</u>	<u>5022</u>	<u>5064</u>	<u>5071</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>36.83</u>	<u>42.13</u>	<u>26.72</u>	<u>23.46</u>	<u>17.12</u>	<u>9.83</u>	<u>11.17</u>	
Color/tint	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>2/27/13</u>	<u>1105</u>	<u>7</u>	<u>None</u>	<u>1-500ml H-3; 4-1L I-131; 1-1L α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u><i>Eric Necaise</i></u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-05</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>2/27/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Cloudy</u>	Air Temp (°F): <u>48</u>	Wind: <u>None</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.59</u>	Damage/repairs needed: <u>Some erosion under well head</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>1145</u>	<u>0710</u>	<u>0742</u>	<u>0757</u>	<u>0855</u>	
Depth to Water (ft)	<u>4.28</u>	<u>4.43</u>	<u>4.92</u>	<u>4.95</u>	<u>4.97</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HFC Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>32.59</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>4.593</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24.00" hr)	<u>0734</u>	<u>0737</u>	<u>0740</u>	<u>0743</u>	<u>0746</u>	<u>0749</u>	<u>0752</u>	<u>0755</u>	<u>0758</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.25</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.75</u>	<u>0.9</u>	<u>1.0</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>6.94</u>	<u>7.04</u>	<u>7.09</u>	<u>7.06</u>	<u>7.04</u>	<u>7.00</u>	<u>7.00</u>	<u>6.99</u>	<u>6.98</u>	
Temp. (°C)	<u>17.21</u>	<u>17.77</u>	<u>18.37</u>	<u>19.11</u>	<u>19.33</u>	<u>19.47</u>	<u>19.59</u>	<u>19.61</u>	<u>19.60</u>	
Spec. cond. (µS/cm)	<u>2088</u>	<u>1982</u>	<u>1735</u>	<u>1624</u>	<u>1605</u>	<u>1616</u>	<u>1623</u>	<u>1618</u>	<u>1614</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>10.63</u>	<u>8.72</u>	<u>14.12</u>	<u>16.67</u>	<u>23.88</u>	<u>11.14</u>	<u>16.22</u>	<u>9.27</u>	<u>14.81</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>2/27/13</u>	<u>0800</u>	<u>7</u>	<u>None</u>	<u>1-500ml (H-3); 4-1L (I-171); 2-1L</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EPN</u>
Project Number: <u>6045-460</u>	Date: <u>2/27/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Sunny</u>		Air Temp (°F): <u>75</u>		Wind: <u>S-10 mph</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>35.40</u>		Damage/repairs needed: <u>None</u>	
Remarks: _____					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other: _____	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional): _____		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1220</u>	<u>1330</u>	<u>1339</u>	<u>1349</u>	<u>1455</u>	
Depth to Water (ft)	<u>3.71</u>	<u>3.25</u>	<u>4.65</u>	<u>4.52</u>	<u>4.85</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSE</u> <u>HFScribble</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth (ft): <u>32.59 30.4</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol. (gal) (where applicable): <u>4.72 4.96g</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time ("24:00" hr)	<u>1327</u>	<u>1330</u>	<u>1333</u>	<u>1336</u>	<u>1339</u>	<u>1342</u>	<u>1345</u>	<u>1348</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.15</u>	<u>0.25</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>7.10</u>	<u>7.02</u>	<u>7.02</u>	<u>7.00</u>	<u>6.99</u>	<u>6.98</u>	<u>6.97</u>	<u>6.99</u>	
Temp. (°C)	<u>21.60</u>	<u>21.49</u>	<u>21.34</u>	<u>21.30</u>	<u>21.17</u>	<u>21.27</u>	<u>21.24</u>	<u>21.21</u>	
Spec. cond. (µS/cm)	<u>2974</u>	<u>2965</u>	<u>2971</u>	<u>2964</u>	<u>2965</u>	<u>2962</u>	<u>2963</u>	<u>2966</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>8.17</u>	<u>6.73</u>	<u>12.11</u>	<u>13.81</u>	<u>48.86</u>	<u>12.72</u>	<u>11.83</u>	<u>8.63</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>2/27/13</u>	<u>1358</u>	<u>7</u>	<u>NONE</u>	<u>1500 mL (#3); 4-1L I131; 21L of</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>Eric Necaise</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>2/27/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Sunny</u>	Air Temp (°F): <u>75</u>	Wind: <u>S-Simpl</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>41.15</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>LEC K 100 #13</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1230</u>	<u>15:07</u>	<u>1520</u>	<u>1529</u>	<u>1605</u>	
Depth to Water (ft)	<u>5.30</u>	<u>5.35</u>	<u>5.72</u>	<u>6.06</u>	<u>6.21</u>	
Date (mm/dd/yy)	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI</u>	Unit or Serial No: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth (ft): <u>36.15</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal) (where applicable): <u>5.03g</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1510</u>	<u>1513</u>	<u>1516</u>	<u>1519</u>	<u>1522</u>	<u>1525</u>	<u>1528</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.25</u>	<u>0.30</u>	<u>0.5</u>	<u>0.73</u>	<u>0.8</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>6.67</u>	<u>6.60</u>	<u>6.57</u>	<u>6.56</u>	<u>6.37</u>	<u>6.57</u>	<u>6.59</u>	
Temp. (°C)	<u>22.85</u>	<u>22.56</u>	<u>22.45</u>	<u>22.51</u>	<u>22.47</u>	<u>22.48</u>	<u>22.55</u>	
Spec. cond. (µS/cm)	<u>1434</u>	<u>1380</u>	<u>1152</u>	<u>1036</u>	<u>1003</u>	<u>1004</u>	<u>1019</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>6.73</u>	<u>5.22</u>	<u>2.01</u>	<u>0.96</u>	<u>0.73</u>	<u>0.78</u>	<u>1.23</u>	
Color/tint	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>2/27/13</u>	<u>1530</u>	<u>7</u>	<u>none</u>	

Sampler's Name (print): <u>ERIC NEARISH</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-08</u>	Sampler: <u>EFW</u>	FTN Associates, Ltd
Project Number: <u>6045-460</u>	Date: <u>2/27/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>70°</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>41.42</u>	
Damage/repairs needed: <u>Well pad eroding</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>1240</u>	<u>1615</u>	<u>1625</u>	<u>1630</u>	<u>1800</u>	
Depth to Water (ft)	<u>5.49</u>	<u>5.62</u>	<u>6.81</u>	<u>6.08</u>	<u>5.99</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	<u>2/27/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No: <u># 1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>36.47</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal) (where applicable): <u>5.03g</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time ("24.00" hr)	<u>1618</u>	<u>1621</u>	<u>1624</u>	<u>1627</u>	<u>1630</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	
pH (su)	<u>6.95</u>	<u>6.58</u>	<u>6.53</u>	<u>6.55</u>	<u>6.60</u>	
Temp. (°C)	<u>21.27</u>	<u>21.40</u>	<u>21.55</u>	<u>21.61</u>	<u>21.60</u>	
Spec. cond. (µS/cm)	<u>1250</u>	<u>1189</u>	<u>1087</u>	<u>1089</u>	<u>1137</u>	
D.O. (mg/L)	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	
Turbidity (NTU)	<u>17.63</u>	<u>4.17</u>	<u>2.91</u>	<u>1.28</u>	<u>0.86</u>	
Color/tint	-	-	-	-	-	
Odor	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>2/27/13</u>	<u>1635</u>	<u>7</u>	<u>None</u>	
<u>Dup MW-08</u>	<u>"</u>	<u>1720</u>	<u>7</u>	<u>None</u>	
<u>EP MW-08</u>	<u>"</u>	<u>1800</u>	<u>7</u>	<u>None</u>	

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-09</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>2/26/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Sunny</u>		Air Temp (°F): <u>55</u>		Wind: <u>N-10</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>40.22</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECIC 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1250</u>	<u>1645</u>	<u>1700</u>	<u>1709</u>	<u>1735</u>	
Depth to Water (ft)	<u>3.03</u>	<u>3.08</u>	<u>3.23</u>	<u>3.24</u>	<u>3.26</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth (ft): <u>39.22</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol. (gal): (where applicable) <u>5.25g</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time ("24:00" hr)	<u>1647</u>	<u>1650</u>	<u>1653</u>	<u>1656</u>	<u>1659</u>	<u>1702</u>	<u>1705</u>	<u>1708</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.25</u>	<u>0.5</u>	<u>0.75</u>	<u>1.0</u>	<u>1.25</u>	<u>1.50</u>	<u>1.75</u>	
Purge rate (mL/min)	<u>2.75</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>	<u>275</u>	
pH (su)	<u>7.10</u>	<u>7.07</u>	<u>7.03</u>	<u>7.02</u>	<u>7.01</u>	<u>6.99</u>	<u>7.00</u>	<u>7.00</u>	
Temp. (°C)	<u>17.45</u>	<u>18.23</u>	<u>18.97</u>	<u>19.35</u>	<u>19.80</u>	<u>20.01</u>	<u>19.98</u>	<u>19.97</u>	
Spec. cond. (µS/cm)	<u>2251</u>	<u>2203</u>	<u>2110</u>	<u>2102</u>	<u>2087</u>	<u>2090</u>	<u>2086</u>	<u>2090</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	4.36	<u>4.36</u>	<u>37.21</u>	<u>20.01</u>	<u>18.76</u>	<u>21.32</u>	<u>10.11</u>	<u>9.83</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>2/26/13</u>	<u>1710</u>	<u>7</u>	<u>None</u>	<u>1 500.mLH-3; 4-16 E-131; 2-1L α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Watford-3</u>	Site ID: <u>MW-10</u>	Sampler: <u>ERN</u>
Project Number: <u>6045-460</u>	Date: <u>2/26/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>60</u>	Wind: <u>N-10</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>38.51</u>	Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1300</u>	<u>1530</u>	<u>1540</u>	<u>1545</u>		
Depth to Water (ft)	<u>9.90</u>	<u>9.91</u>	<u>10.23</u>	<u>10.28</u>		
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>		
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>		Unit or Serial No: <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth (ft): <u>33.51</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>3.85g</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1537</u>	<u>1533</u>	<u>1536</u>	<u>1539</u>	<u>1542</u>	<u>1545</u>			Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.4</u>	<u>0.6</u>	<u>0.8</u>	<u>1.0</u>			
Purge rate (mL/min)	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>			
pH (su)	<u>6.93</u>	<u>6.92</u>	<u>6.90</u>	<u>6.88</u>	<u>6.89</u>	<u>6.91</u>			
Temp. (°C)	<u>19.35</u>	<u>20.18</u>	<u>20.83</u>	<u>20.73</u>	<u>20.74</u>	<u>20.68</u>			
Spec. cond. (µS/cm)	<u>5305</u>	<u>5452</u>	<u>5718</u>	<u>5706</u>	<u>5723</u>	<u>5720</u>			
D.O. (mg/L)	-	-	-	-	-	-			
ORP (mV)	-	-	-	-	-	-			
Turbidity (NTU)	<u>24.17</u>	<u>48.63</u>	<u>37.18</u>	<u>43.12</u>	<u>36.23</u>	<u>17.14</u>			
Color/tint	-	-	-	-	-	-			
Odor	-	-	-	-	-	-			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-10</u>	<u>2/26/13</u>	<u>1550</u>	<u>7</u>	<u>None</u>	<u>150ml H-3; 4-1L I-31; 2-1L X</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>Eric Necaise</u>
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Groundwater Sampling Record

Facility: <u>Energy Waterford-3</u>	Site ID: <u>MW-11</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-460</u>	Date: <u>2/26/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Sunny</u>	Air Temp (°F): <u>60</u>	Wind: <u>N-10</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>42.84</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1310</u>	<u>1330</u>	<u>1345</u>	<u>1352</u>	<u>1520</u>	
Depth to Water (ft)	<u>10.18</u>	<u>10.18</u>	<u>11.71</u>	<u>12.01</u>	<u>12.18</u>	
Date (mm/dd/yy)	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>	<u>2/26/13</u>		
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth (ft): <u>37.84</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol. (gal) (where applicable): <u>4.51g</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time ("24:00" hr)	<u>1330</u>	<u>1333</u>	<u>1336</u>	<u>1339</u>	<u>1342</u>	<u>1345</u>	<u>1348</u>	<u>1351</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.25</u>	<u>0.3</u>	<u>0.35</u>	<u>0.40</u>	<u>0.45</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>6.74</u>	<u>6.78</u>	<u>6.84</u>	<u>6.88</u>	<u>6.92</u>	<u>6.94</u>	<u>6.92</u>	<u>6.93</u>	
Temp. (°C)	<u>18.68</u>	<u>18.63</u>	<u>18.75</u>	<u>18.81</u>	<u>18.86</u>	<u>19.04</u>	<u>19.03</u>	<u>19.05</u>	
Spec. cond. (µS/cm)	<u>5370</u>	<u>5396</u>	<u>5448</u>	<u>5492</u>	<u>5476</u>	<u>5453</u>	<u>5465</u>	<u>5451</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>53.63</u>	<u>37.83</u>	<u>17.32</u>	<u>12.83</u>	<u>27.14</u>	<u>18.27</u>	<u>16.42</u>	<u>11.15</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>1555</u>				
<u>MW-11</u>	<u>2/26/13</u>	<u>1355</u>	<u>7</u>	<u>now</u>	<u>1-500mPH-3; 4-1-LT-131; 2-12</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		REGULATORY AGENCY	
Company: ENTERGY WATERFORD 3		Report To: Rodney LeBlanc		Attention: SAME		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
Address: 17265 River Road		Copy To:		Company Name:		Site Location: Waterford 3	
Killona, LA 70057				Address:		STATE: LA	
Email To: rleblan@entergy.com		Purchase Order No.:		Pace Quote Reference:			
Phone: (504) 464-3267 Fax:		Project Name:		Pace Project Manager: Cindy Olavesen (504) 305-3626			
Requested Due Date/TAT: 15 WORKING DAYS		Project Number:		Pace Profile #: 5448			

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WT WATER WW WASTE WATER P PRODUCT SL SOL/SOLID OL WIFE WP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Requested Analysis Filtered (Y/N)				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.									
			MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)			COMPOSITE START	COMPOSITE END/GRAB	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test	GAMMA			GROSS BETA	I-131	TRITIUM						
																								DATE	TIME	DATE	TIME	DATE	TIME
1	MW-11		OT	G	2/26/13	1345	7	5	2																				
2	MW-10				2/26/13	1550																							
3	MW-09				2/26/13	1710																							
4	MW-05				2/27/13	0800																							
5	MW-03				2/27/13	0940																							
6	MW-04				2/27/13	1105																							
7	MW-06				2/27/13	1355																							
8	MW-07				2/27/13	1535																							
9	MW-08				2/27/13	1635																							
10	DUP MW-08				2/27/13	1720																							
11	EB MW-08				2/27/13	1800																							
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	ERIC NECAISE	2/27/13	1800	R/LeBlanc/WF3	2/27/13	1800	

SAMPLER NAME AND SIGNATURE			Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	ERIC NECAISE					
SIGNATURE of SAMPLER:			DATE Signed (MM/DD/YY):			



FTN Associates Calibration Form

Date/Time: 6/3/13 0945

Prepared By: EFN

Location: Waterford - 3

Project #: 06045-0031-002

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
YSI	#1	Cond	1413	uS/cm	28.87	1427	Ⓢ N	1413	2AL351 EX 12/13
		pH	7	su	28.49	6.98	Ⓢ N	7.00	3AC066 EX 3/15
		pH	4/10	su	29.52	4.06	Y N	4.00	2AD530 EX 4/17
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	30.0	29.67	N	N/A	
							Y N		
HF Scientific	#1	Turbidity	0.02	NTU	N/A	0.77	Y N	0.01	20201 EX 2/14
		Turbidity	100	NTU	N/A	10.10	Y N	10.4	20239 EX 2/14
		Turbidity	1000	NTU	N/A	987.0	Y N	1028	20404 EX 4/14
		Turbidity		NTU	N/A		Y N		
Comments: 									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 6/4/13 0645
 Prepared By: FTN
 Location: Waterford-3
 Project #: 06045 0031-002

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
VSI	#1	Cond	1413	uS/cm	21.80	1487	<input checked="" type="checkbox"/> N	1403	2AL351 Ex 12/13
		pH	7	su	21.79	7.07	<input checked="" type="checkbox"/> N	7.00	3AC066 Ex 3/15
		pH	4/10	su	22.00	4.02	Y N		2AD530 Ex 4/14
		DO		mm/Hg			Y N		mg/l
		Temp		Degrees C	22.00	22.02	N	N/A	
HF Seabec	#1	Turbidity	602	NTU	N/A	0.00	<input checked="" type="checkbox"/> N	0.04	20201 Ex 2/14
		Turbidity	100	NTU	N/A	9.48	<input checked="" type="checkbox"/> N	10.05	20239 Ex 2/14
		Turbidity	1000	NTU	N/A	1017	<input checked="" type="checkbox"/> N	1063	20404 Ex 4/10
		Turbidity		NTU	N/A		Y N		

Comments:

Notes:

- Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
 - pH Calibration (pH Method: EPA 150.1)
 - DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/L.
 - Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup. Then record sonde temperature reading.
- Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:
- $$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$
- The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:
- $$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: Waterford - 3	Project Number: 06045-0031-002	Investigator: EFN	Page <u>1</u> of <u> </u>
Weather Conditions: Partly Cloudy 85°	Measuring Device: KECK 100 #3		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-09	6/3/13	1030	5.14	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-08	"	1035	4.95	<input checked="" type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
PCW-07	"	1040	5.55	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-06	"	1045	4.24	<input checked="" type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-05	"	1050	5.90	<input checked="" type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-10	"	1055	9.90	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-11	"	1100	10.13	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-04	"	1105	8.92	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-03	"	1110	6.08	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

Groundwater Sampling Record

Facility: <u>Waterford 3</u>	Site ID: <u>MW-03</u>	Sampler: <u>EFN</u>	
Project Number: <u>06045-0071 002</u>	Date: <u>6/3/13</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other					
Weather: <u>Partly Cloudy</u>		Air Temp (°F): <u>85°</u>		Wind: <u>SE - 5 mph</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>32.58</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1110</u>	<u>1115</u>	<u>1130</u>	<u>1136</u>	<u>1220</u>	
Depth to Water (ft)	<u>6.08</u>	<u>6.08</u>	<u>6.37</u>	<u>6.41</u>	<u>6.52</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No.: <u># 1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth (ft): <u>32.58</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408							
Time ("24:00" hr)	<u>1118</u>	<u>1121</u>	<u>1124</u>	<u>1127</u>	<u>1130</u>	<u>1133</u>	<u>1136</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.75</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>6.74</u>	<u>6.79</u>	<u>6.82</u>	<u>6.81</u>	<u>6.86</u>	<u>6.83</u>	<u>6.82</u>	
Temp. (°C)	<u>24.11</u>	<u>24.46</u>	<u>24.43</u>	<u>24.36</u>	<u>24.57</u>	<u>24.53</u>	<u>24.56</u>	
Spec. cond. (µS/cm)	<u>3216</u>	<u>3273</u>	<u>3286</u>	<u>3246</u>	<u>3318</u>	<u>3329</u>	<u>3325</u>	
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Turbidity (NTU)	<u>13.48</u>	<u>15.14</u>	<u>16.87</u>	<u>12.42</u>	<u>11.17</u>	<u>9.86</u>	<u>8.11</u>	
Color/tint	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	
Odor	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>6/3/13</u>	<u>1140</u>	<u>2</u>	<u>None</u>	<u>1-250 mL H-3; 1-1gal J</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>Eric Necaise</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-04</u>	Sampler: <u>EFA</u>
Project Number: <u>06045-0031-002</u>	Date: <u>6/3/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Partly Cloudy</u>	Air Temp (°F): <u>85.0</u>	Wind: <u>SE - 5 mph</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>32.73</u>	Damage/repairs needed: <u>Ballards need painting</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1105</u>	<u>1230</u>	<u>1242</u>	<u>1300</u>	<u>1345</u>	
Depth to Water (ft)	<u>8.92</u>	<u>8.93</u>	<u>9.27</u>	<u>9.36</u>	<u>9.41</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VST</u> <u>HE Scientific</u>	Unit or Serial No.: <u>#11</u> <u>H1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC								
Purge depth (ft): <u>32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408										
Time ("24:00" hr)	<u>1233</u>	<u>1236</u>	<u>1239</u>	<u>1241</u>	<u>1244</u>	<u>1247</u>	<u>1250</u>	<u>1253</u>	<u>1256</u>	<u>1259</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>1.3</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.55</u>	<u>6.57</u>	<u>6.52</u>	<u>6.57</u>	<u>6.58</u>	<u>6.67</u>	<u>6.63</u>	<u>6.68</u>	<u>6.71</u>	<u>6.74</u>	
Temp. (°C)	<u>24.35</u>	<u>24.42</u>	<u>24.43</u>	<u>24.32</u>	<u>24.28</u>	<u>24.18</u>	<u>23.77</u>	<u>23.83</u>	<u>23.86</u>	<u>23.98</u>	
Spec. cond. (µS/cm)	<u>4881</u>	<u>4969</u>	<u>5063</u>	<u>5153</u>	<u>5278</u>	<u>5393</u>	<u>5495</u>	<u>5623</u>	<u>5826</u>	<u>5817</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>26.98</u>	<u>23.50</u>	<u>17.14</u>	<u>15.17</u>	<u>21.37</u>	<u>14.85</u>	<u>7.87</u>	<u>23.17</u>	<u>14.81</u>	<u>16.23</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>6/3/13</u>	<u>1300</u>	<u>2</u>	<u>None</u>	<u>1-250 mL H-3; 1-1 gal &</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW 05</u>	Sampler: <u>ERN</u>	
Project Number: <u>16045-0031-002</u>	Date: <u>6/4/13</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Overcast</u>		Air Temp (°F): <u>70</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>3252</u>	
Damage/repairs needed: <u>Ballards need painting. Erosion around well pad.</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>VECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1050</u>	<u>0700</u>	<u>0730</u>	<u>0735</u>	<u>0805</u>	
Depth to Water (ft)	<u>5.90</u>	<u>5.98</u>	<u>6.43</u>	<u>6.44</u>	<u>6.49</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSE</u> <u>HE Scientific</u>	Unit or Serial No.: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC						
Purge depth (ft): <u>3253</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No								
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408								
Time ("24:00" hr)	<u>0713</u>	<u>0716</u>	<u>0719</u>	<u>0722</u>	<u>0725</u>	<u>0728</u>	<u>0731</u>	<u>0733</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.25</u>	<u>0.3</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>6.93</u>	<u>7.02</u>	<u>7.08</u>	<u>7.10</u>	<u>7.11</u>	<u>7.09</u>	<u>7.08</u>	<u>7.09</u>	
Temp. (°C)	<u>23.27</u>	<u>23.35</u>	<u>23.41</u>	<u>23.37</u>	<u>23.48</u>	<u>23.52</u>	<u>23.55</u>	<u>23.54</u>	
Spec. cond. (µS/cm)	<u>5466</u>	<u>5488</u>	<u>5460</u>	<u>5313</u>	<u>4402</u>	<u>4290</u>	<u>4047</u>	<u>4093</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>7.62</u>	<u>7.58</u>	<u>5.06</u>	<u>12.71</u>	<u>4.86</u>	<u>5.17</u>	<u>7.09</u>	<u>6.87</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>6/4/13</u>	<u>0740</u>	<u>2</u>	<u>None</u>	<u>1.250mL #3; 1.1gal @</u>

Sampler's Name (print): <u>ERIC NECAUSE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW 06</u>	Sampler: <u>EFN</u>	
Project Number: <u>06045-0031-002</u>	Date: <u>6/4/13</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Overcast</u>		Air Temp (°F): <u>75°</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>35.40</u>	
Damage/repairs needed: <u>None Soil washed away from bollards and well pad</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1045</u>	<u>0810</u>	<u>0820</u>	<u>0824</u>	<u>0925</u>	
Depth to Water (ft)	<u>4.24</u>	<u>4.28</u>	<u>5.03</u>	<u>5.09</u>	<u>5.86</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth (ft): <u>30.40</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Casing vol. (gal): (where applicable) <u>N/A</u>	- [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408				
Time ("24:00" hr)	<u>0815</u>	<u>0818</u>	<u>0821</u>	<u>0824</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.25</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.16</u>	<u>7.10</u>	<u>7.12</u>	<u>7.13</u>	
Temp. (°C)	<u>24.79</u>	<u>24.71</u>	<u>24.81</u>	<u>24.82</u>	
Spec. cond. (µS/cm)	<u>2785</u>	<u>2790</u>	<u>2788</u>	<u>2793</u>	
D.O. (mg/L)	-	-	-	-	
ORP (mV)	-	-	-	-	
Turbidity (NTU)	<u>6.43</u>	<u>7.46</u>	<u>8.13</u>	<u>6.71</u>	
Color/tint	-				
Odor	-				

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>6/4/13</u>	<u>0825</u>	<u>2</u>	<u>None</u>	<u>1.250 ml H₃, 1.1 gal</u>
<u>DUP MW-06</u>	<u>"</u>	<u>0855</u>	<u>2</u>	<u>None</u>	<u>"</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>
Project Number: <u>126045-0031-002</u>	Date: <u>6/4/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Partly cloudy</u>	Air Temp (°F): <u>80</u>	Wind: <u>None</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>46.15</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1040</u>	<u>0930</u>	<u>0945</u>	<u>0950</u>	<u>1020</u>	
Depth to Water (ft)	<u>5.55</u>	<u>5.59</u>	<u>6.63</u>	<u>6.64</u>	<u>6.64</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No.: <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>36.15</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time ("24:00" hr)	<u>0933</u>	<u>0936</u>	<u>939</u>	<u>942</u>	<u>0945</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.25</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>6.78</u>	<u>6.73</u>	<u>6.73</u>	<u>6.72</u>	<u>6.73</u>	
Temp. (°C)	<u>25.18</u>	<u>25.10</u>	<u>25.18</u>	<u>24.95</u>	<u>24.02</u>	
Spec. cond. (µS/cm)	<u>976</u>	<u>959</u>	<u>955</u>	<u>956</u>	<u>958</u>	
D.O. (mg/L)	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	
Turbidity (NTU)	<u>12.57</u>	<u>4.00</u>	<u>2.07</u>	<u>2.95</u>	<u>3.82</u>	
Color/tint	-	-	-	-	-	
Odor	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>6/4/13</u>	<u>0950</u>	<u>2</u>	<u>None</u>	<u>1 250ml H-3; 1-1gal 2</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-08</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-002</u>	Date: <u>6/4/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Overcast</u>		Air Temp (°F): <u>85.0</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>46.47</u>	
Remarks: <u>Damage/repairs needed: EROSION of soil around well pad</u>			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100#3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24.00" hr)	<u>1035</u>	<u>1040</u>	<u>1100</u>	<u>1103</u>	<u>1130</u>	
Depth to Water (ft)	<u>4.95</u>	<u>5.01</u>	<u>5.39</u>	<u>5.42</u>	<u>6.44</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No.: <u>VSI</u>		Unit or Serial No.: <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC	
Purge depth (ft): <u>36.97</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time ("24.00" hr)	<u>1048</u>	<u>1051</u>	<u>1053</u>	<u>1056</u>	<u>1059</u>	<u>1102</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>7.17</u>	<u>6.70</u>	<u>6.71</u>	<u>6.72</u>	<u>6.76</u>	<u>6.77</u>	
Temp. (°C)	<u>25.74</u>	<u>24.73</u>	<u>24.60</u>	<u>24.72</u>	<u>24.68</u>	<u>24.87</u>	
Spec. cond. (µS/cm)	<u>1281</u>	<u>1202</u>	<u>1219</u>	<u>1255</u>	<u>1217</u>	<u>1283</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>19.13</u>	<u>23.31</u>	<u>15.52</u>	<u>12.89</u>	<u>9.86</u>	<u>6.12</u>	
Color/tint							
Odor							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>6/4/13</u>	<u>1105</u>	<u>2</u>	<u>None</u>	<u>1-250 ml #3; 1-1gal &</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-09</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-002</u>	Date: <u>6/4/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Partly Cloudy</u>		Air Temp (°F): <u>85</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>40.22</u>	
Remarks:		Damage/repairs needed: <u>None</u>	

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1030</u>	<u>1147</u>	<u>1159</u>	<u>1200</u>	<u>1235</u>	
Depth to Water (ft)	<u>5.14</u>	<u>5.30</u>	<u>5.40</u>	<u>5.41</u>	<u>5.41</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	<u>6/4/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSE</u>		Unit or Serial No: <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC	
Purge depth (ft): <u>35.22</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time ("24:00" hr)	<u>1151</u>	<u>1154</u>	<u>1157</u>	<u>1200</u>			Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>			
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>			
pH (su)	<u>6.74</u>	<u>6.72</u>	<u>6.73</u>	<u>6.72</u>			
Temp. (°C)	<u>24.80</u>	<u>24.58</u>	<u>24.50</u>	<u>24.58</u>			
Spec. cond. (µS/cm)	<u>2296</u>	<u>2299</u>	<u>2307</u>	<u>2305</u>			
D.O. (mg/L)	-	-	-	-			
ORP (mV)	-	-	-	-			
Turbidity (NTU)	<u>3.54</u>	<u>3.05</u>	<u>1.61</u>	<u>1.79</u>			
Color/tint	-	-	-	-			
Odor	-	-	-	-			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>6/4/13</u>	<u>1205</u>	<u>2</u>	<u>None</u>	<u>1-250mL H-3; 1-1gal α</u>
<u>EBMW-09</u>	<u>"</u>	<u>1210</u>	<u>2</u>	<u>None</u>	<u>"</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-10</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>D6645-0031-002</u>	Date: <u>6/3/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>90</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>unkown</u>	
Damage/repairs needed: <u>Well casing needs paint</u>			
Remarks:			

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1055</u>	<u>1535</u>	<u>1550</u>	<u>1600</u>	<u>1635</u>	
Depth to Water (ft)	<u>9.90</u>	<u>9.90</u>	<u>10.15</u>	<u>10.16</u>	<u>10.15</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI</u>		Unit or Serial No: <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>30</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>n/a</u>		= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408							
Time ("24:00" hr)	<u>1536</u>	<u>1539</u>	<u>1541</u>	<u>1544</u>	<u>1547</u>	<u>1550</u>	<u>1553</u>	<u>1556</u>	Remarks
Purge vol. (gal)	<u>0.0</u>								
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	
pH (su)	<u>6.90</u>	<u>6.82</u>	<u>6.78</u>	<u>6.77</u>	<u>6.78</u>	<u>6.79</u>	<u>6.78</u>	<u>6.77</u>	
Temp. (°C)	<u>25.38</u>	<u>25.00</u>	<u>24.78</u>	<u>24.84</u>	<u>24.82</u>	<u>24.71</u>	<u>24.76</u>	<u>24.77</u>	
Spec. cond. (µS/cm)	<u>5309</u>	<u>5447</u>	<u>5562</u>	<u>6087</u>	<u>6391</u>	<u>6477</u>	<u>6498</u>	<u>6471</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>25.69</u>	<u>20.11</u>	<u>11.59</u>	<u>6.03</u>	<u>3.72</u>	<u>3.15</u>	<u>3.24</u>	<u>2.73</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-10</u>	<u>6/3/13</u>	<u>1600</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gal α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford-3</u>	Site ID: <u>MW-11</u>	Sampler: <u>FEW</u>	FTN Associates, Ltd
Project Number: <u>060450-0031-002</u>	Date: <u>6/3/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny 90°</u>		Air Temp (°F): _____	
Well Locked? <input type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>unknown</u>	
Damage/repairs needed: <u>Well casing not painted</u>			
Remarks: _____			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other: _____	Water level Meter Make/Model No. <u>KECK 100#3</u>			Serial No. (Optional): _____		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1100</u>	<u>1405</u>	<u>1420</u>	<u>1423</u>	<u>1530</u>	
Depth to Water (ft)	<u>10.13</u>	<u>10.13</u>	<u>10.64</u>	<u>10.67</u>	<u>10.79</u>	
Date (mm/dd/yy)	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	<u>6/3/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

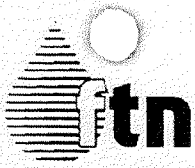
Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No.: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable)	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408						
Time ("24:00" hr)	<u>1410</u>	<u>1413</u>	<u>1416</u>	<u>1419</u>	<u>1421</u>	<u>1423</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.18</u>	<u>0.25</u>	<u>0.3</u>	<u>0.35</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>6.93</u>	<u>6.83</u>	<u>6.79</u>	<u>6.76</u>	<u>6.76</u>	<u>6.78</u>	
Temp. (°C)	<u>26.79</u>	<u>26.46</u>	<u>26.08</u>	<u>26.11</u>	<u>26.05</u>	<u>26.10</u>	
Spec. cond. (µS/cm)	<u>5860</u>	<u>5697</u>	<u>5690</u>	<u>5699</u>	<u>5709</u>	<u>5714</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>20.81</u>	<u>11.16</u>	<u>6.67</u>	<u>3.17</u>	<u>4.27</u>	<u>7.82</u>	
Color/tint	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	

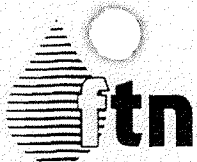
Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>6/3/13</u>	<u>1425</u>	<u>7</u>	<u>None</u>	<u>1- 250ml H-3; 1- 1gal d.</u>

Sampler's Name (print): <u>ERIC NECHISE</u>	Sampler Signature: <u>[Signature]</u>
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Date 6/4/03	Project Name Clinton Waterford 3	Project Number 06015-0031-002	Project Manager (Print) Doris West	Page 2 of 2					
Laboratory Name TELEDYNE		Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338		Parameters (Method Number)					
Phone: ()	Sampler Signature(s) <i>[Signature]</i>			Recorded By (Print) ERIC NEARSE					
SAMPLE DESCRIPTION									
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method		Laboratory Notes
			W	S	O		Comp	Grab	
ED MW 09	6/4/03	1240	X			2	X	X X	
* Matrix: W = Water S = Soil O = Other									
Relinquished By (Signature) <i>[Signature]</i>	Print Name ERIC NEARSE	Date 6/4/03	Time 1240	Received By (Signature) <i>[Signature]</i>	Print Name DORIS WEST	Date 6/11/03	Time 1245		
Relinquished By (Signature)	Print Name	Date	Time	Received By Laboratory (Signature)	Print Name	Date	Time		
Sampler Remarks				Laboratory Remarks:					



Date 6/4/13	Project Name Energy Waterford 3	Project Number 06045-0031-002	Project Manager (Print) BOB WEST	Page 1 of 2																
Laboratory Name TELEPHONE		Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338		Parameters (Method Number)																
Phone: ()		Recorded By (Print) ERIC NECAISE		<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: <u> </u> / <u> </u> / <u> </u>																
Sampler Signature(s) <i>[Signature]</i>		Recorded By (Print) ERIC NECAISE		Laboratory Notes																
SAMPLE DESCRIPTION																				
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method													
			W	S	O		Comp	Grab												
MW-03	6/3/13	1140	X			2		X	X											
MW-04		1300	X			2		X	X	X										
MW-11		1425	X			2		X	X	X										
MW-10		1600	X			2		X	X	X										
MW-05	6/4/13	0740	X			2		X	X	X										
MW-06		0825	X			2		X	X	X										
DUP MW-06		0855	X			2		X	X	X										
DUP MW-07		0950	X			2		X	X	X										
MW-08		1105	X			2		X	X	X										
MW-09		1205	X			2		X	X	X										
* Matrix: W = Water S = Soil O = Other																				
Relinquished By (Signature) <i>[Signature]</i>	Print Name ERIC NECAISE	Date 6/4/13	Time 1230	Received By (Signature) <i>[Signature]</i>	Print Name DORIS BROWN	Date 6/7/13	Time 1215													
Relinquished By (Signature)	Print Name	Date	Time	Received By Laboratory (Signature)	Print Name	Date	Time													
Sampler Remarks				Laboratory Remarks:																

Daily Log

Site Location: <i>Waterford-3</i>	Date: <i>7/10/13</i>
Project Number: <i>06045-0031-002</i>	Page <i>1</i> of <i>2</i>

0845- ARRIVE ON SITE

0930 - Complete JOB SAFETY BRIEF AND CALIBRAION

0935- Start collecting water levels at MW-03

1100 - Start sampling at MW-03

1210-1245- Raining

1400-1445 Raining

1745- Left site



FTN Associates Calibration Form

Date/Time: 9/10/13 0900
 Prepared By: EFN
 Location: Waterford-3
 Project #: D6045-0031-002

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	28.94	1435	Ⓢ N	1413	Lot 2AL351 Ex 12/13
VSI	#1	pH	7	su	27.13	7.19	Ⓢ N	7.00	Lot 3AC066 Ex 3/15
		pH	4/10	su	27.99	8.99	Ⓢ N	4.00	Lot 2AK644 Ex 11/14
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	28.0	28.4	N	N/A	
							Y N		
HF Scientific	#1	Turbidity	0.02	NTU	N/A	0.00	Ⓢ N	0.01	Lot 20201 Ex 2/14
		Turbidity	10.0	NTU	N/A	8.99	Ⓢ N	10.03	Lot 20239 Ex 2/14
		Turbidity	1000	NTU	N/A	819.4	Ⓢ N	999.6	Lot 20404 Ex 4/14
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 9/11/13 0730
 Prepared By: EFN
 Location: WF-3
 Project #: 06045-0031-002

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
		Cond	1413	uS/cm	25.00	1363	(Y) N	1413	Lot 2AL351 Ex 12/13
VSE	#1	pH	7	su	25.40	7.01	(Y) N	7.00	Lot 3AC066 Ex 3/13
		pH	4/10	su	25.03	4.04	(Y) N	4.00	Lot 2AK644 Ex 11/14
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	25.0	24.97	N	N/A	
							Y N		
HF Scientific	#1	Turbidity	0.02	NTU	N/A	0.16	(Y) N	0.01	Lot 20201 Ex 2/14
		Turbidity	10.0	NTU	N/A	10.02	(Y) N	9.97	Lot 20239 Ex 2/14
		Turbidity	1000	NTU	N/A	1006	(Y) N	1007	Lot 20404 Ex 4/14
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: Waterford-3	Project Number: 06045-0031-002	Investigator: EFN	Page <u>1</u> of <u>1</u>
Weather Conditions: Sunny Wind 5mph	Measuring Device: KECK 100 H 3		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-09	9/10/13	0935	5.00	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-08	"	0945	7.12	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
* MW-07	"	0955	6.25	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-06	"	1005	4.20	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-05	"	1015	5.83	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-10	"	1025	9.49	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-11	"	1035	9.71	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
MW-04	"	1045	8.41	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
MW-03	"	1055	5.63	<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input checked="" type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing	<input type="checkbox"/> Damaged TOC	<input type="checkbox"/> Lacks visibility
				<input type="checkbox"/> Damaged bollards	<input type="checkbox"/> Damaged lock	<input type="checkbox"/> Lacks access
				<input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-03</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-002</u>	Date: <u>9/10/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>85</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>37.58</u>	
Damage/repairs needed: <u>Bollards need painting</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KEICK 100 # 3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1055</u>	<u>1100</u>	<u>1120</u>	<u>1135</u>	<u>1210</u>	
Depth to Water (ft)	<u>6.63</u>	<u>5.63</u>	<u>5.89</u>	<u>5.97</u>	<u>6.02</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth (ft): <u>37.58</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Casing vol. (gal): (where applicable) <u>5.21</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408											
Time ("24:00" hr)	<u>1102</u>	<u>1105</u>	<u>1108</u>	<u>1111</u>	<u>1114</u>	<u>1117</u>	<u>1120</u>	<u>1123</u>	<u>1126</u>	<u>1129</u>	<u>1132</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.52</u>	<u>6.58</u>	<u>6.62</u>	<u>6.68</u>	<u>6.71</u>	<u>6.74</u>	<u>6.77</u>	<u>6.80</u>	<u>6.83</u>	<u>6.83</u>	<u>6.92</u>	
Temp. (°C)	<u>26.35</u>	<u>26.44</u>	<u>26.44</u>	<u>26.30</u>	<u>26.35</u>	<u>26.26</u>	<u>26.31</u>	<u>26.43</u>	<u>26.41</u>	<u>26.38</u>	<u>26.38</u>	
Spec. cond. (µS/cm)	<u>2650</u>	<u>2693</u>	<u>2727</u>	<u>2749</u>	<u>2760</u>	<u>2791</u>	<u>2860</u>	<u>3012</u>	<u>3123</u>	<u>3118</u>	<u>3113</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>152.8</u>	<u>25.60</u>	<u>9.30</u>	<u>5.11</u>	<u>4.71</u>	<u>6.18</u>	<u>3.47</u>	<u>8.23</u>	<u>4.41</u>	<u>6.83</u>	<u>3.82</u>	
Color/tint	-	-	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>9/10/13</u>	<u>1135</u>	<u>2</u>	<u>None</u>	<u>1-250µl H-3; 1-1gal cubitainer</u>

Sampler's Name (print): <u>ERIC NECAISO</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-04</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>9/10/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny 85</u>	Air Temp (°F): <u>85</u>	Wind: <u>5 mph West</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.73</u>	Damage/repairs needed: <u>Bollards need paint and dirt is washed away from bollards and pad</u>
Remarks:		

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input checked="" type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1041</u>	<u>1245</u>	<u>1300</u>	<u>1303</u>	<u>1345</u>	
Depth to Water (ft)	<u>8.41</u>	<u>8.41</u>	<u>9.11</u>	<u>9.23</u>	<u>9.67</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSE</u> <u>HE Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>37.40 32.73</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable) <u>4.40 4.79</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>1248</u>	<u>1251</u>	<u>1254</u>	<u>1257</u>	<u>1300</u>	<u>1303</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.6</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.80</u>	<u>6.61</u>	<u>6.58</u>	<u>6.56</u>	<u>6.54</u>	<u>6.56</u>	
Temp. (°C)	<u>26.13</u>	<u>25.89</u>	<u>26.00</u>	<u>26.07</u>	<u>26.02</u>	<u>26.06</u>	
Spec. cond. (µS/cm)	<u>4862</u>	<u>4729</u>	<u>4742</u>	<u>4798</u>	<u>4827</u>	<u>4864</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>12.95</u>	<u>13.81</u>	<u>9.83</u>	<u>11.09</u>	<u>8.49</u>	<u>11.81</u>	
Color/tint	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>9/10/13</u>	<u>1305</u>	<u>2</u>	<u>None</u>	<u>1-250 ml H-3, 1-1 gal calibration</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>Eric Necaise</u>
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-05</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>9/10/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Overcast</u>	Air Temp (°F): <u>85</u>	Wind: <u>None</u>
Well Locked? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Total Depth (ft) <u>37.59</u>	Damage/repairs needed: <u>Ballards need painting and dirt replaced near pad.</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>ICECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1015</u>	<u>1440</u>	<u>1457</u>	<u>1520</u>	<u>1600</u>	
Depth to Water (ft)	<u>5.83</u>	<u>5.85</u>	<u>6.13</u>	<u>6.12</u>	<u>6.15</u>	
Date (mm/dd/yy)	<u>2/10/13</u>	<u>2/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth (ft): <u>32.59</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Casing vol. (gal): (where applicable) <u>5.18</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408											
Time ("24:00" hr)	<u>1445</u>	<u>1448</u>	<u>1451</u>	<u>1454</u>	<u>1457</u>	<u>1500</u>	<u>1503</u>	<u>1506</u>	<u>1509</u>	<u>1512</u>	<u>1515</u>	Remarks <u>1518</u>
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.1</u>
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>
pH (su)	<u>7.58</u>	<u>7.33</u>	<u>7.26</u>	<u>7.22</u>	<u>7.20</u>	<u>7.18</u>	<u>7.16</u>	<u>7.11</u>	<u>7.08</u>	<u>7.03</u>	<u>7.03</u>	<u>7.06</u>
Temp. (°C)	<u>26.62</u>	<u>26.53</u>	<u>27.04</u>	<u>26.85</u>	<u>26.74</u>	<u>26.83</u>	<u>27.96</u>	<u>27.09</u>	<u>27.17</u>	<u>27.33</u>	<u>27.46</u>	<u>27.61</u>
Spec. cond. (µS/cm)	<u>4974</u>	<u>5217</u>	<u>5200</u>	<u>5169</u>	<u>5052</u>	<u>4803</u>	<u>4808</u>	<u>4617</u>	<u>4163</u>	<u>4017</u>	<u>4137</u>	<u>4228</u>
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity (NTU)	<u>35.19</u>	<u>4.03</u>	<u>11.13</u>	<u>6.71</u>	<u>4.18</u>	<u>3.72</u>	<u>2.11</u>	<u>6.81</u>	<u>7.23</u>	<u>11.18</u>	<u>42.13</u>	<u>36.22</u>
Color/tint	-	-	-	-	-	-	-	-	-	-	-	-
Odor	-	-	-	-	-	-	-	-	-	-	-	-

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>9/10/13</u>	<u>1520</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gal cube &</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
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Groundwater Sampling Record

Facility: <u>WF3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>9/11/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Sunny</u>	Air Temp (°F): <u>80</u>	Wind: <u>E-5 mph</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>35.40</u>	Damage/repairs needed: <u>Boilards and well need paint.</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1005</u>	<u>0815</u>	<u>0835</u>	<u>0845</u>	<u>0935</u>	
Depth to Water (ft)	<u>4.20</u>	<u>4.22</u>	<u>4.61</u>	<u>4.75</u>	<u>5.06</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>ISL</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>30.40</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>5.09</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408									
Time ("24:00" hr)	<u>0820</u>	<u>0823</u>	<u>0826</u>	<u>0829</u>	<u>0832</u>	<u>0835</u>	<u>0838</u>	<u>0841</u>	<u>0847</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.86</u>	<u>7.00</u>	<u>7.07</u>	<u>7.10</u>	<u>7.13</u>	<u>7.15</u>	<u>7.18</u>	<u>7.19</u>	<u>7.17</u>	
Temp. (°C)	<u>26.11</u>	<u>25.93</u>	<u>25.88</u>	<u>25.93</u>	<u>26.13</u>	<u>26.60</u>	<u>26.47</u>	<u>26.82</u>	<u>26.38</u>	
Spec. cond. (µS/cm)	<u>3026</u>	<u>2923</u>	<u>2986</u>	<u>2992</u>	<u>2990</u>	<u>2993</u>	<u>2974</u>	<u>3004</u>	<u>3013</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>1.57</u>	<u>1.07</u>	<u>0.74</u>	<u>0.59</u>	<u>0.86</u>	<u>1.86</u>	<u>5.17</u>	<u>3.30</u>	<u>4.73</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>9/11/13</u>	<u>0845</u>	<u>2</u>	<u>none</u>	<u>1-250 mL H-3; 1-1 gal cube</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>06045-003-002</u>	Date: <u>9/10/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Sunny</u>		Air Temp (°F): <u>85</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>41.15</u>	
Damage/repairs needed: <u>None</u>			
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>LECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0955</u>	<u>1619</u>	<u>1625</u>	<u>1633</u>	<u>1740</u>	
Depth to Water (ft)	<u>6.25</u>	<u>6.25</u>	<u>7.12</u>	<u>7.23</u>	<u>7.03</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>36.15</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable) <u>5.69</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408					
Time ("24:00" hr)	<u>1620</u>	<u>1623</u>	<u>1626</u>	<u>1629</u>	<u>1632</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.89</u>	<u>6.72</u>	<u>6.67</u>	<u>6.68</u>	<u>6.67</u>	
Temp. (°C)	<u>25.64</u>	<u>25.90</u>	<u>25.87</u>	<u>25.77</u>	<u>25.78</u>	
Spec. cond. (µS/cm)	<u>1021</u>	<u>1008</u>	<u>1002</u>	<u>1002</u>	<u>1002</u>	
D.O. (mg/L)	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	
Turbidity (NTU)	<u>6.59</u>	<u>2.60</u>	<u>3.14</u>	<u>2.76</u>	<u>4.82</u>	
Color/tint	-	-	-	-	-	
Odor	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>9/10/13</u>	<u>1635</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gal d</u>
<u>DUP MW-07</u>	<u>"</u>	<u>1710</u>	<u>2</u>	<u>None</u>	<u>" "</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WFB</u>	Site ID: <u>MW-08</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-002</u>	Date: <u>9/11/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____				
Weather: <u>overcast</u>		Air Temp (°F): <u>85</u>		Wind: <u>E-5 mph</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>41.47</u>	Damage/repairs needed: <u>Dirt needs to be replaced around pad</u>		
Remarks:				

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0945</u>	<u>0945</u>	<u>0952</u>	<u>1003</u>	<u>1040</u>	
Depth to Water (ft)	<u>7.12</u>	<u>7.13</u>	<u>7.32</u>	<u>7.41</u>	<u>7.53</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>4F Seicatic</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>36.97</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal): (where applicable) <u>5.60</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time ("24:00" hr)	<u>0950</u>	<u>0953</u>	<u>0956</u>	<u>0959</u>	<u>1002</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>7.22</u>	<u>6.67</u>	<u>6.59</u>	<u>6.58</u>	<u>6.59</u>	
Temp. (°C)	<u>27.23</u>	<u>26.11</u>	<u>26.13</u>	<u>26.16</u>	<u>26.15</u>	
Spec. cond. (µS/cm)	<u>1234</u>	<u>1083</u>	<u>1060</u>	<u>1055</u>	<u>1059</u>	
D.O. (mg/L)	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	
Turbidity (NTU)	<u>3.24</u>	<u>7.88</u>	<u>2.50</u>	<u>2.26</u>	<u>3.68</u>	
Color/tint	-	-	-	-	-	
Odor	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>9/11/13</u>	<u>1005</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gal</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-09</u>	Sampler: <u>EFN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-002</u>	Date: <u>9/11/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other			
Weather: <u>Overcast</u>		Air Temp (°F): <u>85</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>40.22</u> Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECK 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0935</u>	<u>1046</u>	<u>1100</u>	<u>1105</u>	<u>1140</u>	
Depth to Water (ft)	<u>5.00</u>	<u>5.05</u>	<u>5.15</u>	<u>5.16</u>	<u>5.18</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/10/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HFS Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC				
Purge depth (ft): <u>35.22</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable) <u>5.74</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>1048</u>	<u>1051</u>	<u>1054</u>	<u>1057</u>	<u>1100</u>	<u>1103</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.93</u>	<u>6.88</u>	<u>6.87</u>	<u>6.88</u>	<u>6.88</u>	<u>6.88</u>	
Temp. (°C)	<u>25.59</u>	<u>25.63</u>	<u>25.68</u>	<u>25.54</u>	<u>25.68</u>	<u>25.71</u>	
Spec. cond. (µS/cm)	<u>25.42</u>	<u>25.62</u>	<u>25.71</u>	<u>25.95</u>	<u>25.13</u>	<u>25.24</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>4.18</u>	<u>18.41</u>	<u>1.59</u>	<u>7.01</u>	<u>3.73</u>	<u>4.92</u>	
Color/tint	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>9/11/13</u>	<u>1105</u>	<u>2</u>	<u>None</u>	<u>1- 250ml H-3; 1- 1gal</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WE3</u>	Site ID: <u>MW-10</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-062</u>	Date: <u>9/11/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other					
Weather: <u>Overcast</u>		Air Temp (°F): <u>85</u>		Wind: <u>10 mph East</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft): <u>32.82</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water Level Meter Make/Model No. <u>REC 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1025</u>	<u>1151</u>	<u>1210</u>	<u>1217</u>	<u>1255</u>	
Depth to Water (ft)	<u>9.49</u>	<u>9.50</u>	<u>9.65</u>	<u>9.71</u>	<u>9.73</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSE</u> <u>HF Scientific</u>		Unit or Serial No: <u>#1</u> <u>#1</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible		Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>27.82</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>3.81</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1155</u>	<u>1159</u>	<u>1201</u>	<u>1204</u>	<u>1207</u>	<u>1210</u>	<u>1213</u>	<u>1216</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.86</u>	<u>6.76</u>	<u>6.73</u>	<u>6.72</u>	<u>6.72</u>	<u>6.72</u>	<u>6.74</u>	<u>6.75</u>	
Temp. (°C)	<u>25.71</u>	<u>26.17</u>	<u>25.78</u>	<u>26.00</u>	<u>25.70</u>	<u>25.73</u>	<u>25.41</u>	<u>25.42</u>	
Spec. cond. (µS/cm)	<u>4844</u>	<u>5006</u>	<u>5137</u>	<u>5249</u>	<u>6178</u>	<u>6437</u>	<u>6489</u>	<u>6471</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>5.62</u>	<u>3.90</u>	<u>2.46</u>	<u>2.67</u>	<u>1.88</u>	<u>1.33</u>	<u>1.63</u>	<u>1.61</u>	
Color/tint	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-10</u>	<u>9/11/13</u>	<u>1220</u>	<u>2</u>	<u>None</u>	<u>1-250 ml #3, 1-1 gal</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF 3</u>	Site ID: <u>MW-11</u>	Sampler: <u>ENN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-602</u>	Date: <u>9/11/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other					
Weather: <u>Overcast</u>		Air Temp (°F): <u>85</u>		Wind: <u>10 mph SW</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>38.29</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>KECIC 100 #3</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1035</u>	<u>1300</u>	<u>1315</u>	<u>1320</u>	<u>1355</u>	
Depth to Water (ft)	<u>9.71</u>	<u>9.75</u>	<u>11.61</u>	<u>11.70</u>	<u>12.37</u>	
Date (mm/dd/yy)	<u>9/10/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	<u>9/11/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#1</u> <u>#1</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
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Purge depth (ft): <u>33.29</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
Casing vol. (gal): (where applicable)		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408						
Time ("24:00" hr)	<u>1301</u>	<u>1304</u>	<u>1307</u>	<u>1310</u>	<u>1313</u>	<u>1316</u>	<u>1319</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>6.97</u>	<u>6.81</u>	<u>6.75</u>	<u>6.72</u>	<u>6.70</u>	<u>6.68</u>	<u>6.70</u>	
Temp. (°C)	<u>26.62</u>	<u>26.07</u>	<u>25.92</u>	<u>26.09</u>	<u>25.89</u>	<u>25.97</u>	<u>26.05</u>	
Spec. cond. (µS/cm)	<u>5325</u>	<u>4885</u>	<u>4836</u>	<u>4842</u>	<u>4866</u>	<u>4921</u>	<u>4979</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>25.58</u>	<u>11.51</u>	<u>6.20</u>	<u>3.67</u>	<u>3.55</u>	<u>3.08</u>	<u>3.91</u>	
Color/tint	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>9/11/13</u>	<u>1320</u>	<u>2</u>	<u>none</u>	<u>1-250ml H-3; 1-gal</u>
<u>EB MW-11</u>	<u>"</u>	<u>1400</u>	<u>2</u>	<u>none</u>	<u>"</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
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Date 9/11/13		Project Name WF-3			Project Number 06045-0031-002			Project Manager (Print) BOB WEST			Page 1 of 2																										
Laboratory Name				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338				Parameters (Method Number)				Lab Turn-Around Time																									
Phone: ()				Recorded By (Print) ERIC NECAISE				<table border="1" style="width:100%; height:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="text-align:center;">I</td> <td style="text-align:center;">W</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																I	W											<input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: ___/___/___	
I	W																																				
Sampler Signature(s) <i>Eric Necaise</i>				SAMPLE DESCRIPTION				Laboratory Notes																													
Field Sample Number		Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers					Method																									
				W	S	O			Comp	Grab																											
MW-03		9/10/13	1135	X			2			X	X																										
MW-04		↓	1305	X			2			X	X																										
MW-05			1520	X			2			X	X																										
MW-07			1635	X			2			X	X																										
Dup MW-07			1710	X			2			X	X																										
MW-06		9/11/13	0845	X			2			X	X																										
MW-08		↓	1005	X			2			X	X																										
MW-09			1105	X			2			X	X																										
MW-10			1220	X			2			X	X																										
MW-11			1320	X			2			X	X																										
* Matrix: W = Water S = Soil O = Other																																					
Relinquished By (Signature) <i>Eric Necaise</i>		Print Name ERIC NECAISE		Date 9/11/13		Time 1410		Received By (Signature) <i>Danielle Breaud</i>		Print Name Danielle Breaud																											
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name																											
Sampler Remarks						Laboratory Remarks:																															



Date <i>9/11/13</i>		Project Name <i>WF3</i>			Project Number <i>06045 0031-002</i>			Project Manager (Print) <i>BOB WEST</i>				Page <u>2</u> of <u>2</u>			
Laboratory Name				Submitted by: FTN Associates, Ltd. 124 W. Sunbridge Drive, Suite 3 Fayetteville, AR 72703 (479) 571-3334 • Fax (479) 571-3338					Parameters (Method Number)				Lab Turn-Around Time		
Phone: ()				Recorded By (Print) <i>ERIC NECAISE</i>					<div style="float: right; text-align: right;"> <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> 7 Days <input type="checkbox"/> Other: Due: <u>1-1</u> </div>				Laboratory Notes		
Sampler Signature(s) <i>Eric Necaise</i>															
SAMPLE DESCRIPTION															
Field Sample Number	Date (mm/dd/yy)	Time (hh:mm)	Matrix*			Number of Containers	Method								
			W	S	O		Comp	Grab							
<i>EB MW-11</i>	<i>9/10/13</i>	<i>1400</i>	<i>X</i>			<i>2</i>		<i>X</i>	<i>✓</i>	<i>✓</i>					
* Matrix: W = Water S = Soil O = Other															
Relinquished By (Signature) <i>Eric Necaise</i>		Print Name <i>ERIC NECAISE</i>		Date <i>9/11/13</i>		Time <i>1410</i>		Received By (Signature) <i>Danielle Breaud</i>		Print Name <i>Danielle Breaud</i>		Date <i>9/11/13</i>		Time <i>1410</i>	
Relinquished By (Signature)		Print Name		Date		Time		Received By Laboratory (Signature)		Print Name		Date		Time	
Sampler Remarks								Laboratory Remarks:							



FTN Associates Calibration Form

Date/Time: 12/17/13 0245
 Prepared By: EPN
 Location: Waterford-3
 Project #: 06045-0031-002

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
YSI	#2	Cond	1413	uS/cm	12.10	1365	(Y) N	1413	2A1351 Ex 12/13
		pH	7	su	11.87	7.05	(Y) N	7.00	3AG547 7/15
		pH	(4)/10	su	13.66	4.04	(Y) N	4.00	3AI959 9/15
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp		Degrees C	13.68	14.0	N	N/A	
							Y N		
HF Screen 4.6	#2	Turbidity	0.02	NTU	N/A	0.00	Y N	0.05	20201 Ex 2/14
		Turbidity	10.0	NTU	N/A	8.54	Y N	9.79	20239 Ex 2/14
		Turbidity	1000	NTU	N/A	997.9	Y N	1001	20404 Ex 4/14
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

- Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
- pH Calibration (pH Method: EPA 150.1)
- DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
- Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



FTN Associates Calibration Form

Date/Time: 12/19/13 0730

Prepared By: EFN

Location: Waterford - 3

Project #: 06045-0031-002

Instrument Type	Instrument ID	Parameter	Standard (su)	Units	Temp. of Standard (degrees C)	Reading Prior to Calibration	Calibrated	Post Calibration Reading	Comments
		Cond	0	uS/cm			Y N		
<u>YSI</u>	<u>#2</u>	Cond	<u>1413</u>	uS/cm	<u>7.34</u>	<u>1488</u>	<u>Ⓢ</u> N	<u>1413</u>	<u>2AL351 Ex 12/13</u>
		pH	<u>7</u>	su	<u>8.60</u>	<u>6.87</u>	<u>Ⓢ</u> N	<u>7.00</u>	<u>3AG547 7/15</u>
		pH	<u>(A) 10</u>	su	<u>8.17</u>	<u>3.95</u>	<u>Ⓢ</u> N	<u>4.00</u>	<u>3AI959 9/15</u>
		DO		mm/Hg		mg/l	Y N	mg/l	
		Temp	<u>8.23</u>	Degrees C	<u>8.0</u>		N	N/A	
							Y N		
<u>HF Scientific</u>	<u>#2</u>	Turbidity	<u>0.02</u>	NTU	N/A	<u>0.71</u>	Y N	<u>0.01</u>	<u>20201 Ex 2/14</u>
		Turbidity	<u>16.0</u>	NTU	N/A	<u>12.84</u>	Y N	<u>9.83</u>	<u>20239 Ex 2/14</u>
		Turbidity	<u>1000</u>	NTU	N/A	<u>961.5</u>	Y N	<u>1032</u>	<u>20404 Ex 4/14</u>
		Turbidity		NTU	N/A		Y N		
Comments:									

Notes:

1. Specific Conductivity Calibration: Calibrate first to zero using air, then to standard using standard solution.
2. pH Calibration (pH Method: EPA 150.1)
3. DO Calibration: Use 100% air saturation method. Use pressure in mm/Hg as standard to calibrate in DO% saturation. Record readings in mg/l.
4. Temperature Calibration: No calibration is necessary. Record temperature of standard using thermometer while in calibration cup.

Then record sonde temperature reading.

Precision and accuracy targets are commonly based on relative percent differences. Precision is either based on a relative percent difference between replicates (analytical precision) or duplicate samples (method precision) as follows:

$$\text{Relative Percent Difference (RPD)} = 100 * (\text{rep1} - \text{rep2}) / (\text{rep1} + \text{rep2}) / 2$$

The standard deviation of the average of a group of replicate (or duplicate) pairs represents the precision for a measurement parameter. For accuracy, percent difference is determined relative to a known or target value and is as follows:

$$\text{Percent Difference} = 100 * (\text{observed} - \text{target}) / \text{target}$$



Groundwater Level Data Sheet

Project Name: Waterford-3	Project Number: 6045-0031-002	Investigator: EFA	Page <u>1</u> of <u>1</u>
Weather Conditions: Sunny	Measuring Device: Solonist 200'		

Well ID	Date	Time	Depth to Water (feet below RP)	Damages/Repairs		
MW-03	12/17/13	0800	5.75	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-04		0815	8.64	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-10		08 25	10.03	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-11		0830	10.34	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-05		0840	5.32	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-06		0850	4.08	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-07		0900	6.54	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-08		0910	7.32	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-09		0920	3.53	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
MW-12	✓	1100	7.16	<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record
				<input type="checkbox"/> Damaged well pad/casing <input type="checkbox"/> Damaged bollards <input type="checkbox"/> Damaged equipment	<input type="checkbox"/> Damaged TOC <input type="checkbox"/> Damaged lock <input type="checkbox"/> Un-kept vegetation	<input type="checkbox"/> Lacks visibility <input type="checkbox"/> Lacks access <input type="checkbox"/> See gw sample record

Notes:
 RP = Reference Point
 TOC = Top of Casing
 gw = groundwater

Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-03</u>	Sampler: <u>EFN</u>	
Project Number: <u>06045-0031-002</u>	Date: <u>12/17/13</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>65</u>	
Wind: <u>None</u>			
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.58</u>	Damage/repairs needed:	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Mod 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0800</u>	<u>1450</u>	<u>1505</u>	<u>1507</u>	<u>1525</u>	
Depth to Water (ft)	<u>5.75</u>	<u>5.75</u>	<u>5.92</u>	<u>5.93</u>	<u>6.04</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSE</u> <u>HF Scientific</u>	Unit or Serial No: <u>#2</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC								
Purge depth (ft): <u>32.58</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No										
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408										
Time ("24:00" hr)	<u>1455</u>	<u>1458</u>	<u>1501</u>	<u>1504</u>	<u>1507</u>						Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.08</u>	<u>6.15</u>	<u>0.25</u>	<u>0.4</u>						
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>						
pH (su)	<u>7.60</u>	<u>7.45</u>	<u>7.35</u>	<u>7.32</u>	<u>7.34</u>						
Temp. (°C)	<u>21.10</u>	<u>21.38</u>	<u>21.44</u>	<u>21.23</u>	<u>21.21</u>						
Spec. cond. (µS/cm)	<u>2695</u>	<u>2711</u>	<u>2722</u>	<u>2769</u>	<u>2782</u>						
D.O. (mg/L)	-			-	-						
ORP (mV)	-			-	-						
Turbidity (NTU)	<u>18.47</u>	<u>16.82</u>	<u>15.05</u>	<u>13.49</u>	<u>11.81</u>						
Color/tint	-	-	-	-	-						
Odor	-	-	-	-	-						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-03</u>	<u>12/12/13</u>	<u>1510</u>	<u>2</u>	<u>None</u>	<u>1-250 ml H-3; 1-1 gal Gamma</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WATERFORD - B</u>	Site ID: <u>MW-04</u>	Sampler: <u>EPN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>12/17/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Sunny</u>		Air Temp (°F): <u>65</u>		Wind: <u>None</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>37.73</u>		Damage/repairs needed: <u>None</u>	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Model 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0815</u>	<u>1550</u>	<u>1600</u>	<u>1609</u>	<u>1640</u>	
Depth to Water (ft)	<u>8.64</u>	<u>8.68</u>	<u>8.71</u>	<u>8.76</u>	<u>9.03</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HF Scientific</u>	Unit or Serial No: <u>#2</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth (ft): <u>32.73</u>	Well goes dry during purging: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1551</u>	<u>1554</u>	<u>1557</u>	<u>1600</u>	<u>1603</u>	<u>1604</u>	<u>1609</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.08</u>	<u>0.16</u>	<u>0.25</u>	<u>0.4</u>	<u>0.45</u>	<u>0.5</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>7.15</u>	<u>6.92</u>	<u>6.91</u>	<u>6.89</u>	<u>6.85</u>	<u>6.90</u>	<u>6.91</u>	
Temp. (°C)	<u>20.87</u>	<u>21.09</u>	<u>21.06</u>	<u>20.95</u>	<u>21.01</u>	<u>22.01</u>	<u>22.26</u>	
Spec. cond. (µS/cm)	<u>5096</u>	<u>5067</u>	<u>5775</u>	<u>5214</u>	<u>5329</u>	<u>5240</u>	<u>5237</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>13.11</u>	<u>8.43</u>	<u>2.71</u>	<u>3.90</u>	<u>2.18</u>	<u>3.81</u>	<u>4.37</u>	
Color/tint	-							
Odor	-							

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-04</u>	<u>12/17/13</u>	<u>1610</u>	<u>2</u>	<u>None</u>	<u>1-250 ml H-3 ; 1-1gal Gamma</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-05</u>	Sampler: <u>ERIC NECAISE</u>
Project Number: <u>06045-0031-002</u>	Date: <u>12/18/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny</u>	Air Temp (°F): <u>45</u>	Wind: <u>None</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>37.59</u>	Damage/repairs needed: <u>Fill needed around bollards</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Model 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0840</u>	<u>0840</u>	<u>0905</u>	<u>0918</u>	<u>0950</u>	
Depth to Water (ft)	<u>5.32</u>	<u>5.38</u>	<u>5.72</u>	<u>5.71</u>	<u>5.71</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>WF Screen 6" c</u>	Unit or Serial No: <u>#2</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC									
Purge depth (ft): <u>32.59</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408											
Time ("24:00" hr)	<u>0845</u>	<u>0848</u>	<u>0851</u>	<u>0854</u>	<u>0857</u>	<u>0900</u>	<u>0903</u>	<u>0906</u>	<u>0909</u>	<u>0912</u>	<u>0915</u>	Remarks <u>0918</u>
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	<u>0.9</u>	<u>1.0</u>	<u>1.1</u>
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>
pH (su)	<u>8.80</u>	<u>9.10</u>	<u>9.89</u>	<u>9.79</u>	<u>9.70</u>	<u>9.64</u>	<u>9.52</u>	<u>9.48</u>	<u>9.43</u>	<u>9.36</u>	<u>9.31</u>	<u>9.30</u>
Temp. (°C)	<u>12.43</u>	<u>18.91</u>	<u>19.40</u>	<u>19.47</u>	<u>19.66</u>	<u>19.81</u>	<u>20.34</u>	<u>20.32</u>	<u>20.37</u>	<u>20.41</u>	<u>20.29</u>	<u>20.24</u>
Spec. cond. (µS/cm)	<u>4673</u>	<u>4485</u>	<u>3623</u>	<u>3213</u>	<u>2928</u>	<u>2755</u>	<u>2512</u>	<u>2456</u>	<u>2427</u>	<u>2365</u>	<u>2350</u>	<u>2358</u>
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-
ORP (mV)	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity (NTU)	<u>6.54</u>	<u>7.11</u>	<u>7.81</u>	<u>7.08</u>	<u>5.70</u>	<u>3.74</u>	<u>6.40</u>	<u>9.21</u>	<u>7.52</u>	<u>4.18</u>	<u>3.86</u>	<u>6.81</u>
Color/tint	-	-	-	-	-	-	-	-	-	-	-	-
Odor	-	-	-	-	-	-	-	-	-	-	-	-

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-05</u>	<u>12/18/13</u>	<u>0920</u>	<u>2</u>	<u>None</u>	<u>1-250mL H-3, 1-1 gal A</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF3</u>	Site ID: <u>MW-06</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>12/18/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____		
Weather: <u>Sunny</u>	Air Temp (°F): <u>50</u>	Wind: <u>N-S</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>35.40</u>	Damage/repairs needed:
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Model 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0850</u>	<u>1000</u>	<u>1015</u>	<u>1029</u>	<u>1100</u>	
Depth to Water (ft)	<u>4.08</u>	<u>4.11</u>	<u>4.88</u>	<u>4.93</u>	<u>5.11</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSE</u> <u>HE Scientific</u>	Unit or Serial No: <u>#2</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC							
Purge depth (ft): <u>30.40</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24:00" hr)	<u>1006</u>	<u>1009</u>	<u>1012</u>	<u>1015</u>	<u>1018</u>	<u>1021</u>	<u>1023</u>	<u>1026</u>	<u>1029</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>	<u>0.8</u>	
Purge rate (mL/min)	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	<u>125</u>	
pH (su)	<u>9.43</u>	<u>9.35</u>	<u>9.25</u>	<u>9.23</u>	<u>9.21</u>	<u>9.18</u>	<u>9.14</u>	<u>9.10</u>	<u>9.12</u>	
Temp. (°C)	<u>19.32</u>	<u>19.68</u>	<u>20.17</u>	<u>20.24</u>	<u>20.45</u>	<u>20.28</u>	<u>20.33</u>	<u>20.41</u>	<u>20.42</u>	
Spec. cond. (µS/cm)	<u>2887</u>	<u>2881</u>	<u>2884</u>	<u>2894</u>	<u>2902</u>	<u>2910</u>	<u>2903</u>	<u>2906</u>	<u>2900</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>21.52</u>	<u>18.06</u>	<u>11.75</u>	<u>7.23</u>	<u>4.09</u>	<u>3.71</u>	<u>2.86</u>	<u>4.11</u>	<u>4.82</u>	
Color/tint	-	-	-	-	-	-	-	-	-	
Odor	-	-	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-06</u>	<u>12/18/13</u>	<u>1030</u>	<u>2</u>	<u>None</u>	<u>1-250mL H-3; 1-1gal a</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-07</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>12/18/13</u>	FTN Associates, Ltd

Site Description

Type: <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____				
Weather: <u>Sunny</u>		Air Temp (°F): <u>60</u>		Wind: _____
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>41.15</u>	Damage/repairs needed: <u>None</u>		
Remarks: _____				

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Mod 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0900</u>	<u>1110</u>	<u>1130</u>	<u>1135</u>	<u>1215</u>	
Depth to Water (ft)	<u>6.54</u>	<u>6.58</u>	<u>7.22</u>	<u>7.31</u>	<u>7.53</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSL HF Scientific</u>	Unit or Serial No: <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC
Purge depth (ft): <u>36.15</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408		

Time ("24:00" hr)	<u>1118</u>	<u>1121</u>	<u>1124</u>	<u>1127</u>	<u>1130</u>	<u>1133</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.25</u>	<u>0.3</u>	<u>0.4</u>	
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	
pH (su)	<u>9.58</u>	<u>8.94</u>	<u>8.81</u>	<u>8.74</u>	<u>8.72</u>	<u>8.73</u>	
Temp. (°C)	<u>20.95</u>	<u>22.09</u>	<u>22.12</u>	<u>22.23</u>	<u>22.17</u>	<u>22.16</u>	
Spec. cond. (µS/cm)	<u>1254</u>	<u>969</u>	<u>953</u>	<u>955</u>	<u>957</u>	<u>961</u>	
D.O. (mg/L)	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	
Turbidity (NTU)	<u>7.79</u>	<u>7.43</u>	<u>6.97</u>	<u>5.13</u>	<u>4.27</u>	<u>4.06</u>	
Color/tint	-						
Odor	-						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-07</u>	<u>12/18/13</u>	<u>1135</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gal α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
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Groundwater Sampling Record

Facility: <u>WF-3</u>	Site ID: <u>MW-08</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>12/18/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>65</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>41.47</u> Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Mod 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0910</u>	<u>1240</u>	<u>1300</u>	<u>1303</u>	<u>1335</u>	
Depth to Water (ft)	<u>7.32</u>	<u>7.33</u>	<u>7.72</u>	<u>7.75</u>	<u>7.71</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>		Unit or Serial No: <u>#2</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible			Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC		
Purge depth (ft): <u>36.97</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408							
Time ("24:00" hr)	<u>1249</u>	<u>1252</u>	<u>1255</u>	<u>1258</u>	<u>1301</u>	<u>1303</u>			Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>			
Purge rate (mL/min)	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>	<u>150</u>			
pH (su)	<u>8.81</u>	<u>8.66</u>	<u>8.64</u>	<u>8.60</u>	<u>8.59</u>	<u>8.61</u>			
Temp. (°C)	<u>22.20</u>	<u>22.78</u>	<u>22.71</u>	<u>22.72</u>	<u>22.70</u>	<u>22.64</u>			
Spec. cond. (µS/cm)	<u>1095</u>	<u>1021</u>	<u>1024</u>	<u>1030</u>	<u>1036</u>	<u>1052</u>			
D.O. (mg/L)	-	-							
ORP (mV)	-	-							
Turbidity (NTU)	<u>1254</u>	<u>6.83</u>	<u>8.50</u>	<u>5.06</u>	<u>5.57</u>	<u>6.11</u>			
Color/tint	-	-	-	-	-	-			
Odor	-	-	-	-	-	-			

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-08</u>	<u>12/18/13</u>	<u>1305</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gal gamma</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: 
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Groundwater Sampling Record

Facility: <u>WF3</u>	Site ID: <u>MW-09</u>	Sampler: <u>EFN</u>	
Project Number: <u>06045-0031-002</u>	Date: <u>12/18/13</u>	FTN Associates, Ltd	

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>SUNNY</u>		Air Temp (°F): <u>63</u>	
Well Locked? <input type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>40.22</u> Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solinst Model 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0920</u>	<u>1340</u>	<u>1350</u>	<u>1352</u>	<u>1415</u>	
Depth to Water (ft)	<u>3.53</u>	<u>3.59</u>	<u>3.70</u>	<u>3.72</u>	<u>3.73</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VST</u> <u>HF Scientific</u>	Unit or Serial No: <u># 2</u> <u># 2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>35.22</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Casing vol. (gal) (where applicable): <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408					
Time ("24:00" hr)	<u>1342</u>	<u>1345</u>	<u>1348</u>	<u>1351</u>	Remarks	
Purge vol. (gal)	<u>0.0</u>	<u>0.15</u>	<u>0.3</u>	<u>0.45</u>		
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>		
pH (su)	<u>8.80</u>	<u>8.67</u>	<u>8.66</u>	<u>8.67</u>		
Temp. (°C)	<u>21.64</u>	<u>21.55</u>	<u>21.61</u>	<u>21.73</u>		
Spec. cond. (µS/cm)	<u>2148</u>	<u>2108</u>	<u>2113</u>	<u>2151</u>		
D.O. (mg/L)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
ORP (mV)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>		
Turbidity (NTU)	<u>8.87</u>	<u>5.28</u>	<u>5.78</u>	<u>6.67</u>		
Color/tint						
Odor						

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-09</u>	<u>12/18/13</u>	<u>1355</u>	<u>2</u>	<u>None</u>	<u>1-250 ml H-3; 1-1 gal α</u>

Sampler's Name (print): <u>ERIC NECHIST</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF3</u>	Site ID: <u>MW-10</u>	Sampler: <u>EPN</u>	FTN Associates, Ltd
Project Number: <u>06045-0031-002</u>	Date: <u>12/18/13</u>		

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____			
Weather: <u>Sunny</u>		Air Temp (°F): <u>65</u>	Wind: <u>N-S</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>32.82</u>	Damage/repairs needed: <u>None</u>	
Remarks:			

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other: _____	Water level Meter Make/Model No. <u>Solinst Mod 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0825</u>	<u>1440</u>	<u>1455</u>	<u>1503</u>	<u>1545</u>	
Depth to Water (ft)	<u>10.03</u>	<u>10.05</u>	<u>10.28</u>	<u>10.32</u>	<u>10.33</u>	
Date (mm/dd/yy)	<u>12/12/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (if present)						
DNAPL Thickness (ft) (if present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>VSI</u> <u>HE Scientific</u>	Unit or Serial No: <u>#2</u> <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC												
Purge depth (ft): <u>30</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] • [well ID (inches) ²] • 0.0408														
Time ("24:00" hr)	<u>1445</u>	<u>1448</u>	<u>1451</u>	<u>1454</u>	<u>1457</u>	<u>1500</u>	<u>1503</u>								Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	<u>0.7</u>								
Purge rate (mL/min)	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>								
pH (su)	<u>8.93</u>	<u>8.79</u>	<u>8.74</u>	<u>8.70</u>	<u>8.72</u>	<u>8.75</u>	<u>8.74</u>								
Temp. (°C)	<u>21.97</u>	<u>22.17</u>	<u>22.14</u>	<u>22.23</u>	<u>22.25</u>	<u>22.12</u>	<u>22.18</u>								
Spec. cond. (µS/cm)	<u>4980</u>	<u>4968</u>	<u>5240</u>	<u>5748</u>	<u>6322</u>	<u>6348</u>	<u>6341</u>								
D.O. (mg/L)	-	-	-	-	-	-	-								
ORP (mV)	-	-	-	-	-	-	-								
Turbidity (NTU)	<u>14.44</u>	<u>9.74</u>	<u>5.34</u>	<u>8.02</u>	<u>4.42</u>	<u>6.49</u>	<u>5.17</u>								
Color/tint															
Odor															

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-10</u>	<u>12/18/13</u>	<u>1505</u>	<u>2</u>	<u>None</u>	<u>1-250ml H-3; 1-1gd ✓</u>
<u>DUP MW-10</u>	<u>"</u>	<u>1525</u>	<u>"</u>	<u>"</u>	<u>"</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>WF3</u>	Site ID: <u>MW-11</u>	Sampler: <u>EFN</u>
Project Number: <u>6045-0031-002</u>	Date: <u>12/18/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other _____					
Weather: <u>Sunny</u>		Air Temp (°F): <u>60</u>		Wind: <u>N-S</u>	
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Total Depth (ft) <u>38.2⁹</u>		Damage/repairs needed:	
Remarks:					

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No. <u>Solust Mod 122</u>			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>0830</u>	<u>1550</u>	<u>1615</u>	<u>1618</u>	<u>1700</u>	
Depth to Water (ft)	<u>10.34</u>	<u>10.39</u>	<u>12.10</u>	<u>12.34</u>	<u>12.85</u>	
Date (mm/dd/yy)	<u>12/17/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	<u>12/18/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>		Unit or Serial No: <u>#2</u>		Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible				Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC			
Purge depth (ft): <u>30</u>		Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Casing vol. (gal): (where applicable) <u>N/A</u>		= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408									
Time ("24:00" hr)	<u>1600</u>	<u>1603</u>	<u>1606</u>	<u>1609</u>	<u>1612</u>	<u>1615</u>	<u>1618</u>				Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.09</u>	<u>0.1</u>	<u>0.15</u>	<u>0.2</u>	<u>0.25</u>	<u>0.3</u>				
Purge rate (mL/min)	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>				
pH (su)	<u>9.13</u>	<u>8.93</u>	<u>8.85</u>	<u>8.81</u>	<u>8.80</u>	<u>8.78</u>	<u>8.81</u>				
Temp. (°C)	<u>20.89</u>	<u>20.91</u>	<u>21.09</u>	<u>21.23</u>	<u>21.18</u>	<u>21.08</u>	<u>21.05</u>				
Spec. cond. (µS/cm)	<u>5936</u>	<u>5814</u>	<u>5751</u>	<u>5716</u>	<u>5724</u>	<u>5743</u>	<u>5752</u>				
D.O. (mg/L)	-	-	-	-	-	-	-				
ORP (mV)	-	-	-	-	-	-	-				
Turbidity (NTU)	<u>18.61</u>	<u>17.37</u>	<u>6.75</u>	<u>2.73</u>	<u>3.17</u>	<u>4.82</u>	<u>6.12</u>				
Color/tint	<u>10.61</u>										
Odor	-										

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-11</u>	<u>12/18/13</u>	<u>1620</u>	<u>2</u>	<u>None</u>	<u>1-250 ml H-3; 1-1gal Gamma</u>
<u>EB MW-11</u>	<u>18</u>	<u>1700</u>	<u>1</u>	<u>"</u>	<u>1-250 ml H-3</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Groundwater Sampling Record

Facility: <u>Waterford - 3</u>	Site ID: <u>MW-12</u>	Sampler: <u>EFN</u>
Project Number: <u>06045-0031-002</u>	Date: <u>12/17/13</u>	FTN Associates, Ltd

Site Description

Type: <input checked="" type="checkbox"/> Monitoring Well <input type="checkbox"/> Temporary Well <input type="checkbox"/> Extraction Well <input type="checkbox"/> Production Well <input type="checkbox"/> Dewatering Well <input type="checkbox"/> Borehole <input type="checkbox"/> Other		
Weather: <u>Sunny</u>	Air Temp (°F): <u>65</u>	Wind: <u>No wind</u>
Well Locked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Total Depth (ft) <u>39.7 lys</u>	Damage/repairs needed: <u>None</u>
Remarks:		

Water Level Data

Measuring point description: <input checked="" type="checkbox"/> Mark/notch on TOC <input type="checkbox"/> North rim of TOC <input type="checkbox"/> Other:	Water level Meter Make/Model No.			Serial No. (Optional):		
	Pre-purge initial	Pre-purge confirmation	During purging	Purge end	After sampling	Remarks
Time ("24:00" hr)	<u>1100</u>	<u>1255</u>	<u>1315</u>	<u>1323</u>	<u>1350</u>	
Depth to Water (ft)	<u>7.16</u>	<u>7.70</u>	<u>7.74</u>	<u>7.75</u>	<u>7.72</u>	
Date (mm/dd/yy)	<u>12/12/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/17/13</u>	<u>12/12/13</u>	
LNAPL Thickness (ft) (If present)						
DNAPL Thickness (ft) (If present)						

Note: Record "S" in Remarks Column if sheen is observed.

Field Data

Instrument Make/Model No: <u>YSI</u>	Unit or Serial No: <u>#2</u>	Pump description: <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Bladder (dedicated / portable) <input type="checkbox"/> Submersible	Bailer description: <input type="checkbox"/> Disposable polyethylene <input type="checkbox"/> Disposable Teflon <input type="checkbox"/> Disposable PVC					
Purge depth (ft): <u>34.7 lys</u>	Well goes dry during purging: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No							
Casing vol. (gal): (where applicable) <u>N/A</u>	= [total depth (feet) - depth to water (feet)] * [well ID (inches) ²] * 0.0408							
Time ("24:00" hr)	<u>1304</u>	<u>1307</u>	<u>1310</u>	<u>1313</u>	<u>1316</u>	<u>1319</u>	<u>1322</u>	Remarks
Purge vol. (gal)	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.3</u>	<u>0.4</u>	<u>0.5</u>	<u>0.6</u>	
Purge rate (mL/min)	<u>175</u>	<u>175</u>	<u>175</u>	<u>175</u>	<u>175</u>	<u>175</u>	<u>175</u>	
pH (su)	<u>6.26</u>	<u>6.73</u>	<u>6.90</u>	<u>6.94</u>	<u>6.95</u>	<u>6.96</u>	<u>6.94</u>	
Temp. (°C)	<u>21.54</u>	<u>21.79</u>	<u>21.78</u>	<u>21.72</u>	<u>21.81</u>	<u>21.83</u>	<u>21.77</u>	
Spec. cond. (µS/cm)	<u>2443</u>	<u>2486</u>	<u>2457</u>	<u>2453</u>	<u>2437</u>	<u>2445</u>	<u>2468</u>	
D.O. (mg/L)	-	-	-	-	-	-	-	
ORP (mV)	-	-	-	-	-	-	-	
Turbidity (NTU)	<u>438.3</u>	<u>322.5</u>	<u>257.5</u>	<u>233.2</u>	<u>227.6</u>	<u>218.4</u>	<u>212.3</u>	
Color/tint	<u>gray</u>	<u>gray</u>	<u>gray</u>	<u>gray</u>	<u>gray</u>	<u>gray</u>	<u>gray</u>	
Odor	-	-	-	-	-	-	-	

Sample Data

Sample ID	Date	Time	# Containers	# Filtered	Remarks
<u>MW-12</u>	<u>12/17/13</u>	<u>1325</u>	<u>2</u>	<u>None</u>	<u>1-250 H-3; 1-1gal α</u>

Sampler's Name (print): <u>ERIC NECAISE</u>	Sampler Signature: <u>[Signature]</u>
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Date 12/18/13	Project Name WF 3	Project No 06045-0031-012	Project Manager (Print) BOB WEST				Page 1 of 2			
Laboratory Name: TULLDYNE		Submitted By: FTN Associates, Ltd. 3 Innwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 Fax: (501) 225-6738			Parameters (Method Number)				Lab Turnaround Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal <input type="checkbox"/> Other Due: / /	
Phone:		Recorded By (Print) ERIC NECAISE			H-3 GAMMA				Laboratory Notes	
Sampler Signature(s) <i>[Signature]</i>		SAMPLE DESCRIPTION								
Sample Identification	Date / Time	Matrix*			No. of Containers	Comp	Grab			
		W	S	O						
MW-12	12/13/13 1325	X			2		X			
MW-03	1510									
MW-04	1610									
MW-05	12/15/13 0920									
MW-06	1030									
MW-07	1135									
MW-08	1305									
MW-09	1355									
Container Type								G	P	
Preservative								NO	NO	
*Matrix: W = Water S = Soil O = Other		G = Glass P = Plastic V = VOA vials		T = Sodium Thiosulfate H = HCl to pH2 NO = None		S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12		Z = Zinc acetate		
Relinquished By (Signature) <i>[Signature]</i>	Print Name ERIC NECAISE	Date 12/18/13	Time 1700	Received By (Signature) <i>[Signature]</i>	Print Name Danielle Breaud	Date 12/18/13	Time 1700			
Relinquished By (Signature)	Print Name	Date	Time	Received By (Signature)	Print Name	Date	Time			
Sampler Remarks:				Laboratory Remarks:						



Date <i>12/18/13</i>	Project Name <i>WF3</i>	Project No <i>06045-0031-002</i>	Project Manager (Print) <i>BOB WEST</i>				Page <i>2</i> of <i>2</i>							
Laboratory Name: <i>TELE DYNE</i>		Submitted By: FTN Associates, Ltd. 3 Innwood Circle, Suite 220 Little Rock, AR 72211 (501) 225-7779 Fax: (501) 225-6738		Parameters (Method Number)				Lab Turnaround Time <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/> Normal <input type="checkbox"/> Other Due: <u> </u> / <u> </u> / <u> </u>						
Phone:		Recorded By (Print) <i>ERIC NECAISE</i>												
Sampler Signature(s) <i>[Signature]</i>		Recorded By (Print) <i>ERIC NECAISE</i>		<i>H-3</i> <i>GAMMA</i>	<i>H-3</i> <i>GAMMA</i>			Laboratory Notes						
SAMPLE DESCRIPTION														
Sample Identification	Date / Time	Matrix*							No. of Containers	Comp	Grab			
		W	S										O	
<i>MW-10</i>	<i>12/18/13 1505</i>	<i>X</i>								<i>2</i>			<i>X</i>	
<i>DUP MW-10</i>	<i>1525</i>	<i>↓</i>								<i>↓</i>			<i>↓</i>	
<i>MW-11</i>	<i>1620</i>	<i>↓</i>								<i>↓</i>			<i>↓</i>	
<i>FB MW-11</i>	<i>1700</i>	<i>↓</i>								<i>↓</i>			<i>↓</i>	
Container Type				<i>G</i>	<i>P</i>									
Preservative				<i>NO</i>	<i>NO</i>									
*Matrix: W = Water S = Soil O = Other		G = Glass P = Plastic V = VOA vials		T = Sodium Thiosulfate H = HC1 to pH2 NO = None		S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12		Z = Zinc acetate						
Relinquished By (Signature) <i>[Signature]</i>	Print Name <i>ERIC NECAISE</i>	Date <i>12/18/13</i>	Time <i>1700</i>	Received By (Signature) <i>[Signature]</i>	Print Name <i>Danielle Breaud</i>	Date <i>12/18/13</i>	Time <i>1700</i>							
Relinquished By (Signature)	Print Name	Date	Time	Received By (Signature)	Print Name	Date	Time							
Sampler Remarks:				Laboratory Remarks:										

DOCUMENT 1