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**FINAL**  
**2017 LAND USE CONTROL INSPECTION TECHNICAL MEMORANDUM**  
**FLEET LOGISTICS CENTER PUGET SOUND**  
**MANCHESTER FUEL DEPOT**  
**MANCHESTER, WASHINGTON**

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## ACRONYMS AND ABBREVIATIONS

Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
GPS	global positioning system
LUC	land use control
MFD	Manchester Fuel Depot
MTCA	Model Toxic Control Act
NAVFAC	Naval Facilities Engineering Command
NFA	no further action
PCB	polychlorinated biphenyl
PVC	polyvinyl chloride
UST	underground storage tank



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## EXECUTIVE SUMMARY

This Land Use Control (LUC) Inspection Technical Memorandum describes the observations and subsequent recommendations from the LUC inspections conducted in August 2017 at specified sites of Fleet Logistics Center Puget Sound Manchester Fuel Depot (MFD), Manchester, Washington.

LUCs are required at several sites of MFD due to contaminated soil and/or groundwater that prevent unlimited use and unrestricted exposures, as detailed in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b). These sites include:

- Site 302 – Polychlorinated Biphenyl (PCB) Site
- Site 303 – D-Tunnel Tanks
- Site 304 – Industrial Area
- Tank 50 – Underground Storage Tank (UST) Release Site

The LUC inspections of Sites 302, 303, 304 and Tank 50 at MFD were conducted from August 29 through 30, 2017 and in accordance with the procedures detailed in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b). The annual LUC inspections included a field inspection, determination of the current land use, document review (e.g., administrative and institutional controls in place), and condition assessment of engineering controls such as fencing, gates, signage, monitoring wells, and soil covers. Table ES-1 summarizes the findings from the LUC inspection and subsequent recommendations.

In general, the LUCs in place at each specified site of MFD remain effective in the protection of human health and the environment. The 2017 LUC inspections were the first inspections to be conducted at Sites 302, 303, 304 and Tank 50 of MFD. As such, it is recommended that the LUC inspections continue on an annual basis to evaluate if any changes or activities impact effectiveness of the LUCs relative to the condition and recommendations from August 2017.



**Table ES-1. Summary of Findings and Recommendations from the 2017 LUC Inspections**

Findings	Recommendations
<b>Site 302 - PCB Site</b>	
There is no LUC signage on the primary gate/entrance on the south side of the site (Photo #124).	Add "Restricted Area" or LUC signage on the primary gate/entrance along the south side of the site.
The central portion of the site is covered with large, older stockpiles of soil and debris (Photo #126).	Properly characterize the excess soil placed in the central portion of the site. If the soil meets Model Toxic Control Act (MTCA) Method A levels, then use to regrade site and develop vegetative cover. If the soil exceeds MTCA Method A levels, then properly transport and dispose of soil offsite, place clean topsoil cap, and develop vegetative cover as recommended in the <i>Third Five-Year Review</i> (NAVFAC Northwest, 2015).
The gated entrance on the north side of the site is unlocked, open, and has no LUC signage (Photo #127).	Close, lock, and add LUC signage to the gated entrance on the north side of the site.
<b>Site 303 - D-Tunnel Tanks</b>	
An unmarked stockpile of soil covered by black poly sheeting in the northwest corner of the construction laydown area southwest of Tank 24 (Photo #21).	Confirm soil stockpile is authorized reusable material and is located in an approved staging area. Post approval permit from MFD Environmental for staging material at job site.
An unmarked stockpile of soil half-covered by black poly sheeting in the along the eastern boundary of the construction laydown area southwest of Tank 24 (Photo #22).	Confirm soil stockpile is authorized reusable material and is located in an approved staging area. Post approval permit from MFD Environmental for staging material at job site.
Old stockpile of soil on a tarp and surrounded by absorbent wattles in the laydown area north of Tank 29 (Photo #66).	Properly characterize, transport, and dispose of (off site) the soil.
Both vapor monitoring well MW-2 at Tank 25 and groundwater monitoring well OW-2 were found to be in poor condition with only the 2-inch PVC piping or casing exposed at the ground surface (Photos #38 and #97, respectively).	As recommended in the <i>Well Rehabilitation and Decommissioning Study, Fleet Logistics Center Puget Sound Manchester Fuel Depot, Manchester, Washington</i> (Battelle, 2017), vapor monitoring well MW-2 at Tank 25 and groundwater monitoring well OW-2 along with all other monitoring wells within Site 303 will be decommissioned due to the upcoming construction activities. Therefore, it is recommended that the monitoring wells are no longer inspected for general condition and the LUC for protection of existing monitoring wells be discontinued at Site 303. A general condition assessment, depth to water measurement, and depth to product measurement will be collected immediately prior to properly decommissioning each monitoring well.



**Table ES-1. Summary of Findings and Recommendations from the 2017 LUC Inspections (continued)**

Findings	Recommendations
<i>Site 304 - Industrial Area</i>	
There is no LUC signage at the general entry way to Site 304 (Photo #104).	Add LUC signage at the general entry way to the site.
There is construction of a trench box for a fuel line (i.e., excavation activities; Photo #105).	Post approval permit from MFD Environmental for construction of trench box at job site.
<i>Tank 50 - UST Release Site</i>	
There is no LUC signage at the general entry way to Tank 50 (Photo #114).	Add LUC signage at the general entry way to the site, as it is noted in the <i>Well Installation and Sampling and Analysis Tank No. 50 Fuel Hydrocarbon Leak Assessment, Manchester Fleet and Industrial Supply Center, Manchester, Washington</i> (Hart Crowser, 1998).



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## 1.0 INTRODUCTION

This Land Use Control (LUC) Inspection Technical Memorandum describes the observations and subsequent recommendations from the LUC inspections conducted in August 2017 at specified sites of Fleet Logistics Center Puget Sound Manchester Fuel Depot (MFD), Manchester, Washington. This report was prepared by Battelle for Naval Facilities Engineering Command (NAVFAC) Northwest under Contract No. N44255-14-D-9013, Delivery Order No. N4425517F4031.

LUCs are required at several sites of MFD due to contaminated soil and/or groundwater that prevent unlimited use and unrestricted exposures, as detailed in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b). These sites include:

- Site 302 – Polychlorinated Biphenyl (PCB) Site
- Site 303 – D-Tunnel Tanks
- Site 304 – Industrial Area
- Tank 50 – Underground Storage Tank (UST) Release Site

The LUC inspections were conducted in accordance with the procedures detailed in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b). The LUC inspection procedures provide a means to verify that the required LUCs ensure protection of human health and the environment. The 2017 LUC inspections are the first inspections to occur at Sites 302, 303, 304 and Tank 50 since issuance of the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b).

### 1.1 Purpose

The purpose of the LUC inspections are to:

1. ensure the effectiveness of the LUCs in the protection of human health and the environment; and
2. assist in identifying recommendations for corrective/additional action(s) to ensure that the LUCs continue to be effective at MFD.

This technical memorandum: 1) provides documentation that the LUCs have not been modified or terminated or land use had not been modified (without regulatory approval) at any site; and 2) communicates the status of the LUCs to the project stakeholders (i.e., Washington State Department of Ecology [Ecology], Environmental Protection Agency [EPA], and Suquamish Tribe).

### 1.2 Facility Description

#### 1.2.1 Location

MFD is located less than 1 mile southwest of Bainbridge Island, approximately 3.5 miles northeast of the town of Port Orchard, and less than 1 mile north of the town of Manchester. The facility is situated on a small peninsula on the larger Kitsap Peninsula. This peninsula is located on the eastern edge of the larger Kitsap Peninsula and adjacent to Puget Sound to the east and Clam Bay to the north. MFD is divided into



an eastern and western side of the facility by Little Clam Bay with these sides of the facility being connected by a 100-ft wide causeway. Figure 1 depicts the vicinity map for MFD.

### **1.2.2 Current Use**

In the early 1940s (at the beginning of World War II), MFD was developed into a key fuel depot and remains a fuel depot for the Navy. The majority of the facility is currently used for fuel storage, including underground and aboveground petroleum storage tanks, associated pipelines, and a fuel pier. The remainder of the facility is dedicated to an industrial area with support and administrative buildings located adjacent to the fuel pier. Fuel products that have been or are currently stored at the fuel depot include Navy Special Fuel (No. 6 fuel oil [Bunker C]), marine diesel fuel, jet fuel, lubricant oil, and aviation gasoline.

Several areas of the facility have been impacted by past releases of petroleum products which have required remedial investigations and corrective actions. These areas include Site 302 (i.e., PCB Site, which has also been a dumping ground for various industrial wastes), Site 303 (i.e., D-Tunnel Tanks), Site 304 (i.e., Industrial Area), and Tank 50 (i.e., UST Release Site) and are further described in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b). A site plan of MFD depicting the fuel storage, industrial area, and locations of these specific areas is shown in Figure 2. Sites 302, 303, 304 and Tank 50 have received no further action (NFA) status and the resulting letters from Ecology state that the sites are “either properly remediated or do not pose a risk to human health or the environment” based on the current and future land use (Ecology, 1998, 2000, and 2001). However, LUC requirements are identified or referred to in the NFA letters to ensure continued protection of human health and the environment.

## **1.3 Technical Memorandum Organization and Content**

This technical memorandum includes the following sections:

- Section 1.0 Introduction: presents the purpose of the technical memorandum and the facility description, including location and current use.
- Section 2.0 LUC Inspection Approach and Findings: describes the approach to the LUC inspections and findings/observations from the LUC inspections at MFD.
- Section 3.0 Conclusions and Recommendations: presents a summary of findings/observations, conclusions and subsequent recommendations for MFD.
- Section 4.0 References: provides a full and complete list of documents cited within this technical memorandum.

The following appendices to this technical memorandum provide additional documentation of the completed 2017 LUC inspections:

- Appendix A – LUC Inspection Checklists
- Appendix B – Monitoring Well Inspection Checklists
- Appendix C – Field Notes
- Appendix D – Photographic Log



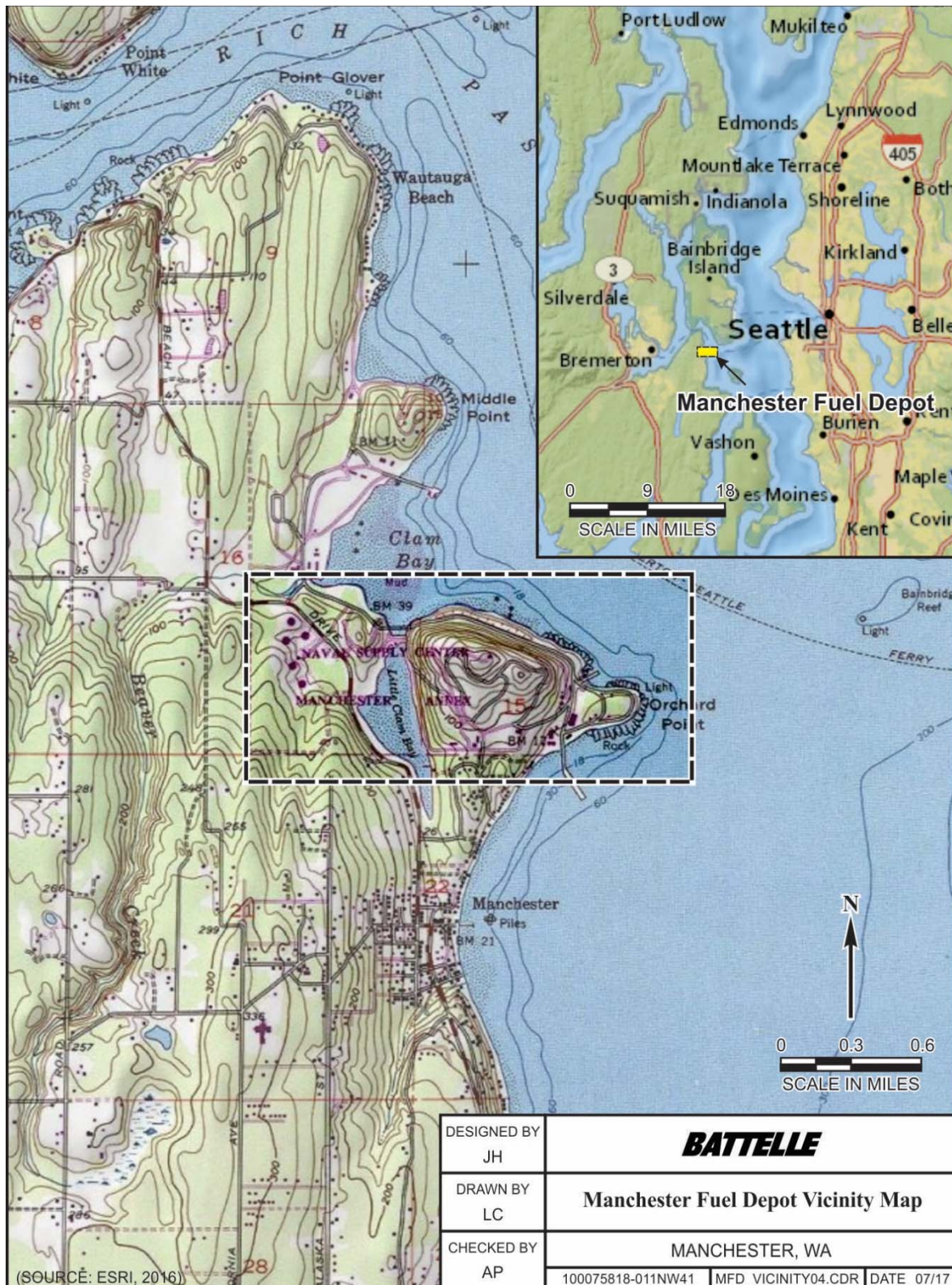


Figure 1. Manchester Fuel Depot Vicinity Map



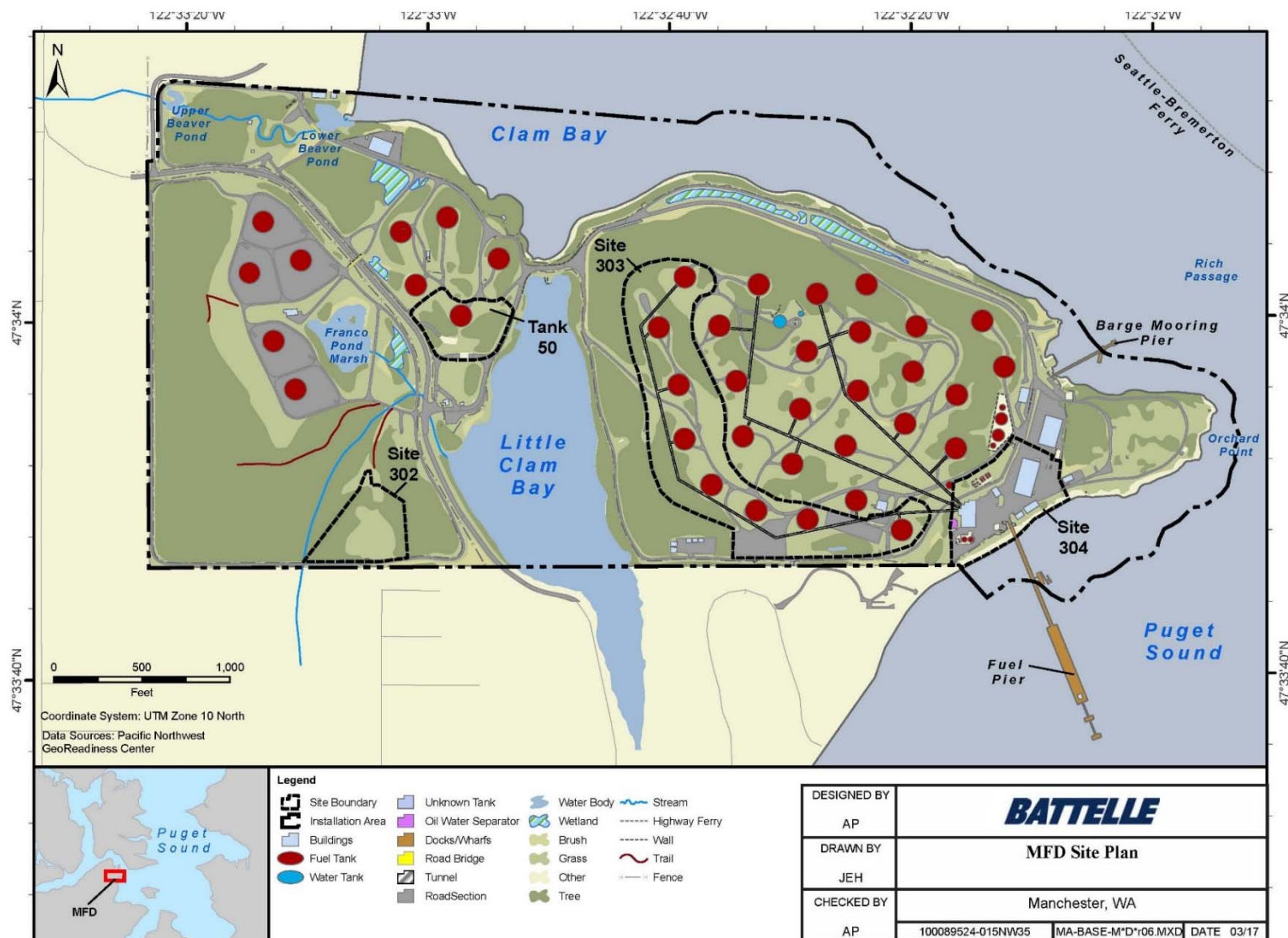


Figure 2. MFD Site Plan



## **2.0 LUC INSPECTION APPROACH AND FINDINGS**

This section presents the approach for the LUC inspections and the findings/observations from the LUC inspections of Sites 302, 303, 304 and Tank 50 at MFD.

### **2.1 LUC Inspection Approach**

The LUC inspections of Sites 302, 303, 304 and Tank 50 at MFD were conducted from August 29 through 30, 2017 and in accordance with the procedures detailed in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b).

The annual LUC inspections included a field inspection, determination of the current land use, document review (e.g., administrative and institutional controls in place), and condition assessment of engineering controls such as fencing, gates, signage, monitoring wells, and soil covers.

The site-specific LUC Inspection Checklists (see Appendix A) and Monitoring Well Inspection Checklists (see Appendix B) were completed and used as tools to guide the annual LUC inspections. In addition, field notes and a photographic log were collected to document the findings/observations of the field inspection and are presented as Appendices C and D, respectively, in this technical memorandum.

### **2.2 LUC Inspection Findings**

#### **2.2.1 Site 302 – PCB Site**

Site 302 is a 1.4-acre area located in the southwest portion of MFD (see Figures 2 and 3). The site was used as a dumping area for ship bilge waste, transformer oil, and other petroleum waste from local naval facilities from about 1955 through 1976. No estimate of the volume of waste disposed at the site is available. PCBs were identified as a contaminant of concern at Site 302. On August 30, 2017, Site 302 was inspected with respect to its site-specific LUCs (Battelle, 2016b):

#### **LUC Descriptions**

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- Ensure that site signage is readable and adequate.
- Ensure that land use remains for industrial purposes.
- Ensure that there has been no unauthorized soil excavation or disturbance.
- Ensure that there has been no unauthorized placement of excess soil from another location.
- Ensure integrity of the soil cover vegetation, so that any excavation or improper disposal is apparent.
- Ensure that any soil excavated from the site is properly characterized and disposed offsite and that on-site workers are protected during such activities.
- Ensure that site fencing is intact and that gates are secured and locked.



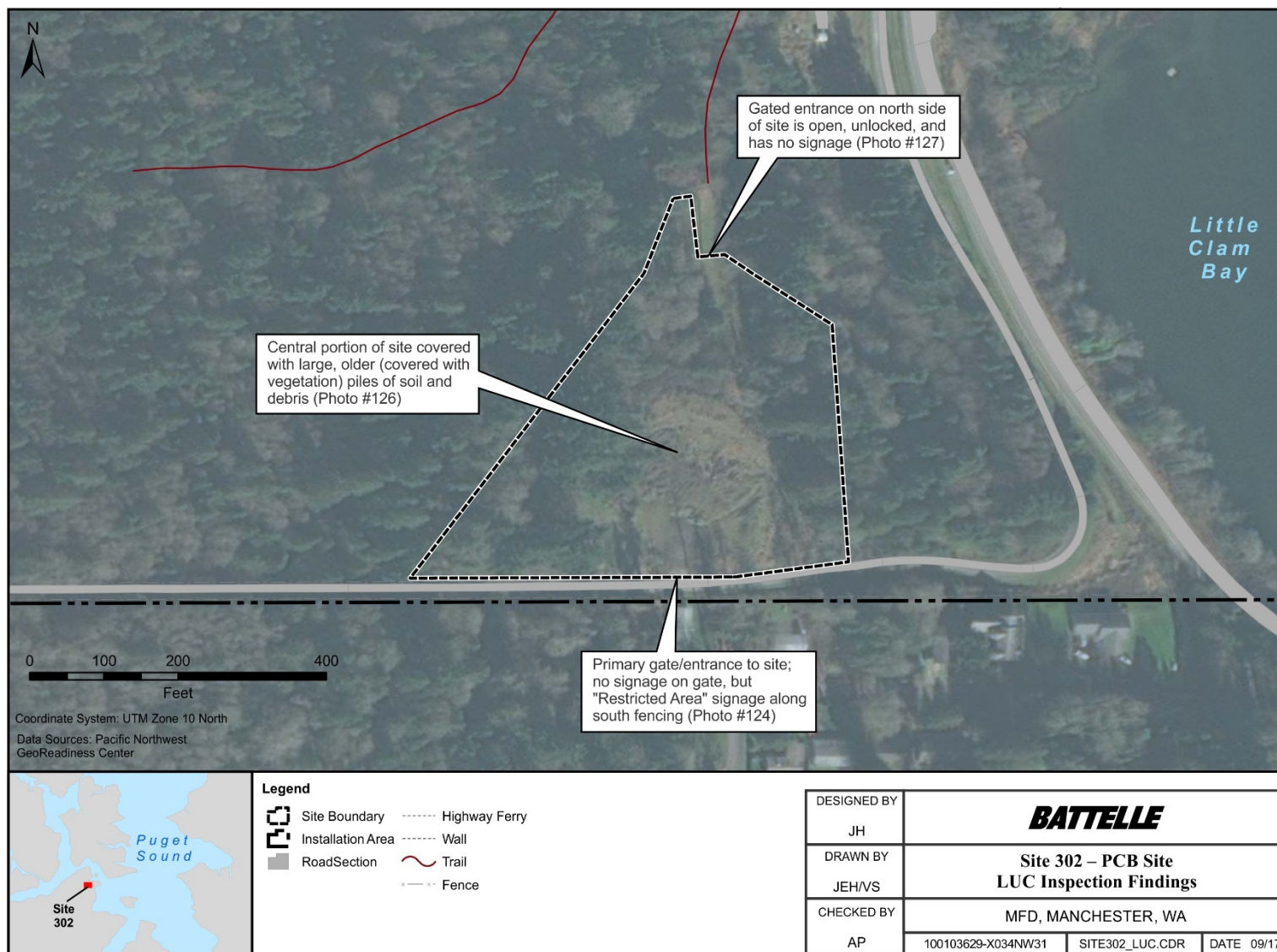


Figure 3. Site 302 – PCB Site LUC Inspection Findings



During the LUC inspection, it was determined that land use remains for industrial purposes and there has been no unauthorized soil excavation or disturbance. The most salient findings were:

1. There is no LUC signage on the primary gate/entrance on the south side of the site (Photo #124). However, there is “Restricted Area” signage along the southern border fencing of the site.
2. The central portion of the site is covered with large, older stockpiles of soil and debris (Photo #126).
3. The gated entrance on the north side of the site is unlocked, open, and has no LUC signage (Photo #127).

The locations of these findings are depicted in Figure 3. The LUC inspection checklist for Site 302 was completed based on these findings/observations and is provided in Appendix A. The field notes and photographs from Site 302 are provided in Appendices C and D, respectively.

### **2.2.2 Site 303 – D-Tunnel Tanks**

Site 303 consists of eight 20,000 to 50,000-barrel (840,000 to 2,100,000 gallons) concrete USTs used to store marine diesel fuel (see Figures 2 and 4). The current Naval fuel stored and dispensed at MFD is designated as F-76. The USTs are located adjacent to the D-tunnel line, which extends from Tank 30 to Building 12 in the Industrial Area (i.e., Site 304) as shown on Figure 4. On August 29 and 30, 2017, Site 303 was inspected with respect to its site-specific LUCs (Battelle, 2016b):

#### **LUC Descriptions**

- Ensure that land use remains for industrial purposes. Coordinate with Ecology prior to change in property ownership or land use concerning the need for remedial actions.
- Ensure that warnings are posted for workers to guard against exposure to residual petroleum contaminated soil.
- Identify remaining areas of concern on facility maps and specify in facility excavation permit instruction.
- Ensure no production wells are installed and groundwater is not used except for monitoring and/or remediation.
- Protect existing vapor monitoring wells until formally abandoned.
- Ensure that there has been no unauthorized soil excavation or disturbance.
- Confine authorized reusable material\* to approved staging area.
- Ensure that any soil excavated from the site is properly characterized and disposed offsite and that on-site workers are protected during such activities.

\*Those materials for which on-site placement has been coordinated with the Ecology Cleanup Project Manager and that have been characterized in collaboration with the Ecology Cleanup Project Manager.



During the LUC inspection, it was determined that land use remains for industrial purposes; warnings are posted for workers; remaining areas of concern are identified on facility maps and specified in facility permit instruction (i.e., as it was a recommended update for the Contractor Environmental and Safety Guide [Battelle, 2016a]); no production wells were installed and groundwater was not used (except for monitoring and/or remediation); and there has been no unauthorized soil excavation or disturbance. The most salient site findings were:

1. An unmarked stockpile of soil covered by black poly sheeting in the northwest corner of the construction laydown area southwest of Tank 24 (Photo #21).
2. An unmarked stockpile of soil half-covered by black poly sheeting along the eastern boundary of the construction laydown area southwest of Tank 24 (Photo #22).
3. Old stockpile of soil on a tarp and surrounded by absorbent wattles in the laydown area north of Tank 29 (Photo #66).

The locations of these findings are depicted in Figure 4. The LUC inspection checklist for Site 303 was completed based on these findings/observations and is provided in Appendix A. The field notes and photographs from Site 303 are provided in Appendices C and D, respectively. It was also noted that new LUC signage warning against unauthorized excavation was placed at Tanks 22, 24, 25, 26, 27, and 28. Previous LUC signage is still in place at Tanks 29 and 30. To note, the signage at Tank 30 is located at the access road to the tank, not at the tank itself as with other signage (Photo #83). Although not specifically related to the LUCs, there are 17 inadequately labeled 55-gallon drums located along the southern boundary of the construction laydown area southwest of Tank 24 (Photo #20).



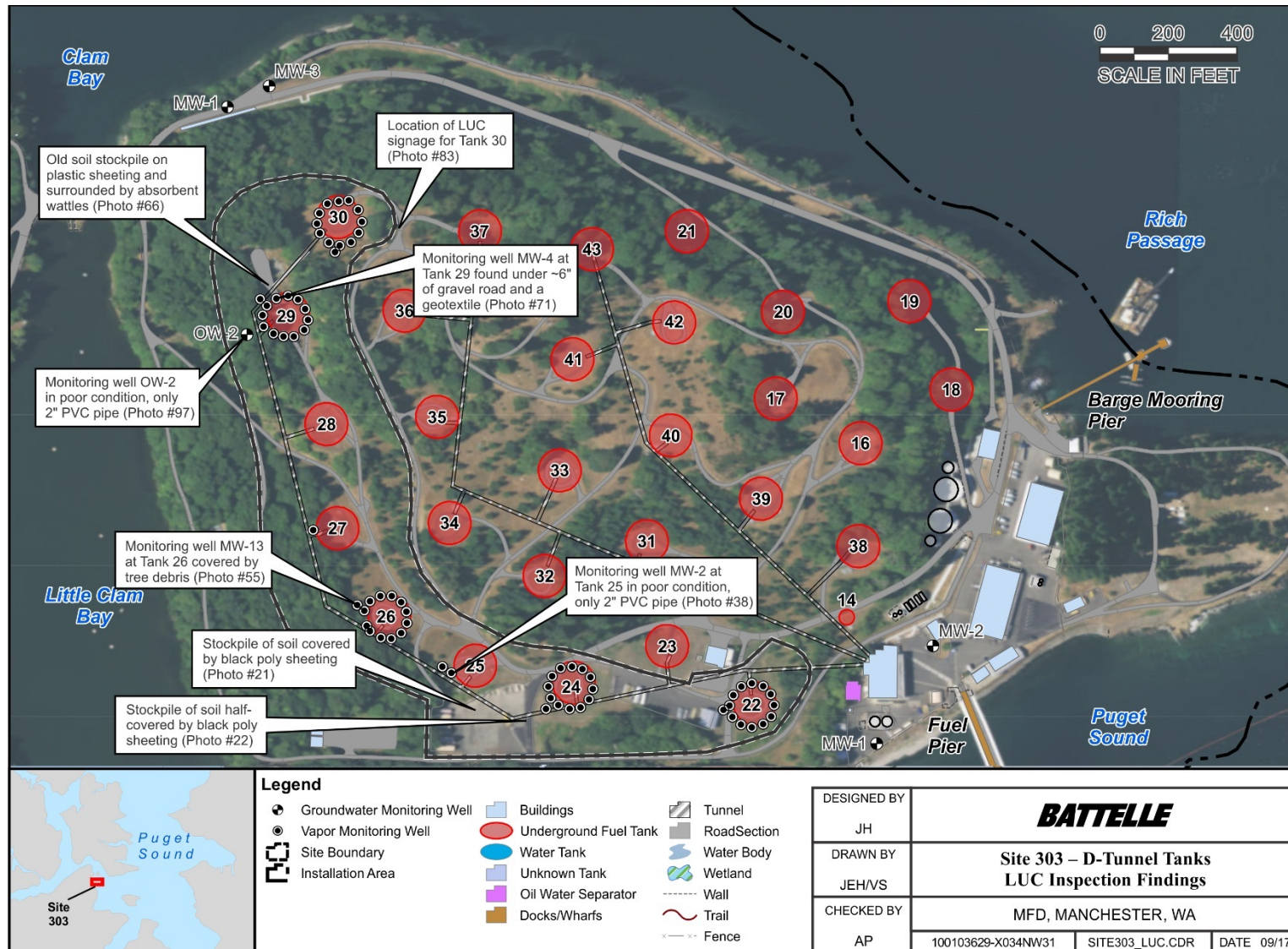

























Figure 4. Site 303 – D-Tunnel Tanks LUC Inspection Findings

























In addition, monitoring wells at Site 303 were inspected for general condition in accordance with the Monitoring Well Inspection Checklists (see Appendix B). Based on the findings presented in the *Well Rehabilitation and Decommissioning Study, Fleet Logistics Center Puget Sound Manchester Fuel Depot, Manchester, Washington* (Battelle, 2017), there is a total of 68 monitoring wells (i.e., one groundwater monitoring well and 67 vapor monitoring wells) found and directly associated with Site 303. Table 1 provides a summary of the inspection findings/observations at each monitoring well.

**Table 1. Summary of Monitoring Well Condition Assessment at Site 303**

Well ID	Northing	Easting	General Condition	Photo #	Comments from 2017 Inspections
<b>Tank 22 – Vapor Monitoring Wells</b>					
MW-1	64076.97	371639.50		4	Tubing from vapor monitoring system is visible.
MW-2	64074.09	371649.60		5	Buried under grass.
MW-3	60466.49	371656.40		6	Water in monument.
MW-4	64056.50	371658.80		7	–
MW-5	64046.46	371656.10	NA	8	Monument filled with water, preventing well condition determination.
MW-6	64040.00	371648.50	NA	9	Monument filled with water, preventing well condition determination.
MW-7	64037.05	371638.40		10	Cap removed from well casing.
MW-8	64040.08	371628.60		11	Cannot view well casing, debris inside monument.
MW-9	64047.08	371621.30		12	–
MW-10	64057.52	371618.80		13	Located along access road.
MW-11	64066.78	371622.40		14	Located along roadside. Cannot view well casing, water in annular spacing.
MW-12	64074.14	371629.80		15	–
MW-13	64053.92	371613.30		16	Water in monument up to top of casing. Adjacent to Soil Sentry System.
<b>Tank 24 – Vapor Monitoring Wells</b>					
MW-1	64058.55	371474.50		23	–
MW-2	64062.05	371464.60		24	Buried under ~3 inches of dirt/soil.
MW-3	64068.96	371458.00		25	Well ID plate not affixed to well lid. Buried under ~1 inch of dirt/soil.
MW-4	64078.83	371456.20		26	–
MW-5	64088.17	371459.80		27	Interior lining of monument deteriorating.
MW-6	64095.43	371467.60		28	Located in middle of road. Well ~3 feet deep in monument.
MW-7	64096.43	371477.90	NA	29	Well fully submerged under water, preventing well condition determination. Some sheen in water.
MW-8	64093.93	371487.30		30	Water in monument.
MW-9	64086.39	371494.40		31	–
MW-10	64075.89	371496.20		32	–
MW-11	64066.30	371492.50		33	–
MW-12	64059.43	371484.70		34	–
MW-13	64058.99	371453.40		35	Interior lining laying within monument.













**Table 1. Summary of Monitoring Well Condition Assessment at Site 303 (continued)**

Well ID	Northing	Easting	General Condition	Photo #	Comments from 2017 Inspections
<b>Tank 25 – Vapor Monitoring Wells</b>					
MW-2	64093.78	371368.90		38	No lid or monument to well, only 2-inch PVC piping exposed at ground surface.
MW-13	64099.57	371361.00		39	Located in tall grass around tank.
<b>Tank 26 – Vapor Monitoring Wells</b>					
MW-1	64133.33	371296.60		43	–
MW-2	64138.18	371294.10		44	Well is ~2 feet deep in monument.
MW-3	64151.77	371292.30		45	Water in monument.
MW-4	64160.43	371297.70		46	Well covered by brush.
MW-5	64164.62	371306.90		47	Placed well cap in well casing.
MW-6	64164.28	371317.20		48	Well located in tall grass surrounding tank.
MW-7	64158.49	371325.60		49	Well located in tall grass surrounding tank.
MW-8	64149.93	371330.30		50	Well ID plate not affixed to well lid. Well in middle of road with overgrown vegetation.
MW-9	64139.62	371330.10		51	Water in monument.
MW-10	64131.02	371324.80		52	Water in monument, slightly above casing.
MW-11	64126.11	371315.70		53	Water in monument to top of casing.
MW-12	64126.98	371306.30		54	Spray foam inside well monument.
MW-13	64157.40	371286.10	NA	55	Used GPS coordinates and could not locate well. Most likely covered by recently cut trees and overgrowth.
<b>Tank 27 – Vapor Monitoring Wells</b>					
MW-1	64225.46	371248.00		58	Flex tube missing, well not connected to Soil Sentry System.
<b>Tank 29 – Vapor Monitoring Wells</b>					
MW-1	64409.96	371208.60	NA	68	Well fully submerged under water, preventing well condition determination.
MW-2	64420.01	371207.90	NA	69	Well fully submerged under water, preventing well condition determination.
MW-3	64428.66	371212.00	NA	70	Well fully submerged under water, preventing well condition determination.
MW-4	64049.98	371595.29		71, 72	Well ID plate not affixed to well lid. Well found under ~6 inches of gravel access road and geotextile.
MW-5	64436.86	371231.60		73	Water in monument.
MW-6	64433.18	371240.40	NA	74	Well fully submerged under water, preventing well condition determination.
MW-7	64424.52	371246.70		75	Water in monument.
MW-8	64414.50	371248.60		76	Water in monument to top of casing.
MW-9	64405.98	371245.10	NA	77	Well fully submerged under water, preventing well condition determination. Sheen on water.
MW-10	64400.01	371235.80	NA	78	Well fully submerged under water, preventing well condition determination.
MW-11	64403.29	371217.30		79	Water in monument.
MW-12	64403.29	371217.30		80	Water in monument.
MW-13	64434.50	371206.20		81	Located in brush. Water in monument.



**Table 1. Summary of Monitoring Well Condition Assessment at Site 303 (continued)**

Well ID	Northing	Easting	General Condition	Photo #	Comments from 2017 Inspections
<b>Tank 30 – Vapor Monitoring Wells</b>					
MW-1	64492.22	371261.60		84	Water in monument to top of casing. Well ID plate not affixed to well lid.
MW-2	64500.73	371259.50		85	Located in tall grass surrounding tank.
MW-3	64510.34	371261.90	NA	86	Well fully submerged under water, preventing well condition determination. Located in tall grass surrounding tank. Well ID plate is not affixed to well lid.
MW-4	64518.55	371269.10		87	Water in monument to top of casing. Located in tall grass surrounding tank. Well ID plate not affixed to well lid.
MW-5	64520.31	371279.30		88	Well fully submerged under water, but well cap and casing are visible. Sheen on water.
MW-6	64520.81	371288.40	NA	89	Well fully submerged under water, preventing well condition determination.
MW-7	64512.29	371296.70	NA	90	Well fully submerged under water, preventing well condition determination.
MW-8	64501.52	371299.70		91	–
MW-9	64491.88	371296.80		92	Water in monument.
MW-10	64483.62	371289.70		93	Water in monument.
MW-11	64480.59	371279.40		94	Water in monument.
MW-12	64483.55	371269.50		95	Water in monument.
MW-13	64474.81	371274.90		96	Located in tall grass surrounding tank.
<b>West of Tank 29 – Groundwater Monitoring Well</b>					
OW-2	64402.99	371193.60		97	Only 2-inch PVC piping exposed at ground surface (i.e., ~8 inches).

 = good condition;  = poor condition; NA = not assessed.

ID – identification; PVC – polyvinyl chloride; GPS – global positioning system

During the LUC inspection, MW-4 at Tank 29 was found and inspected (see Table 1, Appendix B, and Photo #71), a vapor monitoring well which was not found during the Well Rehabilitation and Decommissioning Study (Battelle, 2017). Monitoring well MW-13 at Tank 26 could not be found and inspected, most likely because it was covered by recent tree and overgrowth cutting debris (Photo #55). Both vapor monitoring well MW-2 at Tank 25 and groundwater monitoring well OW-2 were found to be in poor condition with only the 2-inch polyvinyl chloride (PVC) piping or casing exposed at the ground surface (Photos #38 and #97, respectively). Although not directly related to the LUCs at Site 303, it should be noted that sheen was observed in the water in monuments for MW-7 at Tank 24, MW-9 at Tank 29, and MW-5 at Tank 30.



### 2.2.3 Site 304 – Industrial Area

Site 304 (Industrial Area) is located in the eastern portion of MFD as shown in Figures 2 and 5. It is comprised of maintenance, administration, fuel pumping, and water treatment buildings. Site 304 is the central transfer point for most of the petroleum products stored at MFD. Petroleum products (including marine diesel, jet fuels, aviation gasoline, and lube oil) are transported through a network of pipelines running from the fuel pier to storage tanks located throughout the facility. On August 30, 2017, Site 304 was inspected with respect to its site-specific LUCs (Battelle, 2016b):

#### LUC Descriptions

---

- Ensure that land use remains for industrial purposes. Coordinate with Ecology prior to change in property ownership or land use concerning the need for remedial actions.
- Ensure that warnings are posted for workers to guard against exposure to residual petroleum contaminated soil.
- Identify remaining areas of concern on facility maps and specify in facility excavation permit instruction.
- Ensure no production wells are installed and groundwater is not used except for monitoring and/or remediation.
- Protect existing monitoring wells until formally abandoned.
- Ensure that there has been no unauthorized soil excavation or disturbance.
- Ensure that any soil excavated from the site is properly characterized and disposed offsite and that on-site workers are protected during such activities.

During the LUC inspection, it was determined that land use remains for industrial purposes; remaining areas of concern are identified on facility maps and specified in facility permit instruction (i.e., as it was a recommended update for the Contractor Environmental and Safety Guide [Battelle, 2016a]); no production wells were installed and groundwater was not used (except for monitoring and/or remediation); monitoring wells have been protected; and there has been no unauthorized soil excavation or disturbance. The most salient site findings were:

1. There is no LUC signage at the general entry way to Site 304 (Photo #104).
2. There is construction of a trench box for a fuel line (i.e., excavation activities; Photo #105).  
However, given the specifications/requirements for this type of work, it is authorized.

The locations of these findings are depicted in Figure 5. The LUC inspection checklist for Site 304 was completed based on these findings/observations and is provided in Appendix A. The field notes and photographs from Site 304 are provided in Appendices C and D, respectively.



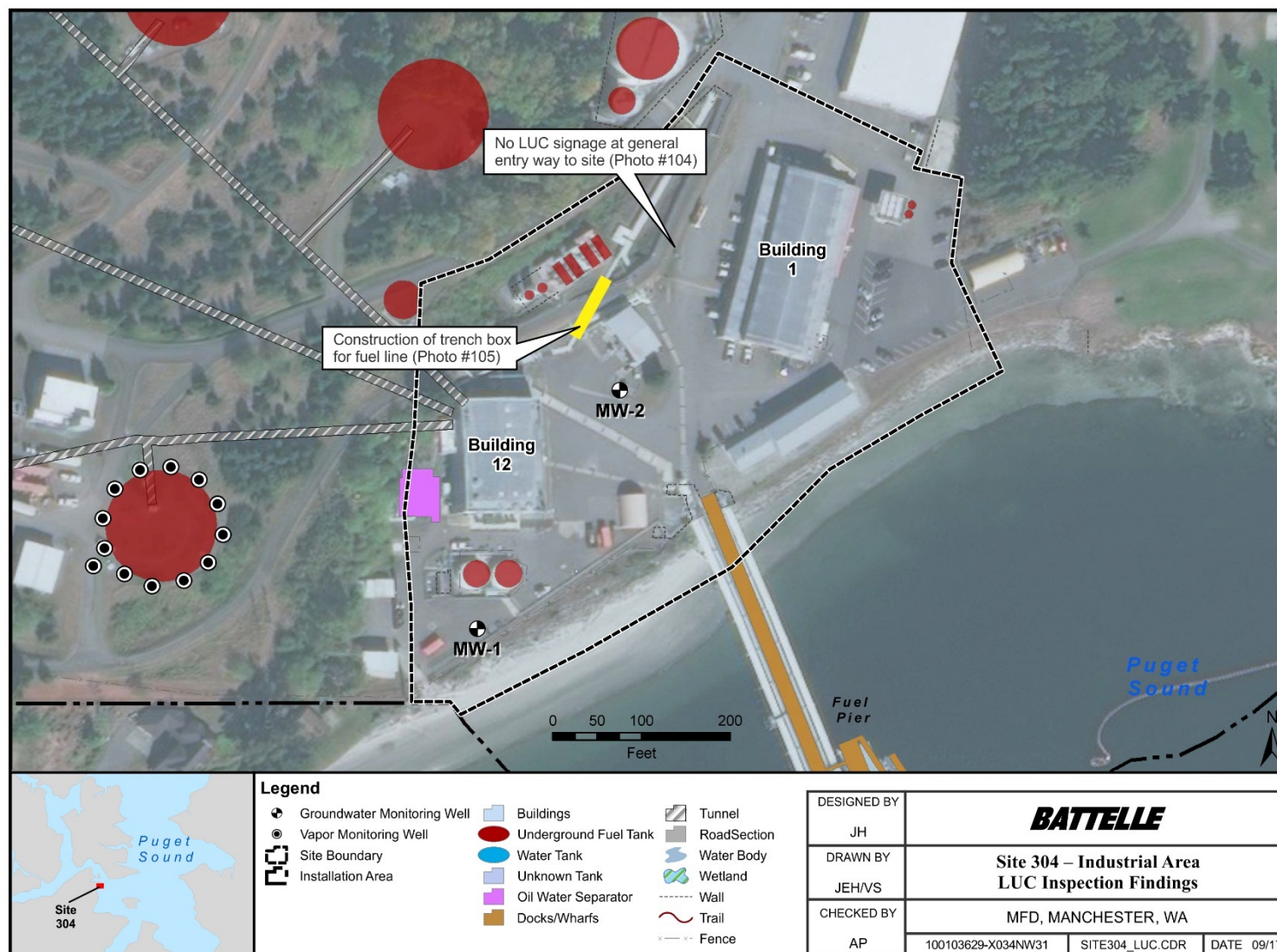





Figure 5. Site 304 – Industrial Area LUC Inspection Findings



In addition, monitoring wells at Site 304 were inspected for general condition in accordance with the Monitoring Well Inspection Checklists (see Appendix B). Based on the findings presented in the *Well Rehabilitation and Decommissioning Study, Fleet Logistics Center Puget Sound Manchester Fuel Depot, Manchester, Washington* (Battelle, 2017), there is a total of two groundwater monitoring wells remaining at Site 304. Table 2 provides a summary of the inspection findings/observations at each monitoring well.

**Table 2. Summary of Monitoring Well Condition Assessment at Site 304**

Well ID	Northing	Easting	General Condition	Photo #	Comments from 2017 Inspections
<i>Site 304 – Industrial Area</i>					
MW-1	64019.42	371750.40		109	Lock not on well cap.
MW-2	64105.94	371803.60		110	Lock on well cap.

 = good condition

Both groundwater monitoring wells MW-1 and MW-2 are in good, operable condition.

#### **2.2.4 Tank 50 – UST Release Site**

Tank 50 is the southernmost of a set of four USTs built on the top of a small knoll located on the west side of Little Clam Bay (see Figures 2 and 6). The tank is believed to have been constructed in the early 1950s and is a steel cylinder approximately 100 feet in diameter and 22 feet tall with a capacity of approximately 27,000 barrels (1.1 million gallons). On August 30, 2017, Tank 50 was inspected with respect to its site-specific LUCs (Battelle, 2016b):

##### **LUC Descriptions**

- Ensure that warnings are posted for workers to guard against exposure to residual petroleum contaminated soil.
- Identify remaining areas of concern on facility maps and specify in facility excavation permit instruction.
- Ensure that land use remains for industrial purposes. Coordinate with Ecology prior to change in property ownership or land use concerning the need for remedial actions.
- Ensure no production wells are installed and groundwater is not used except for monitoring and/or remediation.
- Protect existing monitoring wells until formally abandoned.
- Ensure that there has been no unauthorized soil excavation or disturbance.
- Ensure that any soil excavated from the site is properly characterized and disposed offsite and that on-site workers are protected during such activities.



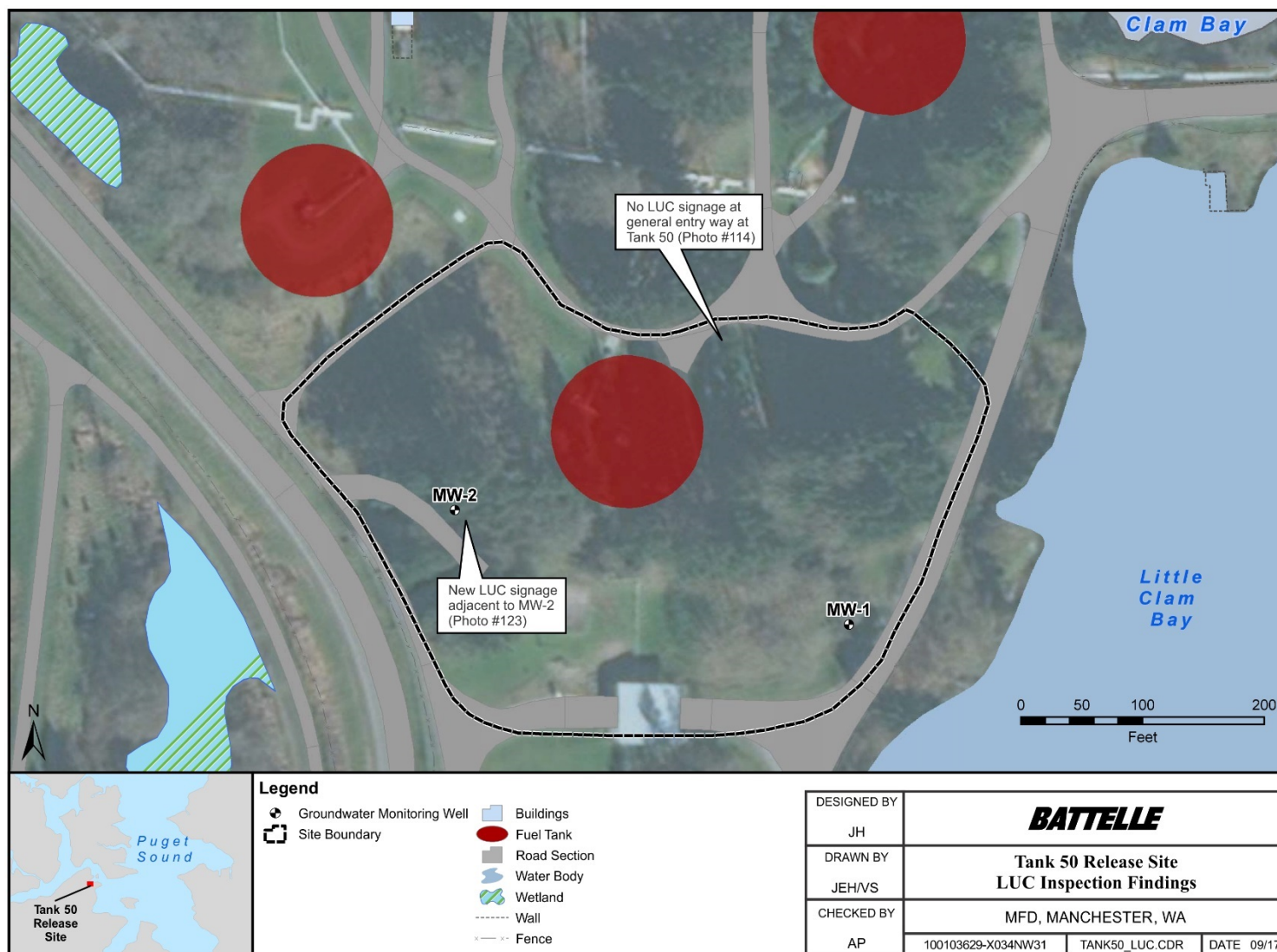


Figure 6. Tank 50 Release Site LUC Inspection Findings





During the LUC inspection, it was determined that remaining areas of concern are identified on facility maps and specified in facility permit instruction (i.e., as it was a recommended update for the Contractor Environmental and Safety Guide [Battelle, 2016a]); land use remains for industrial purposes; no production wells were installed and groundwater was not used (except for monitoring and/or remediation); monitoring wells have been protected; and there has been no unauthorized soil excavation or disturbance. The most salient site finding was:


1. There is no LUC signage at the general entry way to Tank 50 (Photo #114). However, new LUC signage has been installed adjacent to monitoring well MW-2 (Photo #123).

The location of this finding is depicted in Figure 6. The LUC inspection checklist for Tank 50 was completed based on these findings/observations and is provided in Appendix A. The field notes and photographs from Tank 50 are provided in Appendices C and D, respectively.

In addition, monitoring wells at Tank 50 were inspected for general condition in accordance with the Monitoring Well Inspection Checklists (see Appendix B). Based on the findings presented in the *Well Rehabilitation and Decommissioning Study, Fleet Logistics Center Puget Sound Manchester Fuel Depot, Manchester, Washington* (Battelle, 2017), there is a total of two groundwater monitoring wells at Tank 50. Table 3 provides a summary of the inspection findings/observations at each monitoring well.

**Table 3. Summary of Monitoring Well Condition Assessment at Tank 50**

Well ID	Northing	Easting	General Condition	Photo #	Comments from 2017 Inspections
<i>Tank 50 – UST Release Site</i>					
MW-1	64406.94	370945.00		120, 121	–
MW-2	64429.72	370850.70		122	Well is labeled on well cap. Lock on well lid was removed to inspect well.

 = good condition

Both groundwater monitoring wells MW-1 and MW-2 are in good, operable condition.



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### 3.0 CONCLUSIONS AND RECOMMENDATIONS

This section provides a summary of findings, conclusions and subsequent recommendations associated with the results of the 2017 LUC inspections at Sites 302, 303, 304 and Tank 50 of MFD.

On August 29 and 30, 2017, inspections were conducted to ensure the effectiveness of LUCs in place at Sites 302, 303, 304 and Tank 50 as detailed in the *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington* (Battelle, 2016b). A field inspection, determination of the current land use, document review, and condition assessment of engineering controls were conducted at each site to determine the conditions of the LUCs in place and verify that these LUCs remain protective of human health and the environment. Table 4 summarizes the findings from the LUC inspection and subsequent recommendations.

**Table 4. Summary of Findings and Recommendations from the 2017 LUC Inspections**

Findings	Recommendations
<b>Site 302 - PCB Site</b>	
There is no LUC signage on the primary gate/entrance on the south side of the site (Photo #124).	Add "Restricted Area" or LUC signage on the primary gate/entrance along the south side of the site.
The central portion of the site is covered with large, older stockpiles of soil and debris (Photo #126).	Properly characterize the excess soil placed in the central portion of the site. If the soil meets Model Toxic Control Act (MTCA) Method A levels, then use to regrade site and develop vegetative cover. If the soil exceeds MTCA Method A levels, then properly transport and dispose of soil offsite, place clean topsoil cap, and develop vegetative cover as recommended in the <i>Third Five-Year Review</i> (NAVFAC Northwest, 2015).
The gated entrance on the north side of the site is unlocked, open, and has no LUC signage (Photo #127).	Close, lock, and add LUC signage to the gated entrance on the north side of the site.
<b>Site 303 - D-Tunnel Tanks</b>	
An unmarked stockpile of soil covered by black poly sheeting in the northwest corner of the construction laydown area southwest of Tank 24 (Photo #21).	Confirm soil stockpile is authorized reusable material and is located in an approved staging area. Post approval permit from MFD Environmental for staging material at job site.
An unmarked stockpile of soil half-covered by black poly sheeting in the along the eastern boundary of the construction laydown area southwest of Tank 24 (Photo #22).	Confirm soil stockpile is authorized reusable material and is located in an approved staging area. Post approval permit from MFD Environmental for staging material at job site.
Old stockpile of soil on a tarp and surrounded by absorbent wattles in the laydown area north of Tank 29 (Photo #66).	Properly characterize, transport, and dispose of (off site) the soil.



**Table 4. Summary of Findings and Recommendations from the 2017 LUC Inspections (continued)**

<b>Findings</b>	<b>Recommendations</b>
Both vapor monitoring well MW-2 at Tank 25 and groundwater monitoring well OW-2 were found to be in poor condition with only the 2-inch PVC piping or casing exposed at the ground surface (Photos #38 and #97, respectively).	As recommended in the <i>Well Rehabilitation and Decommissioning Study, Fleet Logistics Center Puget Sound Manchester Fuel Depot, Manchester, Washington</i> (Battelle, 2017), vapor monitoring well MW-2 at Tank 25 and groundwater monitoring well OW-2 along with all other monitoring wells within Site 303 will be decommissioned due to the upcoming construction activities. Therefore, it is recommended that the monitoring wells are no longer inspected for general condition and the LUC for protection of existing monitoring wells be discontinued at Site 303. A general condition assessment, depth to water measurement, and depth to product measurement will be collected immediately prior to properly decommissioning each monitoring well.
<b>Site 304 - Industrial Area</b>	
There is no LUC signage at the general entry way to Site 304 (Photo #104).	Add LUC signage at the general entry way to the site.
There is construction of a trench box for a fuel line (i.e., excavation activities; Photo #105).	Post approval permit from MFD Environmental for construction of trench box at job site.
<b>Tank 50 - UST Release Site</b>	
There is no LUC signage at the general entry way to Tank 50 (Photo #114).	Add LUC signage at the general entry way to the site, as it is noted in the <i>Well Installation and Sampling and Analysis Tank No. 50 Fuel Hydrocarbon Leak Assessment, Manchester Fleet and Industrial Supply Center, Manchester, Washington</i> (Hart Crowser, 1998).

In general, the LUCs in place at each specified site of MFD remain effective in the protection of human health and the environment. The 2017 LUC inspections were the first inspections to be conducted at Sites 302, 303, 304 and Tank 50 of MFD. As such, it is recommended that the LUC inspections continue on an annual basis to evaluate if any changes or activities impact effectiveness of the LUCs relative to the condition and recommendations from August 2017.



## 4.0 REFERENCES

- Battelle. 2016a. *Recommendations for the Contractor Environmental and Safety Guide, Naval Base Kitsap Manchester, Manchester, Washington*. September 21.
- Battelle. 2016b. *Land Use Control Plan for Sites 302, 303, 304 and Tank 50, Naval Base Kitsap Manchester, Manchester, Washington*. December 9.
- Battelle. 2017. *Well Rehabilitation and Decommissioning Study, Fleet Logistics Center Puget Sound Manchester Fuel Depot, Manchester, Washington*. August 10.
- Hart Crowser. 1998. *Well Installation and Sampling and Analysis, Tank No. 50 Fuel Hydrocarbon Leak Assessment, Manchester Fleet and Industrial Supply Center, Manchester, Washington*. Prepared for Department of the Navy Engineering Field Activity, Northwest Naval Facilities Engineering Command. January 21.
- Naval Facilities Engineering Command (NAVFAC) Northwest. 2015. *Third Five-Year Review for Sites 302, 303, and 304, Fleet Logistics Center Puget Sound (FLCPS), Naval Base Kitsap-Manchester, Washington*. January 6.
- Washington State Department of Ecology (Ecology). 1998. *Ecology Determination at Tank 50 Site, FISC Manchester*. December 3.
- Washington State Department of Ecology (Ecology). 2000. *No Further Action Determination at PCB Site Letter*. September 25.
- Washington State Department of Ecology (Ecology). 2001. *No Further Action Determination at Fleet and Industrial Supply Center Site 303/304 Letter*. January 17.



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**APPENDIX A**  
**LUC Inspection Checklists**



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**NBK Manchester**  
**Site 302 - PCB Site**  
**Naval Facilities Engineering Command Northwest**

**LAND USE CONTROLS (LUCs) INSPECTION CHECKLIST**

DATE(S) (MM|DD|YY):

INSPECTOR(S):

COMPANY:

**LUCs**

- *ENSURE THAT SITE SIGNAGE IS READABLE AND ADEQUATE.*
- ENSURE THAT LAND USE REMAINS FOR INDUSTRIAL PURPOSES.
- ENSURE THAT THERE HAS BEEN NO UNAUTHORIZED SOIL EXCAVATION OR DISTURBANCE.
- ENSURE THAT THERE HAS BEEN NO UNAUTHORIZED PLACEMENT OF EXCESS SOIL FROM ANOTHER LOCATION.
- ENSURE INTEGRITY OF THE SOIL COVER VEGETATION, SO THAT ANY EXCAVATION OR IMPROPER DISPOSAL IS APPARENT.
- ENSURE THAT ANY SOIL EXCAVATED FROM THE SITE IS PROPERLY CHARACTERIZED AND DISPOSED OFF-SITE AND THAT ON-SITE WORKERS ARE PROTECTED DURING SUCH ACTIVITIES.
- ENSURE THAT SITE FENCING IS INTACT AND THAT GATES ARE SECURED AND LOCKED.

NOTE: LUCs THAT ARE ITALICIZED ARE REQUIRED LUCs FROM THE NFA LETTER.

**LUCs INSPECTION ACTIONS**

HAS SITE OR ADJACENT LAND USE CHANGED SINCE LAST INSPECTION?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF SOIL EXCAVATION OR DISTURBANCE?  
IF SO, DETERMINE IF SITE APPROVAL PROCESS HAS BEEN FOLLOWED.

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF THE UNAUTHORIZED PLACEMENT OF EXCESS SOIL FROM ANOTHER LOCATION?

☐ YES ☐ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

HAS THE INTEGRITY OF THE VEGETATIVE COVER AT THE SITE BEEN MAINTAINED?

☐ YES ☐ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

HAS ACCESS CONTROL BEEN MAINTAINED?

☐ YES ☐ NO, EXPLAIN \_\_\_\_\_

SECURITY POC: \_\_\_\_\_

IS SIGNAGE READABLE AND ADEQUATE?

☐ YES ☐ NO ☐ NA

IS FENCING INTACT AND SECURE?

☐ YES ☐ NO ☐ NA

ARE BOTH THE NORTH AND SOUTH GATES SECURED AND LOCKED

☐ YES ☒ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:





**NBK Manchester**  
**Site 302 - PCB Site**  
**Naval Facilities Engineering Command Northwest**

**LUCs INSPECTION CHECKLIST (CONTINUED)**

WERE PICTURES TAKEN? ☐ YES  
☐ NO

PHOTO IDs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ADDITIONAL NOTES:

**I CERTIFY THAT THE CONDITIONS OF THE AREA ON THE INSPECTION DATES(S) WERE AS REPORTED ABOVE.**

INSPECTOR SIGNATURE:

*AMP*

DATE:





**NBK Manchester**  
**Site 303 - D-Tunnel Tanks**  
**Naval Facilities Engineering Command Northwest**

**LAND USE CONTROLS (LUCs) INSPECTION CHECKLIST**

DATE(S) (MM|DD|YY):

INSPECTOR(S):

COMPANY:

**LUCs**

- *ENSURE THAT LAND USE REMAINS FOR INDUSTRIAL PURPOSES. COORDINATE WITH ECOLOGY PRIOR TO CHANGE IN PROPERTY OWNERSHIP OR LAND USE CONCERNING THE NEED FOR REMEDIAL ACTIONS.*
- *ENSURE THAT WARNINGS ARE POSTED FOR WORKERS TO GUARD AGAINST EXPOSURE TO RESIDUAL PETROLEUM CONTAMINATED SOIL.*
- *IDENTIFY REMAINING AREAS OF CONCERN ON FACILITY MAPS AND SPECIFY IN FACILITY EXCAVATION PERMIT INSTRUCTION.*
- ENSURE NO PRODUCTION WELLS ARE INSTALLED AND GROUNDWATER IS NOT USED EXCEPT FOR MONITORING AND/OR REMEDIATION.
- PROTECT EXISTING VAPOR MONITORING WELLS UNTIL FORMALLY ABANDONED.
- ENSURE THAT THERE HAS BEEN NO UNAUTHORIZED SOIL EXCAVATION OR DISTURBANCE.
- CONFINE AUTHORIZED REUSABLE MATERIAL\* TO APPROVED STAGING AREA.
- ENSURE THAT ANY SOIL EXCAVATED FROM THE SITE IS PROPERLY CHARACTERIZED AND DISPOSED OFF-SITE AND THAT ON-SITE WORKERS ARE PROTECTED DURING SUCH ACTIVITIES.

NOTE: LUCs THAT ARE ITALICIZED ARE REQUIRED LUCs FROM THE NFA LETTER.

\*THOSE MATERIALS FOR WHICH ONSITE PLACEMENT HAS BEEN COORDINATED WITH THE ECOLOGY SITE MANAGER AND THAT HAVE BEEN CHARACTERIZED IN COLLABORATION WITH THE ECOLOGY SITE MANAGER.

**LUC INSPECTION ACTION**

HAS SITE OR ADJACENT LAND USE CHANGED SINCE LAST INSPECTION?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

DO FACILITY MAPS IDENTIFY REMAINING AREAS OF CONCERN?

☐ YES ☐ NO

DESCRIBE:

DOES THE FACILITY EXCAVATION PERMIT INSTRUCTION SPECIFY REMAINING AREAS OF CONCERN?

☐ YES ☐ NO

DESCRIBE:

IS THERE VISUAL EVIDENCE OF UNAUTHORIZED ON-SITE WELL INSTALLATION OR GROUNDWATER USE?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_  
☐ WELL INSPECTIONS

FINDINGS:

☐ SEE WELL INSPECTION LOGS

☐ OTHER \_\_\_\_\_

ARE ALL MONITORING WELLS IN GOOD CONDITION AND ACCESSIBLE? (REFER TO COMPLETED MONITORING WELL INSPECTION CHECKLISTS)

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_  
☐ WELL INSPECTIONS

FINDINGS:

☐ SEE WELL INSPECTION LOGS

☐ OTHER \_\_\_\_\_

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF SOIL EXCAVATION OR DISTURBANCE? IF SO, DETERMINE IF SITE APPROVAL PROCESS HAS BEEN FOLLOWED.

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:





**NBK Manchester**  
**Site 303 - D-Tunnel Tanks**  
**Naval Facilities Engineering Command Northwest**

**LUCs INSPECTION CHECKLIST (CONTINUED)**

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF THE UNAUTHORIZED PLACEMENT  
EXCESS SOIL, FILL, OR SEDIMENT FROM ANOTHER LOCATION?

☐ YES ☐ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS: \_\_\_\_\_

HAS ACCESS CONTROL BEEN MAINTAINED?

☐ YES ☐ NO, EXPLAIN \_\_\_\_\_

SECURITY POC: \_\_\_\_\_

IS SIGNAGE READABLE AND ADEQUATE?

☐ YES ☐ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS: \_\_\_\_\_

WERE PICTURES TAKEN? ☐ YES  
☐ NO

PHOTO IDs \_\_\_\_\_

ADDITIONAL NOTES:

I CERTIFY THAT THE CONDITIONS OF THE AREA ON THE INSPECTION DATES(S) WERE AS REPORTED ABOVE.

INSPECTOR SIGNATURE:

*AMP*

DATE:





**NBK Manchester**  
**Site 304 - Industrial Area**  
**Naval Facilities Engineering Command Northwest**

**LAND USE CONTROLS (LUCs) INSPECTION CHECKLIST**

DATE(S) (MM|DD|YY):

INSPECTOR(S):

COMPANY:

**LUCs**

- *ENSURE THAT LAND USE REMAINS FOR INDUSTRIAL PURPOSES. COORDINATE WITH ECOLOGY PRIOR TO CHANGE IN PROPERTY OWNERSHIP OR LAND USE CONCERNING THE NEED FOR REMEDIAL ACTIONS.*
- *ENSURE THAT WARNINGS ARE POSTED FOR WORKERS TO GUARD AGAINST EXPOSURE TO RESIDUAL PETROLEUM CONTAMINATED SOIL.*
- *IDENTIFY REMAINING AREAS OF CONCERN ON FACILITY MAPS AND SPECIFY IN FACILITY EXCAVATION PERMIT INSTRUCTION.*
- *ENSURE NO PRODUCTION WELLS ARE INSTALLED AND GROUNDWATER IS NOT USED EXCEPT FOR MONITORING AND/OR REMEDIATION.*
- *PROTECT EXISTING MONITORING WELLS UNTIL FORMALLY ABANDONED.*
- *ENSURE THAT THERE HAS BEEN NO UNAUTHORIZED SOIL EXCAVATION OR DISTURBANCE.*
- *ENSURE THAT ANY SOIL EXCAVATED FROM THE SITE IS PROPERLY CHARACTERIZED AND DISPOSED OFF-SITE AND THAT ON-SITE WORKERS ARE PROTECTED DURING SUCH ACTIVITIES.*

NOTE: LUCs THAT ARE ITALICIZED ARE REQUIRED LUCs FROM THE NFA LETTER.

**LUC INSPECTION ACTIONS**

HAS SITE OR ADJACENT LAND USE CHANGED SINCE LAST INSPECTION?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

DO FACILITY MAPS IDENTIFY REMAINING AREAS OF CONCERN?

☐ YES ☐ NO

DESCRIBE:

DOES THE FACILITY EXCAVATION PERMIT INSTRUCTION SPECIFY REMAINING AREAS OF CONCERN?

☐ YES ☐ NO

DESCRIBE:

IS THERE VISUAL EVIDENCE OF UNAUTHORIZED ON-SITE WELL INSTALLATION OR GROUNDWATER USE?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_  
☐ WELL INSPECTIONS

FINDINGS:

☐ SEE WELL INSPECTION LOGS  
☐ OTHER \_\_\_\_\_

ARE ALL MONITORING WELLS IN GOOD CONDITION AND ACCESSIBLE? (REFER TO COMPLETED MONITORING WELL INSPECTION CHECKLISTS)

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_  
☐ WELL INSPECTIONS

FINDINGS:

☐ SEE WELL INSPECTION LOGS  
☐ OTHER \_\_\_\_\_

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF SOIL EXCAVATION OR DISTURBANCE? IF SO, DETERMINE IF SITE APPROVAL PROCESS HAS BEEN FOLLOWED.

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
 (CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:





**NBK Manchester**  
**Site 304 - Industrial Area**  
**Naval Facilities Engineering Command Northwest**

**LUCs INSPECTION CHECKLIST (CONTINUED)**

HAS ACCESS CONTROL BEEN MAINTAINED?

☐ YES ☐ NO, EXPLAIN \_\_\_\_\_

SECURITY POC: \_\_\_\_\_

IS SIGNAGE READABLE AND ADEQUATE?

☐ YES ☐ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK

☐ INTERVIEW W/ \_\_\_\_\_

FINDINGS: \_\_\_\_\_

(CHECK ALL THAT APPLY)

☐ SECURITY CHECK

☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

☐ YES

PHOTO IDs \_\_\_\_\_

☐ NO

ADDITIONAL NOTES:

I CERTIFY THAT THE CONDITIONS OF THE AREA ON THE INSPECTION DATES(S) WERE AS REPORTED ABOVE.

INSPECTOR SIGNATURE:

*AMP*

DATE:





# NBK Manchester Tank 50 Release Site Naval Facilities Engineering Command Northwest

## LAND USE CONTROLS (LUCs) INSPECTION CHECKLIST

DATE(S) (MM|DD|YY):

INSPECTOR(S):

COMPANY:

### LUCs

- *ENSURE THAT WARNINGS ARE POSTED FOR WORKERS TO GUARD AGAINST EXPOSURE TO RESIDUAL PETROLEUM CONTAMINATED SOIL.*
- *IDENTIFY REMAINING AREAS OF CONCERN ON FACILITY MAPS AND SPECIFY IN FACILITY EXCAVATION PERMIT INSTRUCTION.*
- ENSURE THAT LAND USE REMAINS FOR INDUSTRIAL PURPOSES. COORDINATE WITH ECOLOGY PRIOR TO CHANGE IN PROPERTY OWNERSHIP OR LAND USE CONCERNING THE NEED FOR REMEDIAL ACTIONS.
- ENSURE NO PRODUCTION WELLS ARE INSTALLED AND GROUNDWATER IS NOT USED EXCEPT FOR MONITORING AND/OR REMEDIATION.
- PROTECT EXISTING MONITORING WELLS UNTIL FORMALLY ABANDONED.
- ENSURE THAT THERE HAS BEEN NO UNAUTHORIZED SOIL EXCAVATION OR DISTURBANCE.
- ENSURE THAT ANY SOIL EXCAVATED FROM THE SITE IS PROPERLY CHARACTERIZED AND DISPOSED OFF-SITE AND THAT ON-SITE WORKERS ARE PROTECTED DURING SUCH ACTIVITIES.

NOTE: LUCs THAT ARE ITALICIZED ARE REQUIRED LUCs FROM THE NFA LETTER.

### LUC INSPECTION ACTION

HAS SITE OR ADJACENT LAND USE CHANGED SINCE LAST INSPECTION?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:

DO FACILITY MAPS IDENTIFY REMAINING AREAS OF CONCERN?

☐ YES ☐ NO

DESCRIBE:

DOES THE FACILITY EXCAVATION PERMIT INSTRUCTION SPECIFY REMAINING AREAS OF CONCERN?

☐ YES ☐ NO

DESCRIBE:

IS THERE VISUAL EVIDENCE OF UNAUTHORIZED ON-SITE WELL INSTALLATION OR GROUNDWATER USE?

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_  
☐ WELL INSPECTIONS

FINDINGS:

☐ SEE WELL INSPECTION LOGS

☐ OTHER \_\_\_\_\_

ARE ALL MONITORING WELLS IN GOOD CONDITION AND ACCESSIBLE? (REFER TO COMPLETED MONITORING WELL INSPECTION CHECKLISTS)

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_  
☐ WELL INSPECTIONS

FINDINGS:

☐ SEE WELL INSPECTION LOGS

☐ OTHER \_\_\_\_\_

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF SOIL EXCAVATION OR DISTURBANCE? IF SO, DETERMINE IF SITE APPROVAL PROCESS HAS BEEN FOLLOWED.

☐ YES ☐ NO

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS:





**NBK Manchester  
Tank 50 Release Site  
Naval Facilities Engineering Command Northwest**

**LUCs INSPECTION CHECKLIST (CONTINUED)**

IS THERE VISUAL OR ADMINISTRATIVE EVIDENCE OF THE UNAUTHORIZED PLACEMENT  
EXCESS SOIL, FILL, OR SEDIMENT FROM ANOTHER LOCATION?

☐ YES ☐ NO ☐ NA

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

FINDINGS: \_\_\_\_\_

HAS ACCESS CONTROL BEEN MAINTAINED?

☐ YES ☐ NO, EXPLAIN \_\_\_\_\_

IS SIGNAGE READABLE AND ADEQUATE?

INSPECTION PERFORMED? ☐ SITE WALK ☐ INTERVIEW W/ \_\_\_\_\_  
(CHECK ALL THAT APPLY) ☐ SECURITY CHECK ☐ OTHER \_\_\_\_\_

SECURITY POC: \_\_\_\_\_

☐ YES ☐ NO ☐ NA

FINDINGS: \_\_\_\_\_

WERE PICTURES TAKEN? ☐ YES  
☐ NO

PHOTO IDs \_\_\_\_\_

ADDITIONAL NOTES:

I CERTIFY THAT THE CONDITIONS OF THE AREA ON THE INSPECTION DATES(S) WERE AS REPORTED ABOVE.

INSPECTOR SIGNATURE:

DATE:



**APPENDIX B**  
**Monitoring Well Inspection Checklists**



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NBK Manchester  
Naval Facilities Engineering Command Northwest

MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17		TIME (HH:MM): 0856		WEATHER/TEMPERATURE: Sunny/clear	
INSPECTOR: A. Paolucci and M. Zelenevich			COMPANY: Battelle		
SITE: Site 303		DESCRIPTION: D-Tunnel Tank, Tank 22			
WELL ID: MW-11		NORTHING: <del>64403.29</del> 64066.78 (BG) 9/5/17		EASTING: <del>371217.30</del> 371622.40 (BG) 9/5/17	
INSPECTION CHECKLIST:					
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR					
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
IS THE WELL CLEARLY LABELED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER					
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"					
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER					
IS THE CASING IN GOOD CONDITION? <input type="checkbox"/> YES <input type="checkbox"/> NO					
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER Vapor Monitoring Well Cap (VMW) (AMP) (EJF)					
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER					
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
PHOTO IDS: started taking pictures @ 0907					

ADDITIONAL NOTES OR COMMENTS:

located along roadside.  
Water in annular spacing.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/29/17</u>	TIME (HH:MM): <u>0911</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Bathell</u>
SITE <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-12</u>	NORTHING: <u>64483.55</u> <sup>BF</sup> <u>9/5/17</u>	EASTING: <u>371269.50</u> <sup>BF</sup> <u>9/5/17</u>
INSPECTION CHECKLIST:		
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR		
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER		
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>		
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER		
IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>Vapor Monitoring well Cap (VMW)</u>		
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER		
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
PHOTO IDs: <u>Started taking photos @ 0911</u>		

ADDITIONAL NOTES OR COMMENTS:

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>0916</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>Angela Paducci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64076.97</u>	EASTING: <u>371639.50</u> <u>BG</u> <u>9/15/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER Vapor Monitoring Well Cap (ymw)

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Started taking photos @ 0916

ADDITIONAL NOTES OR COMMENTS:

Can view tubing from vapor monitoring system.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>		TIME (HH:MM): <u>0920</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Pirozzi and M. Zelenard</u>		COMPANY: <u>BullPelt</u>	
SITE: <u>Site 303</u>		DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-2</u>	NORTHING: <u>64074.09</u>	EASTING: <u>371649.60</u> <u>86</u> <u>9/5/17</u>	
<b>INSPECTION CHECKLIST:</b>			
TYPE OF MONITORING WELL:		<input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR	
MONITORING WELL LOCATED?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
IS THE WELL CLEARLY LABELED?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
IS THE MONUMENT IN GOOD CONDITION?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____		SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>	
CASING DIAMETER: <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
IS THE CASING IN GOOD CONDITION?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
IS THERE A CAP ON THE MONITORING WELL?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>VMW cap</u>			
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
ARE THERE ANY ODORS?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____			
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		PHOTO IDs: <u>started taking photos at 0920</u>	

ADDITIONAL NOTES OR COMMENTS:

Buried under grass.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <i>08/29/17</i>	TIME (HH:MM): <i>0928</i>	WEATHER/TEMPERATURE: <i>Sunny/Clear</i>
INSPECTOR: <i>A. Pavlovic and M. Zelenevitch</i>		COMPANY: <i>Battelle</i>
SITE: <i>Site 303</i>	DESCRIPTION: <i>D-Tunnel Tanks, Tank 22</i>	
WELL ID: <i>MW-3</i>	NORTHING: <i>66466.49</i>	EASTING: <i>371656.40</i> <i>86</i> <i>9/5/17</i>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: *2 bolts 3/4"*

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER *Vmm Cap*

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDs: *Started taking photos @ 0928*

ADDITIONAL NOTES OR COMMENTS:

*Water in monument.*

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>0931</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Balfette</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-4</u>	NORTHING: <u>64056.50</u>	EASTING: <u>37158.80</u> <span style="float: right;">(B6) 9/5/17</span>
INSPECTION CHECKLIST TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR  MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS THE WELL CLEARLY LABELED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO  TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____ SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u> CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____ IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>VNW cap</u>  IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____  WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO PHOTO IDS: <u>Started taking pictures @ 0932</u>		

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>0934</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Padwa and M. Zelenewich</u>		COMPANY: <u>Bulbelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-5</u>	NORTHING: <u>64046.46</u>	EASTING: <u>371656.10</u> <u>86</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☐ 2" ☐ 4" ☐ 6" ☐ 8" ☒ OTHER under water

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER under water

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

photos taken  
@ 0936

ADDITIONAL NOTES OR COMMENTS:

Monument filled w/ water.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

under water





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>		TIME (HH:MM): <u>0937</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>	
SITE: <u>Site 303</u>		DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-6</u>		NORTHING: <u>64 040.00</u>	EASTING: <u>371648.50</u> <u>9/5/17</u>
<b>INSPECTION CHECKLIST:</b>			
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR			
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____			
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>1 bolt 3/4" ; missing bolt</u>			
CASING DIAMETER <input type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input checked="" type="checkbox"/> OTHER <u>under water</u>			
IS THE CASING IN GOOD CONDITION? <input type="checkbox"/> YES <input type="checkbox"/> NO <u>under water</u>			
IS THERE A CAP ON THE MONITORING WELL? <input type="checkbox"/> YES <input type="checkbox"/> NO <u>under water</u>			
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>under water</u>			
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____			
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
PHOTO IDs: <u>photos taken @ 0937</u>			

ADDITIONAL NOTES OR COMMENTS.

Monument filled w/water.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

under water





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>0941</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-7</u>	NORTHING: <u>64037.05</u>	EASTING: <u>371638.40</u> <u>9/5/17</u> <u>BG</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

But, cap not on well.

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

photos taken  
@ 0943

ADDITIONAL NOTES OR COMMENTS:

Placed cap back on/in well  
Casing.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): 08/29/17 TIME (HH:MM): 0947 WEATHER/TEMPERATURE: Sunny/Clear

INSPECTOR: A. Paolucci and M. Zelenewich COMPANY: Battelle

SITE: Site 303 DESCRIPTION: D-Tunnel Tanks, Tank 22

WELL ID: MW-8 NORTHING: 64040.08 EASTING: 371628.60 9/5/17 RG

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_ SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"

CASING DIAMETER: ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☐ YES ☐ NO wet, cannot view casing

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION, W/TUBING ☒ OTHER metal cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO PHOTO IDS: photos taken @ 0947

ADDITIONAL NOTES OR COMMENTS: Ampl Damp inside monument. Debris

GENERAL CONDITION (CHECK ONE): ☒ GOOD CONDITION ☐ MODERATE CONDITION ☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>0951</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-9</u>	NORTHING: <u>64047.08</u>	EASTING: <u>371621.30</u> <u>PG</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL: ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO  
IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO  
IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_  
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_  
IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO  
IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION, W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO  
ARE THERE ANY ODORS? ☐ YES ☒ NO  
IF YES, DESCRIBE ODOR: ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO  
PHOTO IDs: photos taken @ 0952

**ADDITIONAL NOTES OR COMMENTS:**

**GENERAL CONDITION (CHECK ONE):**

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>0956</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Balfelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 22</u>	
WELL ID: <u>MW-10</u>	NORTHING: <u>64057.52</u>	EASTING: <u>371618.80</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☐ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

photos taken  
@ 0956

ADDITIONAL NOTES OR COMMENTS:

located along access road.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH MM): 0959	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: SHe 303	DESCRIPTION: D-Tunnel Tanks, Tank 22	
WELL ID: MW-1B	NORTHING: 64053.92	EASTING: 371613.30 <sup>1B</sup> 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

☐ GROUNDWATER

☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

☐ STICK-UP

☒ FLUSH-MOUNT

☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

☐ PVC SLIP CAP

☐ J-PLUG

☐ EXPANSION

☐ PRODUCTION W/TUBING

☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

photos taken  
@ 1000

ADDITIONAL NOTES OR COMMENTS:

water in monument  
up to top of casing.  
adjacent to Soil Sentry System  
Control Panel.

GENERAL CONDITION (CHECK ONE):

☒ GOOD CONDITION

☐ MODERATE CONDITION

☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1040	WEATHER/TEMPERATURE: clear/sunny
INSPECTOR: Angela Paolucci and M. Zelenewich		COMPANY: Bathel
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 24	
WELL ID: MW-8	NORTHING: 64093.93	EASTING: 371487.30 (SG 9/5/17)

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER MW cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDS: photos taken @ 1052

ADDITIONAL NOTES OR COMMENTS:

(AMP) 08/29/17  
wet/damp water in monument.

GENERAL CONDITION (CHECK ONE)

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1054</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>BullerHe</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 24</u>	
WELL ID: <u>MW-9</u>	NORTHING: <u>64086.39</u>	EASTING: <u>371494.40</u> <sup>86</sup> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

photos taken  
@ 1055

ADDITIONAL NOTES OR COMMENTS:

GENERAL CONDITION (CHECK ONE).

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1057	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenewich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 24	
WELL ID: MW-10	NORTHING: 64075.89	EASTING: 371496.20 (PG 4/5/17)

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDS:

Photos taken  
@ 1058

ADDITIONAL NOTES OR COMMENTS.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/29/17</u>	TIME (HH:MM) <u>1100</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paducci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel tanks, Tank 24</u>	
WELL ID: <u>MW-11</u>	NORTHING: <u>64066.30</u>	EASTING: <u>371492.50</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">RG</span> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"

CASING DIAMETER: ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDs: Photos taken @ 1100

ADDITIONAL NOTES OR COMMENTS:

\_\_\_\_\_

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





DATE (MM/DD/YYYY): 08/29/17		TIME (HH:MM): 1106		WEATHER/TEMPERATURE: Sunny/Clear	
INSPECTOR: A. Paolucci and M. Zelenevich			COMPANY: Battelle		
SITE: Site 303		DESCRIPTION: D-Tunnel Tanks, Tank 24			
WELL ID: MW-12		NORTHING: 64659.43		EASTING: 371484.70 <span style="float:right;">(86) 9/5/17</span>	
INSPECTION CHECKLIST:					
TYPE OF MONITORING WELL:					
<input type="checkbox"/> GROUNDWATER					
<input checked="" type="checkbox"/> SOIL VAPOR					
MONITORING WELL LOCATED?					
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
IS THE WELL CLEARLY LABELED?					
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
IS THE MONUMENT IN GOOD CONDITION?					
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
TYPE OF WELL CASING:					
<input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT    SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:					
<input type="checkbox"/> OTHER _____                  2 bolts    3/4"					
CASING DIAMETER: <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____					
IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO					
TYPE OF CAP:					
<input type="checkbox"/> PVC SLIP CAP					
<input type="checkbox"/> J-PLUG					
<input type="checkbox"/> EXPANSION					
<input type="checkbox"/> PRODUCTION W/TUBING					
<input checked="" type="checkbox"/> OTHER VMW Cap					
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
IF YES, DESCRIBE ODOR:					
<input type="checkbox"/> SOLVENT					
<input type="checkbox"/> SULFIDE/ROTTEN EGGS					
<input type="checkbox"/> PETROLEUM					
<input type="checkbox"/> OTHER _____					
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES                  PHOTO IDS: Photos taken @ 1107					
<input type="checkbox"/> NO					

☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/29/17</u>	TIME (HH:MM): <u>1110</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION <u>D-Tunnel Tanks, Tank 24</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64058.55</u>	EASTING: <u>371474.50</u> <u>86</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☐ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

1111 photos  
taken

ADDITIONAL NOTES OR COMMENTS:

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1121</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Buttelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 24</u>	
WELL ID: <u>MW-2</u>	NORTHING: <u>64062.05</u>	EASTING: <u>371464.60</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO  
IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO  
IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_ SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_  
IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO  
IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☒ YES ☐ NO  
ARE THERE ANY ODORS? ☐ YES ☒ NO  
IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO PHOTO IDS: Photos taken @ 1123

**ADDITIONAL NOTES OR COMMENTS:**

Buried under ~3" of dirt/soil.

**GENERAL CONDITION (CHECK ONE):**

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1126	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 24	
WELL ID: MW-3	NORTHING: 64068.96	EASTING: 371458.00 (BG) 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☒ YES ☐ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

Photos taken  
@ 120

ADDITIONAL NOTES OR COMMENTS:

Well ID plate not affixed  
to well lid.  
Well buried under ~1" of  
dirt/soil.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1131	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 24	
WELL ID: MW-13	NORTHING: 64058.99	EASTING: 371453.40 (RF) 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION? ☐ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:  
2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDS: Photos taken @ 1132

ADDITIONAL NOTES OR COMMENTS:

Interior lining laying  
within monument.

GENERAL CONDITION (CHECK ONE).

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





NBK Manchester

Naval Facilities Engineering Command Northwest

MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1139	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenewich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION D-Tunnel Tanks, Tank 24	
WELL ID: MW-4	NORTHING: 64078.83	EASTING: 371456.20 (BG) 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

☐ GROUNDWATER

☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

☐ STICK-UP

☒ FLUSH-MOUNT

☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

☐ PVC SLIP CAP

☐ J-PLUG

☐ EXPANSION

☐ PRODUCTION W/TUBING

☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1139

ADDITIONAL NOTES OR COMMENTS:

GENERAL CONDITION (CHECK ONE):

☒ GOOD CONDITION

☐ MODERATE CONDITION

☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/29/17</u>	TIME (HH MM) <u>1144</u>	WEATHER/TEMPERATURE <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenovich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 24</u>	
WELL ID: <u>MW-5</u>	NORTHING: <u>64088.17</u>	EASTING: <u>371459.80</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">BG</span> <u>9/1/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1144

ADDITIONAL NOTES OR COMMENTS:

interior lining falling  
inside monument.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>03/29/17</u>	TIME (HH:MM): <u>1147</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paducei and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 24</u>	
WELL ID: <u>MW-6</u>	NORTHING: <u>64095.43</u>	EASTING: <u>371467.60</u> <u>9/1/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID.

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1148

ADDITIONAL NOTES OR COMMENTS.

Well located in middle  
of road.  
Well ~ 3ft deep in monument.

GENERAL CONDITION (CHECK ONE).

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1152</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paducci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 24</u>	
WELL ID: <u>MW-7</u>	NORTHING: <u>64096.43</u>	EASTING: <u>371477.90</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">BG</span> <u>9/17/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☐ 2" ☐ 4" ☐ 6" ☐ 8" ☒ OTHER under water

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER under water

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1152

**ADDITIONAL NOTES OR COMMENTS:**

entire well casing and cap  
are under standing water.  
some sheen in water.

**GENERAL CONDITION (CHECK ONE)**

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

under water





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1313</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>R-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-9</u>	NORTHING: <u>64139.62</u>	EASTING: <u>371330.10</u> <sup>(86)</sup> <u>40/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1315

ADDITIONAL NOTES OR COMMENTS:

Some standing water  
in monument.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY) 08/29/17	TIME (HH MM) 1317	WEATHER/TEMPERATURE Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY BallPelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 26	
WELL ID: MW-8	NORTHING: 64149.93	EASTING: 371330.30 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">82</span> 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1319

ADDITIONAL NOTES OR COMMENTS:

Well ID plate is not  
afixed to well lid.  
Well is in middle of  
road.  
weeds grown around well.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1322</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-7</u>	NORTHING: <u>64158.49</u>	EASTING: <u>371325.60</u> <u>PG 9/1/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs.

photos taken  
@ 1324

ADDITIONAL NOTES OR COMMENTS:

Well located in the tall  
grass around tank.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1327	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 26	
WELL ID: MW-6	NORTHING: 64164.28	EASTING: 371217.20 (30) 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO  
☐ YES ☒ NO

ARE THERE ANY ODORS?

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

photos taken  
@ 1328

ADDITIONAL NOTES OR COMMENTS.

Well located in tall grass  
surrounding tank.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>		TIME (HH:MM): <u>1331</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Pavlov and M. Zelenovich</u>		COMPANY: <u>Battelle</u>	
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>		
WELL ID: <u>MW-5</u>	NORTHING: <u>64164.62</u>	EASTING: <u>371306.90</u>	<u>9/5/17</u>
<b>INSPECTION CHECKLIST:</b>			
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR			
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE WELL CLEARLY LABELED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____			
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>			
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____			
IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>VMW Cap</u>			
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____			
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
PHOTO IDs: <u>Photos taken</u> <u>1333</u>			

ADDITIONAL NOTES OR COMMENTS:

Placed well cap back  
on well.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1335</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Padweci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-4</u>	NORTHING: <u>69160.43</u>	EASTING: <u>371297.70</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1337

ADDITIONAL NOTES OR COMMENTS:

Well was covered  
by brush.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1339</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Pacheco and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>O-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-3</u>	NORTHING: <u>64151.77</u>	EASTING: <u>371292.30</u> <sup>(86)</sup> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER Vmw Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

Photos taken  
@ 1340

ADDITIONAL NOTES OR COMMENTS:

Standing water  
in well monument.

GENERAL CONDITION (CHECK ONE)

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1344</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-2</u>	NORTHING: <u>64138.18</u>	EASTING: <u>371294.10</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">BG</span> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs

Photos taken  
@ 1345

ADDITIONAL NOTES OR COMMENTS:

Well is ~ 2 ft down in  
monument.

GENERAL CONDITION (CHECK ONE).

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1349</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64133.33</u>	EASTING: <u>371296.60</u> <u>80</u> <u>9/5/17</u>

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1350

ADDITIONAL NOTES OR COMMENTS:

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1353</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-12</u>	NORTHING: <u>6 4126.98</u>	EASTING: <u>3 71306.30</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">RG</span> <u>9/1/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

☐ GROUNDWATER

☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

☐ STICK-UP

☒ FLUSH-MOUNT

☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

☐ PVC SLIP CAP

☐ J-PLUG

☐ EXPANSION

☐ PRODUCTION W/TUBING

☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1355

ADDITIONAL NOTES OR COMMENTS:

Looks like spray insulation  
or "Good Save" in  
well monument.

GENERAL CONDITION (CHECK ONE):

☒ GOOD CONDITION

☐ MODERATE CONDITION

☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>		TIME (HH:MM): <u>1359</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paducci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>	
SITE: <u>Site 303</u>		DESCRIPTION: <u>D-Tunnel Tanks, Tank 26</u>	
WELL ID: <u>MW-11</u>	NORTHING: <u>64126.11</u>	EASTING: <u>371315.70</u>	<u>PG</u> <u>9/5/17</u>
<b>INSPECTION CHECKLIST:</b>			
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR			
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____			
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>			
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____			
IS THE CASING IN GOOD CONDITION? <input type="checkbox"/> YES <input type="checkbox"/> NO <u>under water</u>			
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>XVMM Cap</u>			
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
ARE THERE ANY ODORS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <u>AMP</u>			
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input checked="" type="checkbox"/> OTHER <u>Biological/Algae</u>			
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
PHOTO IDs: <u>Photos taken @ 1400</u>			

ADDITIONAL NOTES OR COMMENTS:

Standing water up to top of casing in well monument.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1403	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 26	
WELL ID: MW-10	NORTHING: 64131.02	EASTING: 371324.80 (BG) 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMM Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

Photos taken  
@ 1404

ADDITIONAL NOTES OR COMMENTS:

Standing water up to  
and slightly above  
top of casing.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <i>08/29/17</i>	TIME (HH:MM): <i>1431</i>	WEATHER/TEMPERATURE: <i>Sunny/Clear</i>
INSPECTOR: <i>A. Paolucci and M. Zelenewich</i>		COMPANY: <i>Battelle</i>
SITE: <i>Site 303</i>	DESCRIPTION: <i>D-Tunnel Tanks, Tank 26</i>	
WELL ID: <i>MW-13</i>	NORTHING: <i>64157.40</i>	EASTING: <i>371286.10</i>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☐ YES ☒ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☐ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☐ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: \_\_\_\_\_

CASING DIAMETER ☐ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER \_\_\_\_\_

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☐ NO

ARE THERE ANY ODORS?

☐ YES ☐ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☐ YES  
☐ NO

PHOTO IDs: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ADDITIONAL NOTES OR COMMENTS:**

*Used GPS coordinates and  
could not locate well.  
Most likely covered by tree  
debris (tree was recently cut down  
and the debris is piled where well should be).*

**GENERAL CONDITION (CHECK ONE):**

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1455</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevitch</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 25</u>	
WELL ID: <u>MW-2</u>	NORTHING: <u>64093.78</u>	EASTING: <u>371368.90</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">BG</span> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☐ YES ☒ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: \_\_\_\_\_

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☒ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☒ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER \_\_\_\_\_

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☒ YES ☐ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1456

**ADDITIONAL NOTES OR COMMENTS:**

\*NO lid or monument  
to well; only PVC.  
2" casing coming out  
pic at ground surface. \*

**GENERAL CONDITION (CHECK ONE):**

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☒ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1458</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevitch</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>O-Tunnel Tanks, Tank 25</u>	
WELL ID: <u>MW-13</u>	NORTHING: <u>64099.57</u>	EASTING: <u>371361.06</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">RG</span> <u>9/5/17</u>
<b>INSPECTION CHECKLIST:</b>		
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR		
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THE WELL CLEARLY LABELED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____		
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>		
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____		
IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>VMW Cap</u>		
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____		
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
PHOTO IDs: <u>Photos taken @ 1500</u>		

ADDITIONAL NOTES OR COMMENTS:

Well located in tall grass around tank.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1519</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 27</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64225.46</u>	EASTING: <u>371248.00</u> <u>PG</u> <u>9/5/17</u>
INSPECTION CHECKLIST:		
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR		
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____		
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>		
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____		
IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>VMW Cap</u>		
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____		
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
PHOTO IDs: <u>Photos taken @ 1516</u>		

ADDITIONAL NOTES OR COMMENTS:

VMW Cap flex tube  
is missing/not  
connected to Soil  
Sentry collection system.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/29/17</u>	TIME (HH:MM) <u>1613</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-7</u>	NORTHING: <u>64424.52</u>	EASTING: <u>371246.70</u> <u>PF</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☒ YES ☐ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☒ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1617

ADDITIONAL NOTES OR COMMENTS:

Standing water at bottom  
of well monument.

GENERAL CONDITION (CHECK ONE).

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1619	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: DTunnel Tanks, Tank 29	
WELL ID: MW-6	NORTHING: 64433.18	EASTING: 371240.40 <sup>9/5/17</sup>

INSPECTION CHECKLIST

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

☐ OTHER

2 bolts 3/4"

CASING DIAMETER: ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☒ OTHER underwater

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER underwater

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

Photos taken  
@ 1619

ADDITIONAL NOTES OR COMMENTS:

Well casing + cap  
submerged in standing  
water.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☒ POOR CONDITION

underwater





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1622</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-5</u>	NORTHING: <u>64436.86</u>	EASTING: <u>371231.60</u> <u>8G</u> <u>4/1/17</u>

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

photos taken  
@ 1623

ADDITIONAL NOTES OR COMMENTS:

Standing water in  
well monument;  
to top of casing.

GENERAL CONDITION (CHECK ONE)

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/29/17	TIME (HH:MM): 1625	WEATHER/TEMPERATURE: Sunny/Clear
INSPECTOR: A. Paolucci and M. Zelenevich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 29	
WELL ID: MW-4	NORTHING: 64049.98	EASTING: 371595.29

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☐ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER: ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER

Could NOT  
open well  
on 8/29.

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☒ YES ☐ NO

ARE THERE ANY ODORS?

☐ YES ☐ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDS:

Photos taken  
@ 1625

ADDITIONAL NOTES OR COMMENTS:

Dug up under 6" of gravel  
in access road to north of  
Tank 29.  
Could NOT remove well lid!

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>		TIME (HH:MM): <u>1647</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paducci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>	
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>		
WELL ID: <u>MW-3</u>	NORTHING: <u>64428.66</u>	EASTING: <u>371212.00</u>	<u>RF</u> <u>9/5/17</u>
INSPECTION CHECKLIST:			
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR			
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER			
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>			
CASING DIAMETER <input type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input checked="" type="checkbox"/> OTHER <u>underwater</u>			
IS THE CASING IN GOOD CONDITION? <input type="checkbox"/> YES <input type="checkbox"/> NO			
IS THERE A CAP ON THE MONITORING WELL? <input type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>underwater</u>			
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER			
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
PHOTO IDs: <u>Photos taken @ 1652</u>			

ADDITIONAL NOTES OR COMMENTS:

Well completely submerged in standing water.

GENERAL CONDITION (CHECK ONE):

☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

underwater





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1659</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-2</u>	NORTHING: <u>6 4420.01</u>	EASTING: <u>371207.90</u> <u>86</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

AMP 08/24/17  
☐ OTHER

2 bolts 3/4"

CASING DIAMETER: ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☒ OTHER under water

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER under water

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

Photos taken  
@ 1657

ADDITIONAL NOTES OR COMMENTS:

Well casing and cap  
are submerged  
under water.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

under water





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/29/17</u>	TIME (HH:MM) <u>1705</u>	WEATHER/TEMPERATURE <u>Sunny/clear</u>
INSPECTOR <u>A. Paolucci and M. Zelenevich</u>		COMPANY <u>Battelle</u>
SITE <u>Site 303</u>	DESCRIPTION <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID <u>MW-13</u>	NORTHING <u>64434.50</u>	EASTING <u>371206.20</u> <u>SG</u> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts; 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDS:

Photos taken  
@ 1708

ADDITIONAL NOTES OR COMMENTS:

Well located in the brush,  
Standing water in well  
monument.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1710</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64409.96</u>	EASTING: <u>371208.60</u> <u>Bf</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

- ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

- ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

- ☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER

- ☐ 2" ☐ 4" ☐ 6" ☐ 8" ☒ OTHER under water

IS THE CASING IN GOOD CONDITION?

- ☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

- ☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER under water

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

- ☐ YES ☒ NO

ARE THERE ANY ODORS?

- ☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDS:

Photos taken  
@ 1712

ADDITIONAL NOTES OR COMMENTS:

Well casing and lid  
completely submerged  
under water.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

under water





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**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1716</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Puolucci and M. Zelenewich</u>		COMPANY:
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-12</u>	NORTHING: <u>64403.29</u>	EASTING: <u>371217.30</u> <u>PG 9/17/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
08/17/17

ADDITIONAL NOTES OR COMMENTS:

Standing water in  
well monument.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1720</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Padlocci and Max Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-11</u>	NORTHING: <u>64403.29</u>	EASTING: <u>371217.30</u> <u>(86)</u> <u>9/7/17</u>

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1720

ADDITIONAL NOTES OR COMMENTS:

Standing water in  
well monument.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1724</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>BullPelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-10</u>	NORTHING: <u>64400.01</u>	EASTING: <u>371235.80</u> <u>BF 9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER

- ☐ 2" ☐ 4" ☐ 6" ☐ 8"

☒ OTHER underwater

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER underwater

Underwater

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1724

**ADDITIONAL NOTES OR COMMENTS**

Well casing and cap  
completely submerged  
under water.

**GENERAL CONDITION (CHECK ONE)**

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

Underwater





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1727</u>	WEATHER/TEMPERATURE: <u>Sunny/clear</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Buttelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-9</u>	NORTHING: <u>64405.98</u>	EASTING: <u>371245.10</u> <u>86</u> <u>9/5/17</u>
INSPECTION CHECKLIST:		
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR		
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____		
SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>		
CASING DIAMETER <input type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input checked="" type="checkbox"/> OTHER <u>under water</u>		
IS THE CASING IN GOOD CONDITION? <input type="checkbox"/> YES <input type="checkbox"/> NO		
IS THERE A CAP ON THE MONITORING WELL? <input type="checkbox"/> YES <input type="checkbox"/> NO		
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>under water</u>		
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____		
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
PHOTO IDs. <u>Photos taken @ 1729</u>		

ADDITIONAL NOTES OR COMMENTS:

Well monument totally full  
w/water.  
Shine on water.

GENERAL CONDITION (CHECK ONE):

☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

underwater





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/29/17</u>	TIME (HH:MM): <u>1733</u>	WEATHER/TEMPERATURE: <u>Sunny/Clear</u>
INSPECTOR: <u>A. Paducci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-8</u>	NORTHING: <u>64 414.50</u>	EASTING: <u>371 248.60</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">SF</span> <u>9/5/17</u>

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1733

ADDITIONAL NOTES OR COMMENTS:

Water in well monument  
to top of casing.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): 08/30/17	TIME (HH:MM): 0833 0856	WEATHER/TEMPERATURE: Cloudy/Rainy
INSPECTOR: A. Paducci and M. Zelenewich		COMPANY: Battelle
SITE: Site 303	DESCRIPTION: D-Tunnel Tanks, Tank 30	
WELL ID: MW-5	NORTHING: 64520.31	EASTING: 371279.30 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">BF</span> 9/5/17

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:  
2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDS: Photos taken @ 0856

underwater, water is relatively clear.

ADDITIONAL NOTES OR COMMENTS:

Well filled with water  
to top of monument.  
Some sheen in water.

GENERAL CONDITION (CHECK ONE).

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM|DD|YY): 08/30/17

TIME (HH MM): 0959

WEATHER/TEMPERATURE:  
Rainy/cloudy

INSPECTOR:  
A. Paulucci and M. Zelenewich

COMPANY:  
Battelle

SITE:  
Site 303

DESCRIPTION:  
D-Tunnel Tanks, Tank 30

WELL ID:  
MW-4

NORTHING:  
64518.55

EASTING:  
371269.10 (Bf) 9/5/17

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:  
2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☐ YES ☒ NO underwater

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN? ☒ YES  
☐ NO

PHOTO IDs: Photos taken @ 100'

**ADDITIONAL NOTES OR COMMENTS**

Well ID plate is not  
afixed to well lid.  
Well located in tall grass.  
Water in monument  
up to top of casing.

**GENERAL CONDITION (CHECK ONE):**

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1005</u>	WEATHER/TEMPERATURE: <u>Pamy/Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-3</u>	NORTHING: <u>64510.34</u>	EASTING: <u>371261.90</u> <u>86</u> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

underwater; but, water is clear.

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1006

ADDITIONAL NOTES OR COMMENTS:

Well located in tall grass.  
Well ID Plate is not affixed  
to well lid.  
Well casing + cap are completely  
submerged underwater.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

underwater





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY) <u>08/30/17</u>	TIME (HH:MM) <u>1010</u>	WEATHER/TEMPERATURE <u>Partly/Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Buttelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-2</u>	NORTHING: <u>64500.73</u>	EASTING: <u>371259.50</u> <u>BF</u> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/8"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDS:

Photos taken  
@ 1013

ADDITIONAL NOTES OR COMMENTS:

Well located in tall grass.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM DD YY): <u>08/30/17</u>	TIME (HH:MM): <u>1015</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64492.22</u>	EASTING: <u>371261.60</u> <u>BG</u> <u>9/5/17</u>

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ ID16

ADDITIONAL NOTES OR COMMENTS:

Well adjacent to light post.  
Water in monument up to  
top of casing.  
Well ID plate not attached  
to well lid.

GENERAL CONDITION (CHECK ONE)

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1018</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Paowce and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-12</u>	NORTHING: <u>64483.55</u>	EASTING: <u>371269.50</u> <u>RG</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

underwater; but,  
clear to see.

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1014

ADDITIONAL NOTES OR COMMENTS:

Water in monument, submerging  
well casing and cap.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1020</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-13</u>	NORTHING: <u>64474.81</u>	EASTING: <u>371274.90</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

☐ GROUNDWATER

☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

☐ STICK-UP ☒ FLUSH-MOUNT

☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

☐ PVC SLIP CAP

☐ J-PLUG

☐ EXPANSION

☐ PRODUCTION W/TUBING

☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1025

ADDITIONAL NOTES OR COMMENTS:

Well located in tall grass.

GENERAL CONDITION (CHECK ONE)

☒ GOOD CONDITION

☐ MODERATE CONDITION

☐ POOR CONDITION





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MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1026</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-11</u>	NORTHING: <u>64480.59</u>	EASTING: <u>371279.40</u> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL: ☐ GROUNDWATER ☒ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: 2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP ☐ J-PLUG ☐ EXPANSION ☐ PRODUCTION W/TUBING ☒ OTHER VMM Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT ☐ SULFIDE/ROTTEN EGGS ☐ PETROLEUM ☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDS: Photos taken @ 1028

ADDITIONAL NOTES OR COMMENTS:

Standing water in well.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>		TIME (HH:MM): <u>1030</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>	
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel tanks, Tank 30</u>		
WELL ID: <u>MW-10</u>	NORTHING: <u>64483.62</u>	EASTING: <u>371289.70</u> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">Bx</span> <u>9/5/17</u>	
<b>INSPECTION CHECKLIST:</b>			
TYPE OF MONITORING WELL: <input type="checkbox"/> GROUNDWATER <input checked="" type="checkbox"/> SOIL VAPOR			
MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE WELL CLEARLY LABELED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF WELL CASING: <input type="checkbox"/> STICK-UP <input checked="" type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____		SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: <u>2 bolts 3/4"</u>	
CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____			
IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input checked="" type="checkbox"/> OTHER <u>1 MW Cap</u>			
IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____			
WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		PHOTO IDs: <u>Photos taken @ 1032</u>	

ADDITIONAL NOTES OR COMMENTS:

Standing water in well.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/30/17</u>	TIME (HH:MM): <u>1033</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Paulucci and M. Zelenewich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-9</u>	NORTHING: <u>64491.88</u>	EASTING: <u>371296.80</u> <u>BG</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1055

ADDITIONAL NOTES OR COMMENTS:

Standing water in well.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





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**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1036</u>	WEATHER/TEMPERATURE: <u>Rainy/cloudy</u>
INSPECTOR: <u>A. Paulucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-8</u>	NORTHING: <u>64501.52</u>	EASTING: <u>371299.70</u> <u>86</u> <u>9/5/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1037

ADDITIONAL NOTES OR COMMENTS:

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





NBK Manchester  
Naval Facilities Engineering Command Northwest

MONITORING WELL CHECKLIST FOR LUC INSPECTION

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH MM): <u>1038</u>	WEATHER/TEMPERATURE: <u>Rainy/Cloudy</u>
INSPECTOR: <u>A. Pavlovi and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-7</u>	NORTHING: <u>64512.29</u>	EASTING: <u>371296.70</u> <u>BC</u> <u>9/5/17</u>

INSPECTION CHECKLIST:

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☐ 2" ☐ 4" ☐ 6" ☐ 8" ☒ OTHER under water

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☐ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER under water

under water

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN? ☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1039

ADDITIONAL NOTES OR COMMENTS:

well casing and cap  
completely submerged.

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION

under water





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1041</u>	WEATHER/TEMPERATURE: <u>Partly/Cloudy</u>
INSPECTOR: <u>A. Paulucci and M. Zelenevich</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>D-Tunnel Tanks, Tank 30</u>	
WELL ID: <u>MW-6</u>	NORTHING: <u>64520.81</u>	EASTING: <u>371288.40</u> <u>BE</u> <u>9/5/17</u>

**INSPECTION CHECKLIST.**

TYPE OF MONITORING WELL:

☐ GROUNDWATER

☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☐ YES ☐ NO

TYPE OF WELL CASING:

☐ STICK-UP

☒ FLUSH-MOUNT

☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER

☒ 2"

☐ 4"

☐ 6"

☐ 8"

☒ OTHER

underwater

IS THE CASING IN GOOD CONDITION?

☐ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

☐ PVC SLIP CAP

☐ J-PLUG

☐ EXPANSION

☐ PRODUCTION W/TUBING

☒ OTHER VMW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR

☐ SOLVENT

☐ SULFIDE/ROTTEN EGGS

☐ PETROLEUM

☐ OTHER

WERE PICTURES TAKEN?

☒ YES

☐ NO

PHOTO IDs:

Photos taken  
@ 1042

ADDITIONAL NOTES OR COMMENTS:

Well casing and cap completely  
submerged under water.

GENERAL CONDITION (CHECK ONE):

☐ GOOD CONDITION

☐ MODERATE CONDITION

☐ POOR CONDITION

underwater





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH:MM): <u>1119</u>	WEATHER/TEMPERATURE: <u>cloudy/rainy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenovich</u>		COMPANY: <u>Berkelle</u>
SITE: <u>Sfte 303</u>	DESCRIPTION: <u>D-Tunnel tanks, west of Tank 29</u>	
WELL ID: <u>OW-2</u>	NORTHING: <u>64402.99</u>	EASTING: <u>371193.60</u> <u>86</u> <u>95/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☒ GROUNDWATER  
☐ SOIL VAPOR

MONITORING WELL LOCATED?

- ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

- ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

- ☐ YES ☒ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☐ FLUSH-MOUNT

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

☒ OTHER PVC Pipe only

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

- ☐ YES ☒ NO

IS THERE A CAP ON THE MONITORING WELL?

- ☐ YES ☒ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER \_\_\_\_\_

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

- ☒ YES ☐ NO

ARE THERE ANY ODORS?

- ☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDS:

photos taken  
@ 1120

ADDITIONAL NOTES OR COMMENTS.

well is just 2" PVC pipe  
exposed at ground surface  
~8"

GENERAL CONDITION (CHECK ONE):

- ☐ GOOD CONDITION  
☐ MODERATE CONDITION  
☒ POOR CONDITION





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <u>08/30/17</u>	TIME (HH MM): <u>1055</u>	WEATHER/TEMPERATURE: <u>Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevitch</u>		COMPANY: <u>Battelle</u>
SITE: <u>Site 303</u>	DESCRIPTION: <u>Dr-Tunnel Tanks, Tank 29</u>	
WELL ID: <u>MW-4</u>	NORTHING: <u>64049.98</u>	EASTING: <u>371595.29</u> <u>PG</u> <u>9/7/17</u>

**INSPECTION CHECKLIST:**

TYPE OF MONITORING WELL:

- ☐ GROUNDWATER  
☒ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☒ YES ☐ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☐ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☒ OTHER MW Cap

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☒ YES ☐ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

Photos taken  
@ 1055

**ADDITIONAL NOTES OR COMMENTS:**

Abse to open well on 8/30.  
Well ID plate not attached  
to well lid.  
Well found under ~6" of gravel  
road and a geotextile i: tampering assessment.

**GENERAL CONDITION (CHECK ONE).**

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





**NAVFAC**  
Naval Facilities Engineering Command

**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY) <u>08/30/17</u>	TIME (HH:MM) <u>1142</u>	WEATHER/TEMPERATURE: <u>Cloudy</u>
INSPECTOR: <u>A. Paolucci and M. Zelenevich</u>		COMPANY: <u>Barkellie</u>
SITE: <u>Site 304</u>	DESCRIPTION: <u>Industrial Area</u>	
WELL ID: <u>MW-1</u>	NORTHING: <u>64019.42</u>	EASTING: <u>371750.40</u> <u>86</u> <u>9/5/17</u>

INSPECTION CHECKLIST

TYPE OF MONITORING WELL: ☒ GROUNDWATER  
☐ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☐ STICK-UP ☒ FLUSH-MOUNT ☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:  
only 1/2 bolts 3/4"

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP  
☒ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER \_\_\_\_\_

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN? ☒ YES ☐ NO

PHOTO IDs: Photos taken  
@ 1144

ADDITIONAL NOTES OR COMMENTS:

No lock on well cap.

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





**NBK Manchester**  
**Naval Facilities Engineering Command Northwest**

**MONITORING WELL CHECKLIST FOR LUC INSPECTION**

DATE (MM/DD/YY): <b>08/30/17</b>	TIME (HH:MM) <b>1153</b>	WEATHER/TEMPERATURE: <b>Cloudy</b>
INSPECTOR: <b>A. Paolucci and M. Zelenewitch</b>		COMPANY: <b>Battelle</b>
SITE: <b>Site 304</b>	DESCRIPTION: <b>Industrial Area</b>	
WELL ID: <b>MW-2</b>	NORTHING: <b>64105.94</b>	EASTING: <b>371803.60</b> <b>BC</b> <b>9/5/17</b>

**INSPECTION CHECKLIST**

TYPE OF MONITORING WELL:

- ☒ GROUNDWATER  
☐ SOIL VAPOR

MONITORING WELL LOCATED?

☒ YES ☐ NO

IS THE WELL CLEARLY LABELED?

☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION?

☒ YES ☐ NO

TYPE OF WELL CASING:

- ☐ STICK-UP ☒ FLUSH-MOUNT  
☐ OTHER \_\_\_\_\_

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

**2 bolts 3/4"**

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION?

☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL?

☒ YES ☐ NO

TYPE OF CAP:

- ☐ PVC SLIP CAP  
☒ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER \_\_\_\_\_

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP?

☐ YES ☒ NO

ARE THERE ANY ODORS?

☐ YES ☒ NO

IF YES, DESCRIBE ODOR:

- ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER \_\_\_\_\_

WERE PICTURES TAKEN?

- ☒ YES  
☐ NO

PHOTO IDs:

**Photos taken**  
**@ 1155**

ADDITIONAL NOTES OR COMMENTS

**Lock on well cap.**

GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





DATE (MM/DD/YY): <b>08/30/17</b>	TIME (HH:MM): <b>1329</b>	WEATHER/TEMPERATURE: <b>Cloudy Sunny</b>
INSPECTOR: <b>A. Paolucci and M. Zelenewitch</b>		COMPANY: <b>Battelle</b>
SITE: <b>Tank 50</b>	DESCRIPTION: <b>_____</b>	
WELL ID: <b>MW-1</b>	NORTHING: <b>64406.94</b>	EASTING: <b>370945.00</b>
INSPECTION CHECKLIST: TYPE OF MONITORING WELL: <input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> SOIL VAPOR  MONITORING WELL LOCATED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS THE WELL CLEARLY LABELED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IS THE MONUMENT IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO TYPE OF WELL CASING: <input checked="" type="checkbox"/> STICK-UP <input type="checkbox"/> FLUSH-MOUNT <input type="checkbox"/> OTHER _____ SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID: _____ CASING DIAMETER <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> 8" <input type="checkbox"/> OTHER _____ IS THE CASING IN GOOD CONDITION? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IS THERE A CAP ON THE MONITORING WELL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO TYPE OF CAP: <input type="checkbox"/> PVC SLIP CAP <input checked="" type="checkbox"/> J-PLUG <input type="checkbox"/> EXPANSION <input type="checkbox"/> PRODUCTION W/TUBING <input type="checkbox"/> OTHER _____ IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO ARE THERE ANY ODORS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, DESCRIBE ODOR: <input type="checkbox"/> SOLVENT <input type="checkbox"/> SULFIDE/ROTTEN EGGS <input type="checkbox"/> PETROLEUM <input type="checkbox"/> OTHER _____ WERE PICTURES TAKEN? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
PHOTO IDs:		<b>Photos taken @ 1329</b>


GENERAL CONDITION (CHECK ONE):

- ☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION





DATE (MM/DD/YY): 08/30/17	TIME (HH:MM): 1403	WEATHER/TEMPERATURE: Sunny
------------------------------	-----------------------	-------------------------------

SITE:	DESCRIPTION:
Tank 50	

WELL ID: MW-2	NORTHING: 64429.72	EASTING: 370850.70
------------------	-----------------------	-----------------------

TYPE OF MONITORING WELL: ☒ GROUNDWATER  
☐ SOIL VAPOR

MONITORING WELL LOCATED? ☒ YES ☐ NO

IS THE WELL CLEARLY LABELED? ☐ YES ☒ NO

IS THE MONUMENT IN GOOD CONDITION? ☒ YES ☐ NO

TYPE OF WELL CASING: ☒ STICK-UP ☐ FLUSH-MOUNT ☐ OTHER

SIZE & NUMBER OF BOLTS ON FLUSH-MOUNT LID:

CASING DIAMETER ☒ 2" ☐ 4" ☐ 6" ☐ 8" ☐ OTHER \_\_\_\_\_

IS THE CASING IN GOOD CONDITION? ☒ YES ☐ NO

IS THERE A CAP ON THE MONITORING WELL? ☒ YES ☐ NO

TYPE OF CAP: ☐ PVC SLIP CAP  
☒ J-PLUG  
☐ EXPANSION  
☐ PRODUCTION W/TUBING  
☐ OTHER \_\_\_\_\_

IS THERE ANY EVIDENCE OF TAMPERING WITH THE WELL CASING OR CAP? ☐ YES ☒ NO

ARE THERE ANY ODORS? ☐ YES ☒ NO

IF YES, DESCRIBE ODOR: ☐ SOLVENT  
☐ SULFIDE/ROTTEN EGGS  
☐ PETROLEUM  
☐ OTHER

WERE PICTURES TAKEN? ☒ YES  
☐ NO

PHOTO IDs: PHOTOS TAKEN  
@ 1403

ADDITIONAL NOTES OR COMMENTS:

Well is labeled on well cap.  
Lock on well lid was  
removed to inspect well.

GENERAL CONDITION (CHECK ONE):

☒ GOOD CONDITION  
☐ MODERATE CONDITION  
☐ POOR CONDITION




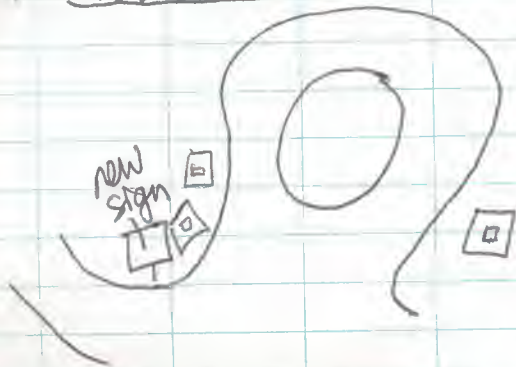
**APPENDIX C**  
**Field Notes**



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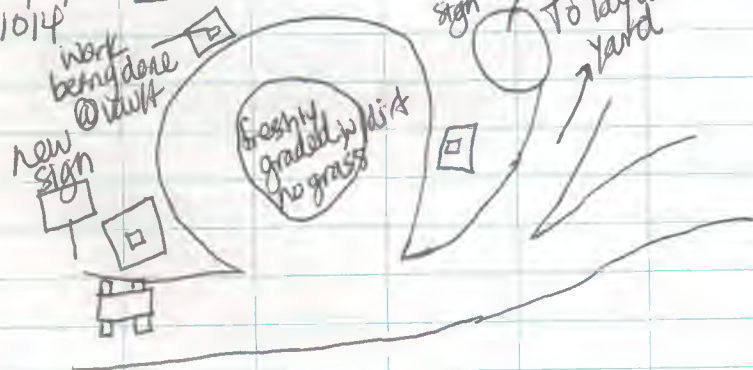


08/29/17 Site 303 Tank 22   
0843

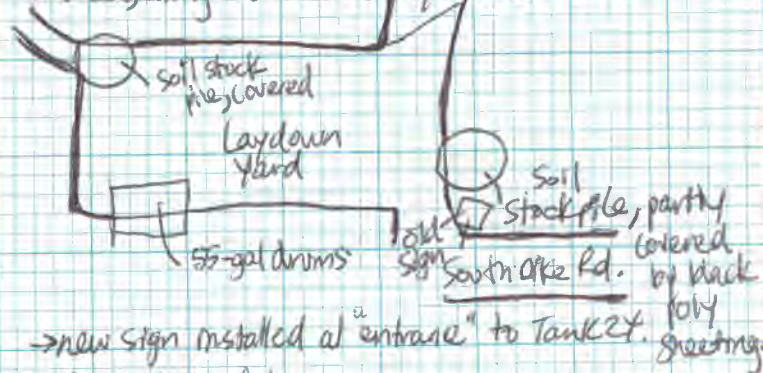


- New sign has been installed at "entrance" to tank 22.
- No evidence of digging or disturbed soil.
- No evidence of GW well installation etc.
- Construction laydown area NW of Tank 22.
- OSSC started inspection of MWs.

08/29/17 Site 303 Tank 24  
1014



- looks like work was recently completed at tank.
- Stockpile of soil (looks to be excavated soil) on border of laydown area.
- half of pile covered w/ black poly sheet.
- @ vault, look to be venting.
- old "excavation restriction" sign posted adjacent to stockpile of soil, near South Olive Rd.
- small stockpile of soil in corner of laydown yard covered w/ black poly sheet (NW corner).
- 17 55-gal drums in laydown yard, only 1 drum labeled, along S border of laydown area.



- new sign installed at "entrance" to Tank 24.
- NO evidence of digging.
- NO evidence of GW well install.
- 1038 started to inspect wells.

8/29/17 AMP



08/24/17  
1300

Site 303 Tank 26

1300



~ 1" piping pfl

~ 1" piping pfl

vault, Date  
 now open  
 maintenance  
 occurring

Date \_\_\_\_\_

access  
road

→ undisturbed site;  
no evidence of  
digging/disturbed  
soil.

→ no evidence  
of GW well  
install or GW use.

new Soil  
Sign Sentry  
Control Panel

→ 1312 started inspecting wells.

08/29/17 Site 303 Tank 25

1438



Laydown  
Area

New sign

→ undisturbed site;  
(AMP) ~~no evidence~~ no evidence  
of digging/disturbed  
soil.

1 → MW-2 N: 64093.78  
on  
AC pipe E: 371368.90

→ NO evidence of GW well  
install or GW use.

→ 1453 started to inspect wells.

### Location

Date \_\_\_\_\_

Project / Client

Scale

08/29/17  
510

Site 303 Tank 27

Soil  
Sentry  
Park  
New  
Sign

08/29/17  
1529

Site 303 Tank 28

1529

- undisturbed site;  
no evidence of  
digging/soil disturbance.
- no evidence of GW  
well install or GW use.
- 1517 started to  
inspect well.

→ No wells @ Tank 28.

- No evidence of disturbances or GW well install or GW use.

Gravel Pathway

new  
519

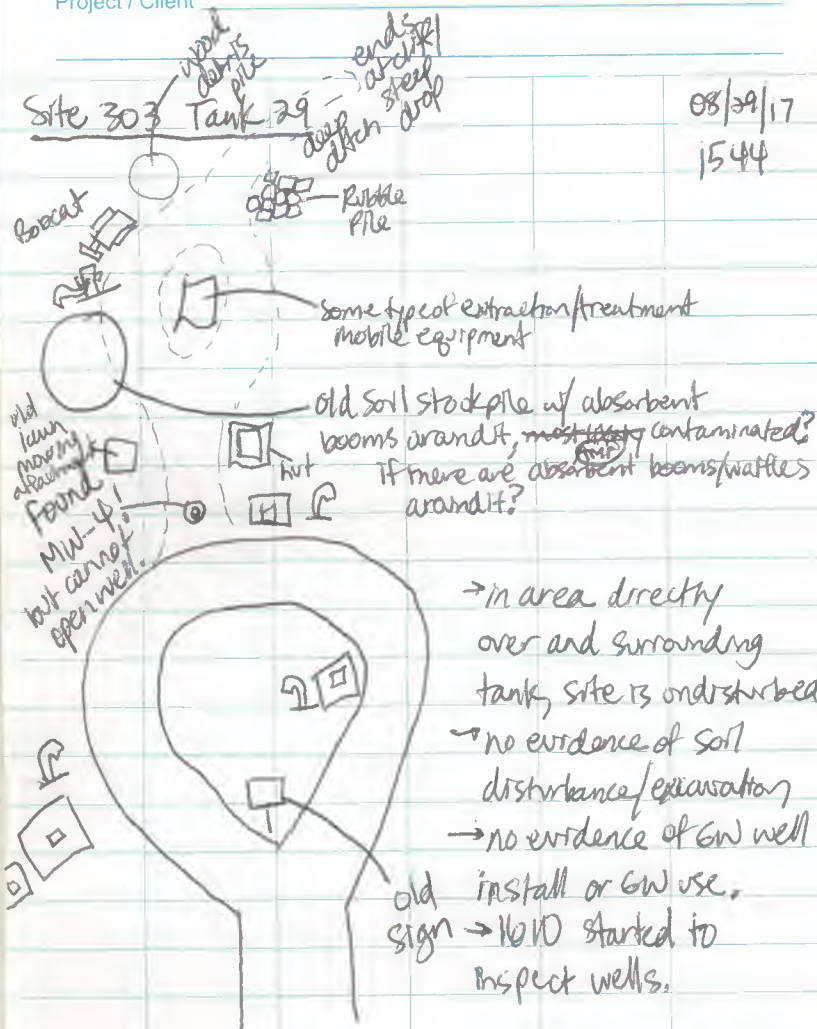
Soil  
Sediment

newer patch of road

08	24	1
----	----	---

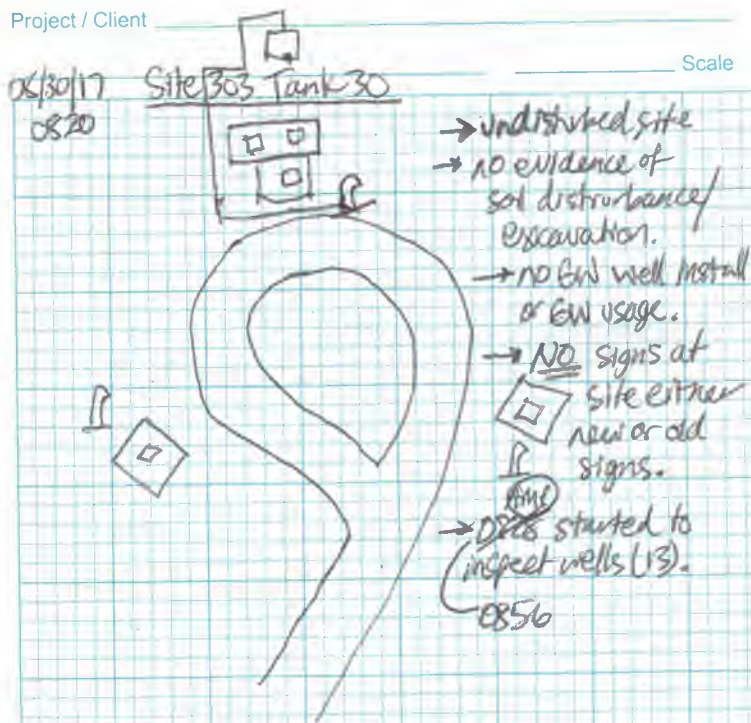
AMP





08/29/17

AMP



08/30/17 Site 303 Tank 29

1055 Came back to Tank 29 to attempt to open well MW-4.

Able to open MW-4 and complete inspection checklist.

08/30/17 West of Tank 29

1119 Found PVC piping for GW-2 and completed inspection checklist.

08/30/17 Site 304 Industrial Area

1136 started inspection &amp; made notes on map. finished @ 1215.



Location \_\_\_\_\_ Date \_\_\_\_\_

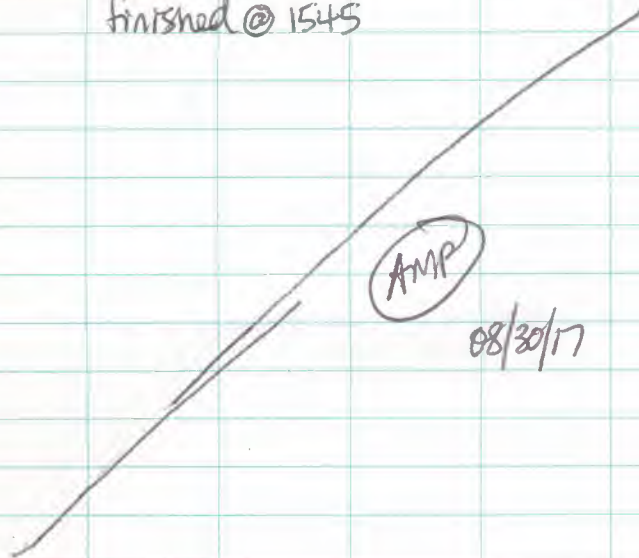
Project / Client \_\_\_\_\_

08/30/17 Tank 501326 started inspection and made notes on map.  
finished @ 1420

@ ~1425 returned to Tank 30 to take picture  
of ~~new~~ <sup>AMP</sup> sign - its located before tank,  
not at the tank like other ~~new~~ <sup>AMP</sup> signs.  
→ marked location on map.

08/30/17 Site 302 - PCB Site

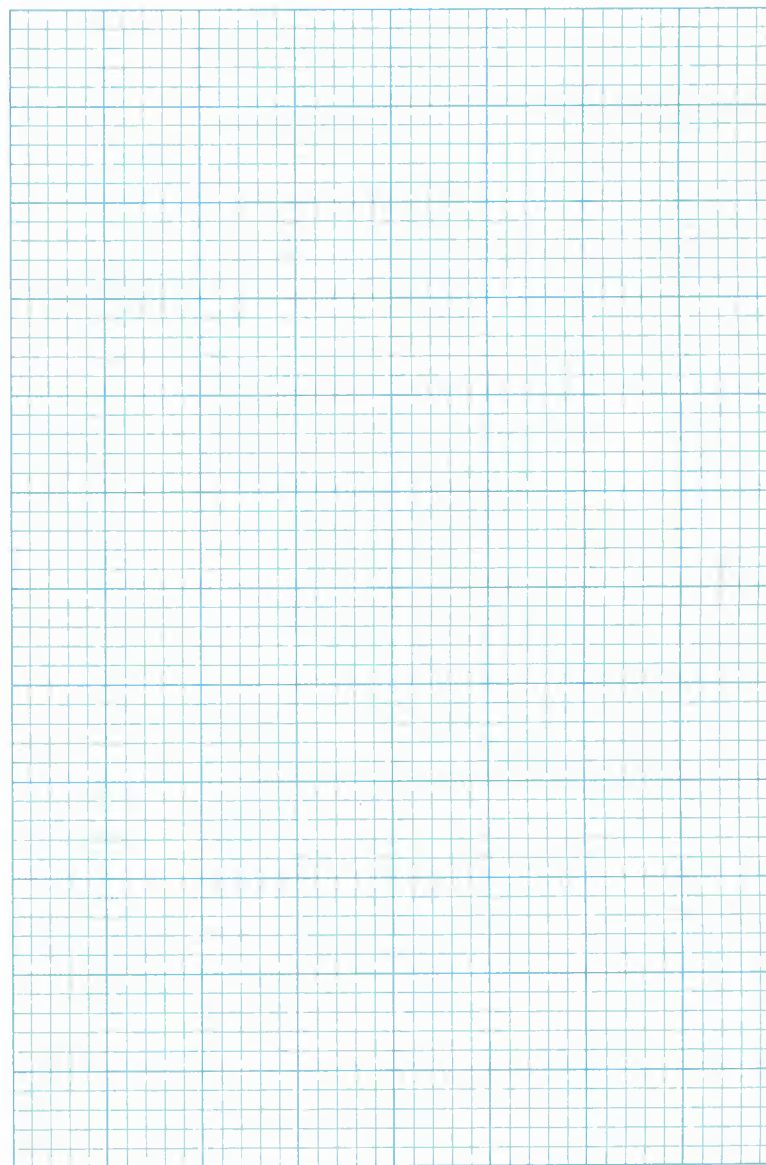
~1440 started inspection + made notes on map.  
finished @ 1545



Location \_\_\_\_\_ Date \_\_\_\_\_

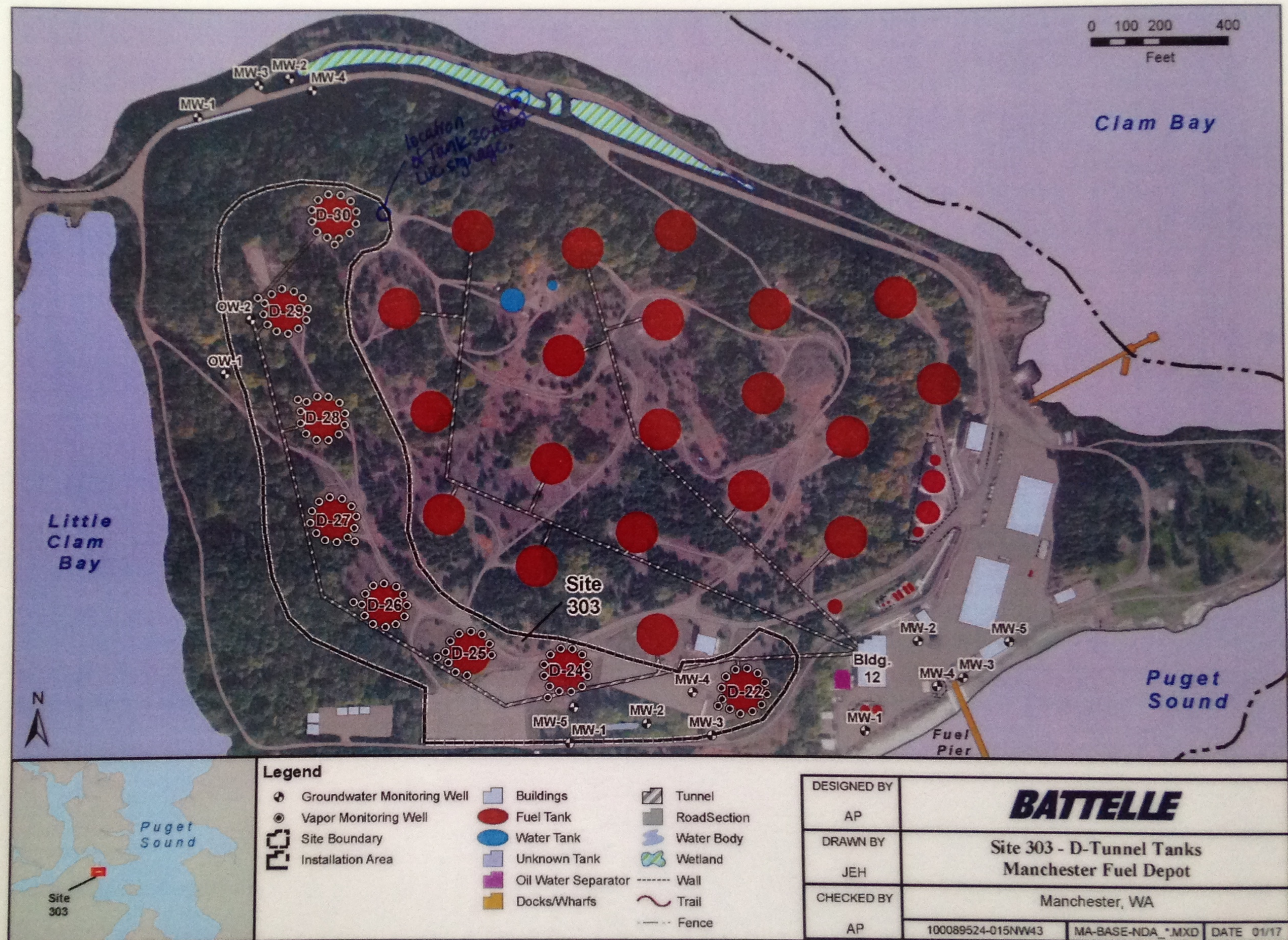
Project / Client \_\_\_\_\_

Scale \_\_\_\_\_





✓ Tank 30: 13 wells  
 ✓ Tank 29: 12<sup>13</sup> wells (MW-4) → FOUND IT!  
 ✓ Tank 28: NO wells  
 ✓ Tank 27: MW-1  
 ✓ Tank 26: 13 wells  
 ✓ Tank 25: MW-2+13  
 ✓ Tank 24: 13 wells  
 ✓ Tank 22: 13 wells  
 X North Tank 30:  
   MW-1  
   MW-3  
 West of Tank 29:  
 ✓ OW-2 → ONLY PVC PIPE  
 Site 304:  
 ✓ MW-1  
 ✓ MW-2





Started inspection of Site 304 @ 1136 → Completed inspection @ 1215

\* Inspected MW-1 @ 1142

2" PVC w/ J Plug Cap

No odor

Good Condition

only 1/2 bolts 3/4"

Photos taken @ 1144

\* Inspected MW-2 @ 1153

2" PVC w/ J Plug Cap + Lock

No odor

Good Condition

2 Bolts 3/4"

Photos taken @ 1155

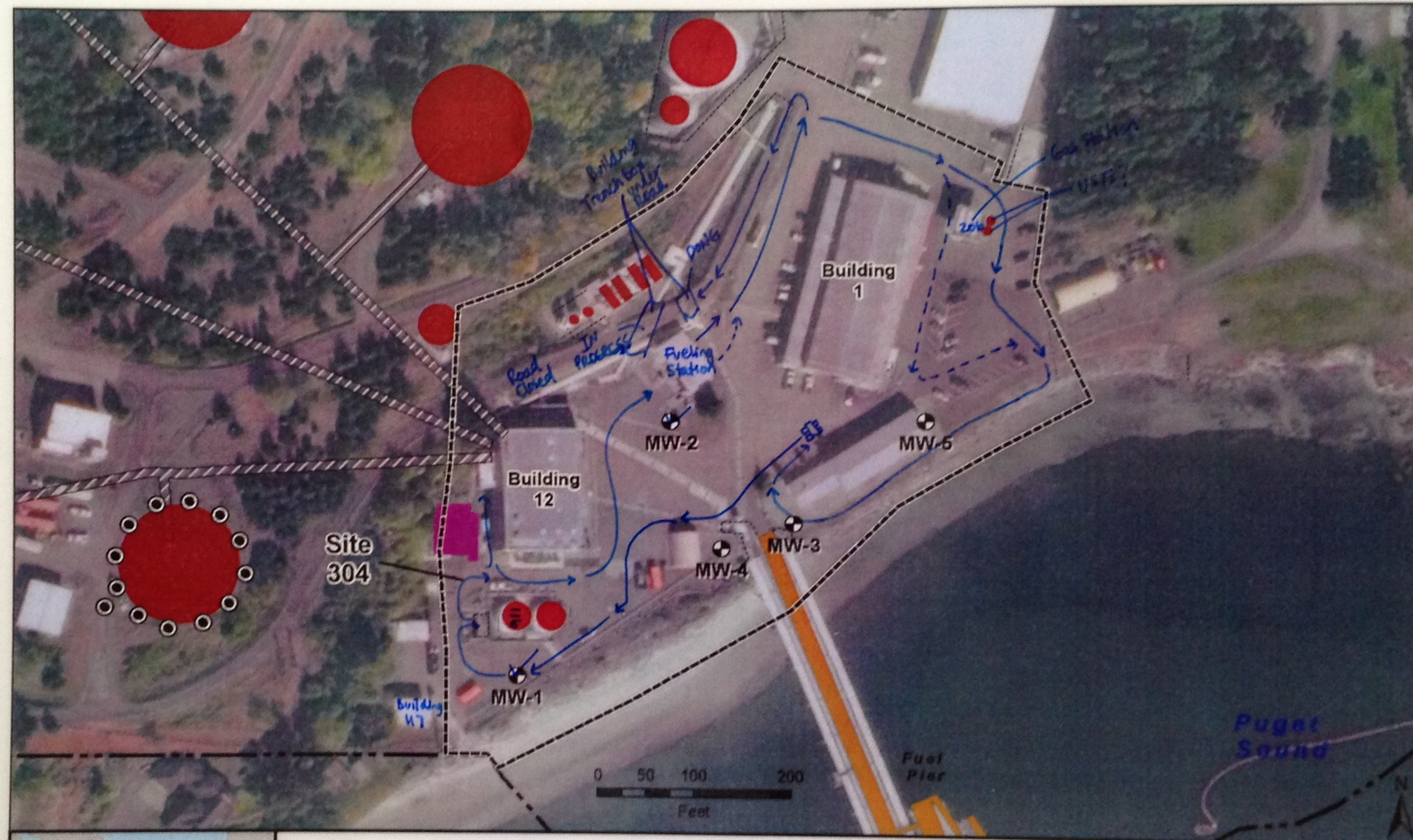
\* No evidence of digging/  
soil disturbance.

\* No evidence of digging/  
soil disturbance.

\* No evidence of GW well  
install or GW usage.

\* NO "LUC" signage warning  
against exposure to  
contaminated soil.\*

→ Angela  
---→ Max



#### Legend

- |                               |                     |         |
|-------------------------------|---------------------|---------|
| ⊕ Groundwater Monitoring Well | Unknown Tank        | Tunnel  |
| ⊙ Vapor Monitoring Well       | Oil Water Separator | Wetland |
| Site Boundary                 | Docks/Wharfs        | Wall    |
| Installation Area             |                     | Fence   |
| Fuel Tank                     |                     |         |

DESIGNED BY

JH

DRAWN BY

JEH

CHECKED BY

AP

**BATTELLE**

Site 304 - Industrial Area  
Manchester Fuel Depot

Manchester, WA

100075818-011NW41

MA-BASE-NDA \*MXD

DATE 07/17



Started inspection of Tank 50 @ 1326 finished inspection @ 1420

Inspected MW-1 @ 1329

No Label/ID Plate

Stick up well

2" PVC w/ J Plug Cap

Good Condition

No odor

Photos taken @ 1329

Inspected MW-2 @ 1403

No label on outside.

Labeled on casing cap.

No odor

2" PVC w/ J Plug Cap

Stick up well

Photos taken @ 1403

Good Condition

\* No longer lock on well lid.

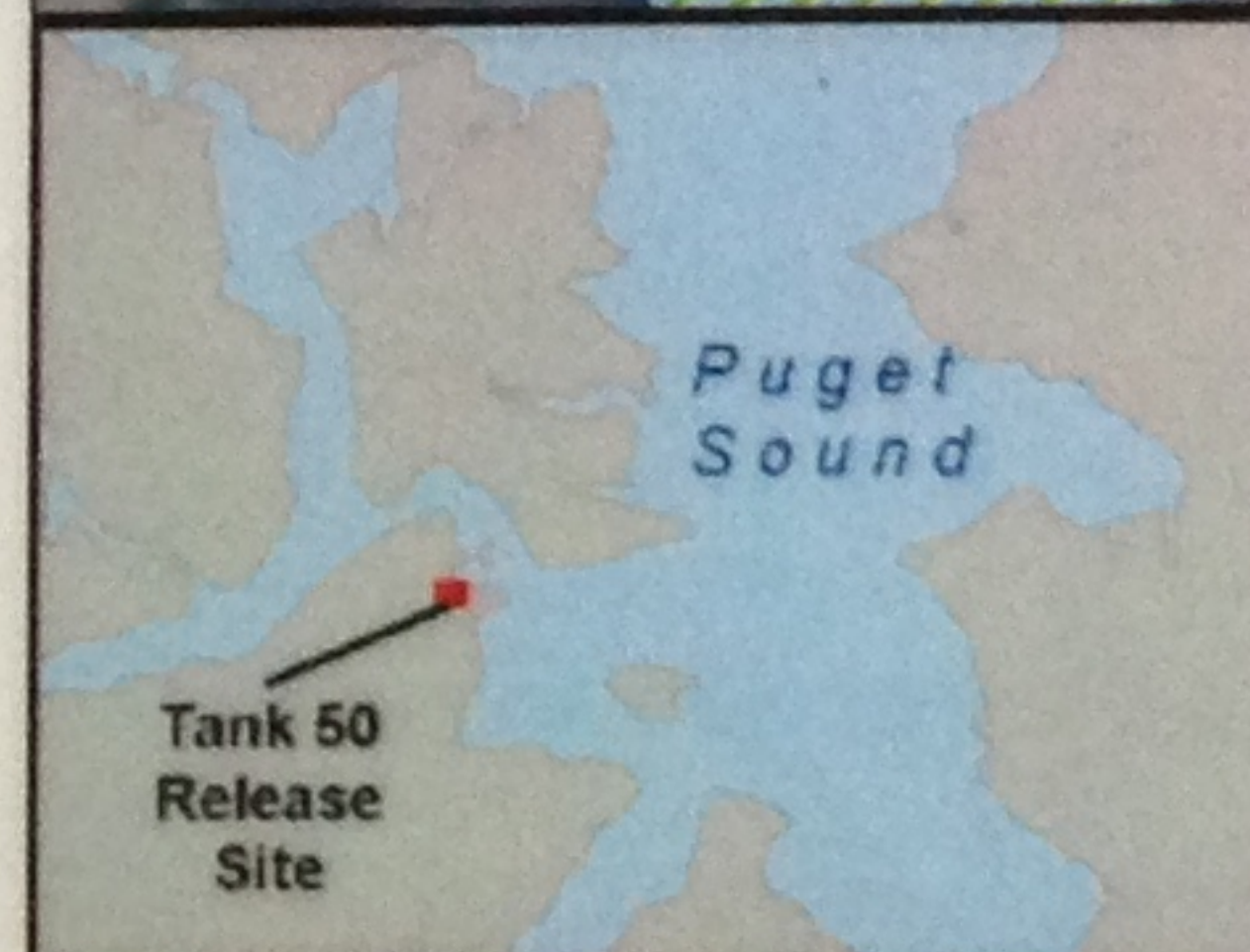
(removed by Battelle)

\* No evidence of digging or soil disturbance.

\* No evidence of GW well install or GW usage.

@ 1425 went back to Tank 30

to take picture of ~~sign~~ sign... its not right at the tank, but before the tank.



#### Legend

- Groundwater Monitoring Well
- Site Boundary
- Buildings
- Fuel Tank
- Road Section
- Water Body
- Wetland
- Wall
- Fence

DESIGNED BY

AP

DRAWN BY

JEH

CHECKED BY

AP

**BATTELLE**

Tank 50 Release Site  
Manchester Fuel Depot

Manchester, WA

100089524-015NW43

MA-BASE-"T050" MXD

DATE 01/17



Started inspection of Site 302 @ 1440 Finished inspections @ 1545

\* No signage along South side warning of soil contamination, only "Restricted Area" signage

NO WELLS @ SITE

\* Large piles of old disposed of soil in central portion of fenced area.

\* Gate on North side of site unlocked & open, no signage.





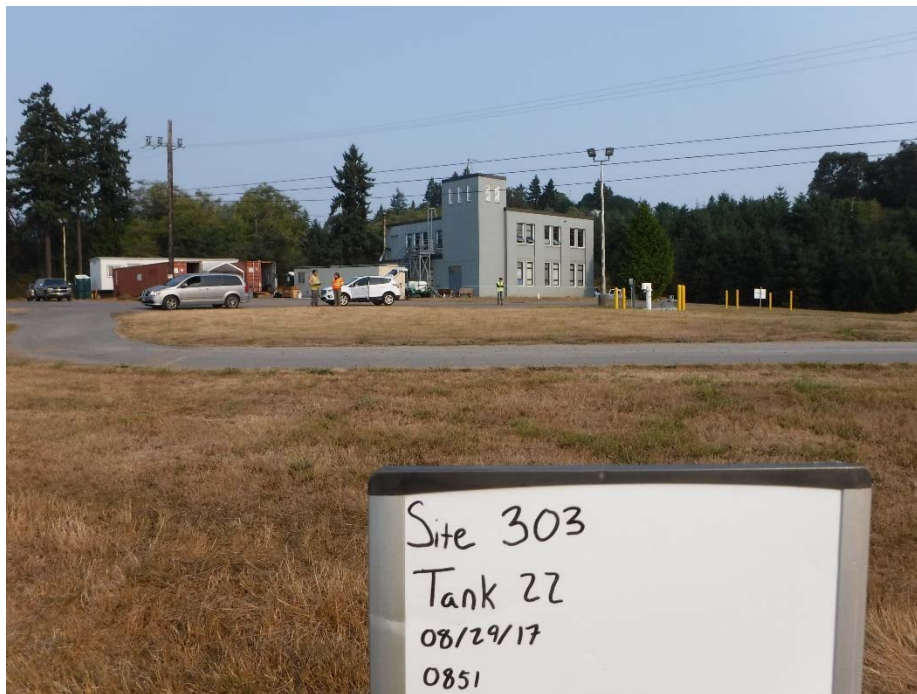
**APPENDIX D**  
**Photographic Log**



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## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-DSCF1621  
**Date Taken:** 08/29/17

**Photo #1 - Description:** Site 303, Tank 22, view NW across site



**File Name:** 303-Tank22-DSCF1623  
**Date Taken:** 08/29/17

**Photo #2 - Description:** Site 303, Tank 22, new LUC excavation restriction signage



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-DSCF1625  
**Date Taken:** 08/29/17

**Photo #3 - Description:** Site 303, Tank 22, construction laydown area WNW of tank



**File Name:** 303-Tank22-MW1-DSCF1631  
**Date Taken:** 08/29/17

**Photo #4 - Description:** Site 303, Tank 22, MW-1, tubing from vapor monitoring system is visible



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-MW2-DSCF1633  
**Date Taken:** 08/29/17

**Photo #5 - Description:** Site 303, Tank 22, MW-2, well buried under grass



**File Name:** 303-Tank22-MW3-DSCF1636  
**Date Taken:** 08/29/17

**Photo #6 - Description:** Site 303, Tank 22, MW-3, water in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-MW4-DSCF1638  
**Date Taken:** 08/29/17

**Photo #7 - Description:** Site 303, Tank 22, MW-4

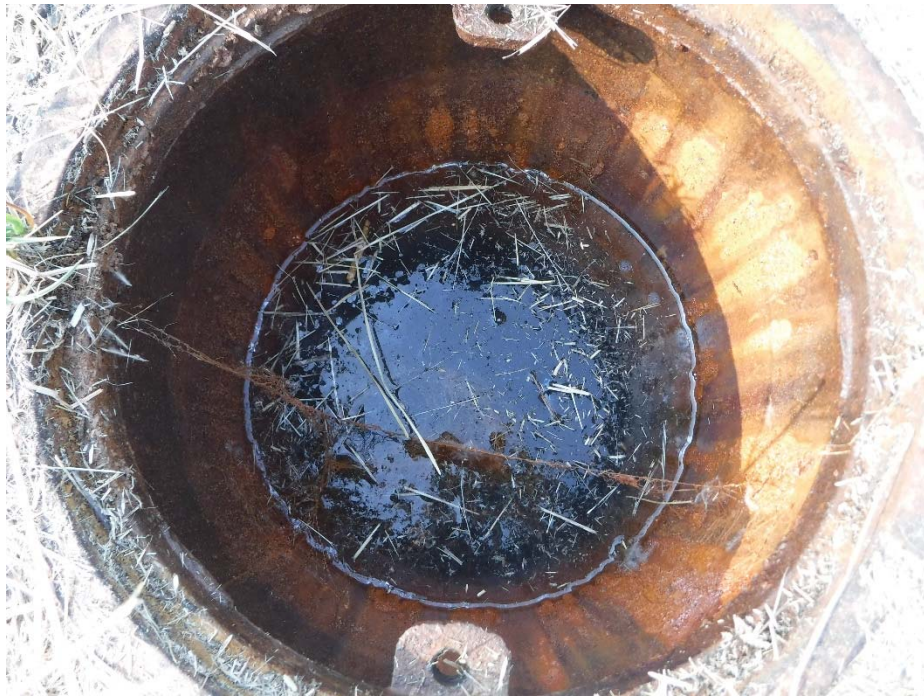


**File Name:** 303-Tank22-MW5-DSCF1640  
**Date Taken:** 08/29/17

**Photo #8 - Description:** Site 303, Tank 22, MW-5, monument filled with water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-MW6-DSCF1642  
**Date Taken:** 08/29/17

**Photo #9 - Description:** Site 303, Tank 22, MW-6, monument filled with water



**File Name:** 303-Tank22-MW7-DSCF1644  
**Date Taken:** 08/29/17

**Photo #10 - Description:** Site 303, Tank 22, MW-7, cap removed from well casing



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-MW8-DSCF1646  
**Date Taken:** 08/29/17

**Photo #11 - Description:** Site 303, Tank 22, MW-8, debris inside monument



**File Name:** 303-Tank22-MW9-DSCF1648  
**Date Taken:** 08/29/17

**Photo #12 - Description:** Site 303, Tank 22, MW-9



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-MW10-DSCF1650  
**Date Taken:** 08/29/17

**Photo #13 - Description:** Site 303, Tank 22, MW-10, located along access road

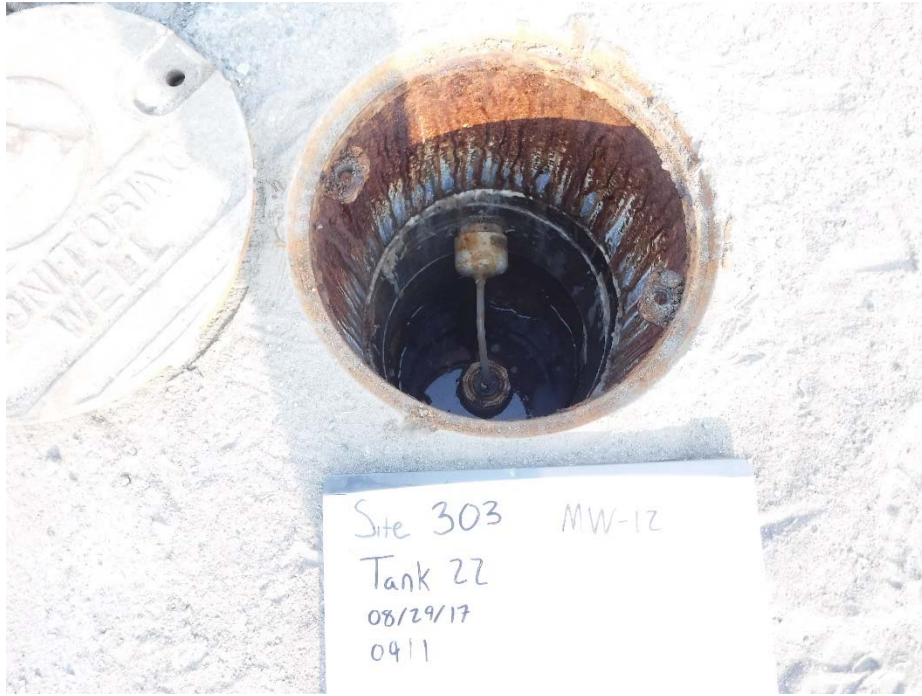


**File Name:** 303-Tank22-MW11-DSCF1627  
**Date Taken:** 08/29/17

**Photo #14 - Description:** Site 303, Tank 22, MW-11, located along roadside, water in annular spacing



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank22-MW12-DSCF1628  
**Date Taken:** 08/29/17

**Photo #15 - Description:** Site 303, Tank 22, MW-12



**File Name:** 303-Tank22-MW13-DSCF1652  
**Date Taken:** 08/29/17

**Photo #16 - Description:** Site 303, Tank 22, MW-13, water in monument up to top of casing, adjacent to Soil Sentry System



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-DSCF1655  
**Date Taken:** 08/29/17

**Photo #17 - Description:** Site 303, Tank 24, view W across site



**File Name:** 303-Tank24-DSCF1657  
**Date Taken:** 08/29/17

**Photo #18 - Description:** Site 303, Tank 24, new LUC excavation restriction signage



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-DSCF1662  
**Date Taken:** 08/29/17

**Photo #19 - Description:** Site 303, construction laydown area SW of Tank 24, view W across area



**File Name:** 303-Tank24-DSCF1668  
**Date Taken:** 08/29/17

**Photo #20 - Description:** Site 303, 55-gal drums along S boundary of construction laydown area SW of Tank 24



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** WIN\_20161212\_134339  
**Date Taken:** 08/29/17

**Photo #21 - Description:** Site 303, soil stockpile with tarp in NW corner of construction laydown area



**File Name:** 303-Tank24-DSCF1661  
**Date Taken:** 08/29/17

**Photo #22 - Description:** Site 303, excavation stockpile and older excavation restriction signage along E boundary of construction laydown area



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW1-DSCF1680  
**Date Taken:** 08/29/17

**Photo #23 - Description:** Site 303, Tank 24, MW-1



**File Name:** 303-Tank24-MW2-DSCF1682  
**Date Taken:** 08/29/17

**Photo #24 - Description:** Site 303, Tank 24, MW-2, buried under  
~3 inches of dirt/soil



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW3-DSCF1685  
**Date Taken:** 08/29/17

**Photo #25 - Description:** Site 303, Tank 24, MW-3, ID plate not affixed to well lid, buried under ~1 inch of dirt/soil



**File Name:** 303-Tank24-MW4-DSCF1689  
**Date Taken:** 08/29/17

**Photo #26 - Description:** Site 303, Tank 24, MW-4



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW5-DSCF1691  
**Date Taken:** 08/29/17

**Photo #27 - Description:** Site 303, Tank 24, MW-5, interior lining of monument deteriorating



**File Name:** 303-Tank24-MW6-DSCF1693  
**Date Taken:** 08/29/17

**Photo #28 - Description:** Site 303, Tank 24, MW-6, located in middle of road, well ~3 feet deep in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW7-DSCF1695  
**Date Taken:** 08/29/17

**Photo #29 - Description:** Site 303, Tank 24, MW-7, well fully submerged under water, some sheen in water



**File Name:** 303-Tank24-MW8-DSCF1670  
**Date Taken:** 08/29/17

**Photo #30 - Description:** Site 303, Tank 24, MW-8, water in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW9-DSCF1672  
**Date Taken:** 08/29/17

**Photo #31 - Description:** Site 303, Tank 24, MW-9



**File Name:** 303-Tank24-MW10-DSCF1674  
**Date Taken:** 08/29/17

**Photo #32 - Description:** Site 303, Tank 24, MW-10



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW11-DSCF1676  
**Date Taken:** 08/29/17

**Photo #33 - Description:** Site 303, Tank 24, MW-11



**File Name:** 303-Tank24-MW12-DSCF1678  
**Date Taken:** 08/29/17

**Photo #34 - Description:** Site 303, Tank 24, MW-12



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank24-MW13-DSCF1687  
**Date Taken:** 08/29/17

**Photo #35 - Description:** Site 303, Tank 24, MW-13, interior lining laying within monument



**File Name:** 303-Tank25-DSCF1740  
**Date Taken:** 08/29/17

**Photo #36 - Description:** Site 303, Tank 25, view SW across site

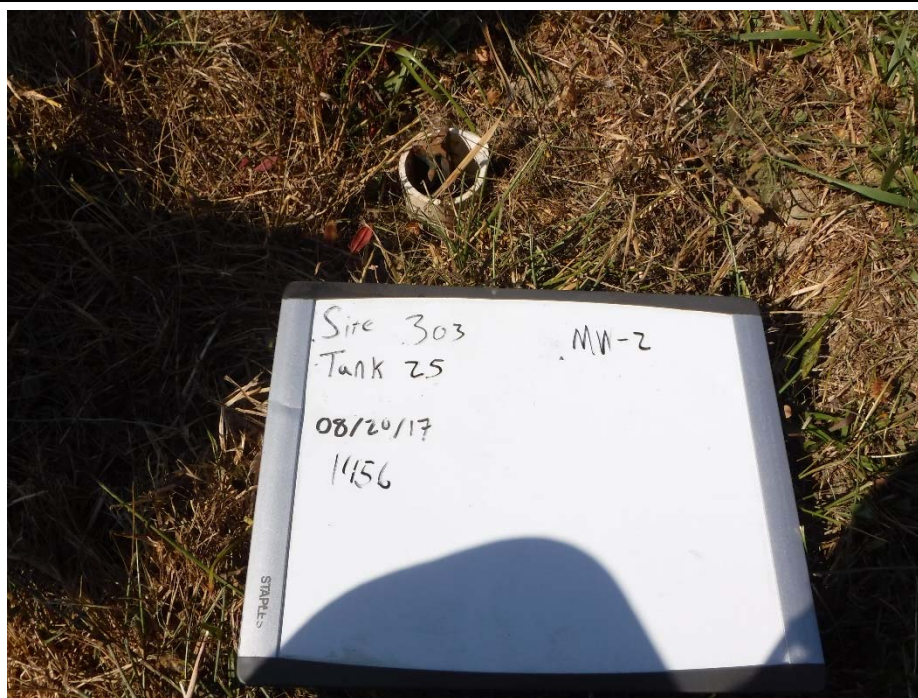


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank25-DSCF1738  
**Date Taken:** 08/29/17

**Photo #37 - Description:** Site 303, Tank 25, new LUC excavation restriction signage



**File Name:** 303-Tank25-MW2-DSCF1732  
**Date Taken:** 08/29/17

**Photo #38 - Description:** Site 303, Tank 25, MW-2, only 2-inch PVC piping exposed at ground surface



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank25-MW13-DSCF1735  
**Date Taken:** 08/29/17

**Photo #39 - Description:** Site 303, Tank 25, MW-13, located in tall grass around tank



**File Name:** 303-Tank26-DSCF1698  
**Date Taken:** 08/29/17

**Photo #40 - Description:** Site 303, Tank 26, view SW across site



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-DSCF1696  
**Date Taken:** 08/29/17

**Photo #41 - Description:** Site 303, Tank 26, new LUC excavation restriction signage



**File Name:** 303-Tank26-DSCF1703  
**Date Taken:** 08/29/17

**Photo #42 - Description:** Site 303, southwest of Tank 26, rigging equipment for fuel line maintenance/inspections



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW1-DSCF1721  
**Date Taken:** 08/29/17

**Photo #43 - Description:** Site 303, Tank 26, MW-1



**File Name:** 303-Tank26-MW2-DSCF1719  
**Date Taken:** 08/29/17

**Photo #44 - Description:** Site 303, Tank 26, MW-2, well ~2 feet deep in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW3-DSCF1717  
**Date Taken:** 08/29/17

**Photo #45 - Description:** Site 303, Tank 26, MW-3, water in monument



**File Name:** 303-Tank26-MW4-DSCF1715  
**Date Taken:** 08/29/17

**Photo #46 - Description:** Site 303, Tank 26, MW-4, well covered by brush



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW5-DSCF1713  
**Date Taken:** 08/29/17

**Photo #47 - Description:** Site 303, Tank 26, MW-5, placed cap in well casing



**File Name:** 303-Tank26-MW6-DSCF1711  
**Date Taken:** 08/29/17

**Photo #48 - Description:** Site 303, Tank 26, MW-6, well located in tall grass surrounding tank

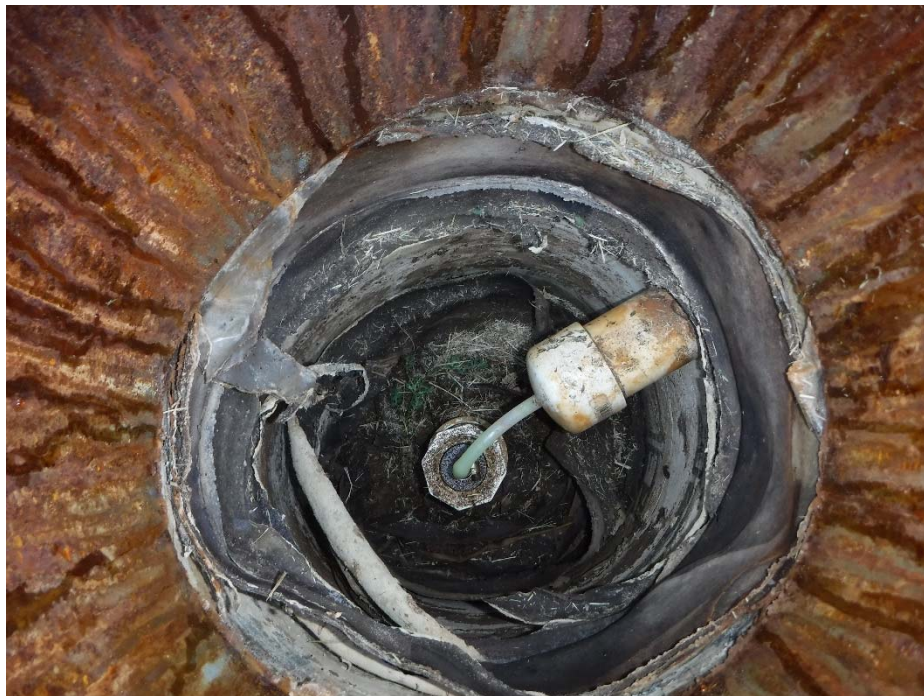


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW7-DSCF1709  
**Date Taken:** 08/29/17

**Photo #49 - Description:** Site 303, Tank 26, MW-7, well located in tall grass surrounding tank



**File Name:** 303-Tank26-MW8-DSCF1707  
**Date Taken:** 08/29/17

**Photo #50 - Description:** Site 303, Tank 26, MW-8, well ID not affixed to well lid, well in middle of road with overgrown vegetation



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW9-DSCF1705  
**Date Taken:** 08/29/17

**Photo #51 - Description:** Site 303, Tank 26, MW-9, water in monument



**File Name:** 303-Tank26-MW10-DSCF1727  
**Date Taken:** 08/29/17

**Photo #52 - Description:** Site 303, Tank 26, MW-10, water in monument, slightly above casing



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW11-DSCF1725  
**Date Taken:** 08/29/17

**Photo #53 - Description:** Site 303, Tank 26, MW-11, water in monument to top of casing



**File Name:** 303-Tank26-MW12-DSCF1723  
**Date Taken:** 08/29/17

**Photo #54 - Description:** Site 303, Tank 26, MW-12, spray foam inside well monument

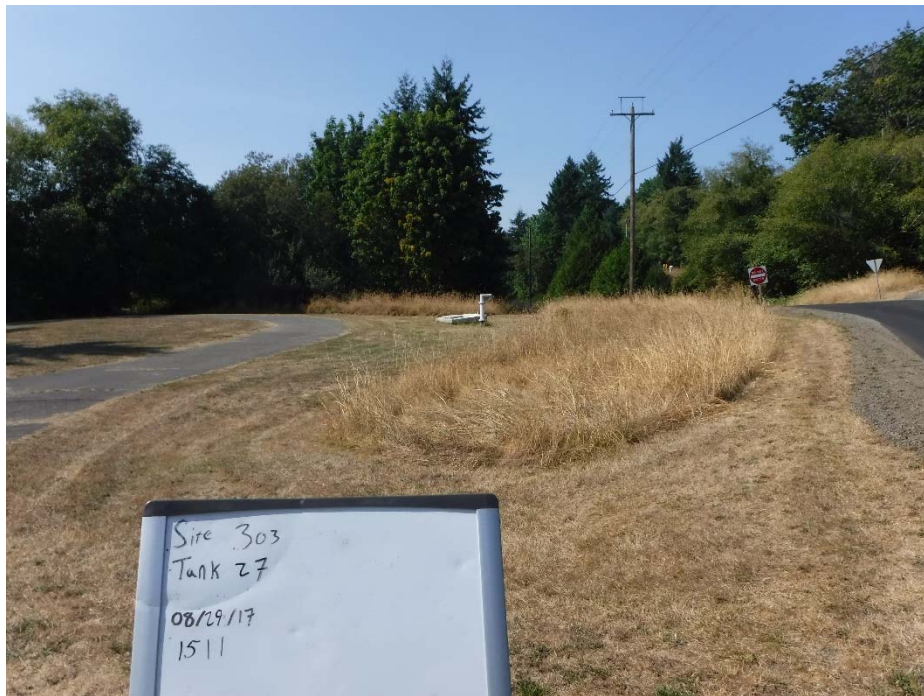


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank26-MW13-DSCF1730  
**Date Taken:** 08/29/17

**Photo #55 - Description:** Site 303, Tank 26, MW-13, covered by recently cut trees and overgrowth



**File Name:** 303-Tank27-DSCF1743  
**Date Taken:** 08/29/17

**Photo #56 - Description:** Site 303, Tank 27, view W across site



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank27-DSCF1742  
**Date Taken:** 08/29/17

**Photo #57 - Description:** Site 303, Tank 27, new LUC excavation restriction signage



**File Name:** 303-Tank27-MW1-DSCF1746  
**Date Taken:** 08/29/17

**Photo #58 - Description:** Site 303, Tank 27, MW-1, flex tube missing, well not connected to soil sentry system



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank28-DSCF1749  
**Date Taken:** 08/29/17

**Photo #59 - Description:** Site 303, Tank 28, view across site

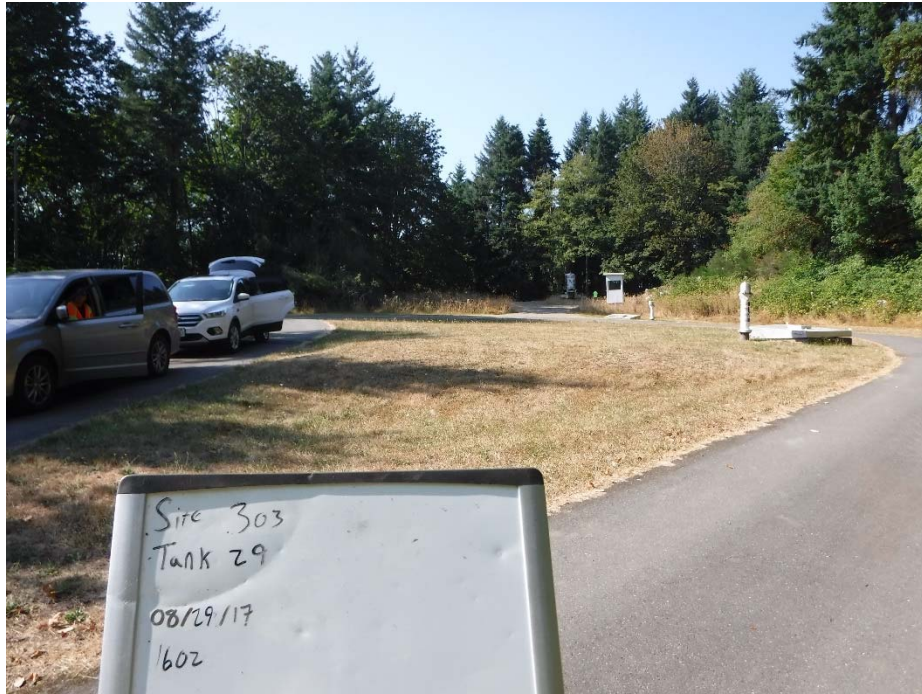


**File Name:** 303-Tank28-DSCF1747  
**Date Taken:** 08/29/17

**Photo #60 - Description:** Site 303, Tank 28, new LUC excavation restriction signage



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-DSCF1753  
**Date Taken:** 08/29/17

**Photo #61 - Description:** Site 303, Tank 29, view N across site



**File Name:** 303-Tank29-DSCF1758  
**Date Taken:** 08/29/17

**Photo #62 - Description:** Site 303, North of Tank 29, entrance to laydown area



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-DSCF1762  
**Date Taken:** 08/29/17

**Photo #63 - Description:** Site 303, North of Tank 29, rock stockpile in laydown area



**File Name:** 303-Tank29-DSCF1763  
**Date Taken:** 08/29/17

**Photo #64 - Description:** Site 303, North of Tank 29, mobile extraction/treatment system in laydown area



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-DSCF1765  
**Date Taken:** 08/29/17

**Photo #65 - Description:** Site 303, North of Tank 29, bulldozer in laydown area

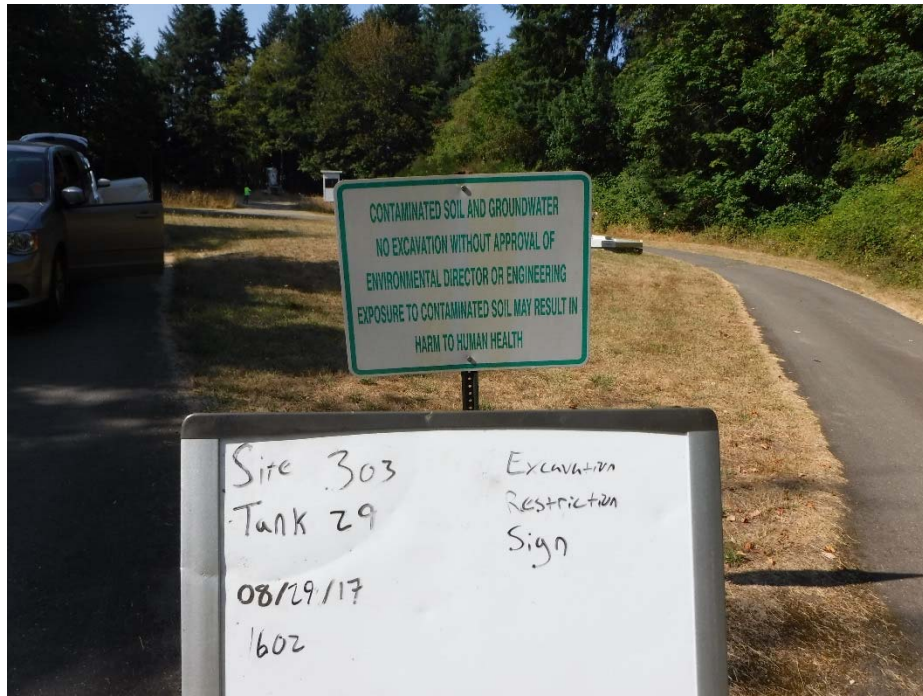


**File Name:** 303-Tank29-DSCF1772  
**Date Taken:** 08/29/17

**Photo #66 - Description:** Site 303, North of Tank 29, old soil stockpile on tarp surrounded by absorbent wattles in construction area



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-DSCF1751  
**Date Taken:** 08/29/17

**Photo #67 - Description:** Site 303, Tank 29, LUC excavation restriction signage



**File Name:** 303-Tank29-MW1-DSCF1788  
**Date Taken:** 08/29/17

**Photo #68 - Description:** Site 303, Tank 29, MW-1, well fully submerged under water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW2-DSCF1784  
**Date Taken:** 08/29/17

**Photo #69 - Description:** Site 303, Tank 29, MW-2, well fully submerged under water



**File Name:** 303-Tank29-MW3-DSCF1782  
**Date Taken:** 08/29/17

**Photo #70 - Description:** Site 303, Tank 29, MW-3, well fully submerged under water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW4-DSCF1779  
**Date Taken:** 08/29/17

**Photo #71 - Description:** Site 303, Tank 29, MW-4, under 6 inches of gravel access road and geotextile



**File Name:** 303-Tank29-MW4-DSCF1834  
**Date Taken:** 08/30/17

**Photo #72 - Description:** Site 303, Tank 29, MW-4, well ID not affixed to well lid



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW5-DSCF1778  
**Date Taken:** 08/29/17

**Photo #73 - Description:** Site 303, Tank 29, MW-5, water in monument



**File Name:** 303-Tank29-MW6-DSCF1776  
**Date Taken:** 08/29/17

**Photo #74 - Description:** Site 303, Tank 29, MW-6, well fully submerged under water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW7-DSCF1774  
**Date Taken:** 08/29/17

**Photo #75 - Description:** Site 303, Tank 29, MW-7, water in monument



**File Name:** 303-Tank29-MW8-DSCF1798  
**Date Taken:** 08/29/17

**Photo #76 - Description:** Site 303, Tank 29, MW-8, water in monument to top of casing



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW9-DSCF1796  
**Date Taken:** 08/29/17

**Photo #77 - Description:** Site 303, Tank 29, MW-9, water in monument with sheen



**File Name:** 303-Tank29-MW10-DSCF1794  
**Date Taken:** 08/29/17

**Photo #78 - Description:** Site 303, Tank 29, MW-10, well fully submerged under water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW11-DSCF1792  
**Date Taken:** 08/29/17

**Photo #79 - Description:** Site 303, Tank 29, MW-11, water in monument



**File Name:** 303-Tank29-MW12-DSCF1790  
**Date Taken:** 08/29/17

**Photo #80 - Description:** Site 303, Tank 29, MW-12, water in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank29-MW13-DSCF1786  
**Date Taken:** 08/29/17

**Photo #81 - Description:** Site 303, Tank 29, MW-13, located in brush, water in monument



**File Name:** 303-Tank30-DSCF1827  
**Date Taken:** 08/30/17

**Photo #82 - Description:** Site 303, Tank 30, view across site

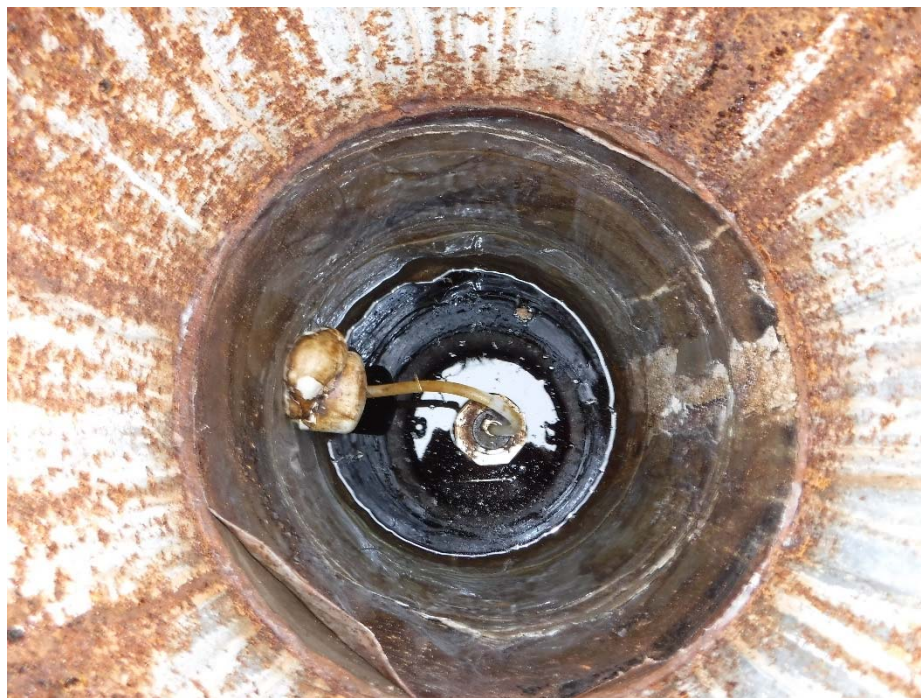


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-Sign-DSCF1916  
**Date Taken:** 08/30/17

**Photo #83 - Description:** Site 303, Tank 30, LUC excavation restriction signage at access road to tank



**File Name:** 303-Tank30-MW1-DSCF1808  
**Date Taken:** 08/30/17

**Photo #84 - Description:** Site 303, Tank 30, MW-1, water in monument to top of casing, ID plate not affixed to well lid



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-MW2-DSCF1806  
**Date Taken:** 08/30/17

**Photo #85 - Description:** Site 303, Tank 30, MW-2, located in tall grass surrounding tank



**File Name:** 303-Tank30-MW3-DSCF1804  
**Date Taken:** 08/30/17

**Photo #86 - Description:** Site 303, Tank 30, MW-3, well fully submerged under water, located in tall grass surrounding tank, ID plate not affixed to well lid



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-MW4-DSCF1802  
**Date Taken:** 08/30/17

**Photo #87 - Description:** Site 303, Tank 30, MW-4, water in monument to top of casing, located in tall grass surrounding tank, ID plate not affixed to well lid



**File Name:** 303-Tank30-MW5-DSCF1800  
**Date Taken:** 08/30/17

**Photo #88 - Description:** Site 303, Tank 30, MW-5, well fully submerged under water, sheen on water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-MW6-DSCF1824  
**Date Taken:** 08/30/17

**Photo #89 - Description:** Site 303, Tank 30, MW-6, well fully submerged under water



**File Name:** 303-Tank30-MW7-DSCF1822  
**Date Taken:** 08/30/17

**Photo #90 - Description:** Site 303, Tank 30, MW-7, well fully submerged under water



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-MW8-DSCF1820  
**Date Taken:** 08/30/17

**Photo #91 - Description:** Site 303, Tank 30, MW-8



**File Name:** 303-Tank30-MW9-DSCF1818  
**Date Taken:** 08/30/17

**Photo #92 - Description:** Site 303, Tank 30, MW-9, water in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-MW10-DSCF1816  
**Date Taken:** 08/30/17

**Photo #93 - Description:** Site 303, Tank 30, MW-10, water in monument



**File Name:** 303-Tank30-MW11-DSCF1814  
**Date Taken:** 08/30/17

**Photo #94 - Description:** Site 303, Tank 30, MW-11, water in monument



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-Tank30-MW12-DSCF1810  
**Date Taken:** 08/30/17

**Photo #95 - Description:** Site 303, Tank 30, MW-12, water in monument

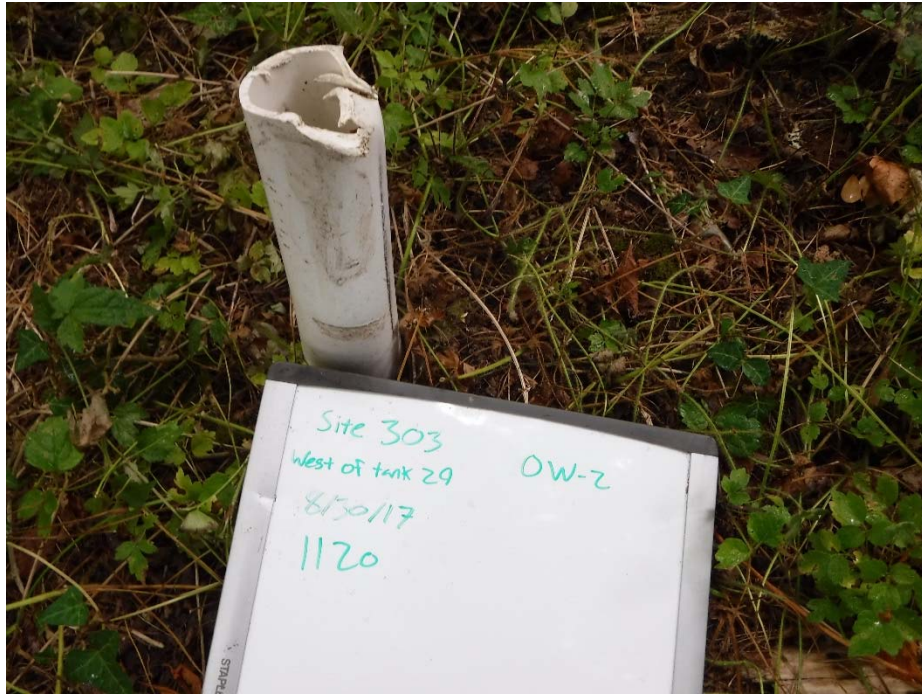


**File Name:** 303-Tank30-MW13-DSCF1812  
**Date Taken:** 08/30/17

**Photo #96 - Description:** Site 303, Tank 30, MW-13, located in tall grass surrounding tank

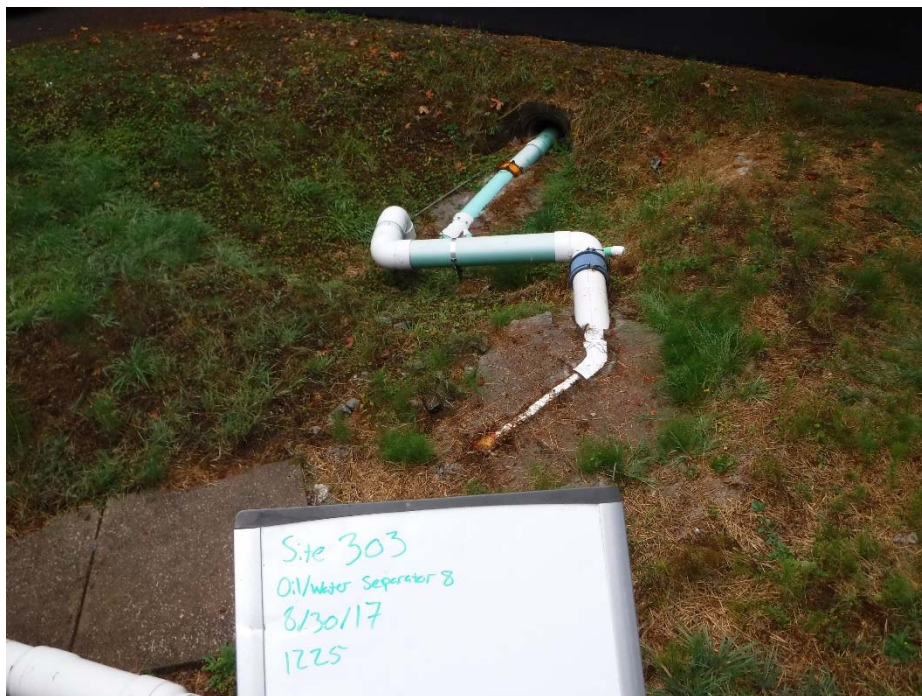


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-WestTank29-OW2-  
DSCF1835  
**Date Taken:** 08/30/17

**Photo #97 - Description:** Site 303, West of Tank 29, OW-2, only 2-inch PVC piping exposed at ground surface



**File Name:** 303-OilWaterSep8-303-  
DSCF1879  
**Date Taken:** 08/30/17

**Photo #98 - Description:** West of Site 303, OWS 8/8A, new effluent plumbing from OWS system



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 303-OilWaterSep8-DSCF1878  
**Date Taken:** 08/30/17

**Photo #99 - Description:** West of Site 303, OWS 8/8A, view from top of OWS tanks



**File Name:** 304-IndustrialArea-DSCF1841  
**Date Taken:** 08/30/17

**Photo #100 - Description:** Site 304, Industrial Area, view N towards Building 12



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 304-IndustrialArea-DSCF1853  
**Date Taken:** 08/30/17

**Photo #101 - Description:** Site 304, Industrial Area, view S from W side of Building 12



**File Name:** 304-IndustrialArea-DSCF1856  
**Date Taken:** 08/30/17

**Photo #102 - Description:** Site 304, Industrial Area, view of SW corner of site



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 304-IndustrialArea-DSCF1857  
**Date Taken:** 08/30/17

**Photo #103 - Description:** Site 304, Industrial Area, view NE towards fueling station



**File Name:** 304-IndustrialArea-DSCF1864  
**Date Taken:** 08/30/17

**Photo #104 - Description:** Site 304, Industrial Area, view SW towards fueling station, general entry way to site



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 304-IndustrialArea-DSCF1867  
**Date Taken:** 08/30/17

**Photo #105 - Description:** Site 304, Industrial Area, construction of a trench box for fuel lines



**File Name:** 304-IndustrialArea-DSCF1872  
**Date Taken:** 08/30/17

**Photo #106 - Description:** Site 304, Industrial Area, Building 1



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 304-IndustrialArea-DSCF1873  
**Date Taken:** 08/30/17

**Photo #107 - Description:** Site 304, Industrial Area, Building 206 gas station NE of Building 1



**File Name:** 304-IndustrialArea-DSCF1877  
**Date Taken:** 08/30/17

**Photo #108 - Description:** Site 304, Industrial Area, E corner of site

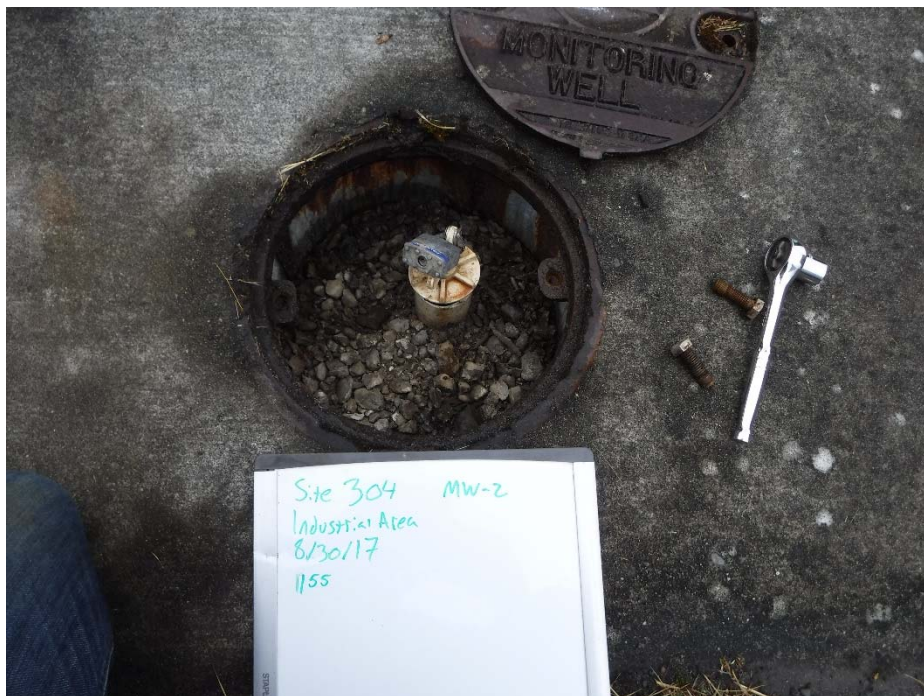


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 304-IndustrialArea-MW1-  
DSCF1840  
**Date Taken:** 08/30/17

**Photo #109 - Description:** Site 304, Industrial Area, MW-1, lock not  
on well cap

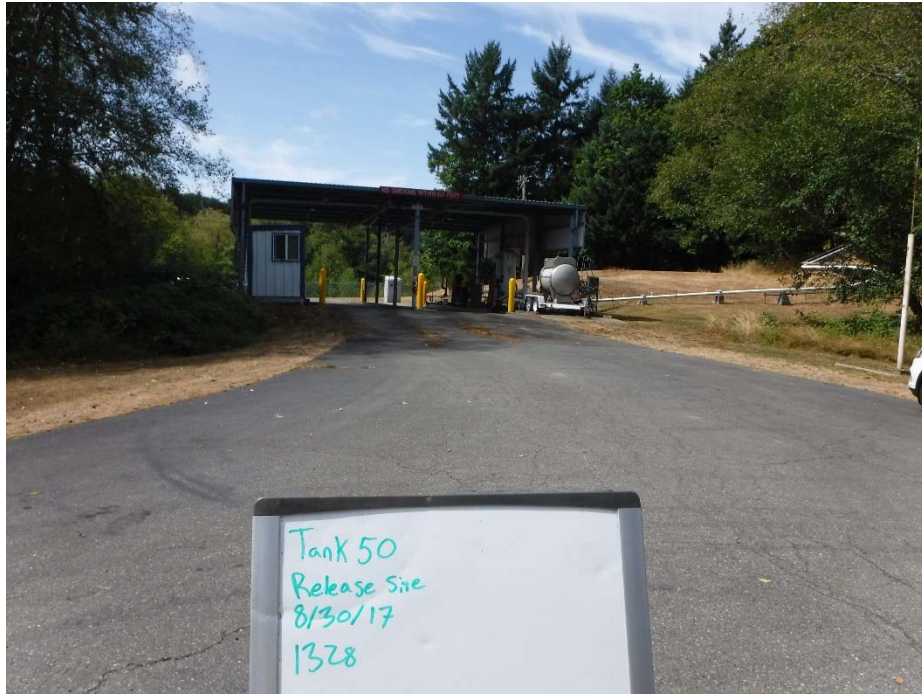


**File Name:** 304-IndustrialArea-MW2-  
DSCF1858  
**Date Taken:** 08/30/17

**Photo #110 - Description:** Site 304, Industrial Area, MW-2



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-DSCF1880  
**Date Taken:** 08/30/17

**Photo #111 - Description:** Tank 50 Release Site, view W towards Building 185 fueling station



**File Name:** Tank50-DSCF1882  
**Date Taken:** 08/30/17

**Photo #112 - Description:** Tank 50 Release Site, SE corner of site



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-DSCF1890  
**Date Taken:** 08/30/17

**Photo #113 - Description:** Tank 50 Release Site, view W across site



**File Name:** Tank50-DSCF1893  
**Date Taken:** 08/30/17

**Photo #114 - Description:** Tank 50 Release Site, view across area above tank



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-DSCF1896  
**Date Taken:** 08/30/17

**Photo #115 - Description:** Tank 50 Release Site, access vault to tank



**File Name:** Tank50-DSCF1898  
**Date Taken:** 08/30/17

**Photo #116 - Description:** Tank 50 Release Site, trench box for fuel lines under access road



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-DSCF1902  
**Date Taken:** 08/30/17

**Photo #117 - Description:** Tank 50 Release Site, view along W boundary of site



**File Name:** Tank50-DSCF1910  
**Date Taken:** 08/30/17

**Photo #118 - Description:** Tank 50 Release Site, view N towards top of tank



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-DSCF1915  
**Date Taken:** 08/30/17

**Photo #119 - Description:** Tank 50 Release Site, 55-gallon non-hazardous waste drum for spills at Building 185 fueling station



**File Name:** Tank50-MW1-DSCF1883  
**Date Taken:** 08/30/17

**Photo #120 - Description:** Tank 50 Release Site, MW-1 (1 of 2)

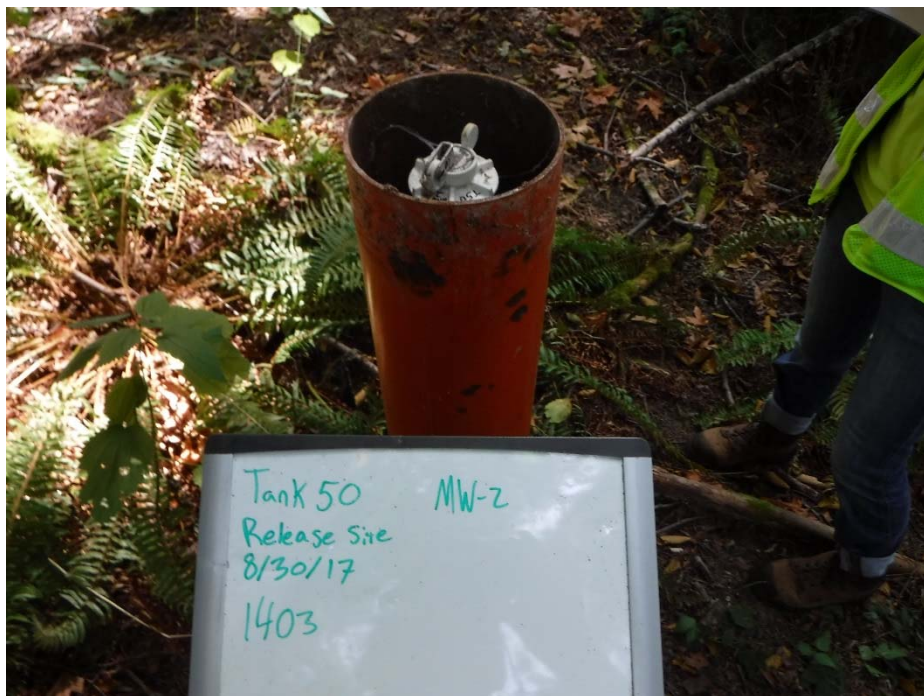


## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-MW1-DSCF1887  
**Date Taken:** 08/30/17

**Photo #121 - Description:** Tank 50 Release Site, MW-1 (2 of 2)

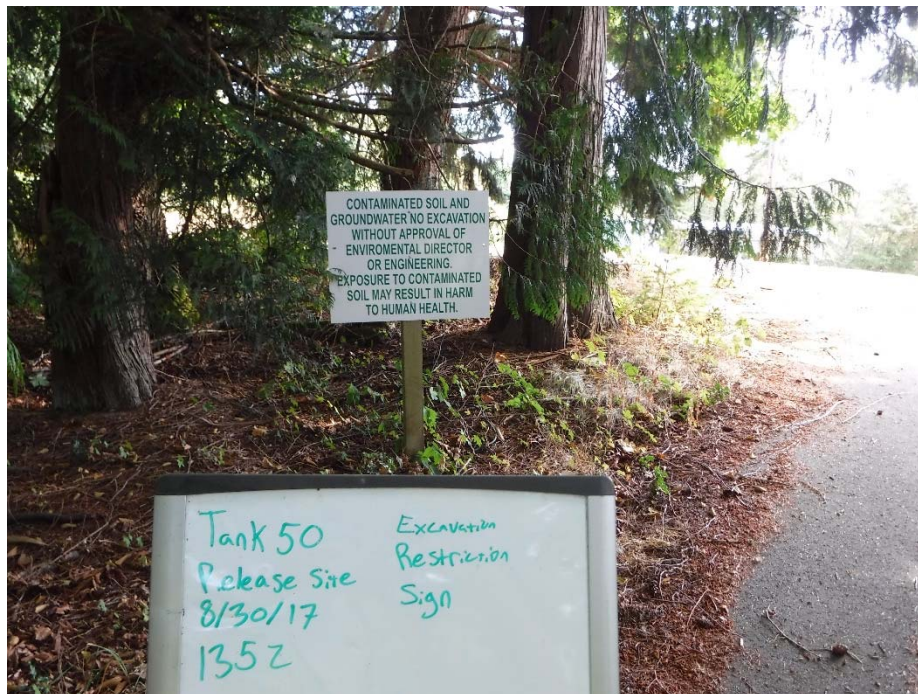


**File Name:** Tank50-MW2-DSCF1906  
**Date Taken:** 08/30/17

**Photo #122 - Description:** Tank 50 Release Site, MW-2



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** Tank50-Sign-DSCF1905  
**Date Taken:** 08/30/17

**Photo #123 - Description:** Tank 50 Release Site, new LUC excavation restriction signage adjacent to MW-2

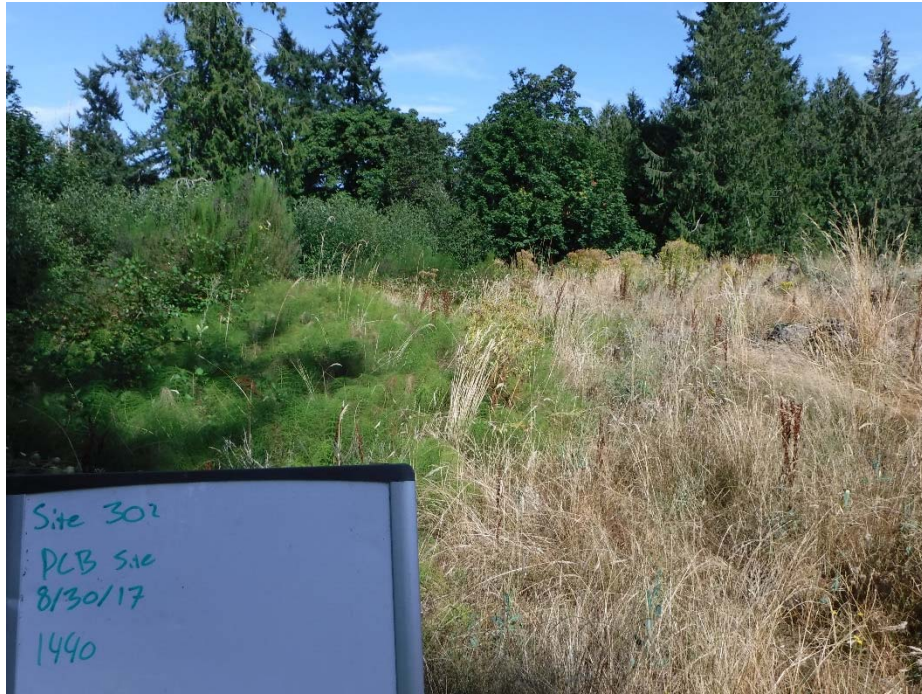


**File Name:** 302-PCBSite-DSCF1917  
**Date Taken:** 08/30/17

**Photo #124 - Description:** Site 302, PCB Site, primary entrance to site with no LUC signage



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 302-PCBSite-DSCF1920  
**Date Taken:** 08/30/17

**Photo #125 - Description:** Site 302, PCB Site, central portion of site, soil/debris stockpiles overgrown with vegetation (1 of 2)



**File Name:** 302-PCBSite-DSCF1922  
**Date Taken:** 08/30/17

**Photo #126 - Description:** Site 302, PCB Site, central portion of site, soil/debris stockpiles overgrown with vegetation (2 of 2)



## APPENDIX D: PHOTOGRAPHIC LOG



**File Name:** 302-PCBSite-DSCF1926  
**Date Taken:** 08/30/17

**Photo #127 - Description:** Tank 50 Release Site, gate on N side of site opened, unlocked, and with no LUC signage