275 Battery Street, Suite 550
San Francisco, California 94111
415-243-2150

Operable Unit C Groundwater Operation & Maintenance Plan

9 April 2020

Prepared for

Mendocino Railway
100 West Laurel Street
Fort Bragg, California 95437

KJ Project No. 1965021*19

Table of Contents

Table of Contents (cont'd)

List of Tables

List of Figures

List of Appendices

Section 1: Introduction

On behalf of Mendocino Railway, Kennedy Jenks prepared this Operation and Maintenance (O&M) Plan for the former Georgia-Pacific Wood Products Facility located at 90 West Redwood Avenue, Fort Bragg, Mendocino County, California (site; Figures 1, 2, and 3). The site is located west of California Highway 1 along the Pacific Ocean coastline and is bounded by the City of Fort Bragg (City) to the east and north, Noyo Bay to the south, and the Pacific Ocean to the west.

There are three operable units (OU) at the site where groundwater is monitored: OU-C, OU-D, and OU-E. Mendocino Railway purchased approximately 75 acres of OU-C from Georgia-Pacific, LLC (Georgia Pacific) in June 2019 (Figure 3). Property owned by Mendocino Railway includes the following areas of interest (AOIs) where remediation of groundwater is ongoing: Parcel 2 AOI, Former Dip Tank AOI, Former AST AOI, and Former MES/Pilot Study AOI. The O&M program for groundwater in these AOIs is presented in this O&M Plan. The Georgia-Pacific O&M program includes monitoring wells in OU-D and OU-E; the Mendocino Railway O&M program includes monitoring wells in OU-C.

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) provided comments on the Site-Wide Groundwater O&M Plan (dated 13 May 2019) to Georgia-Pacific in a letter dated 30 July 2019. Georgia-Pacific and Mendocino Railway submitted a joint response-to-comment (RTC) letter dated 16 October 2019 (Kennedy Jenks 2019). DTSC responded in a letter dated 29 January 2020 (herein termed “DTSC Response Letter”; DTSC 2020). This O&M Plan reflects the RTC letter and DTSC Response Letter.

1.1 Regulatory Status

Groundwater monitoring has been performed at the site since 2004. Over the past 15 years, data has been collected from more than 80 wells. Groundwater monitoring was overseen by the North Coast Regional Water Quality Control Board (NCRWQCB) until August 2006, when DTSC assumed the role of lead agency. Regular monitoring and reporting are required by DTSC under the Site Investigation and Remediation Order (Order; Docket No. HSA-RAO 06-07-150), which became effective on 21 February 2007. Known or potential sources of impacts to groundwater were discussed in the Remedial Action Plan, Operable Units C and D (OU-C/D RAP; Arcadis 2015), and are shown on Figure 3. Historical sampling locations and analyses are discussed in the Third Quarter 2010 Groundwater Monitoring Report (Arcadis 2010e).

The initial Comprehensive Monitoring Plan (CMP; Arcadis BBL 2007a, DTSC 2007) and subsequent updates[1] (Arcadis 2008a, 2008b, 2010a, 2010b, 2010c, 2011b, and 2013; DTSC 2008, 2009, 2010a, 2010b, 2011, and 2013) focused on collecting information for Remedial Investigations (RI) throughout the Site and evaluating concentration trends in various AOIs over time. CMP Update No. 5 was developed to focus data collection needs as the site strategy transitioned to the feasibility study (FS) and remedial action planning phases (Arcadis 2011c), and CMP Update No. 6 was developed to focus data collection needs as the site strategy

[1] Comprehensive Monitoring Program Update No. 4 (Arcadis 2010d) was submitted but not implemented.

transitioned to FS planning for OU-E and remedial action plan (RAP) development for OU-C and OU-D (Arcadis 2013a).

DTSC approved 38 wells for destruction, including two wells in the CMP Update No. 6 monitoring network (MW-5.17 and MW-5.19), in October 2017 (DTSC 2017). Destruction of the approved wells was summarized in a letter to DTSC (Kennedy Jenks 2018b).

1.1.1 OU-C and OU-D

Remedial actions for groundwater in affected AOIs in OU-C and OU-D were proposed in the Remedial Action Plan, Operable Units C and D (OU-C/D RAP; Arcadis 2015), which was approved by DTSC on 17 December 2015. Remedial actions were presented for eight AOIs, four of which are now on property owned by Mendocino Railway. The four AOIs with approved remedial actions for groundwater on Mendocino Railway property are the Parcel 2 AOI, Former Dip Tank AOI, Former AST AOI, and Former MES/Pilot Study AOI[2]. Approved remedial actions for these AOIs include natural attenuation, a land use covenant (LUC) to restrict use of groundwater, and an O&M Plan specifying the groundwater monitoring requirements. Source removal was also approved for the Former AST and MES/Pilot Study AOIs. This O&M Plan is part of the implementation of the approved remedial action for groundwater at Mendocino Railway property in OU-C.

The groundwater monitoring program in OU-C and OU-D is transitioning from the Comprehensive Monitoring Program (CMP) to an O&M program. To support this transition, two baseline monitoring events were completed in September 2018 (first baseline monitoring event) and February 2019 (second baseline monitoring event; see Section 1.3.5). The results of the baseline monitoring events, as well as the history of groundwater monitoring at the site, were evaluated to identify an O&M program to implement the approved remedial action for monitoring wells in OU-C and OU-D. This analysis was presented in the RTC letter (Appendix D). The baseline monitoring events complete Year 1 of the 5-year monitoring program.

Groundwater impacts in OU-C and on Mendocino Railway property are within the following areas, with approved remedial actions as presented in the OU-C/D RAP:

- Former Dip Tank AOI:
    - Constituent of Concern (COC): pentachlorophenols (PCP) and polychlorinated dibenzo-p-dioxins (PCDDs)/polychlorinated dibenzofurans (PCDFs)
    - Existing monitoring wells in remedial action AOI network: MW-3.12R, MW-3.9 (downgradient)
    - Groundwater remedy: natural attenuation, source removal, groundwater use restrictions, O&M Plan.

[2] Other AOIs in OU-C/D with groundwater remedies are addressed in a separate O&M Plan.

- Parcel 2 AOI:
  - COC: PCDDs/PCDFs
  - Existing monitoring wells in remedial action AOI network: MW-2.2, MW-2.3, MW-2.6, MW-2.7
  - Groundwater remedy: natural attenuation, groundwater use restrictions, O&M.
- Former AST and MES/Pilot Study[3] AOI:
  - COC: TPHd, TPHg, 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride
  - Existing monitoring wells in remedial action AOI network: MW-3.2, MW-3.3, MW-3.13, MW-3.16R, MW-3.17, MW-3.18
  - Groundwater remedy: natural attenuation, source removal, groundwater use restrictions, O&M.

1.2 Parcel and Operable Unit Designations

As part of the Phase I ESA (TRC 2004a), the site was divided into 10 non-legal “parcels” (based on historical land use) for investigation and evaluation. More recently, as part of the Order, the DTSC created five OUs (Figure 3), in part to reflect potential future land uses and redevelopment opportunities. In accordance with the Order’s physical division of the site, this report discusses groundwater quality in terms of the five OUs. In accordance with DTSC’s 30 July 2019 comment letter, the groundwater discussion is further focused in terms of AOI. For consistency with previous reports, reference is also made to the 10 parcels in analytical data tables provided as part of this report.

1.3 Previous Investigations and Cleanup Action

1.3.1 Soil and Sediment Removal

Soil and sediment excavation and removal was completed for select areas in OU-C, OU-D, and OU-E in 2017, as described in the Final Remedial Action Completion Report for Operable Units OU-C, OU-D, and OU-E (RACR; Kennedy Jenks 2018a). This effort included completion of four remedial actions approved in the OU-C/D RAP: source removal in the Former Dip Tank AOI (OU-C) and soil removal in the Planer #2 (OU-D), Kilns (OU-C), and Rail Lines East AOIs (OU-C). This effort also included soil removal within the Lowland Terrestrial area, which consists of the Water Treatment and Truck Dump AOI (OU-E), Sawmill #1 AOI (OU-E), Compressor House and Lath Building AOI (OU-E), and the Powerhouse and Fuel Barn AOI (OU-E). The effort also included sediment removal from Pond 2, Pond 3, Pond 7, and the riparian area (all

[3] Former Mobile Equipment Shop/Tire Shop/Washdown Building.

OU-E). Approximately 2,240 cubic yards were removed in OU-E and approximately 980 cubic yards were removed in OU-C/D and disposed of offsite at permitted waste facilities.

1.3.2 Baseline Groundwater Monitoring

Two baseline monitoring events were completed in September 2018 (first baseline monitoring event) and February 2019 (second baseline monitoring event). These monitoring events were coordinated with semi-annual groundwater monitoring performed based on the monitoring scope described in the Comprehensive Monitoring Program Update No. 6 (CMP Update No. 6; Arcadis 2013a). The monitoring scope for the baseline monitoring events is described in the approved CMP Update No. 6 Amendment 1 (GP 2018; DTSC 2018b) and approved CMP Update No. 6 Amendment 2 (GP 2019; DTSC 2019). These two baseline events are considered Year 1 of the O&M program, and the results were used to refine the O&M program through Year 5. The program is discussed further in Section 4.

As mentioned in Section 1.1, groundwater monitoring has been completed at 80 wells over the past 15 years, with wells being added and removed from the program over time. The monitoring program defined in CMP Update No. 6 includes 15 existing monitoring wells, whereas the baseline monitoring events included up to 41 monitoring wells. For many of the monitoring wells, 6 to 13 years had passed since the previous monitoring event. A summary of the well monitoring history, including why monitoring at the well was discontinued, was presented in the RTC letter. This table is provided for reference for monitoring wells on Mendocino Railway property (Table 3).

Completion of two baseline monitoring events addresses several DTSC comments to complete two semi-annual events at all monitoring wells in the existing monitoring well network. Therefore, it is appropriate to finalize an O&M program that transitions from characterization and remedial action development to the remedial action implementation and long-term monitoring. This O&M Plan can be amended as necessary based on changing groundwater conditions, as described in Section 4.

1.4 Objectives

DTSC has approved remedial actions for groundwater in OU-C (as presented in the OU-C/D RAP). Approved remedial actions include natural attenuation, use restrictions, and an O&M program (Section 1.1.1). This O&M Plan is part of the implementation of the approved remedial action for groundwater at Mendocino Railway property in OU-C.

The objectives of the O&M Plan are as follows:

- Present an evaluation of groundwater conditions and trends based on historical monitoring and the two baseline monitoring events (Appendix D); and

- Based on groundwater conditions and trends, define an appropriate program for monitoring effectiveness of the approved remedy in OU-C AOIs on Mendocino Railway property, that will support the next evaluation in the five-year review (Section 3.2).

The data quality objective (DQO) for the O&M Plan is to collect data for evaluation of remedy performance, meaning collecting groundwater analytical data for COCs in each AOI listed in Section 1.1.1. The DQO will serve to focus the O&M Plan so the effectiveness of the remedy can be evaluated, rather than presenting all available data as was done during the remedial investigation and CMP phase. Accordingly, data presented in tables, appendices, and discussions herein is focused on the COCs in the AOIs listed in Section 1.1.1. In some AOIs, a focused analyte list may be proposed to further focus the O&M Plan and support the DQO. The O&M program is discussed further in Section 3 and Section 4.

1.5 Organization

This report presents a review of site data collected during the two baseline monitoring events, an overview of current groundwater conditions, and the proposed long-term groundwater monitoring program. The remainder of this report is organized as follows:

- *Section 2, Site Groundwater*, summarizes the current understanding of groundwater conditions.
- *Section 3, Groundwater Monitoring Network,* reviews the current monitoring well network and proposes the long-term monitoring well network.
- *Section 4, Groundwater Operation and Maintenance Monitoring,* presents the long-term groundwater monitoring program.
- *Section 5, Reporting,* summarizes reporting for the long-term groundwater monitoring program.
- *References,* lists sources of referenced information.
- *Appendix A, Historical Groundwater Elevations and Liquid-Phase Hydrocarbon Thickness,* presents a compilation of historical groundwater elevation measurements and liquid-phase hydrocarbon (LPH) thickness data for actively monitored and/or gauged locations.
- *Appendix B, Groundwater Sampling Procedures*, describes groundwater gauging, purging, and sampling methods [low-flow, as well as passive diffusion bag (PDB) sampling). These methods are in addition to the groundwater sampling standard operating procedure (SOP) presented in the Quality Assurance Project Plan (QAPP; Arcadis BBL 2007b) and the PDB SOP included in CMP Update No. 6 (Arcadis 2013a).
- *Appendix C, Focused Historical Analytical Data*, provides complete analytical data (including non-detections) for the COCs analyzed in site groundwater monitoring well samples collected since 2004 on what is now Mendocino Railway property. Only COCs, wells, and AOIs discussed in the O&M Plan are presented in Appendix C to facilitate a focused long-term discussion.

- *Appendix D, Response to Comment Letter,* presents the RTC Letter and associated statistical analysis and hydrographs that guided the proposed long-term monitoring program.

Section 2: Site Groundwater

2.1 Geology

2.1.1 Regional

Fort Bragg is located along the northern California coastline within the Coast Range geomorphic province. The regional geology consists of completely folded, faulted, sheared, and altered bedrock. The bedrock of the region is the Franciscan Complex (Complex) of Cretaceous to Tertiary (late Eocene) age (40 to 70 million years old). The Complex comprises a variety of rock types. In the north coast region, the Complex is divided into two units; the Coastal Belt and the Melange. In Mendocino County, the Melange lies inland and is an older portion of the Complex, ranging in age from the Upper Jurassic to the late Cretaceous. The Coastal Belt consists predominantly of greywacke sandstone and shale.

2.1.2 Local

Besides the Coastal Belt, other geologic units present in Fort Bragg and in the vicinity include surficial deposits of beach and dune sands, alluvium, and marine sediments. At the site, the most important of these at the site are the marine sediments, which cut bedrock surfaces along the coast and form much of the coastal bluff material overlying bedrock. Artificial fill (reworked native soil or imported material) is also prevalent at the site.

The surficial geology of the site and environs is depicted on Figure 4. The site is underlain by Quaternary (less than 1.5 million years old) marine sediments deposited in thicknesses up to 30 feet on wave-cut surfaces parallel to the coast [Blackburn Consulting, Inc. (BCI), 2006]. These surfaces were created during the Pleistocene Epoch when sea level fluctuations caused by glaciation created a series of terraces cut into the Franciscan bedrock by wave action (BACE Geotechnical 2004). The marine sediments comprise poorly to moderately consolidated silts, sands, and gravels, and in some locations are overlain by a 3- to 4-foot-thick mantle of topsoil or up to a 20-foot-thick layer of artificial fill (BACE Geotechnical 2004). Both the topsoil and fill are generally relatively coarse in texture, ranging primarily from sandy silts to gravel. The marine sediments are also generally coarse, but appreciable thicknesses of finer materials are also found onsite. Beneath these Pleistocene materials are the Tertiary-Cretaceous rocks (approximately 65 million years old) of the Coastal Belt, composed of well-consolidated sandstone, shale, and conglomerate.

2.2 Hydrogeology

2.2.1 Regional

The regional hydrogeologic setting of the Mendocino County coast has been presented in the Mendocino County Coastal Ground Water Study (California Department of Water Resources, 1982). The site is located in the western coastal area of the county, which was divided into five subunits in the study (Westport, Fort Bragg, Albion, Elk, and Point Arena), separated by the major rivers that discharge to the Pacific Ocean. The site is located within the Fort Bragg subunit, which extends from Big River to the south to Ten Mile River to the north.

2.2.2 Local

Based on 14 years of monitoring, groundwater generally flows radially at the site toward Fort Bragg Landing and the Pacific Ocean under an average horizontal hydraulic gradient ranged from 0.016 foot per foot (ft/ft) to 0.094 ft/ft. Groundwater elevations tend to range from approximately 7 to 91 feet relative to the Northern American Vertical Datum of 1988 (NAVD 88). Depending on the location, seasonal fluctuations in groundwater levels of up to 12 feet have been observed. Figure 5 shows surface drainage areas and discharge points. Groundwater contours from the February 2019 monitoring event are provided in Figure 6.

2.3 Remedial Goals

Remedial goals for groundwater in OU-C and OU-D were presented in the OU-C/D RAP. These goals were based on water quality objectives (WQOs), which were used to assess the nature and extent of chemical impacts in groundwater at the site during the remedial investigation under the CMP, as well as approved (DTSC 2010) site-specific background screening levels (BSLs) for dissolved metals in groundwater (Arcadis 2010a). This is consistent with the approach taken in the Remedial Investigation, Operable Units C and D (OU-C/D RI; Arcadis 2010b) and is summarized in Appendix A, Data Interpretation Methods and Site Screening Levels in the First and Second Semi-annual 2016 Groundwater Monitoring Reports (Arcadis 2016c,d). Where the California Maximum Containment Level (MCL) is different than the remedial goal, it is also included in the discussion.

The remedial goals presented in the OU-C/D RAP are based on WQOs set forth in the Water Quality Control Plan for the North Coast Region (Basin Plan; North Coast RWQCB 2011). For some volatile organic chemicals, the remedial goals are below detection limits typically achieved by analytical laboratories. When a remedial goal is below the detection limit for a volatile organic chemical, the detection limit will be used to evaluate compliance with the remedial goal (see Table 2). In addition, the background level of arsenic at this site is above the WQO for arsenic. Therefore, the background concentration for arsenic for the Former Georgia-Pacific Mill Site is the Remedial Goal for this COC (Arcadis 2010d). Other than these exceptions, the remedial goals are equal to the WQOs in effect at the time of the RAP.

Site-specific BSLs for metals were established by statistically evaluating 57 samples from seven monitoring wells that were agreed to represent background conditions (Arcadis 2010a; DTSC 2010). These monitoring wells represent groundwater conditions in areas unaffected by site-related activities, as well as areas that are minimally affected by contributions from offsite sources (Arcadis 2010a). Exploratory data analysis (EDA) and statistical analyses were implemented on dissolved metals analytical data from these seven monitoring wells prior to calculating BSLs to confirm that the data used to develop the BSLs were representative of a single population and that each observation was within a plausible range of background conditions. This analysis was consistent with statistical guidance from U.S. Environmental Protection Agency (USEPA). BSLs were then calculated using the 95/95 upper tolerance limit

(UTL) statistical method[4], consistent with USEPA guidance and approved by DTSC (DTSC 2008). 95/95 UTL is an appropriate statistic for calculating a background concentration from a groundwater dataset when the intent is to compare data from unimpacted wells with data from potentially impacted wells [Section 5 of USEPA (2009)]. This statistical evaluation and the resulting BSLs are considered representative of groundwater at the site and appropriate for use in the long-term monitoring program.

For the long-term monitoring program, chemical-specific remedial goals will be used to evaluate the effectiveness of the remedial action following implementation and identify appropriate foreseeable future land use. Media-specific numeric remedial goals were developed and presented in the OU-C/D RAP. In accordance with the approach taken in the OU-C/D RAP, the groundwater remedial goals will be used for the long-term monitoring program. The groundwater remedial goals are presented in Table 2.

2.4 Groundwater Conditions

2.4.1 Groundwater Elevations and Liquid-Phase Hydrocarbons Thickness

During both September 2018 and February 2019 baseline monitoring events, depth to water (DTW) and liquid-phase hydrocarbons (LPH) thickness measurements were collected from all locations selected for gauging activities under CMP Update No. 6 (Arcadis 2013a) and CMP Update No. 6 Amendment 1 and CMP Update No. 6 Amendment 2, respectively. LPH has not been detected recently in wells in OU-C on Mendocino Railway property. As shown in Appendix A, LPH has only been observed in MW 3.2, and LPH has only been observed in MW-3.2 once since 2010 (measured 0.01 foot on 19 August 2013). The findings are consistent with previous findings. Appendix A provides historical groundwater elevation and LPH thickness data. Figure 6 presents a groundwater elevation contour map for 25 February 2019.

2.4.2 Groundwater Quality

Groundwater quality conditions observed during the September 2018 and February 2019 baseline monitoring events were presented in the Groundwater Monitoring Reports (GMRs) that were prepared after each routine monitoring event. Conditions observed in the two baseline monitoring events are generally consistent with previous monitoring events. Historical analytical results for existing monitoring wells and associated constituents of concern (COCs) for sampling events conducted since 2004, including the two baseline monitoring events, are included in Appendix C. A focused discussion of groundwater quality conditions observed during the September 2018 and February 2019 baseline monitoring events are presented again in the following sections. The discussion is focused on the COCs listed in Section 1.1.1.

The monitoring well program prior to transition to the long-term program was consistent with CMP Update No. 6 (Arcadis 2013a). The baseline monitoring event programs were presented in

---

[4] The 95/95 UTL statistical method establishes an interval within which at least a certain proportion of the population lies, with a specified probability that the stated interval does indeed "contain" that proportion of the population (USEPA 2006; Arcadis 2010a). In this case, the UTL is equal to 95% upper confidence limit for the 95th percentile.

CMP Update No. 6 Amendment 1 and CMP Update No. 6 Amendment 2, as well as the associated GMRs, and represented Year 1 of the 5-year monitoring program. Some of the wells included in the baseline monitoring events had not been sampled recently; a summary of well monitoring history for monitoring wells on Mendocino Railway property is presented in Table 3.

2.4.2.1 Parcel 2 AOI (OU-C)

The remedial action AOI network for Parcel 2 AOI includes monitoring wells in both Parcel 2 AOI and Rail Lines West AOI.

2.4.2.1.1 Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans

Samples were collected from four (4) monitoring wells during the September 2018 and February 2019 baseline monitoring events: MW-2.2, MW-2.3, MW-2.6, and MW-2.7. Results from the September 2018 and February 2019 baseline sampling events are consistent with results from previous monitoring events.

The calculated 2,3,7,8-tetrachlorodibenzo-p-dioxin toxic equivalent (2,3,7,8-TCDD TEQ) was greater than the remedial goal [0.05 picograms per liter (pg/L)] in September 2018 and February 2019 in MW-2.3 (1.9 pg/L and 0.48 pg/L, respectively), MW-2.2 (0.15 pg/L and 0.56 pg/L, respectively), and MW-2.7 (0.33 pg/L and 0.19 pg/L, respectively). However, all detections were less than the MCL (30 pg/L). 2,3,7,8-TCDD TEQ was not detected in MW-2.6 in September 2018; MW-2.6 was not included in the February 2019 event.

2.4.2.2 Former AST AOI and MES/Pilot Study AOI (OU-C)

The remedial action AOI network for Former AST and MES/Pilot Study AOIs includes monitoring wells in Former AST AOI, MES/Pilot Study AOI, Dry Sheds #4/#5 AOI, and Rail Lines East AOI.

2.4.2.2.1 Total Petroleum Hydrocarbons

Samples were collected from five (5) monitoring wells and analyzed for TPHd and TPHg in September 2018 and February 2019: MW-3.2, MW-3.13, MW-3.16R, MW-3.17, and MW-3.18. Concentrations of TPH are screened against RWQCB non-risk-based taste and odor objectives and site-specific RBSCs for aromatics and aliphatics. Results from the September 2018 and February 2019 baseline sampling event are consistent with results from previous monitoring events.

TPHg was detected above the remedial goal [0.05 milligrams per liter (mg/L)] in MW-3.17 in September 2018 and February 2019 at concentrations of 0.08 mg/L and 0.074 mg/L, respectively. TPHg is consistently[5] below the remedial goal in MW-3.13, MW-3.16R, and MW-3.18.

TPHd was detected above the remedial goal (0.1 mg/L) in MW-3.2 in September 2018 and February 2019 at concentrations of 0.11 mg/L and 0.65 mg/L, respectively, and in MW-3.13 in

[5] "Consistently" in this report means at least four consecutive events. See Section 4.4.

February 2019 at a concentration of 0.32 mg/L. TPHd is consistently below the remedial goal in MW-3.16R and MW-3.18.

2.4.2.2.2 Volatile Organic Compounds

Samples were collected from five (5) monitoring wells and analyzed for VOCs: MW-3.3, MW-3.13, MW-3.16R, MW-3.17, and MW-3.18. The following discussion focuses on 1,1-DCE, 1,1-DCA, benzene, PCE, TCE, and vinyl chloride. Results from the September 2018 and February 2019 baseline sampling events are consistent with results from previous monitoring events.

- 1,1-DCA is consistently below the remedial goal (3 µg/L) in MW-3.3, MW-3.13, MW-3.16R, MW-3.17, and MW-3.18. 1,1-DCA was not detected above the remedial goal or MCL (5 µg/L) in September 2018 or February 2019.

- 1,1-DCE is consistently below the remedial goal (6 µg/L) in MW-3.3, MW-3.13, MW-3.16R, MW-3.17, and MW-3.18. 1,1-DCE was not detected above the remedial goal or MCL (6 µg/L) in September 2018 or February 2019.

- Benzene is consistently below the remedial goal (0.15 µg/L) in MW-3.3, MW-3.13, MW-3.16R, and MW-3.17. Benzene was not detected above the remedial goal or MCL (1 µg/L) in September 2018 or February 2019.

- PCE was detected above the remedial goal (0.06 µg/L) in September 2018 and February 2019 in MW-3.3 (2.0 µg/L and 1.5 µg/L, respectively), in MW-3.13 (12 µg/L and 11 µg/L, respectively), in MW-3.16R (0.49 µg/L and 0.59 µg/L, respectively), in MW-3.17 (0.32 µg/L and 0.39 µg/L, respectively), and in MW-3.18 (4.3 µg/L and 3.6 µg/L, respectively). Detected concentrations were less than the MCL (5 µg/L) except at MW-3.13.

- TCE is consistently below the remedial goal (1.7 µg/L) in MW-3.3, MW-3.16R, and MW-3.17. TCE was detected above the remedial goal but below the MCL (5 µg/L) in MW-3.13 in September 2018 at a concentration of 2.1 µg/L and in MW-3.18 in September 2018 at a concentration of 1.7 µg/L. TCE was not detected above the remedial goal in February 2019.

- Vinyl chloride is consistently below the remedial goal (0.05 µg/L) in MW-3.3, MW-3.13, MW-3.16R, MW-3.17, and MW-3.18. Vinyl chloride was not detected above the remedial goal or MCL (0.5 µg/L) in September 2018 or February 2019.

2.4.2.3 Former Dip Tank Area AOI (OU-C)

The remedial action AOI network for Former Dip Tank Area AOI includes monitoring wells in Former Dip Tank Area AOI and Former Planer #1/Planer #50 AOI. Excavation was completed in the vicinity of MW-3.12, and therefore it was destroyed and subsequently reinstalled in May 2018.

2.4.2.3.1 Chlorophenols

Samples were collected from two (2) monitoring wells and analyzed for PCP during the September 2018 and February 2019 baseline monitoring event: MW-3.9 and MW-3.12R. Results from the September 2018 and February 2019 baseline sampling event are generally consistent with results from previous monitoring events.

PCP is consistently below the remedial goal (0.3 µg/L) in MW-3.9. PCP was detected above the remedial goal and MCL (1 µg/L) in MW-3.12R in September 2018 (1.7 µg/L) and February 2019 (20 µg/L). MW-3.9 is downgradient of MW-3.12R. PCP has not been detected above the MCL (1 µg/L) since August 2013 at MW-3.9 and March 2013 at MW-3.12, but was detected above the MCL in the first two samples collected from MW-3.12R. Based on field notes, turbidity levels were higher in the second event than during the first event, which may have influenced the results. Since MW-3.12R was relatively recently installed, additional development may be necessary to reduce turbidity in the well.

2.4.2.3.2 Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans

A sample was collected from one (1) monitoring well during the February 2019 baseline monitoring event: MW-3.12R. Results from the September 2018 and February 2019 baseline sampling event are generally consistent with results from previous monitoring events.

The calculated 1,2,7,8-TCDD TEQ for MW-3.12R in September 2018 (0.36 pg/L) and February 2019 (0.27 pg/L) are greater than the remedial goal (0.05 pg/L) but less than the MCL (30 pg/L). The February 2019 baseline monitoring event included collection of the second groundwater sample from MW-3.12R after it replaced MW-3.12; however, results from the February 2019 baseline sampling event are consistent with results from previous monitoring events for these AOIs. PCDDs/PCDFs as TCDD TEQ have not been detected in either AOI above the MCL (30 pg/L) except during one event in March 2010 at MW-3.12.

Section 3: Groundwater Monitoring Network

The OU-C/D RAP includes monitored natural attenuation (MNA) as the remedy for groundwater in OU-C and OU-D. Two baseline monitoring events have been completed to establish baseline conditions (Year 1) to support long-term monitoring.

The existing monitoring network was evaluated to define the long-term groundwater monitoring network that will support the DQO. Optimization of the groundwater monitoring program is presented by AOI. Groundwater in many areas of the site meets or nearly meets drinking water standards, as noted in the following sections.

Historical analytical results for COCs analyzed in existing groundwater monitoring wells for sampling events conducted since 2004 are included in Appendix C. A summary of well monitoring history, including why monitoring at the well was discontinued, was presented in the RTC letter and herein for reference for monitoring wells on Mendocino Railway property (Table 3).

The O&M program presented in the following sections is consistent with the RTC Letter and the DTSC Response Letter. The O&M program is presented in Table 1 and on Figure 6. Based on the evaluation, wells were assigned a purpose (e.g., source, downgradient, transition, geochemistry). Wells not included in the O&M program will be proposed for decommissioning in a separate work plan.

3.1 Evaluation Approach

Historical monitoring data, including the two baseline monitoring events, groundwater flow patterns, and groundwater concentration trends were used to evaluate the existing monitoring network and select an appropriate monitoring network to monitor the long term effectiveness of the approved groundwater remedy within Mendocino Railway property in OU-C. This evaluation was presented in the RTC Letter (Appendix D) and is the basis for the proposed O&M monitoring network and program. The evaluation approach is re-presented herein.

To complete this evaluation, the following decision-making factors were considered:

- **Groundwater conditions**: Are groundwater conditions at the monitoring well consistently below the remedial goal? If yes, it may be appropriate to decommission the well. However, if the monitoring well is downgradient of another monitoring well with conditions above the remedial goal, the well may be kept as a downgradient well.

- **Well Network**: Are other monitoring wells nearby monitoring the same condition? In some AOIs, more monitoring wells remain than are necessary to implement the remedy and are duplicative, and therefore, it may be appropriate to identify a source area monitoring well and a downgradient monitoring well and decommission the remaining wells.

- **Groundwater trends**: Does statistical analysis indicate that concentrations are stable or decreasing? The statistical evaluation is discussed further in Section 3.1.1.

Based on the evaluation, wells were assigned a purpose (e.g., source, downgradient, transition, geochemistry, or none). A summary of the decision-making process at each monitoring well was presented in the RTC Letter (Appendix D).

3.1.1 Statistical Evaluation

Groundwater trends in OU-C were previously evaluated in the Monitored Natural Attenuation Technical Report (MNA Tech Report; Arcadis 2013b), which was prepared in support of the OU-C/D RAP (Arcadis 2015). Groundwater trends were re-evaluated in the RTC letter (Appendix D) to include monitoring data collected since the MNA Tech Report.

A statistical evaluation was completed using the Mann-Kendall test, which assumes data do not conform to a normal distribution and evaluates whether values tend to increase or decrease over time, then provides an assessment of the confidence in the trend. Mann-Kendall assumptions that were used in the statistical evaluation are as follows:

- For monitoring events where a constituent was not detected at a monitoring well, the reporting limit was used.
- Mann-Kendall analysis requires a minimum of four independent sampling events per well. If less than four data points were available for the well, the analysis was not completed.
- Analysis was deemed unnecessary if a constituent was consistently not detected.

If the results of trend analysis in 2013 and 2019 were consistent and/or 2019 trend analysis indicates concentrations are decreasing, this supported reduced frequency of monitoring (e.g., in Year 5 only).

3.2 Parcel 2 AOI

There are four monitoring wells in the Parcel 2 AOI remedial action network: MW-2.2, MW-2.3, MW-2.6, and MW-2.7. MW-2.6 will be destroyed, in accordance with the RTC Letter and DTSC Response Letter. The remaining three wells are included in the long-term monitoring network. MW-2.2 will monitor groundwater conditions downgradient of MW-2.3; MW-2.7 will monitor groundwater conditions upgradient of MW-2.3. The long-term monitoring network is presented in Table 1 and on Figure 6.

Based on groundwater monitoring data, concentrations of site constituents at MW-2.2, MW-2.3, MW-2.6, and MW-2.7 meet the drinking water standard MCLs. PCDDs/PCDFs as TCDD TEQ have not been detected in the Parcel 2 AOI and Rail Lines West AOI above the MCL (30 pg/L) since monitoring began in 2010.

In the DTSC Response Letter, DTSC requested installation of a monitoring well downgradient of MW-2.2. One of the objectives of the O&M Plan is to monitor the effectiveness of natural attenuation over time. There is no known ongoing release or known source, and groundwater concentrations in Parcel 2 AOI meet drinking water standards (MCLs); therefore, we propose to continue monitoring the existing wells and will evaluate if an additional downgradient monitoring well is needed in the 5-year review.

3.3 Former AST AOI and MES/Pilot Study AOI

There are six wells in the Former AST AOI and MES/Pilot Study AOI remedial action network: MW-3.2, MW-3.13, MW-3.17, MW-3.3, MW-3.16R, and MW-3.18. All six wells are included in the long-term monitoring network. MW-3.3, MW-3.16R, and MW-3.18 will monitor groundwater conditions downgradient of MW-3.2 and MW-3.13. The long-term monitoring network is presented in Table 1 and on Figure 6.

3.4 Former Dip Tank Area AOI

There are two wells in the Former Dip Tank Area AOI remedial action network: MW-3.12R and MW-3.9. MW-3.12R is the replacement well for MW-3.12, which was destroyed as part of remediation activities in 2017. The Former Dip Tank Area AOI is located at the northwest corner of Dry Shed #4. Monitoring well MW-3.12R is located within the Former Dip Tank AOI source area, and monitoring well MW-3.9 is located downgradient in the adjacent Former Planer #1/ Planer #50 AOI, to the west. Both wells are included in the long-term monitoring network. The long-term monitoring network is presented in Table 1 and on Figure 6.

Section 4: Groundwater Operation and Maintenance Monitoring Program

A groundwater remedy was approved for OU-C and OU-D in the OU-C/D RAP, and the O&M Plan will facilitate implementation of the remedy. The objectives of the O&M Plan are as follows (Section 1.4):

- Present an evaluation of groundwater conditions and trends based on the two baseline monitoring events; and
- Define an appropriate program for monitoring effectiveness of the approved remedy in OU-C and OU-D AOIs, which will be assessed in the 5-year review.

The long-term monitoring program will serve to confirm the remedy is effective and that MNA is managing residual concentrations as intended. The results will be evaluated against the current understanding of site groundwater to track trends and inform decisions, and recommendations for potential changes to the monitoring well program will be proposed in the GMR as appropriate (as described further in Section 5).

The long-term monitoring network presented in Table 1 and Section 3 of this O&M Plan is consistent with the program presented in the RTC letter, modified as requested in the DTSC Response Letter. The long-term monitoring network is also presented on Figure 6.

4.1 Monitoring Frequency

In this first 5-year monitoring period, monitoring wells will be sampled semi-annually in alternating years (biennial) for 5 years. Sampling years are herein referred to as Year 1, Year 3, and Year 5. Semi-annual monitoring events will be conducted in the winter (first quarter) and summer (third quarter) to continue evaluating seasonal trends. Some monitoring wells may be proposed to be sampled semi-annually every 5 years (i.e., in Year 5 only). All wells scheduled to be sampled in an event will also be gauged for groundwater elevation, to continue to support hydrologic characterization. The recommended program is summarized in Section 3, Table 1, and on Figure 6. At the end of the 5-year monitoring period, the 5-year review will be completed and changes to the O&M program, including monitoring frequency, may be proposed for the next 5-year monitoring period. The 5-year review is discussed in more detail in Section 5.2.

For this first 5-year monitoring period, Year 1 was completed in third quarter 2018 and first quarter 2019 (as described in CMP Update No. 6 Amendment 1 and CMP Update No. 6 Amendment 2, respectively) to establish baseline groundwater conditions. Year 3 sampling events will be completed in 3rd quarter 2020 and 1st quarter 2021. Year 5 sampling events will be completed in 3rd quarter 2022 and 1st quarter 2023. After Year 5, the monitoring program will be re-evaluated to evaluate whether additional monitoring is needed. The results of this evaluation will be presented in the 5-year review, which will be submitted in 2024. The next 5-year monitoring period is anticipated to commence in 2025 at a frequency identified in the 5-year review, with the next 5-year review being completed in 2030.

4.2 Analytical and Sampling Methods

Sampling will be conducted consistent with the *Quality Assurance Project Plan* (QAPP; Arcadis BBL, 2007a). The QAPP contains detailed descriptions of sampling and analytical methods and quality assurance/quality control procedures to be used across all sampling programs for the site. Sampling will be conducted in accordance with the Groundwater Sampling Procedures, included as Appendix B, which describes groundwater gauging, purging, and sampling methods (low-flow, as well as PDB sampling). These methods are in addition to the groundwater sampling SOP presented in the QAPP and the PDB SOP included in CMP Update No. 6 (Arcadis 2013a).

4.3 Groundwater Use Restrictions and Exposure

Remedial goals and groundwater use restrictions were presented in the OU-C/D RAP. Groundwater use restrictions would be defined in a deed restriction. The deed restriction would document that contaminants may be present in site groundwater and prohibit the use of groundwater in specific areas to restrict exposure to COCs. Groundwater use would be restricted until remedial goals are achieved or agency approval for unrestricted use is received. Land use restrictions may also assist in managing pathways of exposure to groundwater; land use restrictions are discussed in the OU-C/D RAP.

As indicated in recent City comments on the OU-E FS (Comment #7, TRC 2017), the City "only allows the use of groundwater for non-potable landscaping." Therefore, none of the current groundwater conditions are expected to affect water supply wells[6]. The City also noted concerns that groundwater use may cause saltwater intrusion into the groundwater aquifer. The foreseeable future use of each AOI is presented in Table 4. These anticipated uses account for nearby current industrial activity (e.g., Mendocino Railway operations near the Former AST, Former MES/Pilot Study, Rail Lines East, and Dry Sheds #4/#5 AOIs), the City's restriction on potable use, and other factors that may affect groundwater quality. Future use of groundwater may change as development occurs; if zoning and/or planning changes indicate a particular use of the area is not allowed, the screening level for continued monitoring may be revised to a less stringent level accordingly and the monitoring program would be revised. Remedial goals will remain the same as established in the RAPs and groundwater use restrictions would be required as long as concentrations exceed remedial goals.

4.4 Adapting to Changes in Groundwater Conditions

Data collected as part of the long-term monitoring program will be evaluated to confirm the remedy is managing site groundwater as anticipated. As noted in Section 1.4, the O&M program's DQO is to collect data to assess the effectiveness of the natural attenuation remedy. Selection of wells and constituents for monitoring will be made based on the evaluation approach described in Section 3.1, including, but not limited to, the following decision-making factors:

[6] The last remaining water supply wells onsite were destroyed in 2017. Therefore, no water supply wells remain onsite.

- **Groundwater conditions**: Are groundwater conditions at the monitoring well consistently below the remedial goal? If yes, the natural attenuation remedy has been successful, and it may be appropriate to decommission the well.

- **Well network**: Are other monitoring wells nearby monitoring the same condition (i.e., is the well duplicative)? Alternatively, is the monitoring well downgradient of another monitoring well with conditions above the remedial goal?

- **Groundwater trends**: Does statistical analysis indicate that concentrations are decreasing? If the results of trend analysis are consistent with previous evaluations (i.e., in 2013 and 2019) and/or the current trend analysis indicates concentrations are decreasing, this would support reduced frequency of monitoring (e.g., in Year 5 only). Statistical analysis is discussed in more detail in Section 3.1.1.

As groundwater conditions change in the future, the monitoring program will be revised as appropriate to adapt. This evaluation will be presented in the Five-Year Review Report, completed after Year 5 monitoring is complete. Pathways to a completed remedy/no further action include, but are not limited to, the following:

1) A constituent concentration is below the remedial goal “consistently” (i.e., in four consecutive events) and does not provide downgradient support for a monitoring well that exceeds a remedial goal.

2) Groundwater conditions are below the remedial goals, statistical analysis shows the trend is stable or decreasing, and the well is not required to monitor downgradient conditions

3) If a deed restriction is established that restricts land and groundwater use and groundwater concentrations meet screening levels applicable for the remaining allowable use, groundwater monitoring will be complete for that AOI.

When remedial action is complete in an AOI, it would be appropriate to remove the monitoring well(s) from the program and decommission the well. Data will be compared to the remedial goals as part of the routine reporting process, described in Section 5, and changes to the monitoring program will be proposed at that time if warranted.

Section 5: Reporting

The O&M program was presented in Section 3 and the monitoring frequency was presented in Section 4.1.

5.1 Groundwater Monitoring Report

Results from each sampling event will be summarized in a GMR, as is currently done on a semi-annual basis. Typical report turnaround time will be 90 days after results are received. Similar to the current GMR format, reports will include:

- A description of field activities during the current sampling event.
- A comparison of current data with applicable screening levels.
- A discussion of analytical methods employed and the results of validation of analytical data.
- Proposed revisions to the active monitoring well network, as appropriate.
- Tabulations of monitoring well construction details, sampling and analysis matrices, groundwater elevation measurements, and analytical results.
- Graphical representations of the site, sampling locations, and groundwater elevation contours.
- Hydrographs for each monitoring well to evaluate water-level fluctuations and seasonal trends.
- Copies of field data, analytical reports, chain of custody forms, historical groundwater elevations and analytical data, and data validation reports.

5.2 Five-Year Review Report

After completion of Year 5 monitoring in 1st quarter 2023, the monitoring network will be re-evaluated based on data collected during the 5-year period. Based on the results of the evaluation, changes to the O&M program may be proposed. It is assumed that the first Five-Year Review report will be submitted in 2024, and no monitoring will be completed during the evaluation.

Five-Year Review Reports will be focused on evaluating the effectiveness of MNA and the O&M program; a more detailed summary of monitoring event activities will be provided in the GMRs. Five-Year Review Reports will include:

- A discussion of changes in groundwater conditions and the effectiveness of MNA. If remedial goals are consistently met at an AOI, natural attenuation will have accomplished groundwater cleanup at the AOI, as noted by DTSC (DTSC 2018a). This development will be presented, and sampling will be proposed to be discontinued at that AOI.

- For monitoring wells where conditions remain above remedial goals, the statistical analysis will be updated using the Mann-Kendall test (see Section 3.1.1).

- Based on the review of groundwater conditions, the O&M program may be adapted to changes in groundwater conditions according to Section 4.4. This may include changes to the sampling matrix, monitoring network, and sampling frequency.

References

Arcadis. 2008. Final Interim Action Remedial Action Plan and Feasibility Study, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. June.

Arcadis. 2010a. Background Screening Levels for Metals in Groundwater, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. January.

Arcadis. 2010b. Interim Action Completion Reports, Operable Units C & E, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia- Pacific LLC. ARCADIS U.S., Inc. April.

Arcadis. 2010c. Remedial Investigation, Operable Units C and D, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. April.

Arcadis. 2010d. Letter from Bridgette DeShields, ARCADIS, to Thomas Lanphar, DTSC, re: Site-Specific TPH Leaching Evaluation. Prepared for Georgia-Pacific LLC. 13 April.

Arcadis. 2010e. Third Quarter 2010 Groundwater Monitoring Report, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. December.

Arcadis. 2010f. In Situ Chemical Oxidation Pilot Study Work Plan – Planer #2 AOI, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. Revised December.

Arcadis. 2011a. Remedial Investigation Operable Units C and D Report (RI Report), Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. January.

Arcadis 2011b. Summary of Phase I Treatability Study, In Situ Chemical Oxidation Pilot Study – Planer #2 Area of Interest, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. March.

Arcadis. 2011c. Letter from Michael Fleischner, Arcadis, to Mr. Thomas P. Lanphar, Department of Toxic Substances Control, re: Comprehensive Monitoring Plan Update No. 5 (Final), Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 20 October.

Arcadis. 2013a. Comprehensive Monitoring Plan Update No. 6, Former Georgia-Pacific Wood Products Facility, 90 West Redwood Avenue, Fort Bragg, California. Prepared for Georgia-Pacific LLC. 6 November.

Arcadis. 2013b. Monitored Natural Attenuation Technical Report, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. March.

Arcadis. 2015. Remedial Action Plan Operable Units C and D, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. June.

Arcadis. 2016a. First Semi-Annual 2016 Groundwater Monitoring Report, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. 13 July.

Arcadis. 2016b. Second Semi-Annual 2016 Groundwater Monitoring Report, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. 2 December.

Arcadis BBL. 2007. Comprehensive Monitoring Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. April (revised in August).

BACE Geotechnical. 2004. Engineering Geologic Reconnaissance Report, Planned Blufftop Access Trail, Georgia-Pacific Property, Fort Bragg, California. 29 September.

Blackburn Consulting, Inc. (BCI). 2006. Letter from Mr. Rick Sowers, PE, CEG, Senior Project Manager, and Mr. Tom Blackburn, GE, Principal, to Mr. John Mattey.

Blasland, Bouck & Lee, Inc. (BBL). 2006. Current Conditions Report, Georgia-Pacific California Wood Products Manufacturing Facility, Fort Bragg, California. Prepared for Georgia-Pacific Corporation. December.

California Department of Water Resources. 1982. Mendocino County Coastal Ground Water Study. June.

Department of Toxic Substances Control (DTSC). 2008. Letter from Mr. Edgardo Gillera, Project Manager, California Environmental Protection Agency, Department of Toxic Substances Control, Brownfields and Environmental Restoration Program, Berkeley Office, to Mr. Chip Hilarides, General Manager, Bellingham Operations, Georgia-Pacific LLC, and Ms. Bridgette DeShields, Vice President/Principal Scientist, ARCADIS, re: Comments and Recommendations for Work Plan for Assessing Background Metals Concentrations in Groundwater. 24 September.

DTSC. 2010. Letter from Mr. Thomas P. Lanphar, Senior Hazardous Substances Scientist, Brownfields and Environmental Restoration Program, to Ms. Bridgette DeShields, Vice President/Program Manager, ARCADIS, re: Approval of Background Screening Levels for Metals in Groundwater, Former Georgia-Pacific Mill Site, Fort Bragg, California, Dated January 2010. California Environmental Protection Agency, Department of Toxic Substances Control. 3 March.

DTSC. 2017. Letter from Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, to Mr. David G. Massengill, Senior Director, Georgia-Pacific LLC, RE: Well Destruction Workplan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 26 October.

DTSC. 2018a. Letter from Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, to Mr. David G. Massengill, Senior Director, Georgia-Pacific LLC, RE: Site-Wide Groundwater Operation & Maintenance Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 15 March.

DTSC. 2018b. Letter from Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, to Mr. David G. Massengill, Senior Director, Georgia-Pacific LLC, RE: Comprehensive Monitoring Plan Update No. 6 Amendment 1, Dated August 7, 2018, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 29 August.

DTSC. 2019. Letter from Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, to Mr. David G. Massengill, Senior Director, Georgia-Pacific LLC, RE: Comprehensive Monitoring Plan Update No. 6 Amendment 2, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 13 February.

DTSC. 2020. Letter from Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, to Mr. David G. Massengill, Senior Director, Georgia-Pacific LLC, and Mr. Mike Buck, Mendocino Railway, RE: Response to Comment Letter RE: Site-wide Groundwater Operation and Maintenance Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 29 January.

Georgia-Pacific LLC (GP). 2019. Letter from David G. Massengill, Senior Director, Georgia-Pacific LLC, to Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, RE: Comprehensive Monitoring Plan Update No. 6 Amendment 2. 25 January.

GP. 2018. Letter from David G. Massengill, Senior Director, Georgia-Pacific LLC, to Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, RE: Comprehensive Monitoring Plan Update No. 6 Amendment 1. 7 August.

North Coast Regional Water Quality Control Board. 2011. Water Quality Control Plan for the North Coast Region. May.

Kennedy/Jenks Consultants. 2018a. Remedial Action Completion Report for Operable Units OU-C, OU-D, and OU-E, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 12 March.

Kennedy/Jenks Consultants. 2018b. Letter from Jeremie Maehr, Principal Engineer, Kennedy/Jenks Consultants, to Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, RE: Well Destruction at the Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 9 February.

Kennedy/Jenks Consultants. 2019. Letter from Jeremie Maehr, Principal Engineer, Kennedy/Jenks Consultants, to Thomas P. Lanphar, Senior Environmental Scientist, Brownfields and Environmental Restoration Program, RE: Response to Comment Letter, RE: Site-Wide Groundwater Operation and Maintenance Plan, Dated 30 July 2019, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 16 October.

TRC. 2004a. Phase I Environmental Site Assessment, Georgia-Pacific California Wood Products Manufacturing Division, 90 West Redwood Avenue, Fort Bragg, California. Prepared for Georgia-Pacific Corporation, 133 Peachtree Street, NE, Atlanta, Georgia. Project No. 41-041901. TRC Companies, Inc. March.

TRC. 2017. Letter from Glenn Young, Senior Project Manager, TRC, to Tom Lanphar, DTSC, RE: Draft Feasibility Study, Operable Unit E, dated May 19, 2017. 17 July.

U.S. Environmental Protection Agency (USEPA). 2006. In Situ Treatment Technologies for Contaminated Soil. Publication No. EPA-542/F-06/013. Accessed: http://www.clu-in.org/download/remed/542f06013.pdf. November.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. United States Environmental Protection Agency, Office of Resource Conservation and Recovery, Program Implementation and Information Division. EPA 530-R-09-007. Available online at http://www.epa.gov/waste/hazard/correctiveaction/resources/guidance/sitechar/gwstats/unified-guidtoc.pdf. March.

Tables

Table 1: Long-Term Monitoring Network

Monitoring Well ID	OU	Parcel	Purpose	Year Completed [(a)]	Proposed Year(s)	Proposed Frequency	AOI	TPHd by USEPA Methods 8015B/3630C with silica gel cleanup	VOCs by USEPA Method 8260B	PCP by USEPA Method 8270 SIM	PCDDs/PCDFs by USEPA Method 8290	Constituent
OU-C												
Parcel 2 AOI												
MW-2.2	C	2	Downgradient	1	3, 5	SA	Parcel 2				●	dioxins/furans
MW-2.3	C	2	Source	1	3, 5	SA	Parcel 2				●	dioxins/furans
MW-2.7	C	3	Upgradient	1	3, 5	SA	Rail Lines West				●	dioxins/furans
Former AST and MES/Pilot Study AOIs												
MW-3.2	C	3	Source	1	3, 5	SA	Former MES/Pilot Study	●	●			TPHd, benzene, 1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.3	C	3	Downgradient	1	3, 5	SA	Dry Sheds #4/#5		●			1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.13	C	3	Source	1	3, 5	SA	Former AST	●	●			TPHd, 1,1-DCA, 1,1-DCE, PCE, TCE, VC, benzene
MW-3.17	C	3	Upgradient	1	5	SA	Former AST		●			1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.16R	C	3	Downgradient	1	3, 5	SA	Dry Sheds #4/#5		●			1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.18	C	3	Downgradient	1	3, 5	SA	Rail Lines East		●			1,1-DCA, 1,1-DCE, PCE, TCE, VC
Former Dip Tank AOI												
MW-3.12R	C	3	Source	1	3, 5	SA	Former Dip Tank			●	●	dioxins/furans, chlorophenols
MW-3.9	C	3	Downgradient	1	3, 5	SA	Former Planer #1/Planer #50			●	●	dioxins/furans, chlorophenols

Note:
(a) Year 1 was completed in September 2018 and February 2019, in accordance with CMP Update No. 6 Amendment 1 and CMP Update No. 6 Amendment 2.

Abbreviations:

--	not applicable		
AOI	area of interest	SA	Semi-annual (two per year)
AST	aboveground storage tank	A	Annual
MES	Mobile Equipment Shop		
MW	monitoring well		

Table 2: Chemical-Specific Remedial Goals for Groundwater

Constituent/Analytical Group	Chemical Specific Remedial Goals - Groundwater [a] Chemical Specific Remedial Goals (µg/L)	Remedial Goal Below Detection Limit? [b]	Source	Drinking Water MCL (for comparison) (µg/L)	Vapor Intrusion [c] (for comparison) (µg/L)
Volatile Organic Compounds (VOCs)					
Benzene	0.15	Yes	DL (OEHHA PHG) [b]	1	27
Tetrachloroethene	0.5	Yes	DL (OEHHA PHG) [b]	5	63
Trichloroethene	1.7	No	OEHHA PHG	5	130
1,1-Dichloroethane	3	No	OEHHA PHG	5	NA
1,1-Dichloroethene	6	No	CA Primary MCL	6	16,000
Vinyl Chloride	0.5	Yes	DL (OEHHA PHG) [b]	0.5	1.8
Semivolatile Organic Compounds (SVOCs)					
Pentachlorophenol	0.3	No	OEHHA PHG	1	NA
Dioxins and Furans					
2,3,7,8 TCDD TEQ [d]	5E-08	Some Congeners	OEHHA PHG [b]	3E-05	NA
Total Petroleum Hydrocarbons					
Total Gasoline (C6-C10)	50	No	T&O Threshold	NA	NA
Total Diesel (C10-C24)	100	No	T&O Threshold	NA	NA

Notes:

(a) The remedial goals presented in this table were presented in the OU-C/D RAP in Table 3-2 and approved by DTSC.

(b) Where indicated, remedial goal based on source in parenthesis is below detection limits typically achieved by analytical laboratories. Compliance with remedial goals will be achieved if these constituents are not detected above the typical detection limits, as listed. A range of detection limits is possible for individual Dioxin and Furan congeners. Compliance with remedial goals will be achieved based on comparison of TEQ values calculated using only detected congeners.

(c) Environmental Screening Level for Evaluation of Potential Vapor Intrusion for Residential Land Use; Prepared by San Francisco Regional Water Quality Control Board (Table E-1; December 2013).

(d) Note 5E-08 µg/L and 3E-5 µg/L are equal to 0.05 pg/L and 30 pg/L respectively 1 µg/L = 1,000 ng/L = 1,000,000 pg/L

Abbreviations:

CA Primary MCL	California Department of Public Health Primary MCL	TCDD	tetrachlorodibenzo-p-dioxin
CVWQCB T&O	CVRWQCB (2004) TPH water quality objectives for taste and odor	TEQ	toxic equivalent
DL	detection limit	T&O	taste and odor
MCL	Maximum Contaminant Level	VOC	volatile organic compound
OEHHA PHG	Office of Environmental Health and Safety Public Health Goal	µg/L	micrograms per liter (1E-6 grams per liter = parts per billion)
PHG	public health goal	ng/L	nanograms per liter (1E-9 grams per liter = parts per trillion)
SVOC	semi volatile organic compound	pg/L	picograms per liter

Table 3: Summary of Monitoring History

Monitoring Well ID	OU	Parcel	Date Last Sampled	Inactive Years Between Last Event and First Baseline Event	Reason Active Monitoring Stopped
OU-C					
Parcel 2 AOI					
MW-2.6	C	2	01-Dec-07	13	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1 based on monitoring results.
MW-2.7	C	3	01-Dec-07	12	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1 based on monitoring results.
Former AST and MES/Pilot Study AOIs					
MW-3.3	C	3	01-Dec-07	12	Monitored constituents were VOCs. Proposed to discontinue in CMP Update No. 5 because VOC concentrations were low and the dataset was deemed sufficient for remedial decision-making.
MW-3.17	C	3	01-Dec-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
MW-3.16R	C	3	01-Mar-13	6	Monitored constituents were TPHg, TPHd, and VOCs. Sampling for VOCs was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making. Sampling for TPH was proposed to discontinue in CMP Update No. 6. The stated objective in monitoring MW-3.16R was to monitor groundwater post-IRM for TPH impacts. TPH results were below screening criteria, and therefore, additional monitoring was deemed not required.
MW-3.18	C	3	01-Dec-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.

Note:
(a) For monitoring wells included in CMP Update No. 6, there were no inactive years between the last event and the first baseline event. Therefore, these wells are not included in this table.

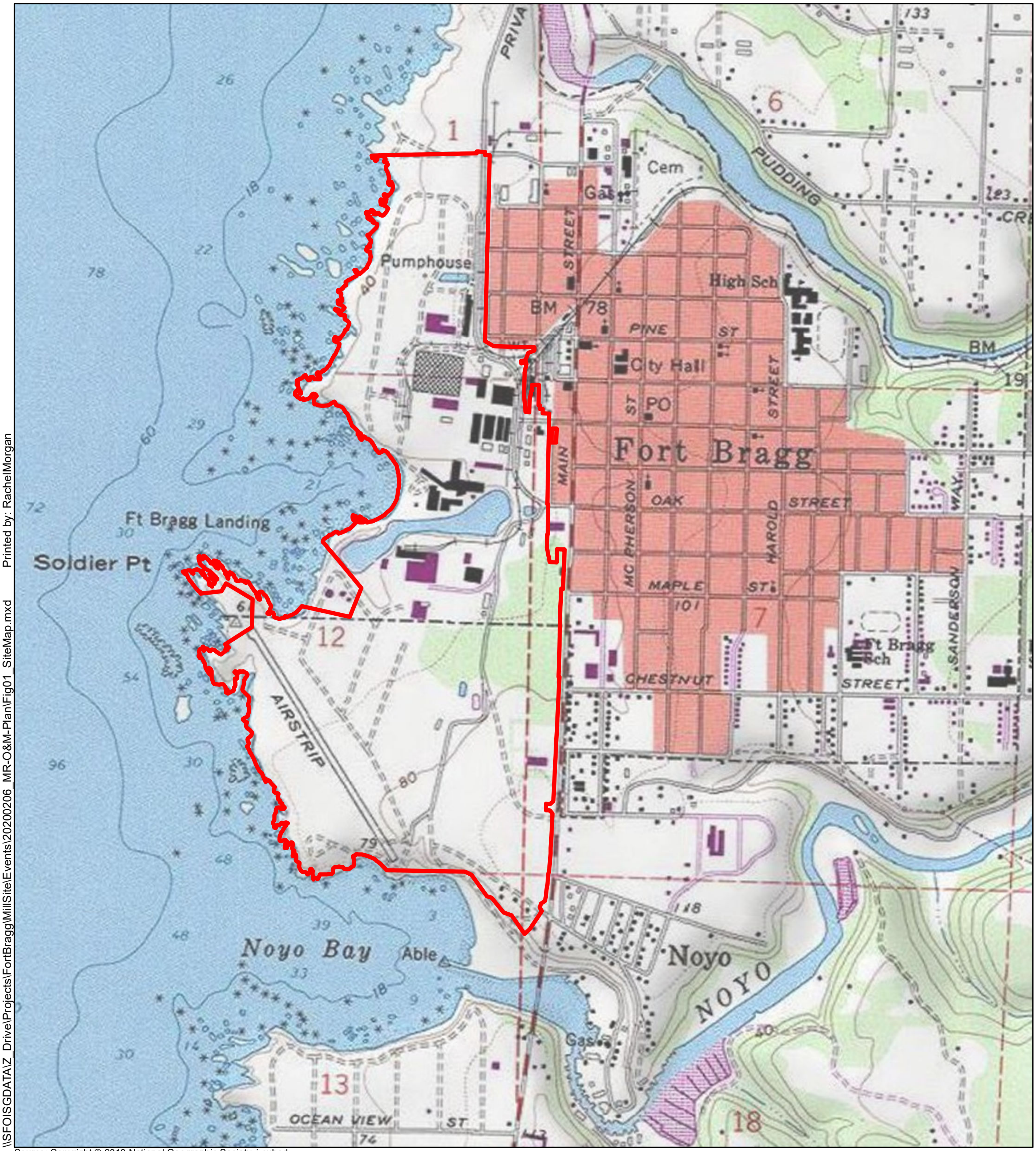
Table 4: Future Uses of Groundwater

AOI	OU	Parcel	Active Monitoring Wells	Constituent(s) of Concern	Future Use of Groundwater
Parcel 2	C	2	MW-2.2, MW-2.3, MW-2.6	dioxins/furans	All use restricted due to heavy industrial activity in vicinity of well(s)
Rail Lines West	C	3	MW-2.7	TPH, VOCs	
Former Planer #1/Planer #50	C	3	MW-3.9	chlorophenols	
Former Dip Tank	C	3	MW-3.12R	dioxins/furans, chlorophenols	
Former AST	C	3	MW-3.13, MW-3.17	TPHg, TPHd, VOCs	
Former MES/Pilot Study	C	3	MW-3.2	TPHg, TPHd	
Dry Sheds #4/#5	C	3	MW-3.3, MW-3.16R	TPH, VOCs	
Rail Lines East	C	3	MW-3.18	TPH, VOCs	

Abbreviations:

AOI area of interest
AST aboveground storage tank
MES Mobile Equipment Shop
MW monitoring well
OU operable unit
TPHd total petroleum hydrocarbons as diesel
TPHg total petroleum hydrocarbons as gasoline
VOC volatile organic compound

Figures



\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20200206_MR-O&M-Plan\Fig01_SiteMap.mxd Printed by: RachelMorgan

Source: Copyright:© 2013 National Geographic Society, i-cubed

Legend

Site Boundary

N

0 750 1,500

Scale: Feet

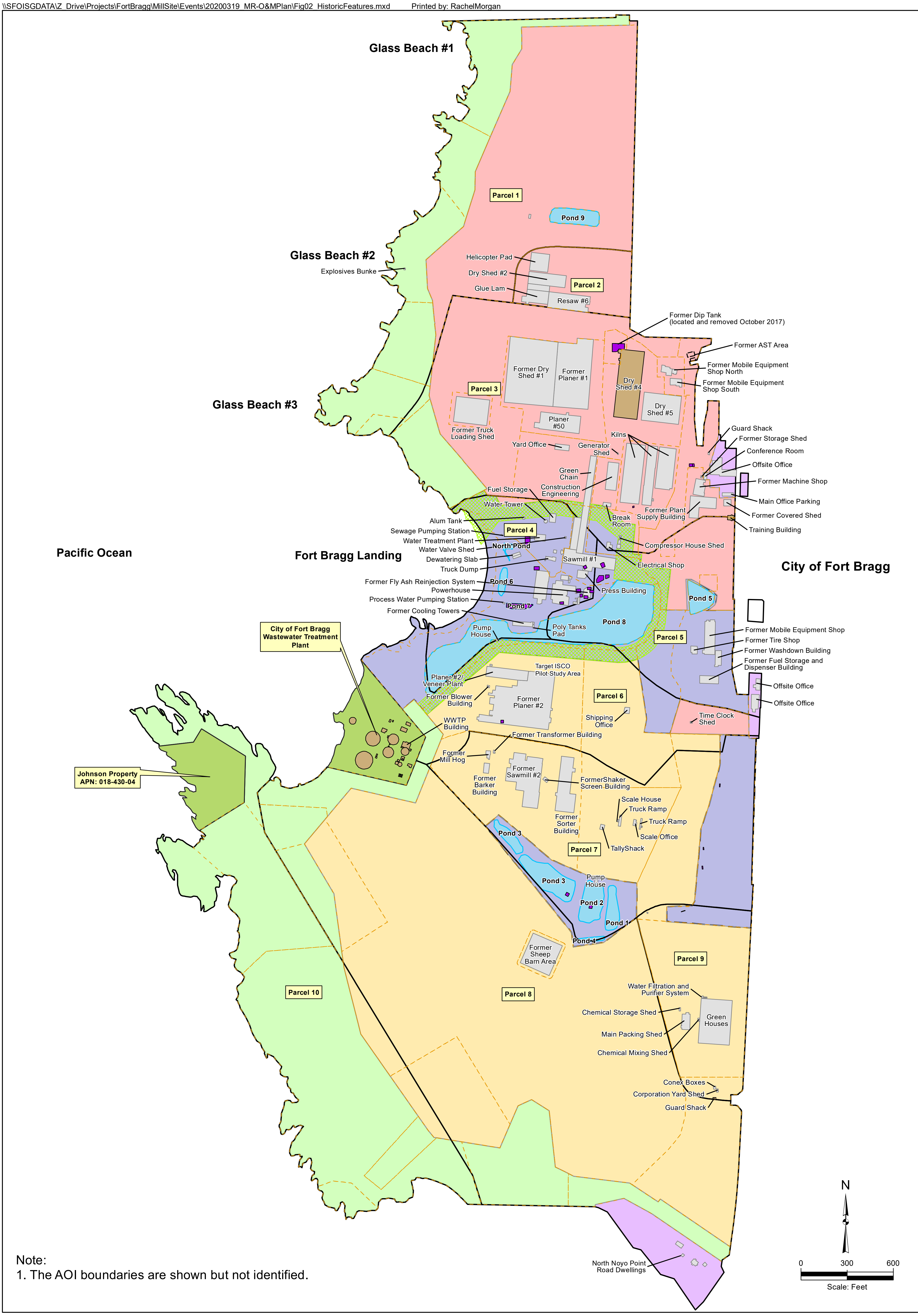
Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Site Location Map

1965021*19

Figure 1



Legend

- Facility Parcel
- Areas of Interest (AOI)
- Property Owned by Others
- Structure
- Former Structure
- Pond
- Approximate Central Coastal Trail Property
- 2017 Soil and Sediment Removal

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Central/Aquatic (OU-E)

Kennedy/Jenks Consultants

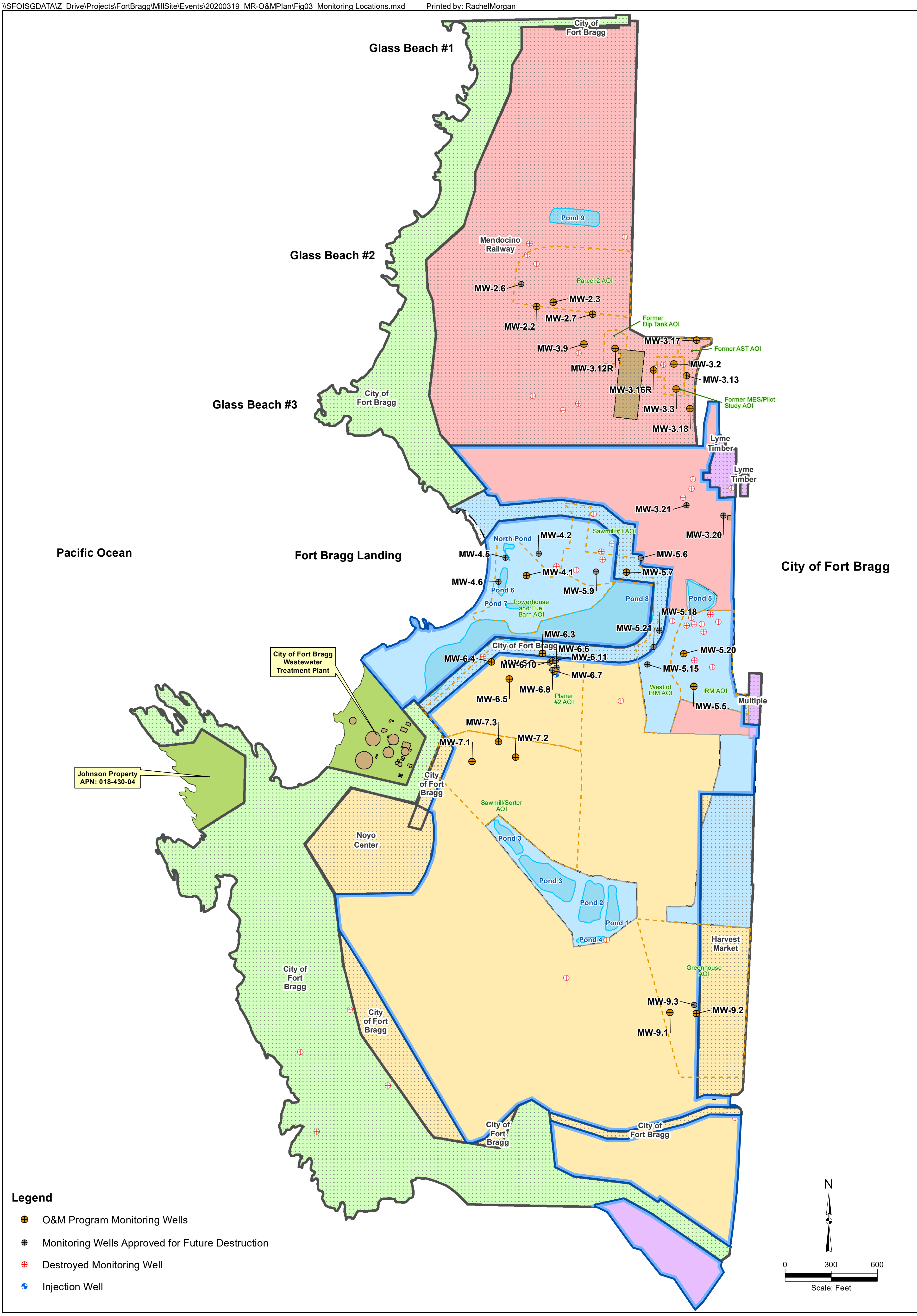
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Operable Unit, Parcel, and Area of Interest Boundaries and Major Features

1965021*19

Figure 2

\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20200319_MR-O&MPlan\Fig03_Monitoring Locations.mxd Printed by: RachelMorgan



Legend

- Area of Interest (AOI)
- Property Owned by Others
- Approximate Central Coastal Trail Property (City of Fort Bragg)
- Structure
- Pond
- Georgia-Pacific Property (August 2019)
- Property Owned by Others

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Ponds/Park (OU-E)

Kennedy/Jenks Consultants

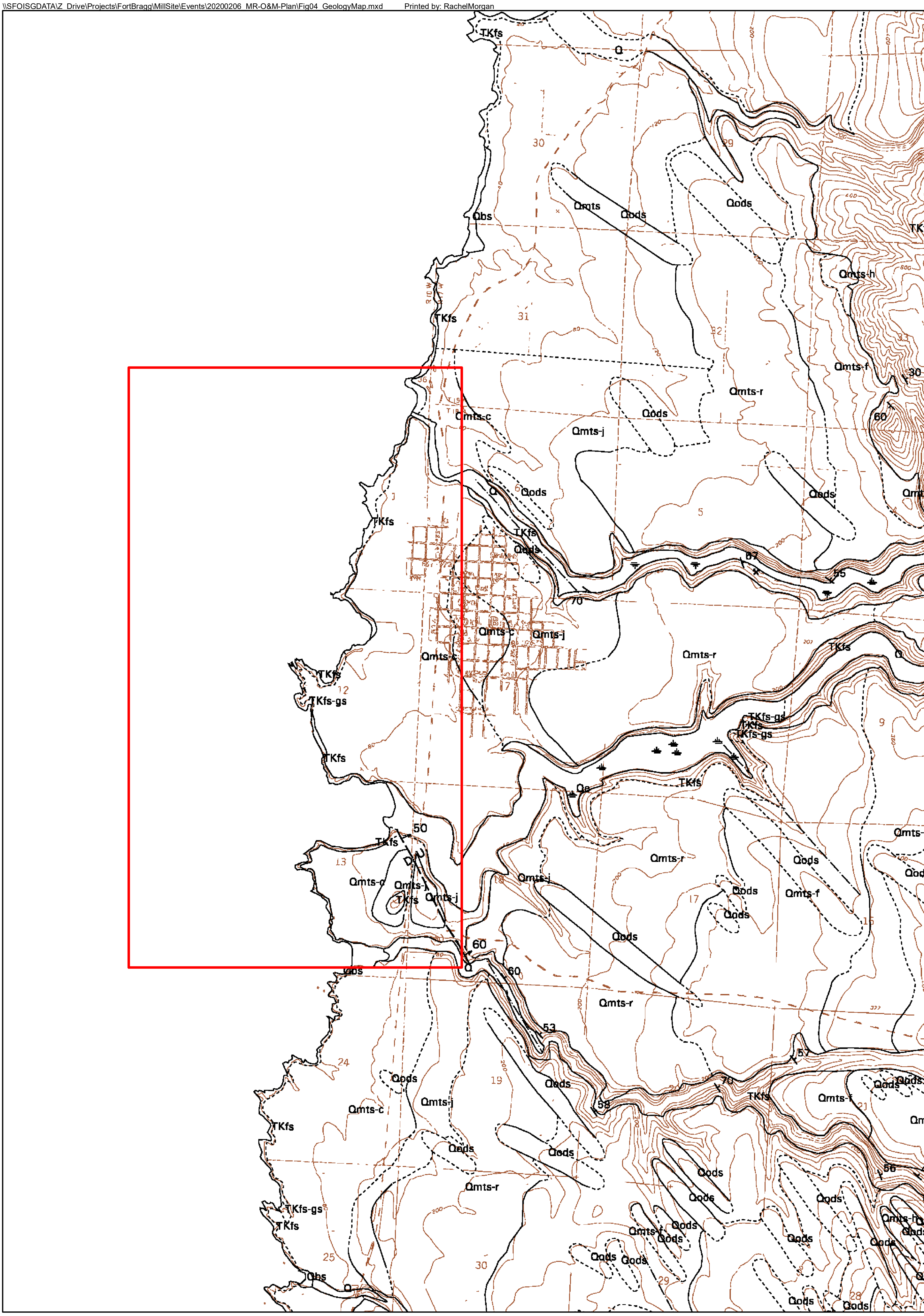
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Current and Historic Monitoring Well Locations and Land Ownership

1965021*19

Figure 3

\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20200206_MR-O&M-Plan\Fig04_GeologyMap.mxd Printed by: RachelMorgan



Legend

Approximate Site Area

NOTES:

1. SOURCE: 1983, DMG OPEN-FILE REPORT 83-05, GEOLOGY AND GEOMORPHIC FEATURES RELATED TO LANDSLIDING, FORT BRAGG 7.5' QUADRANGLE, MENDOCINO COUNTY, CALIFORNIA
2. TKfs = COASTAL BELT FRANCISCAN COMPLEX
   TKfs-gs = COASTAL BELT FRANCISCAN COMPLEX, GREENSTONE
   Qmts-c = MARINE TERRACE DEPOSITS, CASPAR POINT
   Qmts-r = MARINE TERRACE DEPOSITS, CASPAR RAILROAD
   Qmts-j = MARINE TERRACE DEPOSITS, JUG HANDLE FARM
   Qods = OLDER DUNE SANDS

N

Kennedy/Jenks Consultants

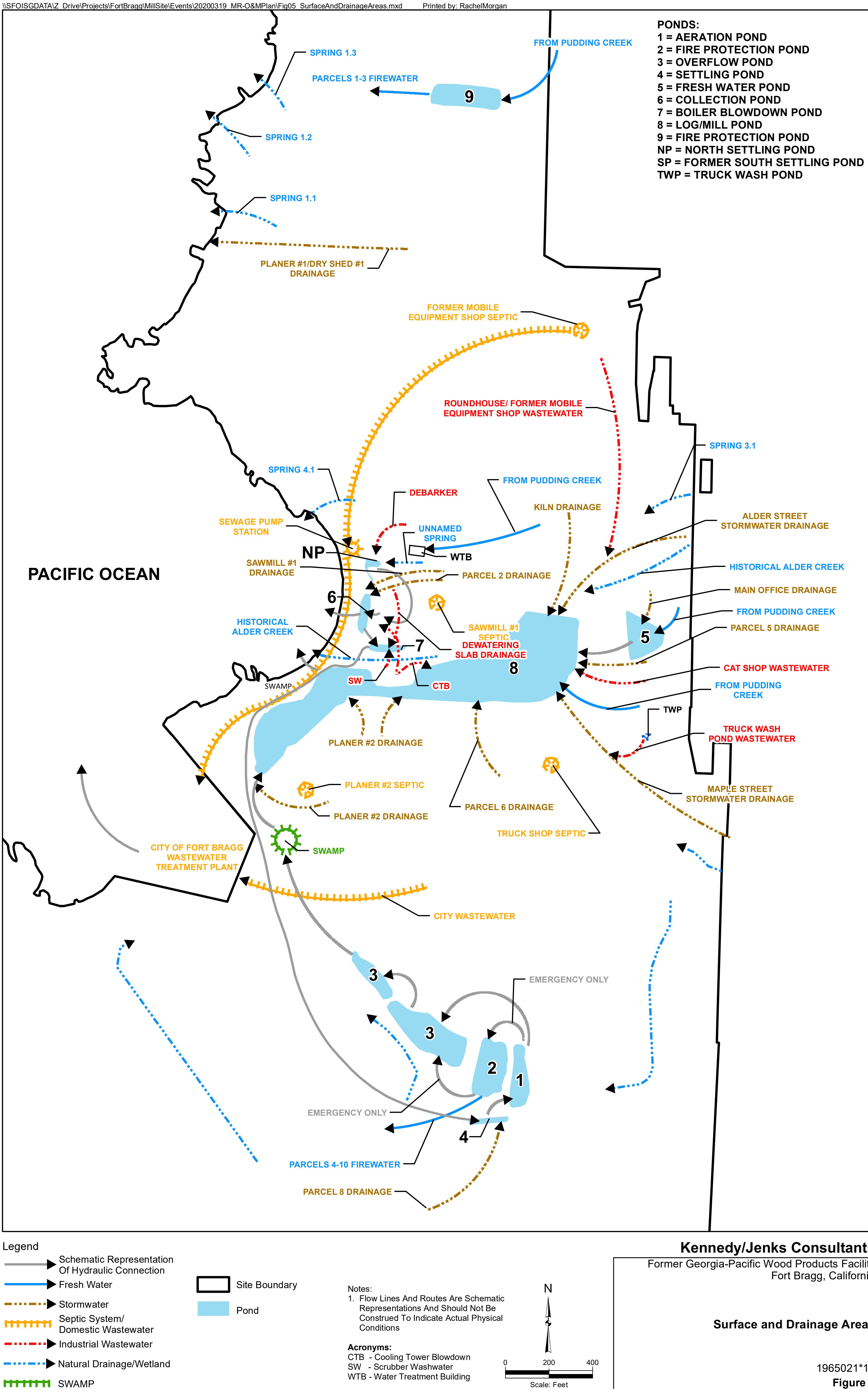
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Surficial Geology

1965021*19

Figure 4

\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20200319_MR-O&MPlan\Fig05_SurfaceAndDrainageAreas.mxd Printed by: RachelMorgan



Notes:
1. Flow Lines And Routes Are Schematic Representations And Should Not Be Construed To Indicate Actual Physical Conditions

Acronyms:
CTB - Cooling Tower Blowdown
SW - Scrubber Washwater
WTB - Water Treatment Building

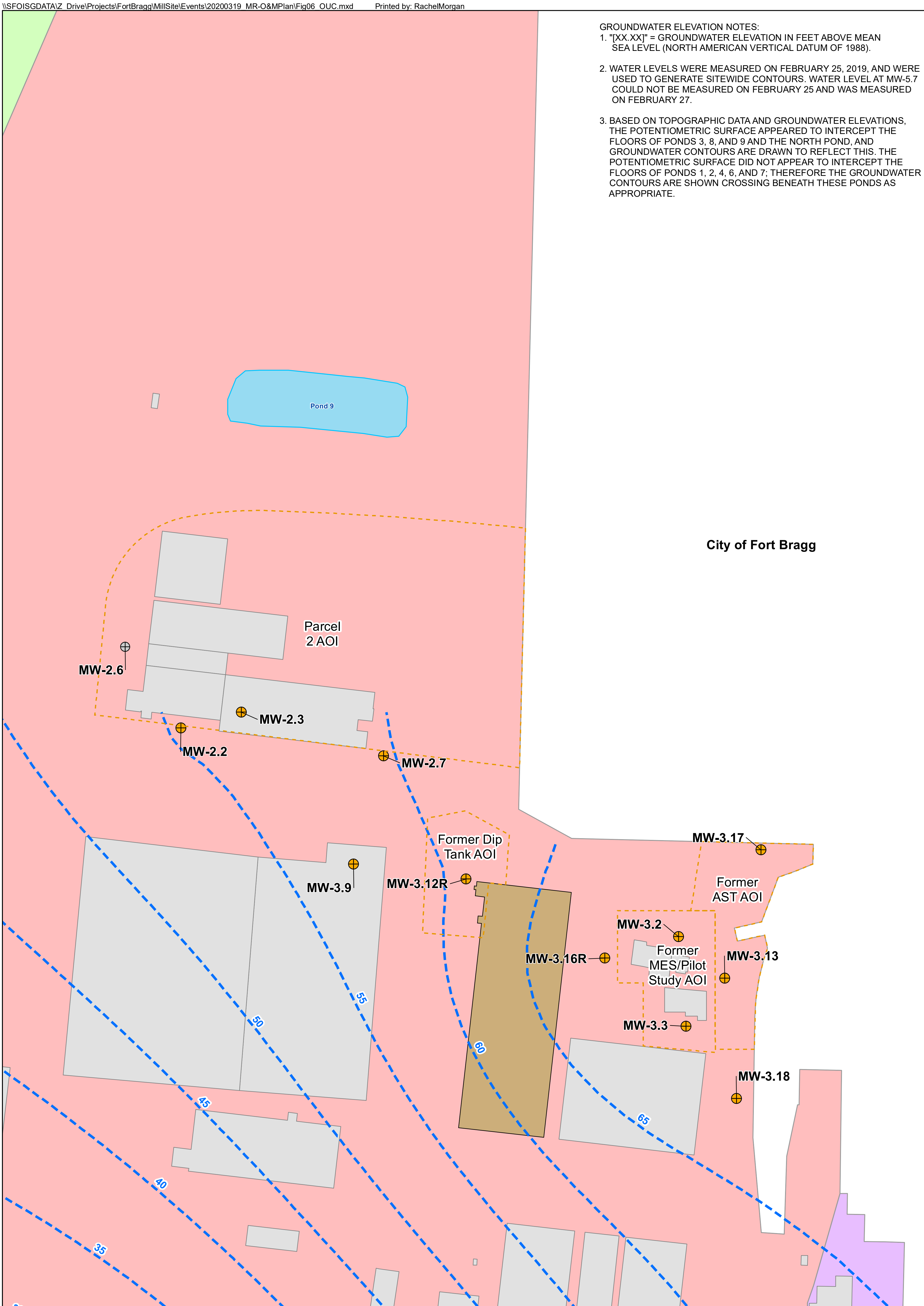
Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Surface and Drainage Areas

1965021*19

Figure 5



Legend

- Area of Interest (AOI)
- Structure
- Former Structure
- Pond
- O&M Program Monitoring Wells
- Monitoring Wells Approved for Future Destruction
- Groundwater Contours

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Ponds/Park (OU-E)

Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Monitoring Well Network for Parcel 2 AOI, Former Dip Tank AOI, Former MES/Pilot Study AOI, and Former AST AOI

1965021*19

Figure 6

Appendix A

Groundwater Elevations and Liquid-Phase Hydrocarbon Thickness

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
Groundwater Monitoring Wells						
MW-1.1	10/06/08	69.65	9.10	60.55	ND	0.00
MW-1.1	12/09/08	69.65	9.00	60.65	ND	0.00
MW-1.1	03/03/09	69.65	8.33	61.32	ND	0.00
MW-1.1	06/08/09	69.65	8.70	60.95	ND	0.00
MW-1.1	09/14/09	69.65	9.11	60.54	ND	0.00
MW-1.1	12/07/09	69.65	9.00	60.65	ND	0.00
MW-1.1	03/15/10	69.65	7.95	61.70	ND	0.00
MW-1.1	06/14/10	69.65	8.38	61.27	ND	0.00
MW-1.1	09/20/10	69.65	8.98	60.67	ND	0.00
MW-1.1	12/13/10	69.65	8.25	61.40	ND	0.00
MW-1.1	04/26/11	69.65	8.10	61.55	ND	0.00
MW-1.1	07/11/11	69.65	8.60	61.05	ND	0.00
MW-2.1	01/29/04	60.79	4.52	56.27	ND	0.00
MW-2.1	06/23/04	60.79	5.26	55.53	ND	0.00
MW-2.1	09/22/04	60.79	5.96	54.83	ND	0.00
MW-2.1	12/07/04	60.79	5.56	55.23	ND	0.00
MW-2.1	03/28/05	60.79	4.29	56.50	ND	0.00
MW-2.1	05/09/05	60.79	4.41	56.38	ND	0.00
MW-2.1	08/15/05	60.79	5.16	55.63	ND	0.00
MW-2.1	11/07/05	60.79	5.35	55.44	ND	0.00
MW-2.1	03/06/06	60.28	3.88	56.40	ND	0.00
MW-2.1	05/22/06	60.28	4.69	55.59	ND	0.00
MW-2.1	09/05/06	60.28	5.66	54.62	ND	0.00
MW-2.1	12/04/06	60.28	5.70	54.58	NM	NM
MW-2.1	03/05/07	60.28	4.78	55.50	NM	NM
MW-2.1	06/11/07	60.28	5.38	54.90	NM	NM
MW-2.1	09/04/07	60.37	6.01	54.36	NM	NM
MW-2.1	12/10/07	60.37	5.53	54.84	NM	NM
MW-2.1	03/24/08	60.37	4.80	55.57	NM	NM
MW-2.1	06/02/08	60.37	5.44	54.93	NM	NM
MW-2.1	09/22/08	60.37	6.28	54.09	ND	0.00
MW-2.1	12/09/08	60.37	6.35	54.02	ND	0.00
MW-2.1	03/03/09	60.37	4.84	55.53	ND	0.00
MW-2.1	06/08/09	60.37	5.49	54.88	ND	0.00
MW-2.1	09/14/09	60.37	6.33	54.04	ND	0.00
MW-2.1	12/07/09	60.37	6.08	54.29	ND	0.00
MW-2.1	03/15/10	60.37	4.25	56.12	ND	0.00
MW-2.1	06/14/10	60.37	4.77	55.60	ND	0.00
MW-2.1	09/20/10	60.37	5.82	54.55	ND	0.00
MW-2.1	12/13/10	60.37	4.66	55.71	ND	0.00
MW-2.2	01/29/04	60.70	2.90	57.80	ND	0.00
MW-2.2	06/23/04	60.70	4.23	56.47	ND	0.00
MW-2.2	09/22/04	60.70	5.35	55.35	ND	0.00
MW-2.2	12/07/04	60.70	4.40	56.30	ND	0.00
MW-2.2	03/28/05	60.70	2.46	58.24	ND	0.00
MW-2.2	05/09/05	60.70	4.16	56.54	ND	0.00
MW-2.2	08/15/05	60.70	4.09	56.61	ND	0.00
MW-2.2	11/07/05	60.70	4.19	56.51	ND	0.00
MW-2.2	03/06/06	60.23	1.65	58.58	ND	0.00
MW-2.2	05/22/06	60.23	3.17	57.06	ND	0.00
MW-2.2	09/05/06	60.23	4.52	55.71	ND	0.00
MW-2.2	12/04/06	60.23	4.57	55.66	NM	NM
MW-2.2	03/05/07	60.23	2.98	57.25	NM	NM
MW-2.2	06/11/07	60.23	4.10	56.13	NM	NM
MW-2.2	09/04/07	60.28	5.29	54.99	NM	NM
MW-2.2	12/10/07	60.28	4.32	55.96	NM	NM
MW-2.2	03/24/08	60.28	3.30	56.98	NM	NM
MW-2.2	06/02/08	60.28	4.29	55.99	NM	NM
MW-2.2	09/22/08	60.28	5.68	54.60	ND	0.00
MW-2.2	12/09/08	60.28	5.55	54.73	ND	0.00
MW-2.2	03/03/09	60.28	3.33	56.95	ND	0.00
MW-2.2	06/08/09	60.28	4.35	55.93	ND	0.00
MW-2.2	09/14/09	60.28	5.65	54.63	ND	0.00
MW-2.2	12/07/09	60.28	5.11	55.17	ND	0.00
MW-2.2	03/15/10	60.28	2.60	57.68	ND	0.00
MW-2.2	06/14/10	60.28	3.32	56.96	ND	0.00
MW-2.2	09/20/10	60.28	4.73	55.55	ND	0.00
MW-2.2	12/13/10	60.28	3.16	57.12	ND	0.00
MW-2.2	04/26/11	60.28	2.74	57.54	ND	0.00
MW-2.2	07/11/11	60.28	3.77	56.51	ND	0.00
MW-2.2	10/03/11	60.28	4.67	55.61	ND	0.00
MW-2.2	12/12/11	60.28	4.05	56.23	ND	0.00
MW-2.2	03/19/12	60.28	2.92	57.36	ND	0.00
MW-2.2	06/18/12	60.28	3.81	56.47	ND	0.00
MW-2.2	09/17/12	60.28	5.05	55.23	ND	0.00
MW-2.2	12/10/12	60.28	3.13	57.15	ND	0.00
MW-2.2	03/04/13	60.28	3.78	56.50	ND	0.00

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-2.2	08/19/13	60.28	5.46	54.82	ND	0.00
MW-2.2	03/03/14	60.28	4.13	56.15	ND	0.00
MW-2.2	09/15/14	60.28	6.19	54.09	ND	0.00
MW-2.2	03/02/15	60.28	3.34	56.94	ND	0.00
MW-2.2	08/31/15	60.28	5.98	54.30	ND	0.00
MW-2.2	03/07/16	60.28	1.52	58.76	ND	0.00
MW-2.2	09/12/16	60.28	5.18	55.10	ND	0.00
MW-2.2	02/21/17	60.28	1.00	59.28	ND	0.00
MW-2.2	08/29/17	60.28	4.90	55.38	ND	0.00
MW-2.2	03/05/18	60.28	2.87	57.41	ND	0.00
MW-2.2	09/10/18	60.28	5.26	55.02	ND	0.00
MW-2.2	02/25/19	60.28	4.71	55.57	ND	0.00
MW-2.3	01/29/04	62.67	4.29	58.38	ND	0.00
MW-2.3	06/23/04	62.67	5.44	57.23	ND	0.00
MW-2.3	09/22/04	62.67	6.63	56.04	ND	0.00
MW-2.3	12/07/04	62.67	5.87	56.80	ND	0.00
MW-2.3	03/28/05	62.67	3.96	58.71	ND	0.00
MW-2.3	05/09/05	62.67	2.81	59.86	ND	0.00
MW-2.3	08/15/05	62.67	5.32	57.35	ND	0.00
MW-2.3	11/07/05	62.67	5.80	56.87	ND	0.00
MW-2.3	03/06/06	62.18	3.04	59.14	ND	0.00
MW-2.3	05/22/06	62.18	4.38	57.80	ND	0.00
MW-2.3	09/05/06	62.18	5.83	56.35	ND	0.00
MW-2.3	12/04/06	62.18	5.95	56.23	NM	NM
MW-2.3	03/05/07	62.18	4.36	57.82	NM	NM
MW-2.3	06/11/07	62.18	5.49	56.69	NM	NM
MW-2.3	09/04/07	62.25	NM	NA	NM	NM
MW-2.3	12/10/07	62.25	5.83	56.42	NM	NM
MW-2.3	03/24/08	62.25	4.60	57.65	NM	NM
MW-2.3	06/02/08	62.25	5.54	56.71	NM	NM
MW-2.3	09/22/08	62.25	7.00	55.25	ND	0.00
MW-2.3	12/09/08	62.25	7.05	55.20	ND	0.00
MW-2.3	03/03/09	62.25	4.89	57.36	ND	0.00
MW-2.3	06/08/09	62.25	5.63	56.62	ND	0.00
MW-2.3	09/14/09	62.25	7.00	55.25	ND	0.00
MW-2.3	12/07/09	62.25	6.51	55.74	ND	0.00
MW-2.3	03/15/10	62.25	3.94	58.31	ND	0.00
MW-2.3	06/14/10	62.25	4.60	57.65	ND	0.00
MW-2.3	09/20/10	62.25	6.12	56.13	ND	0.00
MW-2.3	12/13/10	62.25	3.56	58.69	ND	0.00
MW-2.3	04/26/11	62.25	4.00	58.25	ND	0.00
MW-2.3	07/11/11	62.25	4.96	57.29	ND	0.00
MW-2.3	10/03/11	62.25	6.02	56.23	ND	0.00
MW-2.3	12/12/11	62.25	5.40	56.85	ND	0.00
MW-2.3	03/19/12	62.25	4.31	57.94	ND	0.00
MW-2.3	06/18/12	62.25	5.09	57.16	ND	0.00
MW-2.3	09/17/12	62.25	6.35	55.90	ND	0.00
MW-2.3	12/10/12	62.25	4.55	57.70	ND	0.00
MW-2.3	03/04/13	62.25	5.07	57.18	ND	0.00
MW-2.3	08/19/13	62.25	6.83	55.42	ND	0.00
MW-2.3	03/03/14	62.25	5.78	56.47	ND	0.00
MW-2.3	09/15/14	62.25	7.51	54.74	ND	0.00
MW-2.3	03/02/15	62.25	4.73	57.52	ND	0.00
MW-2.3	08/31/15	62.25	7.41	54.84	ND	0.00
MW-2.3	03/07/16	62.25	2.78	59.47	ND	0.00
MW-2.3	09/12/16	62.25	6.67	55.58	ND	0.00
MW-2.3	2/21/2017	62.25	1.85	60.40	ND	0.00
MW-2.3	8/29/2017	62.25	6.25	56.00	ND	0.00
MW-2.3	3/5/2018	62.25	4.29	57.96	ND	0.00
MW-2.3	9/10/2018	62.25	6.71	55.54	ND	0.00
MW-2.3	2/25/2019	62.25	6.35	55.90	ND	0.00
MW-2.4	03/06/06	58.80	4.22	54.58	ND	0.00
MW-2.4	05/22/06	58.80	5.19	53.61	ND	0.00
MW-2.4	09/05/06	58.80	5.86	52.94	ND	0.00
MW-2.4	12/04/06	58.80	5.70	53.10	NM	NM
MW-2.4	03/05/07	58.80	4.94	53.86	NM	NM
MW-2.4	06/11/07	58.80	5.57	53.23	NM	NM
MW-2.4	09/04/07	58.86	5.94	52.92	NM	NM
MW-2.4	12/10/07	58.86	5.40	53.46	NM	NM
MW-2.4	03/24/08	58.86	5.05	53.81	NM	NM
MW-2.4	06/02/08	58.86	5.54	53.32	NM	NM
MW-2.4	09/22/08	58.86	6.12	52.74	ND	0.00
MW-2.4	12/09/08	58.86	6.10	52.76	ND	0.00
MW-2.4	03/03/09	58.86	4.73	54.13	ND	0.00
MW-2.4	06/08/09	58.86	5.53	53.33	ND	0.00
MW-2.4	09/14/09	58.86	6.03	52.83	ND	0.00
MW-2.4	12/07/09	58.86	5.80	53.06	ND	0.00

Appendix A: Groundwater Elevations and Liquid-Phase-Hydrocarbon Thicknesses

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[a]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[b]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-2.4	03/15/10	58.86	4.55	54.31	ND	0.00
MW-2.4	06/14/10	58.86	4.97	53.89	ND	0.00
MW-2.4	09/20/10	58.86	5.68	53.18	ND	0.00
MW-2.4	12/13/10	58.86	4.79	54.07	ND	0.00
MW-2.5	03/06/06	58.95	3.38	55.57	ND	0.00
MW-2.5	05/22/06	58.95	4.55	54.40	ND	0.00
MW-2.5	09/05/06	58.95	5.44	53.51	ND	0.00
MW-2.5	12/04/06	58.95	5.31	53.64	NM	NM
MW-2.5	03/05/07	58.95	4.35	54.60	NM	NM
MW-2.5	06/11/07	58.95	5.17	53.78	NM	NM
MW-2.5	09/04/07	59.00	5.63	53.37	NM	NM
MW-2.5	12/10/07	59.00	5.05	53.95	NM	NM
MW-2.5	03/24/08	59.00	4.53	54.47	NM	NM
MW-2.5	06/02/08	59.00	5.17	53.83	NM	NM
MW-2.5	09/22/08	59.00	5.86	53.14	ND	0.00
MW-2.5	12/09/08	59.00	5.83	53.17	ND	0.00
MW-2.5	03/03/09	59.00	4.35	54.65	ND	0.00
MW-2.5	06/08/09	59.00	5.18	53.82	ND	0.00
MW-2.5	09/14/09	59.00	5.87	53.13	ND	0.00
MW-2.5	12/07/09	59.00	5.58	53.42	ND	0.00
MW-2.5	03/15/10	59.00	4.07	54.93	ND	0.00
MW-2.5	06/14/10	59.00	4.53	54.47	ND	0.00
MW-2.5	09/20/10	59.00	5.40	53.60	ND	0.00
MW-2.5	12/13/10	59.00	4.31	54.69	ND	0.00
MW-2.6	03/06/06	58.84	2.57	56.27	ND	0.00
MW-2.6	05/22/06	58.84	3.48	55.36	ND	0.00
MW-2.6	09/05/06	58.84	4.81	54.03	ND	0.00
MW-2.6	12/04/06	58.84	4.70	54.14	NM	NM
MW-2.6	03/05/07	58.84	3.42	55.42	NM	NM
MW-2.6	06/11/07	58.84	4.45	54.39	NM	NM
MW-2.6	09/04/07	58.91	5.22	53.69	NM	NM
MW-2.6	12/10/07	58.91	4.57	54.34	NM	NM
MW-2.6	03/24/08	58.91	3.63	55.28	NM	NM
MW-2.6	06/02/08	58.91	4.53	54.38	NM	NM
MW-2.6	09/22/08	58.91	5.47	53.44	ND	0.00
MW-2.6	12/09/08	58.91	5.40	53.51	ND	0.00
MW-2.6	03/03/09	58.91	3.72	55.19	ND	0.00
MW-2.6	06/08/09	58.91	4.50	54.41	ND	0.00
MW-2.6	09/14/09	58.91	5.50	53.41	ND	0.00
MW-2.6	12/07/09	58.91	5.10	53.81	ND	0.00
MW-2.6	03/15/10	58.91	3.25	55.66	ND	0.00
MW-2.6	06/14/10	58.91	3.70	55.21	ND	0.00
MW-2.6	09/20/10	58.91	4.91	54.00	ND	0.00
MW-2.6	12/13/10	58.91	3.52	55.39	ND	0.00
MW-2.6	09/10/18	58.91	5.30	53.61	ND	0.00
MW-2.7	03/06/06	66.80	4.88	61.92	ND	0.00
MW-2.7	05/22/06	66.80	5.97	60.83	ND	0.00
MW-2.7	09/05/06	68.80	7.79	61.01	ND	0.00
MW-2.7	12/04/06	68.80	8.15	60.65	NM	NM
MW-2.7	03/05/07	68.80	6.44	62.36	NM	NM
MW-2.7	06/11/07	68.80	7.36	61.44	NM	NM
MW-2.7	09/04/07	66.92	8.60	58.32	NM	NM
MW-2.7	12/10/07	66.92	8.05	58.87	NM	NM
MW-2.7	03/24/08	66.92	6.30	60.62	NM	NM
MW-2.7	06/02/08	66.92	7.46	59.46	NM	NM
MW-2.7	09/22/08	66.92	9.15	57.77	ND	0.00
MW-2.7	12/09/08	66.92	9.15	57.77	ND	0.00
MW-2.7	03/03/09	66.92	6.90	60.02	ND	0.00
MW-2.7	06/08/09	66.92	7.63	59.29	ND	0.00
MW-2.7	09/14/09	66.92	9.07	57.85	ND	0.00
MW-2.7	12/07/09	66.92	8.71	58.21	ND	0.00
MW-2.7	03/15/10	66.92	5.55	61.37	ND	0.00
MW-2.7	06/14/10	66.92	6.34	60.58	ND	0.00
MW-2.7	09/20/10	66.92	7.98	58.94	ND	0.00
MW-2.7	12/13/10	66.92	6.55	60.37	ND	0.00
MW-2.7	09/10/18	66.92	8.27	58.65	ND	0.00
MW-2.7	02/25/19	66.92	7.19	59.73	ND	0.00
MW-3.1	01/28/04	76.07	6.50	69.57	ND	0.00
MW-3.1	06/24/04	76.07	8.84	67.23	ND	0.00
MW-3.1	09/22/04	76.07	10.26	65.81	ND	0.00
MW-3.1	12/07/04	76.07	9.89	66.18	ND	0.00
MW-3.1	03/28/05	76.07	6.61	69.46	ND	0.00
MW-3.1	05/09/05	76.07	6.85	69.22	ND	0.00
MW-3.1	08/15/05	76.07	8.32	67.75	ND	0.00
MW-3.1	11/07/05	76.07	9.36	66.71	ND	0.00
MW-3.1	03/06/06	75.58	4.85	70.73	ND	0.00
MW-3.1	05/22/06	75.58	6.51	69.07	ND	0.00

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.1	09/05/06	75.58	9.09	66.49	ND	0.00
MW-3.1	12/04/06	75.58	9.60	65.98	NM	NM
MW-3.1	03/05/07	75.58	6.65	68.93	NM	NM
MW-3.1	06/11/07	75.58	8.41	67.17	NM	NM
MW-3.1	09/04/07	75.67	9.70	65.97	NM	NM
MW-3.1	12/10/07	75.67	9.20	66.47	NM	NM
MW-3.1	03/24/08	75.67	6.90	68.77	NM	NM
MW-3.1	06/02/08	75.67	8.77	66.90	NM	NM
MW-3.1 (&)	09/22/08	75.67	10.45	65.22	ND	0.00
MW-3.2	01/28/04	76.18	6.57	69.61	ND	0.00
MW-3.2	06/24/04	76.18	8.92	67.26	ND	0.00
MW-3.2	09/22/04	76.18	10.31	65.87	ND	0.00
MW-3.2	12/07/04	76.18	9.96	66.22	ND	0.00
MW-3.2	03/28/05	76.18	6.67	69.51	ND	0.00
MW-3.2	05/09/05	76.18	6.91	69.27	ND	0.00
MW-3.2	08/15/05	76.18	8.39	67.79	ND	0.00
MW-3.2	11/07/05	76.18	9.42	66.76	ND	0.00
MW-3.2	03/06/06	75.72	4.89	70.83	ND	0.00
MW-3.2	05/22/06	75.72	6.55	69.17	ND	0.00
MW-3.2	09/05/06	75.72	9.16	66.56	ND	0.00
MW-3.2	12/04/06	75.72	10.32	65.40	NM	NM
MW-3.2	03/05/07	75.72	6.71	69.01	ND	0.00
MW-3.2	06/11/07	75.72	8.53	67.21	8.50	0.03
MW-3.2	09/04/07	75.78	10.00	66.01	9.71	0.29
MW-3.2	12/10/07	75.78	9.55	66.53	9.18	0.37
MW-3.2	03/24/08	75.78	6.90	68.88	ND	0.00
MW-3.2	06/02/08	75.78	8.82	66.98	8.80	0.02
MW-3.2	09/22/08	75.78	10.83	65.24	10.47	0.36
MW-3.2	12/09/08	75.78	10.69	65.49	10.20	0.49
MW-3.2	03/03/09	75.78	7.55	68.23	ND	0.00
MW-3.2	06/08/09	75.78	8.71	67.07	ND	0.00
MW-3.2	09/14/09	75.78	10.66	65.22	10.54	0.12
MW-3.2	12/07/09	75.78	10.11	65.67	ND	0.00
MW-3.2	03/15/10	75.78	6.50	69.28	ND	0.00
MW-3.2	06/14/10	75.78	7.52	68.27	7.51	0.01
MW-3.2	09/20/10	75.78	9.71	66.09	9.69	0.02
MW-3.2	12/13/10	75.78	7.60	68.20	7.57	0.03
MW-3.2	04/27/11	75.78	6.26	69.52	ND	0.00
MW-3.2	07/11/11	75.78	8.35	67.43	ND	0.00
MW-3.2	10/03/11	75.78	9.83	65.95	ND	0.00
MW-3.2	12/12/11	75.78	8.81	66.97	ND	0.00
MW-3.2	03/19/12	75.78	7.72	68.06	ND	0.00
MW-3.2	06/18/12	75.78	8.28	67.50	ND	0.00
MW-3.2	09/17/12	75.78	9.98	65.80	ND	0.00
MW-3.2	12/10/12	75.78	7.61	68.17	ND	0.00
MW-3.2	03/04/13	75.78	8.08	67.70	ND	0.00
MW-3.2	08/19/13	75.78	10.10	65.69	10.09	0.01
MW-3.2	03/03/14	75.78	9.59	66.19	ND	0.00
MW-3.2	09/15/14	75.78	10.84	64.94	ND	0.00
MW-3.2	03/02/15	75.78	7.23	68.55	ND	0.00
MW-3.2	08/31/15	75.78	10.91	64.87	ND	0.00
MW-3.2	03/07/16	75.78	5.50	70.28	ND	0.00
MW-3.2	09/12/16	75.78	10.15	65.63	ND	0.00
MW-3.2	2/21/2017	75.78	4.03	71.75	ND	0.00
MW-3.2	8/29/2017	75.78	9.75	66.03	ND	0.00
MW-3.2	3/5/2018	75.78	7.55	68.23	ND	0.00
MW-3.2	9/10/2018	75.78	9.67	66.11	ND	0.00
MW-3.2	2/25/2019	75.78	8.63	67.15	ND	0.00
MW-3.3	01/28/04	74.22	4.70	69.52	ND	0.00
MW-3.3	06/24/04	74.22	6.97	67.25	ND	0.00
MW-3.3	09/22/04	74.22	8.28	65.94	ND	0.00
MW-3.3	12/07/04	74.22	7.75	66.47	ND	0.00
MW-3.3	03/28/05	74.22	4.58	69.64	ND	0.00
MW-3.3	05/09/05	74.22	4.86	69.36	ND	0.00
MW-3.3	08/15/05	74.22	6.48	67.74	ND	0.00
MW-3.3	11/07/05	74.22	6.92	67.30	ND	0.00
MW-3.3	03/06/06	73.76	3.20	70.56	ND	0.00
MW-3.3	05/22/06	73.76	4.79	68.97	ND	0.00
MW-3.3	09/05/06	73.76	7.18	66.58	ND	0.00
MW-3.3	12/04/06	73.76	7.62	66.14	NM	NM
MW-3.3	03/05/07	73.76	4.89	68.87	NM	NM
MW-3.3	06/11/07	73.76	6.59	67.17	NM	NM
MW-3.3	10/08/07	73.83	8.10	65.73	NM	NM
MW-3.3	12/10/07	73.83	7.20	66.63	NM	NM
MW-3.3	03/24/08	73.83	5.16	68.67	NM	NM
MW-3.3	06/02/08	73.83	6.90	66.93	NM	NM
MW-3.3	09/22/08	73.83	8.51	65.32	ND	0.00
MW-3.3	12/09/08	73.83	8.43	65.40	ND	0.00

Well ID	Measurement Date	Reference Elevation (feet NAVD88)(a)	Depth To Water (feet toc)	Water Elevation (feet NAVD88)(b)	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.3	03/03/09	73.83	5.74	68.09	ND	0.00
MW-3.3	06/08/09	73.83	6.83	67.00	ND	0.00
MW-3.3	09/14/09	73.83	8.49	65.34	ND	0.00
MW-3.3	12/07/09	73.83	8.07	65.76	ND	0.00
MW-3.3	03/15/10	73.83	4.30	69.53	ND	0.00
MW-3.3	06/14/10	73.83	5.72	68.11	ND	0.00
MW-3.3	09/20/10	73.83	7.70	66.13	ND	0.00
MW-3.3	12/13/10	73.83	5.65	68.18	ND	0.00
MW-3.3	04/26/11	73.83	4.45	69.38	ND	0.00
MW-3.3	07/11/11	73.83	6.41	67.42	ND	0.00
MW-3.3	09/10/18	73.83	7.70	67.42	ND	0.00
MW-3.3	02/25/19	73.83	4.05	69.78	ND	0.00
MW-3.4	01/28/04	60.84	1.38	59.46	ND	0.00
MW-3.4	06/24/04	60.84	2.10	58.74	ND	0.00
MW-3.4	09/22/04	60.84	3.72	57.12	ND	0.00
MW-3.4	12/07/04	60.84	3.76	57.08	ND	0.00
MW-3.4	03/28/05	60.84	1.51	59.33	ND	0.00
MW-3.4	05/09/05	60.84	1.18	59.66	ND	0.00
MW-3.4	08/15/05	60.84	2.42	58.42	ND	0.00
MW-3.4	11/07/05	60.84	3.20	57.64	ND	0.00
MW-3.4	03/06/06	60.36	0.59	59.77	ND	0.00
MW-3.4	05/22/06	60.36	1.27	59.09	ND	0.00
MW-3.4	09/05/06	60.36	2.88	57.48	ND	0.00
MW-3.4	12/04/06	60.36	2.67	57.69	NM	NM
MW-3.4	03/05/07	60.36	0.73	59.63	NM	NM
MW-3.4	06/11/07	60.36	1.34	59.02	NM	NM
MW-3.4	09/04/07	60.43	3.75	56.68	NM	NM
MW-3.4	12/10/07	60.43	1.44	58.99	NM	NM
MW-3.4	03/24/08	60.43	0.70	59.73	NM	NM
MW-3.4	06/02/08	60.43	2.08	58.35	NM	NM
MW-3.4	09/22/08	60.43	3.49	56.94	ND	0.00
MW-3.4	12/09/08	60.43	2.71	57.72	ND	0.00
MW-3.4	03/03/09	60.43	0.50	59.93	ND	0.00
MW-3.4	06/08/09	60.43	3.00	57.43	ND	0.00
MW-3.4	09/14/09	60.43	3.92	56.51	ND	0.00
MW-3.4	12/07/09	60.43	2.61	57.82	ND	0.00
MW-3.4	03/15/10	60.43	0.57	59.86	ND	0.00
MW-3.4	06/14/10	60.43	1.43	59.00	ND	0.00
MW-3.4	09/20/10	60.43	2.69	57.74	ND	0.00
MW-3.4	12/13/10	60.43	0.25	60.18	ND	0.00
MW-3.5	01/28/04	59.40	1.63	57.77	ND	0.00
MW-3.5	06/24/04	59.40	2.91	56.49	ND	0.00
MW-3.5	09/22/04	59.40	3.93	55.47	ND	0.00
MW-3.5	12/07/04	59.40	2.95	56.45	ND	0.00
MW-3.5	03/28/05	59.40	1.51	57.89	ND	0.00
MW-3.5	05/09/05	59.40	1.35	58.05	ND	0.00
MW-3.5	08/15/05	59.40	2.72	56.68	ND	0.00
MW-3.5	11/07/05	59.40	2.09	57.31	ND	0.00
MW-3.5	03/06/06	58.96	0.87	58.09	ND	0.00
MW-3.5	05/22/06	58.96	0.98	57.98	ND	0.00
MW-3.5	09/05/06	58.96	2.90	56.06	ND	0.00
MW-3.5	12/04/06	58.96	2.15	56.81	NM	NM
MW-3.5	03/05/07	58.96	0.96	58.00	NM	NM
MW-3.5	06/11/07	58.96	2.36	56.60	NM	NM
MW-3.5	09/04/07	59.02	3.60	55.42	NM	NM
MW-3.5	12/10/07	59.02	1.70	57.32	NM	NM
MW-3.5	03/24/08	59.02	1.27	57.75	NM	NM
MW-3.5	06/02/08	59.02	2.45	56.57	NM	NM
MW-3.5	09/22/08	59.02	3.81	55.21	ND	0.00
MW-3.5	12/09/08	59.02	3.10	55.92	ND	0.00
MW-3.5 (&)	03/03/09	59.02	0.92	58.10	ND	0.00
MW-3.6	01/28/04	57.61	1.05	56.56	ND	0.00
MW-3.6	06/24/04	57.61	2.15	55.46	ND	0.00
MW-3.6	09/22/04	57.61	2.55	55.06	ND	0.00
MW-3.6	12/07/04	57.61	2.22	55.39	ND	0.00
MW-3.6	03/28/05	57.61	0.74	56.87	ND	0.00
MW-3.6	05/09/05	57.61	0.71	56.90	ND	0.00
MW-3.6	08/15/05	57.61	0.91	56.70	ND	0.00
MW-3.6	11/07/05	57.61	1.56	56.05	ND	0.00
MW-3.6	03/06/06	57.14	0.86	56.28	ND	0.00
MW-3.6	05/22/06	57.14	0.28	56.86	ND	0.00
MW-3.6	09/05/06	57.14	1.75	55.39	ND	0.00
MW-3.6	12/04/06	57.14	1.68	55.46	NM	NM
MW-3.6	03/05/07	57.14	1.12	56.02	NM	NM
MW-3.6	06/11/07	57.14	1.52	55.62	NM	NM
MW-3.6	09/04/07	57.19	2.24	54.95	NM	NM
MW-3.6	12/10/07	57.19	1.43	55.76	NM	NM
MW-3.6	03/24/08	57.19	0.89	56.30	NM	NM

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.6	06/02/08	57.19	1.59	55.60	NM	NM
MW-3.6	09/22/08	57.19	2.43	54.76	ND	0.00
MW-3.6	12/09/08	57.19	2.15	55.04	ND	0.00
MW-3.6	03/03/09	57.19	0.67	56.52	ND	0.00
MW-3.6	06/08/09	57.19	1.73	55.46	ND	0.00
MW-3.6	09/14/09	57.19	2.50	54.69	ND	0.00
MW-3.6	12/07/09	57.19	2.05	55.14	ND	0.00
MW-3.6	03/15/10	57.19	0.71	56.48	ND	0.00
MW-3.6	06/14/10	57.19	1.15	56.04	ND	0.00
MW-3.6	09/20/10	57.19	1.92	55.27	ND	0.00
MW-3.6	12/13/10	57.19	1.05	56.14	ND	0.00
MW-3.7	01/28/04	63.24	6.52	56.72	ND	0.00
MW-3.7	06/24/04	63.24	7.70	55.54	ND	0.00
MW-3.7	09/22/04	63.24	9.63	53.61	ND	0.00
MW-3.7	12/07/04	63.24	8.65	54.59	ND	0.00
MW-3.7	03/28/05	63.24	5.75	57.49	ND	0.00
MW-3.7	05/09/05	63.24	5.83	57.41	ND	0.00
MW-3.7	08/15/05	63.24	7.38	55.86	ND	0.00
MW-3.7	11/07/05	63.24	7.42	55.82	ND	0.00
MW-3.7	03/06/06	62.73	3.29	59.44	ND	0.00
MW-3.7	05/22/06	62.73	5.02	57.71	ND	0.00
MW-3.7	09/05/06	62.73	7.68	55.05	ND	0.00
MW-3.7	12/04/06	62.73	8.22	54.51	NM	NM
MW-3.7	03/05/07	62.73	6.05	56.68	NM	NM
MW-3.7	06/11/07	62.73	7.49	55.24	NM	NM
MW-3.7	09/04/07	62.83	9.09	53.74	NM	NM
MW-3.7	12/10/07	62.83	8.00	54.83	NM	NM
MW-3.7	03/24/08	62.83	6.10	56.73	NM	NM
MW-3.7	06/02/08	62.83	7.49	55.34	NM	NM
MW-3.7	09/22/08	62.83	9.84	52.99	ND	0.00
MW-3.7	12/09/08	62.83	9.80	53.03	ND	0.00
MW-3.7	03/03/09	62.83	6.74	56.09	ND	0.00
MW-3.7	06/08/09	62.83	7.82	55.01	ND	0.00
MW-3.7	09/14/09	62.83	9.65	53.18	ND	0.00
MW-3.7	12/07/09	62.83	9.16	53.67	ND	0.00
MW-3.7	03/15/10	62.83	5.05	57.78	ND	0.00
MW-3.7	06/14/10	62.83	5.81	57.02	ND	0.00
MW-3.7	09/20/10	62.83	7.85	54.98	ND	0.00
MW-3.7	12/13/10	62.83	6.30	56.53	ND	0.00
MW-3.7	04/26/11	62.83	4.81	58.02	ND	0.00
MW-3.7	07/11/11	62.83	6.32	56.51	ND	0.00
MW-3.8	01/28/04	63.44	4.58	58.86	ND	0.00
MW-3.8	06/24/04	63.44	5.61	57.83	ND	0.00
MW-3.8	09/22/04	63.44	7.19	56.25	ND	0.00
MW-3.8	12/07/04	63.44	6.40	57.04	ND	0.00
MW-3.8	03/28/05	63.44	3.89	59.55	ND	0.00
MW-3.8	05/09/05	63.44	4.10	59.34	ND	0.00
MW-3.8	08/15/05	63.44	5.38	58.06	ND	0.00
MW-3.8	11/07/05	63.44	5.23	58.21	ND	0.00
MW-3.8	03/06/06	62.92	2.95	59.97	ND	0.00
MW-3.8	05/22/06	62.92	4.18	58.74	ND	0.00
MW-3.8	09/05/06	62.92	5.79	57.13	ND	0.00
MW-3.8	12/04/06	62.92	6.19	56.73	NM	NM
MW-3.8	03/05/07	62.92	4.35	58.57	NM	NM
MW-3.8	06/11/07	62.92	5.49	57.43	NM	NM
MW-3.8	09/04/07	63.01	6.80	56.21	NM	NM
MW-3.8	12/10/07	63.01	6.00	57.01	NM	NM
MW-3.8	03/24/08	63.01	4.61	58.40	NM	NM
MW-3.8	06/02/08	63.01	5.51	57.50	NM	NM
MW-3.8	09/22/08	63.01	7.45	55.56	ND	0.00
MW-3.8	12/09/08	63.01	7.50	55.51	ND	0.00
MW-3.8	03/03/09	63.01	4.83	58.18	ND	0.00
MW-3.8	06/08/09	63.01	5.83	57.18	ND	0.00
MW-3.8	09/14/09	63.01	7.43	55.58	ND	0.00
MW-3.8	12/07/09	63.01	6.95	56.06	ND	0.00
MW-3.8	03/15/10	63.01	3.90	59.11	ND	0.00
MW-3.8	06/14/10	63.01	4.58	58.43	ND	0.00
MW-3.8	09/20/10	63.01	5.94	57.07	ND	0.00
MW-3.8	12/13/10	63.01	4.64	58.37	ND	0.00
MW-3.8	04/27/11	63.01	4.15	58.86	ND	0.00
MW-3.8	07/11/11	63.01	4.86	58.15	ND	0.00
MW-3.8	10/03/11	63.01	5.81	57.20	ND	0.00
MW-3.8	12/12/11	63.01	5.44	57.57	ND	0.00
MW-3.8	03/19/12	63.01	4.51	58.50	ND	0.00
MW-3.8	06/18/12	63.01	5.00	58.01	ND	0.00

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[a]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[b]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.8	09/17/12	63.01	6.57	56.44	ND	0.00
MW-3.8	12/10/12	63.01	4.66	58.35	ND	0.00
MW-3.8	03/04/13	63.01	5.00	58.01	ND	0.00
MW-3.8	08/19/13	63.01	6.82	56.19	ND	0.00
MW-3.9	01/28/04	63.32	4.09	59.23	ND	0.00
MW-3.9	06/24/04	63.32	5.01	58.31	ND	0.00
MW-3.9	09/22/04	63.32	6.61	56.71	ND	0.00
MW-3.9	12/07/04	63.32	5.90	57.42	ND	0.00
MW-3.9	03/28/05	63.32	3.87	59.45	ND	0.00
MW-3.9	05/09/05	63.32	3.85	59.47	ND	0.00
MW-3.9	08/15/05	63.32	4.83	58.49	ND	0.00
MW-3.9	11/07/05	63.32	4.83	58.49	ND	0.00
MW-3.9	03/06/06	62.78	3.15	59.63	ND	0.00
MW-3.9	05/22/06	62.78	3.81	58.97	ND	0.00
MW-3.9	09/05/06	62.78	5.26	57.52	ND	0.00
MW-3.9	12/04/06	62.78	5.67	57.11	NM	NM
MW-3.9	03/05/07	62.78	4.06	58.72	NM	NM
MW-3.9	06/11/07	62.78	4.76	58.02	NM	NM
MW-3.9	09/04/07	62.89	6.24	56.65	NM	NM
MW-3.9	12/10/07	62.89	5.58	57.31	NM	NM
MW-3.9	03/24/08	62.89	4.20	58.69	NM	NM
MW-3.9	06/02/08	62.89	4.95	57.94	NM	NM
MW-3.9	09/22/08	62.89	6.93	55.96	ND	0.00
MW-3.9	12/09/08	62.89	6.94	55.95	ND	0.00
MW-3.9	03/03/09	62.89	4.40	58.49	ND	0.00
MW-3.9	06/08/09	62.89	5.27	57.62	ND	0.00
MW-3.9	09/14/09	62.89	6.83	56.06	ND	0.00
MW-3.9	12/07/09	62.89	6.49	56.40	ND	0.00
MW-3.9	03/15/10	62.89	3.86	59.03	ND	0.00
MW-3.9	06/14/10	62.89	4.22	58.67	ND	0.00
MW-3.9	09/20/10	62.89	5.56	57.33	ND	0.00
MW-3.9	12/13/10	62.89	4.20	58.69	ND	0.00
MW-3.9	04/26/11	62.89	4.04	58.85	ND	0.00
MW-3.9	07/11/11	62.89	4.40	58.49	ND	0.00
MW-3.9	10/03/11	62.89	4.98	57.91	ND	0.00
MW-3.9	12/12/11	62.89	4.90	57.99	ND	0.00
MW-3.9	03/19/12	62.89	4.27	58.62	ND	0.00
MW-3.9	06/18/12	62.89	4.46	58.43	ND	0.00
MW-3.9	09/17/12	62.89	6.01	56.88	ND	0.00
MW-3.9	12/10/12	62.89	4.30	58.59	ND	0.00
MW-3.9	03/04/13	62.89	4.45	58.44	ND	0.00
MW-3.9	08/19/13	62.89	6.27	56.62	ND	0.00
MW-3.9	03/03/14	62.89	4.30	58.59	ND	0.00
MW-3.9	09/15/14	62.89	7.32	55.57	ND	0.00
MW-3.9	03/02/15	62.89	4.27	58.62	ND	0.00
MW-3.9	08/31/15	62.89	7.04	55.85	ND	0.00
MW-3.9	03/07/16	62.89	3.79	59.10	ND	0.00
MW-3.9	09/12/16	62.89	5.98	56.91	ND	0.00
MW-3.9	2/21/2017	62.89	3.98	58.91	ND	0.00
MW-3.9	8/29/2017	62.89	5.50	57.39	ND	0.00
MW-3.9	3/5/2018	62.89	4.19	58.70	ND	0.00
MW-3.9	9/10/2018	62.89	6.00	56.89	ND	0.00
MW-3.9	2/25/2019	62.89	5.53	57.36	ND	0.00
MW-3.10	03/06/06	62.22	4.05	58.17	ND	0.00
MW-3.10	05/22/06	62.22	5.81	56.41	ND	0.00
MW-3.10	09/05/06	62.22	8.49	53.73	ND	0.00
MW-3.10	12/04/06	62.22	8.92	53.30	NM	NM
MW-3.10	03/05/07	62.22	6.55	55.67	NM	NM
MW-3.10	06/11/07	62.22	8.25	53.97	NM	NM
MW-3.10	09/04/07	62.31	9.89	52.42	NM	NM
MW-3.10	12/10/07	62.31	8.73	53.58	NM	NM
MW-3.10	03/24/08	62.31	6.80	55.51	NM	NM
MW-3.10	06/02/08	62.31	8.25	54.06	NM	NM
MW-3.10	09/22/08	62.31	10.60	51.71	ND	0.00
MW-3.10	12/09/08	62.31	10.50	51.81	ND	0.00
MW-3.10	03/03/09	62.31	7.32	54.99	ND	0.00
MW-3.10	06/08/09	62.31	8.50	53.81	ND	0.00
MW-3.10	09/14/09	62.31	10.44	51.87	ND	0.00
MW-3.10	12/07/09	62.31	9.80	52.51	ND	0.00
MW-3.10	03/15/10	62.31	5.87	56.44	ND	0.00
MW-3.10	06/14/10	62.31	6.43	55.88	ND	0.00
MW-3.10	09/20/10	62.31	8.70	53.61	ND	0.00
MW-3.10	12/13/10	62.31	6.85	55.46	ND	0.00
MW-3.11	03/06/06	60.81	5.05	55.76	ND	0.00
MW-3.11	05/22/06	60.81	6.48	54.33	ND	0.00
MW-3.11	09/05/06	60.81	8.70	52.11	ND	0.00
MW-3.11	12/04/06	60.81	9.02	51.79	NM	NM

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.11	03/05/07	60.81	6.69	54.12	NM	NM
MW-3.11	06/11/07	60.81	8.36	52.45	NM	NM
MW-3.11	09/04/07	60.89	10.08	50.81	NM	NM
MW-3.11	12/10/07	60.89	8.84	52.05	NM	NM
MW-3.11	03/24/08	60.89	7.06	53.83	NM	NM
MW-3.11	06/02/08	60.89	8.42	52.47	NM	NM
MW-3.11	09/22/08	60.89	10.73	50.16	ND	0.00
MW-3.11	12/09/08	60.89	10.55	50.34	ND	0.00
MW-3.11	03/03/09	60.89	7.50	53.39	ND	0.00
MW-3.11	06/08/09	60.89	8.45	52.44	ND	0.00
MW-3.11	09/14/09	60.89	10.51	50.38	ND	0.00
MW-3.11	12/07/09	60.89	9.81	51.08	ND	0.00
MW-3.11	03/15/10	60.89	6.20	54.69	ND	0.00
MW-3.11	06/14/10	60.89	6.88	54.01	ND	0.00
MW-3.11	09/20/10	60.89	8.98	51.91	ND	0.00
MW-3.11	12/13/10	60.89	4.95	55.94	ND	0.00
MW-3.11	04/26/11	60.89	6.28	54.61	ND	0.00
MW-3.11	07/11/11	60.89	7.32	53.57	ND	0.00
MW-3.12	10/08/07	66.57	8.29	58.28	NM	NM
MW-3.12	12/10/07	66.57	7.59	58.98	NM	NM
MW-3.12	03/24/08	66.57	5.21	61.36	NM	NM
MW-3.12	06/02/08	66.57	6.49	60.08	NM	NM
MW-3.12	09/22/08	66.57	8.84	57.73	ND	0.00
MW-3.12	12/09/08	66.57	8.90	57.67	ND	0.00
MW-3.12	03/03/09	66.57	6.30	60.27	ND	0.00
MW-3.12	06/08/09	66.57	6.91	59.66	ND	0.00
MW-3.12	09/14/09	66.57	8.69	57.88	ND	0.00
MW-3.12	12/07/09	66.57	8.48	58.09	ND	0.00
MW-3.12	03/15/10	66.57	4.85	61.72	ND	0.00
MW-3.12	06/14/10	66.57	5.42	61.15	ND	0.00
MW-3.12	09/20/10	66.57	7.18	59.39	ND	0.00
MW-3.12	12/13/10	66.57	5.85	60.72	ND	0.00
MW-3.12	04/27/11	66.57	4.60	61.97	ND	0.00
MW-3.12	07/11/11	66.57	6.56	60.01	ND	0.00
MW-3.12	10/03/11	66.57	7.11	59.46	ND	0.00
MW-3.12	12/12/11	66.57	6.77	59.80	ND	0.00
MW-3.12	03/19/12	66.57	5.89	60.68	ND	0.00
MW-3.12	06/18/12	66.57	6.00	60.57	ND	0.00
MW-3.12	09/17/12	66.57	7.73	58.84	ND	0.00
MW-3.12	12/10/12	66.57	6.12	60.45	ND	0.00
MW-3.12	03/04/13	66.57	6.14	60.43	ND	0.00
MW-3.12	08/19/13	66.57	8.01	58.56	ND	0.00
MW-3.12	03/03/14	66.57	7.38	59.19	ND	0.00
MW-3.12	09/15/14	66.57	9.17	57.40	ND	0.00
MW-3.12	03/02/15	66.57	5.82	60.75	ND	0.00
MW-3.12	08/31/15	66.57	8.94	57.63	ND	0.00
MW-3.12	03/07/16	66.57	4.32	62.25	ND	0.00
MW-3.12	09/12/16	66.57	7.81	58.76	ND	0.00
MW-3.12	02/21/17	66.57	2.86	63.71	ND	0.00
MW-3.12	08/29/17	66.57	7.36	59.21	ND	0.00
MW-3.12R	09/10/18	69.74	10.89	58.85	ND	0.00
MW-3.12R	02/25/19	69.74	9.16	60.58	ND	0.00
MW-3.13	10/8/2007	75.91	10.15	65.76	NM	NM
MW-3.13	12/10/07	75.91	9.22	66.69	NM	NM
MW-3.13	03/24/08	75.91	7.00	68.91	NM	NM
MW-3.13	06/02/08	75.91	8.93	66.98	NM	NM
MW-3.13	09/22/08	75.91	10.55	65.36	ND	0.00
MW-3.13	12/09/08	75.91	10.30	65.61	ND	0.00
MW-3.13	03/03/09	75.91	7.68	68.23	ND	0.00
MW-3.13	06/08/09	75.91	8.80	67.11	ND	0.00
MW-3.13	09/14/09	75.91	10.53	65.38	ND	0.00
MW-3.13	12/07/09	75.91	10.16	65.75	ND	0.00
MW-3.13	03/15/10	75.91	6.05	69.86	ND	0.00
MW-3.13	06/14/10	75.91	7.62	68.29	ND	0.00
MW-3.13	09/20/10	75.91	9.80	66.11	ND	0.00
MW-3.13	12/13/10	75.91	7.70	68.21	ND	0.00
MW-3.13	04/27/11	75.91	6.35	69.56	ND	0.00
MW-3.13	07/11/11	75.91	8.39	67.52	ND	0.00
MW-3.13	10/03/11	75.91	9.80	66.11	ND	0.00
MW-3.13	12/12/11	75.91	8.89	67.02	ND	0.00
MW-3.13	03/19/12	75.91	7.75	68.16	ND	0.00
MW-3.13	06/18/12	75.91	8.35	67.56	ND	0.00
MW-3.13	09/17/12	75.91	9.99	65.92	ND	0.00
MW-3.13	12/10/12	75.91	7.64	68.27	ND	0.00
MW-3.13	03/04/13	75.91	8.16	67.75	ND	0.00
MW-3.13	08/19/13	75.91	10.20	65.71	ND	0.00
MW-3.13	03/03/14	75.91	9.50	66.41	ND	0.00
MW-3.13	09/15/14	75.91	10.83	65.08	ND	0.00

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.13	03/02/15	75.91	7.31	68.60	ND	0.00
MW-3.13	08/31/15	75.91	10.93	64.98	ND	0.00
MW-3.13	03/07/16	75.91	5.58	70.33	ND	0.00
MW-3.13	09/12/16	75.91	10.19	65.72	ND	0.00
MW-3.13	2/21/2017	75.91	4.13	71.78	ND	0.00
MW-3.13	8/29/2017	75.91	9.80	66.11	ND	0.00
MW-3.13	3/5/2018	75.91	7.63	68.28	ND	0.00
MW-3.13	9/10/2018	75.91	9.78	66.13	ND	0.00
MW-3.13	2/25/2019	75.91	8.10	67.81	ND	0.00
MW-3.14	10/08/07	54.32	5.10	49.22	NM	NM
MW-3.14	12/10/07	54.32	4.76	49.56	NM	NM
MW-3.14	03/24/08	54.32	4.40	49.92	NM	NM
MW-3.14	06/02/08	54.32	4.98	49.34	NM	NM
MW-3.14	09/22/08	54.32	5.75	48.57	ND	0.00
MW-3.14	12/09/08	54.32	5.55	48.77	ND	0.00
MW-3.14	03/03/09	54.32	4.12	50.20	ND	0.00
MW-3.14	06/08/09	54.32	4.90	49.42	ND	0.00
MW-3.14	09/14/09	54.32	5.45	48.87	ND	0.00
MW-3.14	12/07/09	54.32	5.27	49.05	ND	0.00
MW-3.14	03/15/10	54.32	3.84	50.48	ND	0.00
MW-3.14	06/14/10	54.32	3.98	50.34	ND	0.00
MW-3.14	09/20/10	54.32	4.73	49.59	ND	0.00
MW-3.14	12/13/10	54.32	3.85	50.47	ND	0.00
MW-3.15	10/08/07	55.54	8.00	47.54	NM	NM
MW-3.15	12/10/07	55.54	7.26	48.28	NM	NM
MW-3.15	03/24/08	55.54	5.58	49.96	NM	NM
MW-3.15	06/02/08	55.54	7.34	48.20	NM	NM
MW-3.15	09/22/08	55.54	8.38	47.16	ND	0.00
MW-3.15	12/09/08	55.54	8.30	47.24	ND	0.00
MW-3.15	03/03/09	55.54	6.33	49.21	ND	0.00
MW-3.15	06/08/09	55.54	7.39	48.15	ND	0.00
MW-3.15	09/14/09	55.54	8.28	47.26	ND	0.00
MW-3.15	12/07/09	55.54	7.90	47.64	ND	0.00
MW-3.15	03/15/10	55.54	4.65	50.89	ND	0.00
MW-3.15	06/14/10	55.54	6.27	49.27	ND	0.00
MW-3.15	09/20/10	55.54	7.40	48.14	ND	0.00
MW-3.15	12/13/10	55.54	6.05	49.49	ND	0.00
MW-3.15	04/26/11	55.54	5.67	49.87	ND	0.00
MW-3.15	07/11/11	55.54	6.49	49.05	ND	0.00
MW-3.16 (&)	10/06/08	75.42	9.63	65.79	ND	0.00
MW-3.16R	11/03/08	74.97	8.62	66.35	ND	0.00
MW-3.16R	12/09/08	74.97	9.00	65.97	ND	0.00
MW-3.16R	03/03/09	74.97	6.35	68.62	ND	0.00
MW-3.16R	06/08/09	75.06	7.43	67.63	ND	0.00
MW-3.16R	09/14/09	75.06	9.13	65.93	ND	0.00
MW-3.16R	12/07/09	75.06	8.78	66.28	ND	0.00
MW-3.16R	03/15/10	75.06	4.95	70.11	ND	0.00
MW-3.16R	06/14/10	75.06	6.32	68.74	ND	0.00
MW-3.16R	09/20/10	75.06	8.31	66.75	ND	0.00
MW-3.16R	12/13/10	75.06	6.40	68.66	ND	0.00
MW-3.16R	04/27/11	75.06	5.12	69.94	ND	0.00
MW-3.16R	07/11/11	75.06	7.13	67.93	ND	0.00
MW-3.16R	10/03/11	75.06	8.54	66.52	ND	0.00
MW-3.16R	12/12/11	75.06	7.56	67.50	ND	0.00
MW-3.16R	03/19/12	75.06	6.37	68.69	ND	0.00
MW-3.16R	06/18/12	75.06	7.03	68.03	ND	0.00
MW-3.16R	09/17/12	75.06	8.64	66.42	ND	0.00
MW-3.16R	12/10/12	75.06	6.34	68.72	ND	0.00
MW-3.16R	03/04/13	75.06	6.81	68.25	ND	0.00
MW-3.16R	08/19/13	75.06	8.76	66.30	ND	0.00
MW-3.16R	09/10/18	75.06	8.34	66.72	ND	0.00
MW-3.16R	02/25/19	75.06	4.56	70.50	ND	0.00
MW-3.17	10/06/08	78.63	12.67	65.96	ND	0.00
MW-3.17	12/09/08	78.63	12.50	66.13	ND	0.00
MW-3.17	03/03/09	78.63	9.75	68.88	ND	0.00
MW-3.17	06/08/09	78.63	10.85	67.78	ND	0.00
MW-3.17	09/14/09	78.63	12.72	65.91	ND	0.00
MW-3.17	12/07/09	78.63	12.28	66.35	ND	0.00
MW-3.17	03/15/10	78.63	8.20	70.43	ND	0.00
MW-3.17	06/14/10	78.63	9.63	69.00	ND	0.00
MW-3.17	09/20/10	78.63	11.86	66.77	ND	0.00
MW-3.17	12/13/10	78.63	9.75	68.88	ND	0.00
MW-3.17	04/26/11	78.63	8.35	70.28	ND	0.00
MW-3.17	07/11/11	78.63	10.54	68.09	ND	0.00
MW-3.17	09/10/18	78.63	11.79	68.09	ND	0.00
MW-3.17	02/25/19	78.63	10.57	68.06	ND	0.00
MW-3.18	10/06/08	71.91	5.65	66.26	ND	0.00
MW-3.18	12/09/08	71.91	5.45	66.46	ND	0.00
MW-3.18	03/03/09	71.91	3.53	68.38	ND	0.00

Well ID	Measurement Date	Reference Elevation (feet NAVD88)[(a)]	Depth To Water (feet toc)	Water Elevation (feet NAVD88)[(b)]	Depth To Product (feet btoc)	Product Thickness (feet)
MW-3.18	06/08/09	71.91	4.50	67.41	ND	0.00
MW-3.18	09/14/09	71.91	5.76	66.15	ND	0.00
MW-3.18	12/07/09	71.91	5.29	66.62	ND	0.00
MW-3.18	03/15/10	71.91	2.90	69.01	ND	0.00
MW-3.18	06/14/10	71.91	3.64	68.27	ND	0.00
MW-3.18	09/20/10	71.91	4.97	66.94	ND	0.00
MW-3.18	12/13/10	71.91	3.50	68.41	ND	0.00
MW-3.18	04/26/11	71.91	2.86	69.05	ND	0.00
MW-3.18	07/11/11	71.91	4.03	67.88	ND	0.00
MW-3.18	09/10/18	71.91	5.09	66.82	ND	0.00
MW-3.18	02/25/19	71.91	4.51	67.40	ND	0.00
MW-3.19	10/06/08	69.53	3.29	66.24	ND	0.00
MW-3.19	12/09/08	69.53	3.20	66.33	ND	0.00
MW-3.19	03/03/09	69.53	2.25	67.28	ND	0.00
MW-3.19	06/08/09	69.53	2.75	66.78	ND	0.00
MW-3.19	09/14/09	69.53	3.03	66.50	ND	0.00
MW-3.19	12/08/09	69.53	2.75	66.78	ND	0.00
MW-3.19	03/16/10	69.53	1.46	68.07	ND	0.00
MW-3.19	06/14/10	69.53	1.65	67.88	ND	0.00
MW-3.19	09/20/10	69.53	2.25	67.28	ND	0.00
MW-3.19	12/13/10	69.53	1.46	68.07	ND	0.00

Notes:

(a) All existing wells were resurveyed between the second and third quarter events of 2007. Wells MW-1.1, MW-3.16, MW-3.16R, MW-3.17, MW-3.18, MW-3.19, were surveyed between October 15 and November 3, 2008. Monitoring well MW-3.16R was resurveyed during the second quarter 2009.

(b) Water elevations in wells with liquid-phase hydrocarbons corrected assuming a product density of 0.81.

NA = not applicable or not available
NAVD88 = North American Vertical Datum (1988)
ND = not detected
NM = not measured
(#) = inaccessible or not located

btoc = below top of casing
($) = well was dry
(&) = well was subsequently destroyed
(P) = dedicated pump interference

Appendix B

Groundwater Sampling Procedures

Infrastructure · Water · Environment · Buildings

Imagine the result

Groundwater Sampling Procedures

Gauging

Photoionization detector (PID) measurements of the well headspace are made using a calibrated meter immediately after removing the well cap. Allowing for approximately 3 to 30 minutes of equilibration time after opening the wells, depth-to-water (DTW) and liquid-phase hydrocarbon (LPH) thickness measurements are then made by introducing an electronic interface probe into each well and slowly lowering the probe to the air-LPH (if present) and LPH-water (if present) or air-water interfaces. The probe generates separate, distinct tones for LPH and water and is capable of detecting LPH thicknesses of 0.01 foot or greater. DTW measurements are also made to the nearest 0.01 foot. Groundwater elevations relative to the North American Vertical Datum of 1988 are calculated by subtracting DTW from the surveyed elevation of each well's measurement location. Raw DTWs measured in wells with LPH are corrected assuming a relative LPH density of 0.81 compared to water. The interface probe is decontaminated via steam cleaning followed by rinsing with tap and deionized water before use in each well.

Purging

Monitoring wells are purged using a bladder pump and low-flow methods using procedures discussed in the Standard Operating Procedure (SOP) presented in Quality Assurance Project Plan (QAPP)[1]. The bladder pump is set in the middle of the water column for monitoring wells with screens that intersect the water table and at the middle of the screen for wells with submerged screens. New Teflon® bladders are used to sample each well. In accordance with the QAPP, purge rates are maintained between 200 and 500 milliliters per minute. Field data are recorded on groundwater sampling logs and in a dedicated field notebook

To reduce the possibility of cross-contamination, dedicated pump tubing is used to purge and sample each monitoring well. In addition, dedicated QED Environmental Systems Well Wizard® T1250 bladder pumps, constructed of 316 stainless steel and equipped with Teflon® bladders, were installed in late 2009 in monitoring wells MW-8.2, MW-8.3, and MW-9.1. Dedicated bladder pumps were installed in these wells because it was anticipated that they would remain in place for many years as part of the monitoring of groundwater quality upgradient and downgradient of the Consolidation

[1] ARCADIS BBL. 2007. *Quality Assurance Project Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California.* Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. March (revised in September).

Cell. However, the Consolidation Cell has been removed and those wells are no longer monitored.

To ensure that groundwater representative of the geological formation is being sampled, field measurements of pH, temperature, turbidity, electrical conductivity, dissolved oxygen, and oxidation-reduction potential are periodically made using a calibrated YSI 556 multiparameter meter. Measurements are made within a flow-through cell to minimize any effects from sample exposure to aboveground conditions. Near the conclusion of purging, the ferrous iron concentration of the groundwater discharging from the bladder pump is measured using a HACH Model IR-18C test kit.

Sampling

Following purging, groundwater samples are collected according to procedures in the SOP presented in the QAPP (ARCADIS BBL, 2007d). In summary, samples are collected directly from the bladder pump discharge tubing into precleaned and appropriately preserved laboratory-supplied containers. Groundwater samples for dissolved metals analyses are filtered in the field using new disposable 0.45-micron inline cartridge filters. Samples are labeled with the sample identification, date, time, and the sampler’s initials.

Groundwater samples are couriered in chilled coolers under chain-of-custody (COC) protocol to TestAmerica Laboratories, Inc., in Pleasanton, California, for chemical analysis.

Imagine the result

Passive Diffusion Bag Deployment and Sampling

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Rev. #: 01

Rev Date: 11/05/2013

Approval Signatures

Prepared by: ______________________ Date: 11/5/2013

Reviewed by: ______________________ Date: 11/5/2013

I. Scope and Application

This Standard Operating Procedure (SOP) sets forth the field procedures and analytical methods for sample collection for volatile organic compound (VOC) analysis via passive diffusion bags (PDBs) at the Former Georgia-Pacific Fort Bragg Mill Site. This SOP serves as an addendum to sampling methods established in the *Quality Assurance Project Plan* (ARCADIS BBL 2007). This SOP has been prepared to address sample collection at monitoring wells MW-6.3, MW-6.7, and MW-6.10; however the methods outlined may be extended for PDB sample collection for VOC analysis at other wells if applicable.

II. Personnel Qualifications

ARCADIS U.S., Inc. (ARCADIS) field sampling personnel will have current health and safety training, including 40-hour HAZWOPER training, site supervisor training, and site-specific training, as required by the current health and safety plan (HASP; ARCADIS 2012). In addition, ARCADIS field sampling personnel will be versed in the relevant SOPs, and possess the skills and experience necessary to successfully complete the desired field work.

III. Equipment List

The following materials will be available, as required, during PDB deployment, recovery, and sampling:

- Health and safety equipment (as required by the HASP)
- Decontamination equipment as required by the QAPP
- Water level meter
- Multi-parameter water quality meter
- Field notebook
- Passive diffusion bags (polyethylene, 350 mL, 18 in) (bags only or laboratory prepared pre-filled bags)
- PDB fill supplies including funnel, fill nozzle, and plugs (not needed if bags are laboratory prepared pre-filled bags)
- Nylon cord or wire cable, weight and tether, cable ties, and protective mesh for deployment
- Discharge tubes
- Plastic containers for containment during sample transfer
- Appropriate sample containers
- Tools including wrenches and clippers

IV. Health and Safety Considerations

All work will be performed in accordance with the site-specific HASP.

V. Procedure

A PDB sampler as defined in this SOP consists of a polyethylene bag containing clean, laboratory prepared, deionized water, which is suspended in the water column of a well within the well screened interval. Volatile organic compounds (VOCs) are able to diffuse through the polyethylene bag over time until the water in the bag reaches equilibrium with groundwater that flows through the well.

Preparation

Supplies for PDB preparation and deployment will be obtained from EON Products, Inc. (EON) as shown in the technical specifications sheet attached, or from an alternate vendor providing an equivalent product. The Equilibrator™ is made of semi-permeable, low density polyethylene that holds ASTM Type I deionized water and allows the transmission of VOCs. The PDB is approximately 18 inches long and encased in a nylon netting for protection. PDBs may be pre-filled by the vendor, or may be filled by appropriately trained field staff per the vendor-provided instructions. Pre-filled bags will be inspected by field staff prior to deployment.

PDBs assembled by ARCADIS field staff will be filled with laboratory provided deionized water. Samplers will be filled by inserting the tip of the provided funnel into the sampler and pouring deionized water into the tube until water stands at least two inches up the funnel to reach the maximum capacity. Air pockets will be removed, and the provided plug will be inserted into the sampler to seal the PDB. The filled bags will be placed in a protective mesh, which will then be fastened with provided clips.

Deployment

PDBs will be placed in the middle of the saturated screen interval at depths listed in the attached table. Deployment depths were selected based on the minimum water column within the screen interval historically observed at the wells. PDB depths are selected by the methodology outlined in the attached sheet. As the water column in each planned well is small, one bag deployed in the middle of the saturated screen interval is sufficient for ambient groundwater characterization.

Prior to PDB deployment, initial depth to water (DTW) measurements will be taken to confirm the placement of the PDB is appropriately at the middle of the saturated interval.

Upon confirmation that the PDB placement is appropriate, nylon rope or cable will be cut to the above specified length or adjusted based on the measured DTW.

PDBs will be clipped to nylon rope or cable wire and a metal weight will be attached to the bottom tether of the protective mesh to hold the PDB at the specified location upon deployment. PDBs will be attached to the clip on the monitoring well cap, and deployment depths will be noted in the field notebook.

Retrieval and Sampling

PDBs will be retrieved after a minimum of two weeks to allow proper equilibration with ambient groundwater. ARCADIS field staff will collect DTW readings, remove the line from the well cap clip, and extract the bag from the well casing. Retrieved samplers will be placed on new clean plastic sheeting prior to sampling to avoid cross-contamination between locations and from the surrounding work surface.

After retrieval, the protective mesh will be removed with clean scissors or clippers and the samplers will be punctured with a manufacturer provided disposable sampling tube, and the water will be decanted into 40-milliliter volatile organic analyzers (VOAs). Sample transfer will be conducted over plastic containers and unused water will be placed in appropriately labeled containers for disposal. .Groundwater samples will be placed in chilled coolers and shipped under chain of custody (COC) protocol to an approved laboratory for analysis of VOCs by United States Environmental Protection Agency Method 8260B.

VI. Waste Management

Waste fluids resulting from sampling activities, including decontamination fluids and extracted groundwater, will be temporarily contained in 5-gallon buckets with lids. These fluids will be transferred to an onsite storage tank pending characterization and offsite disposal. Solid waste items, including paper, plastic, spent PDB containers and supplies, and used gloves, will be contained in plastic trash bags and disposed of in an onsite dumpster.

VII. Data Recording and Management

Field sampling activities will be documented in accordance with the QAPP. Field sampling logs and chain-of-custody records will be transmitted to the project manager for review.

VIII. Quality Assurance

Quality assurance procedures including sample duplicates and matrix spikes will be implemented site-wide as specified in the QAPP. No additional quality assurance measures are specified that pertain solely to the PDB deployment and sampling activities.

IX. References

ARCADIS U.S., Inc. 2012. *Health and Safety Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg,California.* Prepared for Georgia-Pacific LLC. Revised June 12.

ARCADIS BBL. 2007b. *Quality Assurance Project Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California.* Prepared for Georgia-Pacific LLC. ARCADIS U.S., Inc. March (revised in September).

Passive Diffusion Bag Placement Calculations

SOP: Passive Diffusion Bag Placement and Sampling
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Well ID	Top of Casing (ft NAVD88)	Ground Surface Elevation (ft NAVD88)	Total Constructed Depth (ft bgs)	Screened Interval (ft bgs)	Historical Max DTW (ft bgs)	Min Historical SSI (ft bgs)	Middle of SSI (ft bgs)	Length of PDB (in)	Depth to top of PDB (ft bgs)	Depth to top of PDB (ft bTOC)
Groundwater Monitoring Wells										
MW-6.3	49.71	50.09	16.0	6.0 - 16.0	10.0	10.0 - 16.0	13.0	18.0	12.2	11.9
MW-6.7	49.78	50.15	8.5	4.5 - 8.5	4.9	4.9 -8.5	6.7	18.0	5.9	5.6
MW-6.10	50.45	50.78	9.5	4.5 - 9.5	6.8	6.8 - 9.5	8.1	18.0	7.4	7.1

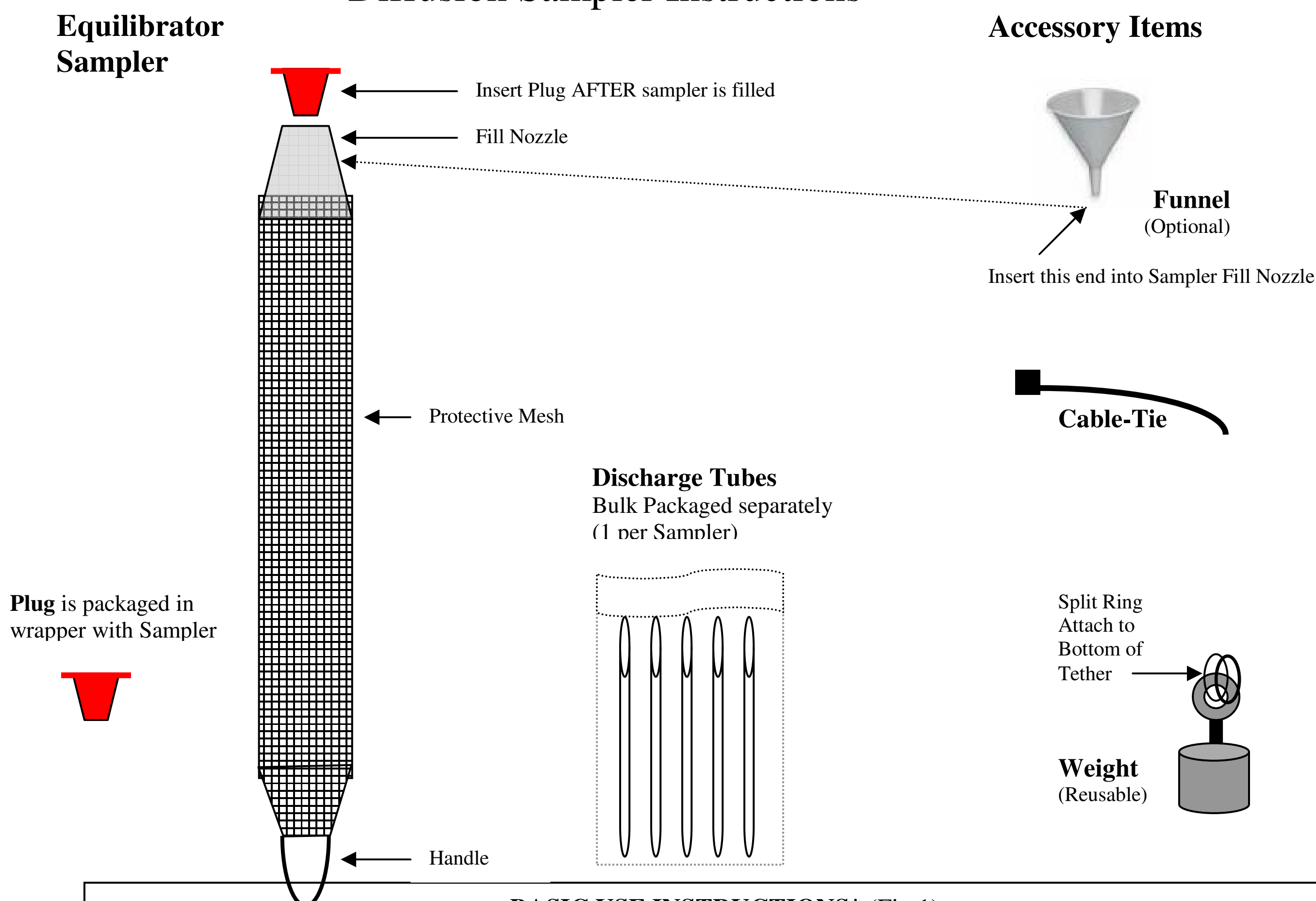
Abbreviations

bgs = below ground surface
bTOC = below top of casing
dtw = depth to water
ft = feet
max = maximum
min = minimum
NAVD88 = North American Vertical Datum of 1988
pdb = passive diffusion bag
SSI = saturated screen interval

Formulas

Historical Max DTW (ft bgs)= Historical Max DTW (measured in ft bTOC) + (Ground Surface Elevation - Top of Casing Elevation)
Min Historical SSI = (Greater of Historical Max DTW and Top of Screen) to (bottom of screen)
Middle of SSI = ((0.5) x (length of historical SSI))+ (top of historical SSI)
Depth to top of PDB (ft bgs) = middle of SSI + (0.5 x length of PDB x 1 ft/12 in)
Depth to top of PDB (ft bTOC) = depth to top of PDB (ft bgs) - (Ground Surface Elevation - Top of Casing Elevation)

EQUILIBRATOR ™
Diffusion Sampler Instructions



BASIC USE INSTRUCTIONS* (Fig 1)

1. **Fill the Sampler with deionized water** until the entire assembly is completely full of water. To use the funnel, insert the tip into the Sampler and pour deionized water into the tube. Fill the Sampler until water rises and stands at least two inches up the funnel to expand the Sampler to its maximum capacity. ***Gently squeeze and add more water to expand the membrane and remove air pockets. Repeat as needed until completely full.*** *Disclosure Statement – When filling the Sampler, we recommend that you hold the Sampler firmly at the top as close to nozzle tip as possible to prevent unnecessary stress on inside poly bag which could cause a leak to develop.*

2. **Insert the Plug firmly into the Sampler,** until the rim of the plug is as close to the nozzle as possible.

3. Attach a Weight to the bottom of the Tether or Hanger.

4. **Attach the Equilibrator(s) to the Tether line.** If installing on a factory prepared tether, locate the small (1/2" diameter) stainless steel rings that are attached to the Tether line. The rings will be separated by approximately 2/3 the length of the sampler. Use a Cable-Tie through the lower of two adjacent rings and through handle. Use a second Cable-Tie through upper of two adjacent rings and through a section of mesh below the fill nozzle in the softer part of the filled sampler. Tighten the Cable-Ties and snip off excess. Continue with each Sampler. If the factory did not prepare the Tether, then securely attach the Sampler(s) to the tether using cable ties at the intended location(s).

5. **Lower the Tether with Sampler(s) attached into the well.** Locate Sampler(s) below the water surface, in the screen flow zone of the well. Attach the top of the suspension cord to a well cap or other secure location at the top of the well. Leave Sampler in place for a time suitable for equilibration, a minimum of 2 weeks required.

6. **Upon retrieval: Discharge sample immediately** to avoid loss of volatile compounds. Select a point on the Sampler near the handle/bottom of sampler. Press one end of the Discharge Tube firmly into the clear polyethylene membrane at a downward angle until it pierces the membrane. ***Discharge small amount to waste to purge discharge tube.***

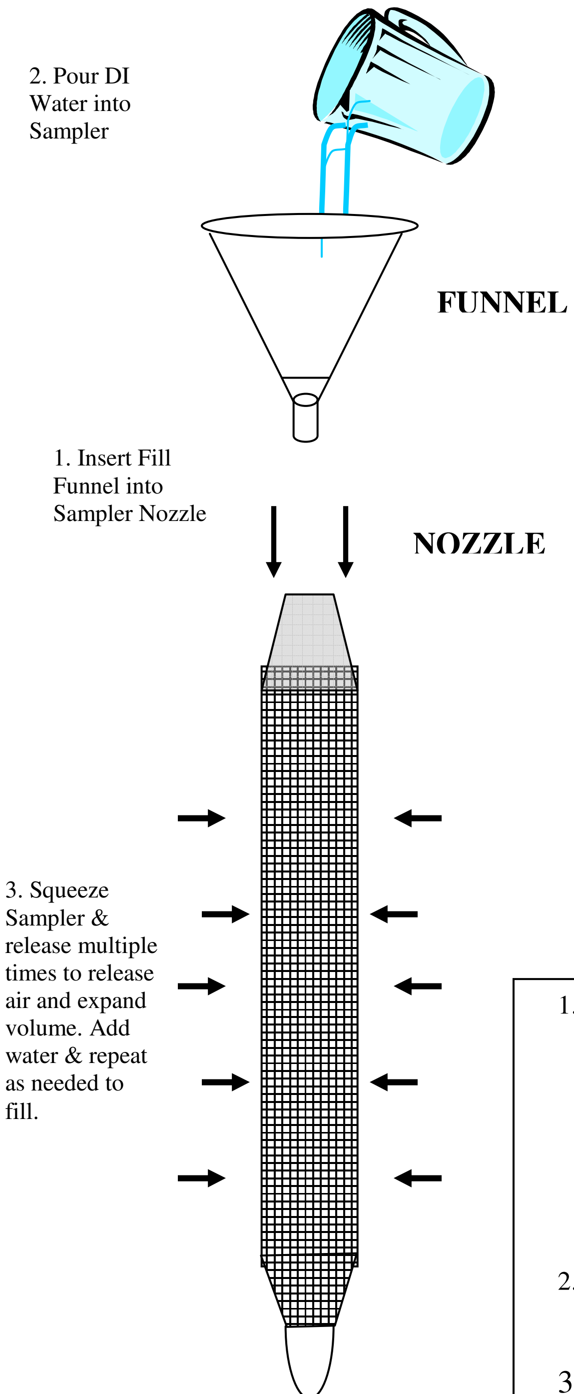
***Contact EON for detailed installation information and for factory prepared Tethers.**

800-474-2490

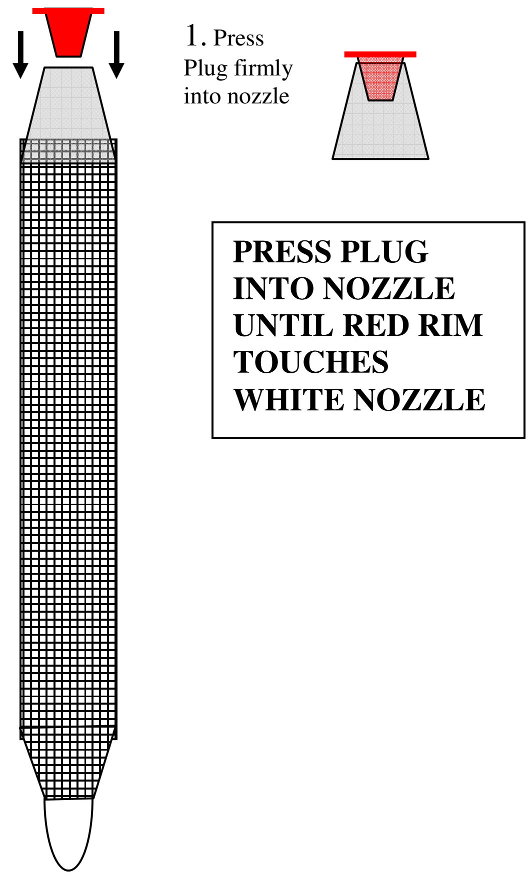
EON PRODUCTS INC.

EQUILIBRATOR ™
Diffusion Sampler Instructions

STEP 1



STEP 2



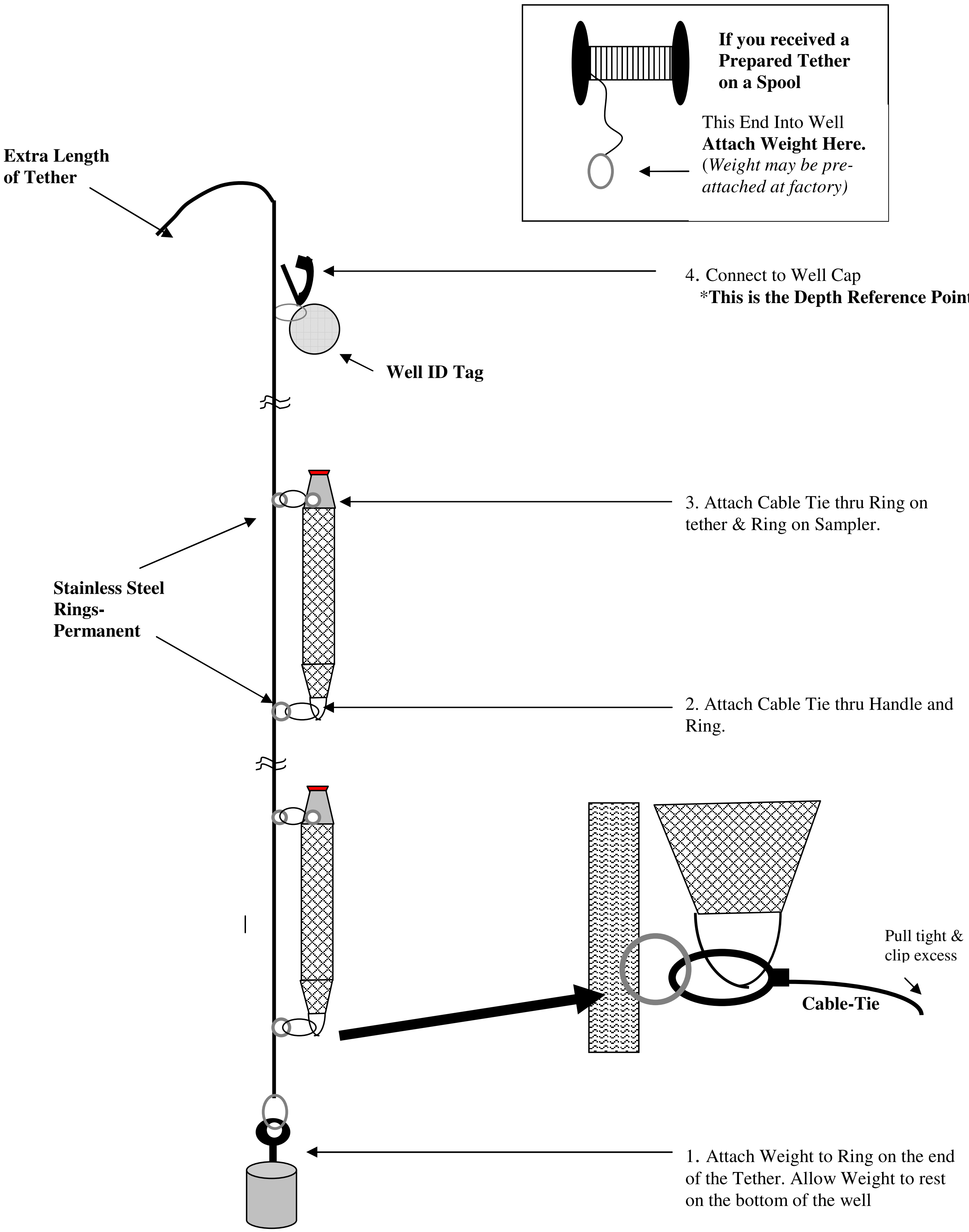
1. Fill the Sampler with deionized water until the entire assembly is completely full of water. To use the Funnel, insert the short nozzle into the Sampler and pour deionized water into the tube. Fill the Sampler until water rises and stands at least two inches up the funnel to expand the Sampler to its maximum capacity. **Squeeze the Sampler several times and add more water. Repeat as needed to expand the membrane and remove air pockets.** Fill to top of nozzle, leaving a meniscus.

2. Insert the Plug firmly into the Sampler, **until the rim touches the nozzle.**

3. Fill at least two VOA Vials with the DI water used to fill the samplers to use as a water blank. (Not Shown)

EQUILIBRATOR ™

Diffusion Sampler Instructions



Appendix C

Focused Historical Analytical Data

Notes for All Tables

Notes:
This series of tables presents results only for the constituents, wells, and AOIs discussed in the O&M Plan.

	Detections are bolded.
	Duplicate sample results are shown in brackets “[ ]” next to the primary sample results.
	Yellow shading indicates the constituent is consistently below the remedial goal (for at least four events).
X/X after result =	Data qualifiers. The first was added by the laboratory and the second by Arcadis during data validation. If there is only a laboratory qualifier, it is shown without a slash. If there is only a validation qualifier, it is shown after the slash (e.g., /UB).
-- =	not available, not measured, not analyzed, not applicable, or not established
< =	Sample result is less than the indicated MRL.
b or B =	Analyte was also detected in the associated method blank.
C =	chemical interference
D =	possible diphenyl ether interference
H =	resembles the quantitated fuel, but also contains a significant portion of heavier hydrocarbons
J =	indicates that the associated numerical value is an estimated concentration
M =	reported concentration is the estimated maximum
MRL =	method reporting limit
mg/L =	milligram(s) per liter
N =	tentatively identified compound
ND =	not detected
OU =	operable unit
pg/L =	picogram(s) per liter
TCDD =	tetrachlorodibenzo-*p*-dioxin
TEF =	toxicity equivalence factor
TEQ =	toxic equivalent
TPH =	total petroleum hydrocarbons
U =	not detected at or above the indicated MRL
UB =	not detected at or above the indicated MRL due to laboratory blank contamination
UJ =	not detected at or above the indicated MRL, which may be elevated due to associated quality-control deficiencies
µg/L =	microgram(s) per liter
VOC =	volatile organic compound
Y =	does not resemble the requested standard
YZ =	quantitation based only on a single peak or peaks

Appendix C-1: Parcel 2 AOI (OU-C)

Location	Date	2,3,7,8-TCDD TEQ (a)
	Units	pg/L
	OU-C/D RAP Remedial Goal (RG)	0.05
	MCL	30
OU-C		
Parcel 2		
MW-2.3	17-Mar-10	**4.318 /J [7.284 /J]**
	23-Sep-10	**1.174 [0.884]**
	26-Apr-11	----
	6-Oct-11	**1.287**
	22-Mar-12	<0.8603 /UB
	22-Jun-12	**0.463**
	18-Sep-12	**0.23**
	04-Mar-13	<0.3034 /UB
	19-Aug-13	**0.236**
	03-Mar-14	**0.414**
	15-Sep-14	**0.846**
	03-Mar-15	**0.846**
	31-Aug-15	**0.854**
	07-Mar-16	**0.854**
	12-Sep-16	**0.058 J**
	21-Feb-17	**0.442 [RG]**
	30-Aug-17	**7.7 J [RG]**
	7-Mar-18	**0.58 [4.18] [RG]**
	11-Sep-18	**1.9 [RG]**
	25-Feb-19	**0.48 [RG]**
MW-2.6	11-Sep-18	< 0.0
Parcel 3		
MW-2.2	16-Dec-10	**0.036**
	26-Apr-11	**0.044**
	6-Oct-11	**0.21**
	22-Mar-12	<0.3994 /UB
	18-Sep-12	**0.004**
	04-Mar-13	<0.0185 /UB
	19-Aug-13	**0.046**
	03-Mar-14	**0.068**
	15-Sep-14	**0.091**
	02-Mar-15	**0.0414**
	01-Sep-15	**0.0418**
	07-Mar-16	**0.091**
	12-Sep-16	**0.131 J**
	21-Feb-17	**0.17 [RG]**
	30-Aug-17	**5.5 J [RG]**
	7-Mar-18	**0.051 [RG]**
	11-Sep-18	**0.15 [RG]**
	25-Feb-19	**0.56 [RG]**
MW-2.7	11-Sep-18	**0.33 [RG]**
	27-Feb-19	**0.19 [RG]**

Note:

(a) Calculated using 2005 WHO (Van den Berg et al. 2006) TEFs for human/mammal; NDs excluded.

Appendix C-2: Former AST and MES/Pilot Study AOIs

Location ID	Date	Total Gasoline	Total Diesel	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal (RG)	0.05	0.1	3	6	0.15	0.06	1.7	0.05
	MCL	--	--	5	6	1	5	5	0.5
OU-C									
Parcel 3									
MW-3.2	28-Jan-04	**0.18 [RG]**	**0.4 [RG]**	--	--	--	--	--	--
	24-Jun-04	**0.12 [RG]**	**0.24 [RG]**	--	--	--	--	--	--
	22-Sep-04	**0.083 [RG]**	**0.45 [RG]**	**0.9**	<0.5	<0.5	**2.2**	**0.8**	<0.5
	8-Dec-04	<0.05	**0.56 [RG]**	**2.3**	<0.5	<0.5	**1.5**	**0.5**	<0.5
	28-Mar-05	**0.056 [0.058] [RG]**	<0.05 [<0.05]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**2.1 [2.1]**	**0.6 [0.5]**	<0.5 [<0.5]
	10-May-05	<0.05	**0.12 [RG]**	**0.4 J**	<0.09	<0.04	**1.8**	**0.5 J**	<0.2
	16-Aug-05	<0.05	**0.075**	**0.3 J**	<0.09	<0.04	**2.4**	**0.4 J**	<0.2
	8-Nov-05	**0.035**	**0.197 [RG]**	**0.4 J**	<0.1	**19**	**0.9**	**0.4 J**	<0.1
	7-Mar-06	ND	ND	<0.06	<0.2	**0.2 J**	**8.1**	**0.8**	<0.2
	23-May-06	**0.023**	**0.112 [RG]**	**0.09 J**	<0.06	**2.8**	**8.2**	**0.8**	<0.1
	7-Sep-06	ND	ND	**0.08 J [0.09 J/J]**	<0.5 [<0.5]	**4 [3]**	**3.5 [4.7]**	**0.7 [0.8]**	<0.5 [<0.5]
	6-Mar-07	**0.193 [RG]**	**0.365 [RG]**	**0.6**	<0.5	**1.6**	**3.3**	**0.9**	<0.5
	26-Mar-08	**0.06 [RG]**	**0.65 [RG]**	**0.3 J**	<0.5	**1.2**	**7.7**	**1.5**	<0.5
	5-Mar-09	**0.16 [RG]**	**4.51 [RG]**	**0.7**	<0.5	**2.4 [RG]**	**1.8 [RG]**	**1**	**0.2 J [RG]**
	9-Jun-09	ND /UB	**0.42 [RG]**	<0.5	<0.5	**2.6 [RG]**	**1.9 [RG]**	**0.6**	**0.3 J [RG]**
	8-Dec-09	**0.145 [RG]**	**1.03 [RG]**	**1.8**	<0.5	**2 [RG]**	**2.2 /J [RG]**	**1**	**0.1 J [RG]**
	16-Mar-10	**0.063 [RG]**	**1.34 [RG]**	**0.7**	<0.5	**0.8 [RG]**	**3 [RG]**	**1.4**	<0.5
	27-Apr-11	**0.26 [RG]**	**0.26 [RG]**	--	--	--	--	--	--
	6-Oct-11	**0.057 [RG]**	**0.39 [RG]**	--	--	--	--	--	--
	22-Mar-12	**0.13 [RG]**	**1.5 [RG]**	--	--	--	--	--	--
	21-Jun-12	**0.049 J**	**0.17 [RG]**	--	--	--	--	--	--
	20-Sep-12	**0.049 J**	**0.48 [RG]**	--	--	--	--	--	--
	7-Mar-13	**0.177 [RG]**	**1.1 [RG]**	--	--	--	--	--	--
	20-Aug-13	Not sampled due to the presence of LPH		--	--	--	--	--	--
	05-Mar-14	**0.388 /J [RG]**	**1.1 [RG]**	--	--	--	--	--	--
	17-Sep-14	**0.159 [RG]**	**0.49 [RG]**	--	--	--	--	--	--
	05-Mar-15	**0.123 [RG]**	**0.73 [RG]**	--	--	--	--	--	--
	02-Sep-15	**0.073 [RG]**	**0.14 [RG]**	--	--	--	--	--	--
	10-Mar-16	**0.045 J**	<0.053	--	--	--	--	--	--
	13-Sep-16	**0.036 J**	**0.096**	--	--	--	--	--	--
	23-Feb-17	**0.024 J**	**0.22 [RG]**	--	--	--	--	--	--
	30-Aug-17	**0.041 J**	**0.43 [RG]**	--	--	--	--	--	--
	07-Mar-18	**0.081 [RG]**	**0.27 [RG]**	--	--	--	--	--	--
	12-Sep-18	**0.048 J**	**0.11 [RG]**	--	--	--	--	--	--
	25-Feb-19	**0.024 J/ J**	**0.65 [RG]**	--	--	--	--	--	--
MW-3.3	22-Sep-04	<0.05	<0.05	**1.9**	<0.5	<0.5	**1.8**	<0.5	<0.5
	8-Dec-04	<0.05	**0.074**	**0.7**	<0.5	<0.5	**0.9**	<0.5	<0.5
	28-Mar-05	<0.05	<0.05	**0.8**	<0.5	<0.5	**1.6**	<0.5	<0.5
	10-May-05	<0.05 [<0.05]	<0.013 [<0.013]	**1.1 [0.8]**	**0.4 J [0.4 J]**	<0.04 [<0.04]	**1.9 [1.7]**	**0.4 J [0.3 J]**	<0.2 [<0.1]
	16-Aug-05	<0.05	<0.013	**1.1**	**0.3 J**	<0.04	**1.8**	**0.4 J**	<0.2
	8-Nov-05	ND	ND	**0.6**	<0.1	<0.04	**0.9**	**0.1 J**	<0.1
	7-Mar-06	ND	ND	**0.5**	<0.2	<0.04	**1.2**	**0.2 J**	<0.2
	23-May-06	**0.011**	ND	**0.7**	**0.4 J**	**0.07 J**	**1.5**	**0.3 J**	<0.1
	7-Sep-06	ND	ND	**0.8**	**0.5 J/J**	<0.5	**2.1**	**0.3 J/J**	<0.5
	5-Dec-06	ND [ND]	**0.28 [0.68] [RG]**	**1.9 [1.8]**	**0.5 J [0.5 J]**	<0.5 [<0.5]	**2.3 [2.2]**	<0.5 J/UB [<0.5 J/UB]	<0.5 [<0.5]
	6-Mar-07	ND [ND]	ND [ND]	**1.1 [1]**	**0.3 J [0.4 J]**	<0.5 [<0.5]	**2.5 [2.4]**	**0.4 J [0.4 J]**	<0.5 [<0.5]

Appendix C-2: Former AST and MES/Pilot Study AOIs

Location ID	Date	Total Gasoline	Total Diesel	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal (RG)	0.05	0.1	3	6	0.15	0.06	1.7	0.05
	MCL	--	--	5	6	1	5	5	0.5
MW-3.3 (cont'd)	12-Jun-07	ND [ND]	ND [ND]	**0.9 [0.7]**	**0.5 J [0.3 J]**	<0.5 [<0.5]	**2.4 [2.4]**	**0.4 J [0.3 J]**	<0.5 [<0.5]
	11-Oct-07	ND	ND	**1.6**	**0.2 J**	<0.5	**1.6**	**0.3 J**	<0.5
	13-Dec-07	ND	ND	**1.8**	**0.3 J**	<0.5	**2.2**	**0.4 J**	<0.5
	26-Mar-08	--	--	**0.6**	**0.4 J**	<0.5	**2.5**	**0.4 J**	<0.5
	4-Jun-08	--	--	**0.8**	**0.6**	<0.5	**2.6**	**0.5 J**	<0.5
	23-Sep-08	--	--	**1.6**	**0.2 J**	<0.5	**1.9**	**0.4 J**	<0.5
	11-Dec-08	--	--	**2.4**	**0.3 J**	<0.5	**2.4**	**0.5**	<0.5
	5-Mar-09	--	--	**1.2**	**0.3 J**	<0.5	**1.9**	**0.4 J**	<0.5
	9-Jun-09	--	--	**0.8**	**0.3 J**	<0.5	**2.7**	**0.4 J**	<0.5
	15-Sep-09	--	--	**1.8**	**0.2 J**	<0.5	**1.8**	**0.4 J**	<0.5
	8-Dec-09	--	--	**2.1**	<0.5	<0.5	**1.6 /J**	**0.4 J**	<0.5
	16-Mar-10	--	--	**0.8**	**0.3 J**	<0.5	**2.4**	**0.4 J**	<0.5
	16-Jun-10	--	--	**0.7**	**0.3 J**	<0.5	**2.2**	**0.5 J**	<0.5
	23-Sep-10	--	--	**1.5**	**0.3 J**	<0.5	**2.1 [RG]**	**0.4 J**	<0.5
	16-Dec-10	--	--	**1.8**	**0.2 J**	<0.5	**2.1 [RG]**	**0.4 J**	<0.5
	12-Sep-18	--	--	**1.1**	< 0.20	< 0.20	**2.0 [RG]**	**0.58**	< 0.020
	28-Feb-19	--	--	**1.2**	**0.10 J/ J**	< 0.20 U	**1.5 [RG]**	**0.56**	< 0.020 U/ J
MW-3.13	11-Oct-07	**0.601 [RG]**	**2.63 [RG]**	**0.3 J**	<0.5	**3.6**	**14**	**2**	<0.5
	13-Dec-07	**0.174 [RG]**	**0.475 [RG]**	**0.7**	<0.5	**0.6**	**19**	**2.3**	<0.5
	26-Mar-08	**0.042 /J**	**0.182 [RG]**	**0.3 J**	<0.5	**1.6**	**22**	**1.7**	<0.5
	4-Jun-08	ND /UB	**0.447 [RG]**	**0.3 J**	<0.5	**0.5**	**25**	**1.8**	<0.5
	23-Sep-08	**0.052 [RG]**	**0.093**	**0.4 J**	**0.2 J**	**1.7**	**24**	**2.9**	<0.5
	11-Dec-08	ND /UB	**0.13 [RG]**	**0.4 J**	**0.2 J**	**1.9**	**29**	**3**	<0.5
	5-Mar-09	ND /UB	**0.15 [RG]**	**0.3 J**	**0.1 J**	**0.6**	**20**	**2.3**	<0.5
	9-Jun-09	ND /UB	**0.015 J**	<0.5	<0.5	**0.2 J**	**21**	**1.6**	<0.5
	15-Sep-09	ND /UB	ND	**0.4 J**	<0.5	**0.5**	**17**	**1.7**	<0.5
	16-Mar-10	ND /UB	**0.195 [RG]**	**0.2 J**	<0.5	**1.5**	**15**	**1.7**	<0.5
	17-Dec-10	ND /UB	**0.047**	**0.4 J**	<0.5	**0.2 J**	**16**	**2.5**	<0.5
	27-Apr-11	<0.05 J/UB	**0.13 [RG]**	**0.20 J**	<0.50	**0.73**	**10**	**1.5**	<0.50
	6-Oct-11	**0.022 J**	<0.053 J/UB	**0.42 J**	<0.50	<0.50	**13**	**2**	<0.50
	22-Mar-12	**0.034 J**	<0.052	**0.38 J**	<0.50	<0.50	**14**	**1.9**	<0.50
	19-Sep-12	**0.033 J**	<0.054	<0.5	<0.5	<0.5	**21**	**2**	<0.5
	6-Mar-13	<0.05	<0.15 /UB	**0.38 J**	<0.50	<0.50	**17.2**	**1.8**	<0.40
	20-Aug-13	<0.05	**0.053**	**0.27 J**	<0.50	<0.50	**24.2**	**2.6**	<0.40
	05-Mar-14	<50.0 /UJ [<50.0 /UJ]	**0.15 [0.13] [RG]**	**1.4 [1.3]**	**0.31 J** [<0.50]	**0.43 J [0.43 J]**	**11.9 [11.9]**	**2.0 [1.9]**	<0.20 [<0.20]
	16-Sep-14	<0.1	**0.056**	**0.62**	**0.23 J**	**0.30 J**	**19.7**	**2.4**	<0.20
	03-Mar-15	<0.1	**0.41 [RG]**	**0.22 J**	<0.50	**0.19 J**	**9.2**	**1.5**	<0.20
	01-Sep-15	<0.05	<0.048	**0.25 J**	<0.50	<0.50	**13**	**1.8**	<0.50
	08-Mar-16	**0.021 J**	<0.054	**0.15 J**	<0.50	<0.50	**8.6**	**0.95**	<0.50
	13-Sep-16	**0.026 J**	<0.053	**0.21 J**	**0.40 J**	<0.50	**15**	**1.4**	<0.50
	21-Feb-17	<0.05	<0.053	<0.5	<0.5	<0.5	**3.4 [RG]**	**0.44 J**	<0.5
	30-Aug-17	<0.05	**0.1 [RG]**	< 0.50	< 0.50	< 0.50	**7.3 [RG]**	**2.0 [RG]**	< 0.50
	06-Mar-18	**0.025 J/J**	<0.059	**0.25 J/J**	<0.50	<0.50	**10 [RG]**	**1.6**	<0.50
	12-Sep-18	< 0.05	<0.051	**0.12 J**	< 0.20	< 0.20	**12 [RG]**	**2.1 [RG]**	< 0.020
	25-Feb-19	< 0.05 U	**0.32 [RG]**	**0.16 J/ J**	< 0.20 U	< 0.20 U	**11 [RG]**	**1.5**	< 0.020 U/ J

Appendix C-2: Former AST and MES/Pilot Study AOIs

Location ID	Date	Total Gasoline	Total Diesel	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal (RG)	0.05	0.1	3	6	0.15	0.06	1.7	0.05
	MCL	--	--	5	6	1	5	5	0.5
MW-3.16R	11-Dec-08	ND /UB [ND /UB]	ND [ND]	**0.2 J [0.1 J]**	<0.5 [<0.5]	<0.5 [<0.5]	**0.6 [0.6]**	**0.1 J [<0.5]**	<0.5 [<0.5]
	5-Mar-09	ND	ND	**0.4 J**	<0.5	<0.5	**1**	**0.3 J**	<0.5
	9-Jun-09	ND /UB	0.011	**0.3 J**	<0.5	<0.5	**0.7**	<0.5	<0.5
	15-Sep-09	ND	ND	**0.2 J**	<0.5	<0.5	**0.6**	<0.5	<0.5
	8-Dec-09	ND	0.01	**0.2 J**	<0.5	<0.5	**0.8**	**0.1 J**	<0.5
	16-Mar-10	ND /UB	ND	**0.3 J**	<0.5	<0.5	**0.6**	**0.1 J**	<0.5
	16-Jun-10	ND /UB	ND	**0.4 J**	<0.5	<0.5	**0.6 /J**	**0.2 J**	<0.5
	22-Sep-10	ND [ND /UB]	ND [ND]	**0.3 J [0.3 J]**	<0.5 [<0.5]	<0.5 [<0.5]	**0.5 [0.5] [RG]**	**0.1 J [0.1 J]**	<0.5 [<0.5]
	16-Dec-10	ND /UB [ND /UB]	ND [ND]	**0.2 J [0.2 J]**	<0.5 [<0.5]	<0.5 [<0.5]	**0.6 [0.6] [RG]**	**0.1 J [0.1 J]**	<0.5 [<0.5]
	27-Apr-11	<0.05 J/UB	0.041 J	--	--	--	--	--	--
	6-Oct-11	<0.05	<0.054 J/UB	--	--	--	--	--	--
	22-Mar-12	<0.05	<0.052	--	--	--	--	--	--
	21-Jun-12	<0.05	<0.051	--	--	--	--	--	--
	19-Sep-12	<0.05	<0.057	--	--	--	--	--	--
	6-Mar-13	<0.05	<0.15 /UB	--	--	--	--	--	--
	12-Sep-18	< 0.05	<0.05	**0.041 J**	< 0.20	< 0.20	**0.49 J [RG]**	< 0.20	< 0.020
	26-Feb-19	--	--	**0.061 J/ J**	< 0.20 U	< 0.20 U	**0.59 [RG]**	**0.066 J/ J**	< 0.020 U/ J
MW-3.17	7-Oct-08	**1.26 [RG]**	**0.16 [RG]**	<0.5	<0.5	<0.5	<0.5	**0.2 J**	<0.5
	11-Dec-08	**0.73 [RG]**	**0.164 [RG]**	<0.5	<0.5	<0.5	**0.5**	**0.8**	<0.5
	4-Mar-09	**0.47 [RG]**	**0.188 [RG]**	<0.5	<0.5	<0.5	**0.9**	**1**	<0.5
	10-Jun-09	**0.361 [0.352] [RG]**	**0.109 [0.097]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.5 J [0.4 J]**	**1.0 [1.0]**	<0.5 [<0.5]
	15-Sep-09	**0.256 [RG]**	**0.146 [RG]**	<0.5	<0.5	<0.5	<0.5	**0.8**	<0.5
	8-Dec-09	**0.41 [RG]**	**0.263 [RG]**	<0.5	<0.5	<0.5	**0.3 J**	**1.7**	<0.5
	16-Mar-10	**0.35 [RG]**	**0.15 [RG]**	<0.5	<0.5	<0.5	**0.4 J**	**2**	<0.5
	17-Jun-10	**0.42 [RG]**	**ND**	<0.5	<0.5	<0.5	<0.5	**1.1**	<0.5
	22-Sep-10	**0.353 [RG]**	**0.112 [RG]**	<0.5	<0.5	<0.5	**0.1 J [RG]**	**1.3**	<0.5
	16-Dec-10	**0.305 [RG]**	**0.061**	<0.5	<0.5	<0.5	**0.2 J [RG]**	**1.6**	<0.5
	13-Sep-18	**0.08 [0.098] [RG]**	**0.047J [0.039 J]**	< 0.20 R [< 0.20]	< 0.20 R [< 0.20]	< 0.20 R [<0.20]	**0.32 J [0.41 J] [RG]**	**0.57 J [0.78 J]**	< 0.020 R [< 0.020]
	27-Feb-19	**0.074 [0.075] [RG]**	**<0.047 U [<0.047 U]**	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.20 U [<0.20 U]	**0.39 J/J [0.41 J/J] [RG]**	**0.73 [0.76]**	< 0.020 U/J [< 0.020 U/J]

Appendix C-2: Former AST and MES/Pilot Study AOIs

Location ID	Date	Total Gasoline	Total Diesel	1,1-Dichloroethane	1,1-Dichloroethene	Benzene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal (RG)	0.05	0.1	3	6	0.15	0.06	1.7	0.05
	MCL	--	--	5	6	1	5	5	0.5
MW-3.18	7-Oct-08	**0.012**	ND	**3.3**	**0.2 J**	**0.2 J**	**3.3**	**1**	<0.5
	11-Dec-08	ND /UB	ND	**2.7**	**0.2 J**	**0.2 J**	**4**	**1.4**	<0.5
	5-Mar-09	ND /UB	ND	**2.8**	**0.2 J**	<0.5	**3.3**	**1.2**	**0.1 J**
	9-Jun-09	ND /UB	**0.0098**	**2.9**	<0.5	<0.5	**3**	**1**	<0.5
	16-Sep-09	ND /UB [ND /UB]	ND [ND]	**2.7 [2.6]**	<0.5 [<0.5]	<0.5 [<0.5]	**3.2 [3.4]**	**1.2 [1.2]**	**<0.5 [0.1 J]**
	9-Dec-09	ND /UB	ND	**2.9**	**0.2 J**	<0.5	**4.1**	**1.2**	**0.2 J**
	16-Mar-10	ND /UB [ND /UB]	**0.0237 [ND]**	**2.0 [2.2]**	**0.1 J [0.1 J]**	<0.5 [<0.5]	**2.9 [3.2]**	**1.0 [1.1]**	<0.5 [<0.5]
	16-Jun-10	ND /UB	ND	**2.4**	**0.1 J**	**0.2 J**	**2.8**	**0.9**	<0.5
	23-Sep-10	ND [ND /UB]	**0.019 [ND]**	**2.2 [2.3]**	<0.5 [<0.5]	**0.2 J [0.2 J] [RG]**	**5.0 [4.7] [RG]**	**1.2 [1.2]**	<0.5 [<0.5]
	16-Dec-10	ND /UB	ND	**2.4**	<0.5	**0.1 J**	**4.1 [RG]**	**1.4**	<0.5
	12-Sep-18	< 0.05	<0.05	**1.4**	< 0.20	< 0.20	**4.3 [RG**	**1.7 [RG]**	< 0.020
	26-Feb-19	--	--	**1.5**	< 0.20 U	< 0.20 U	**3.6 [RG]**	**1.6**	< 0.020 U/ J

Appendix C-3: Former Dip Tank AOI (OU-C)

Location	Date	Pentachlorophenol	2,3,7,8-TCDD TEQ [(a)]
	Units	µg/L	pg/L
	OU-C/D RAP Remedial Goal (RG)	0.3	0.05
	MCL	1	30
OU-C			
MW-3.9	6-Mar-07	**0.57**	**0.004**
	12-Jun-07	<0.30	ND
	5-Sep-07	<0.30 **[0.20 J]**	ND [ND]
	11-Dec-07	<0.30 [<0.30]	**0.002 [0.03]**
	17-Mar-10	**0.1 J**	**0.002**
	30-Aug-17	**0.16 J**	--
	07-Mar-18	<0.31	--
	11-Sep-18	**0.18 J**	--
	26-Feb-19	**0.27 J/J**	--
MW-3.12	10-Oct-07	**0.45 [0.43]**	**6.670 [9.970]**
	11-Dec-07	**23 [14]**	**1.680 [0.091]**
	26-Mar-08	**64**	**0.573**
	4-Jun-08	**10**	**0.068 [0.092]**
	23-Sep-08	**0.46**	**0.426 [2.961]**
	11-Dec-08	**9.2**	**7.306**
	5-Mar-09	**35**	**13.769**
	10-Jun-09	**19**	**5.515 [4.068]**
	16-Sep-09	<0.30 J/UB	**2.463**
	17-Mar-10	**120**	**75.257**
	23-Sep-10	**36**	**17.753**
	13-Jul-11	**69 [70]**	**0.046 [0.719]**
	6-Oct-11	**21 /J [15 /J]**	**0.017 [0.015]**
	22-Mar-12	**4**	**2.569 /J**
	19-Jun-12	**8.4 [8.8]**	**3.891 [0.999]**
	18-Sep-12	<0.59 B/UB	**0.175 [0.272]**
	12-Dec-12	**2.2 [2.3]**	**2.692 [2.508]**
	05-Mar-13	**6.5 [7.5]**	**3.551 [4.828]**
	20-Aug-13	**0.8 [0.64]**	**8.009 [14.176]**
	03-Mar-14	---18	**1.456**
	15-Sep-14	<0.30 [<0.31]	**17.238 [3.042]**
	03-Mar-15	<0.34 [<0.34]	**[2.99] [3.67]**
	31-Aug-15	<0.30 [<0.29]	**1.42 [2.56]**
	07-Mar-16	**0.29 J [0.32 J]**	**0.583 [1.543]**
	13-Sep-16	**0.34 J [0.31 J]**	**0.012 J [0.125 J]**
	21-Feb-17	**3.3 [2.8] [RG]**	**27.228 [15.613] [RG]**
	29-Aug-17	**0.37 [0.46] [RG]**	**10 J [13 J] [RG]**
MW-3.12R	11-Sep-18	**1.7 [1.6] [RG]**	**0.36 [1.9] [RG]**
	26-Feb-19	**20 [18] [RG]**	**0.27 [0.34] [RG]**

Note:

(a) Calculated using 2005 WHO (Van den Berg et al. 2006) TEFs for human/mammal; NDs excluded.

Appendix D

Response to Comment Letter

Kennedy Jenks

16 October 2019

Mr. Tom Lanphar
Senior Environmental Scientist
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, California 94710-2721

Subject: Response to Comment Letter, RE: Site-Wide Groundwater Operation and Maintenance Plan, Dated 30 July 2019, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California
KJ 1665018*19 / 1965021*19

Dear Mr. Lanphar:

The Department of Toxic Substances Control (DTSC) provided comments to Georgia-Pacific, LLC (GP) on the Site-Wide Groundwater Operation and Maintenance Plan (O&M Plan) dated 13 May 2019 on 30 July 2019 (DTSC 2019). DTSC requested that the comments be addressed by 15 September 2019. In a letter dated 9 September 2019, GP proposed submittal of a response to comment (RTC) letter by 15 October 2019 and submittal of the revised O&M Plan 60 days after DTSC approval of the monitoring program. DTSC verbally indicated approval of this schedule in a meeting on 11 September 2019 and in an email dated 24 September 2019. DTSC approved extension of the deadline for the RTC letter to 25 October 2019 in an email dated 14 October 2019.

As noted in the 9 September 2019 letter, some of the affected Areas of Interest (AOIs) in Operable Unit C (OU-C) (Parcel 2 AOI, Former Dip Tank AOI, Former AST AOI, and Former MES/Pilot Study AOI) were included as part of a recent property transaction. The transaction included transfer of primary responsibility for environmental activities to the new owner [Mendocino Railway (MR)]. A separate O&M Plan will be prepared for these AOIs. Responses below are provided by property owner (or jointly, where applicable)[1].

GP and MR have prepared this RTC letter to address DTSC comments. Submittal of the revised O&M Plans will follow DTSC approval of this RTC letter. Based on the analysis discussed herein and DTSC comments, a fresh evaluation of the existing monitoring network was completed and the proposed O&M program was revised. To complete this evaluation, the following decision-making factors were considered:

- **Groundwater conditions**: Are groundwater conditions at the monitoring well consistently below the remedial goal? If yes, it may be appropriate to decommission the well. However, if the monitoring well is downgradient of another monitoring well with conditions above the remedial goal, the well may be kept as a downgradient well.

- **Well Network**: Are other monitoring wells nearby monitoring the same condition? In some AOIs, more monitoring wells remain than are necessary to implement the remedy and are duplicative,

[1] Comments that apply to both GP and MR will be addressed in both O&M Plans as it applies. Comments that apply to only one party will be addressed in their O&M Plan only (for example, OU-E will not be discussed in MR's O&M Plan).

and therefore, it may be appropriate to identify a source area monitoring well and a downgradient monitoring well and decommission the remaining wells.

- **Groundwater trends**: Does statistical analysis indicate that concentrations are decreasing? Groundwater trends in OU-C and OU-D were evaluated in the Monitored Natural Attenuation Technical Report (MNA Tech Report; Arcadis 2013), which was prepared in support of the Remedial Action Plan, Operable Units C and D (OU-C/D RAP; Arcadis 2015). Groundwater trends were re-evaluated to include monitoring data collected since the MNA Tech Report using the Mann-Kendall test to support the O&M Plan. The Mann-Kendall test assumes data do not conform to a normal distribution and evaluates whether values tend to increase or decrease over time, then provides an assessment of the confidence in the trend. For monitoring events where a constituent was not detected at a monitoring well, the reporting limit was used. Mann-Kendall analysis requires a minimum of four independent sampling events per well; if less than four data points were available for the well, the analysis was not completed. Analysis was generally not completed if a constituent was consistently not detected. If the results of trend analysis in 2013 and 2019 are consistent and/or 2019 trend analysis indicates concentrations are decreasing, this would support reduced frequency of monitoring (e.g., in Year 5 only).

Based on the evaluation, wells were assigned a purpose (e.g., source, downgradient, transition, geochemistry, or none). A summary of the decision-making process at each monitoring well is summarized in Table 1-1, Table 1-2, and Table 1-3. A comparison of the program outlined in Comment #32 and the revised O&M program is presented in Table 2. The revised O&M program is presented in Table 3. The existing monitoring wells are presented on Figures 1 through 5. Recent monitoring data are presented by AOI in Attachment 1. Results of the Mann-Kendall analysis, including a summary of trend analysis in the 2013 MNA Tech Report, are presented in Attachment 2. Historical monitoring data are presented in Attachment 3. DTSC comments and GP and MR responses are provided below.

Based on discussions with DTSC, it is our understanding that the next groundwater monitoring event at the Site will be in 3rd quarter 2020 (Year 3). No additional groundwater monitoring is required in 2019, while the O&M Plans are revised. GP and MR request that DTSC confirm this understanding.

1. <u>Section 1, Introduction</u>

DTSC Comment:

The Georgia-Pacific groundwater monitoring program is transitioning from the Comprehensive Monitoring Program (CMP) to an O&M program. Explain that the OUs C and D RAP groundwater remedial action includes natural attenuation, use restrictions and O&M. The O&M Plan needs to describe the groundwater monitoring program for the implementation of the natural attenuation remedial action.

However, because Operable Unit-E (OU-E) monitoring is not under a RAP, please create a separate section to discuss the OU-E monitoring program.

GP and MR Response:

The text will be revised to discuss the remedial actions approved in the OU-C/D RAP and to separate OU-C and OU-D groundwater remedial action from ongoing OU-E monitoring, as requested.

2. Section 1.2 Regulatory Status

DTSC Comment:

Discuss the OUs C and D RAP as the regulatory basis for establishing the O&M Plan. Generally, describe the groundwater remedial action for the OUs C and D Areas of Interest (AOIs). The groundwater remedial action includes natural attenuation, restrictions on the use of groundwater, and O&M. Source removal was also included in the groundwater remedial action for the Former Dip Tank AOI.

GP and MR Response:

The text will be revised to separate OU-C and OU-D groundwater remedial action from ongoing OU-E monitoring, as requested. The text will also be revised to clarify the regulatory basis for the O&M Plan.

3. Section 1.4 Previous Investigations and Cleanup Action

DTSC Comment:

Include a discussion of the baseline monitoring, including the purpose of the baseline study and history of monitoring of the wells within the study (i.e., why monitoring was ended and generally how long was the break in monitoring).

Create a new section discussing the groundwater remedial action for OUs C and D. Please organize the discussion on the groundwater remedial action for each AOI. As mentioned in comments numbers 1 and 2, the OUs C and D RAP groundwater remedial action includes natural attenuation and establishing an O&M program for the monitoring of the natural attenuation remedy. The Dip Tank AOI also included soil source area removal. Include the results of this soil source area removal.

In the bulleted list, please identify and list separately the Areas of Interest (AOIs) with groundwater remedial actions specified in the OUs C and D RAP. The current list uses area names not found in the OUs C and D RAP.

Please use the names of the remedial action areas in the OUs C and D RAP. The Summary Table: Proposed Remedial Actions on pages 95 and 96 of the OUs C and D RAP includes the names of each remediation area. Include in each bulleted remediation area the contaminants, monitoring wells included in the remedial action AOI network, and the groundwater remedy. In a second bulleted list, identify the AOIs within OU-E with groundwater monitoring requirements and include the COCs and monitoring wells within the AOI. For example:

- Former Dip Tank AOI
  - o Dioxin and pentachlorophenol
  - o Monitoring Wells: MW-3.16R, and MW-3.9
  - o Source removal, natural attenuation, restrictions on use, and O&M.

GP and MR Response:

A discussion will be added for the baseline monitoring events. To support this discussion, a table will be added to summarize monitoring history at each existing well, including why monitoring at the well was discontinued and the duration of the break in monitoring. The table is provided herein as Table 4.

The discussion will be re-organized to discuss groundwater remedial action for AOIs in OU-C and OU-D. The bulleted lists will be revised to include the name of each AOI (as presented in the OU-C/D RAP), the contaminants of concern, monitoring wells included in the AOI network, and the approved groundwater remedy.

A separate discussion will be presented to summarize groundwater monitoring in OU-E, which will include a second bulleted list that includes the name of each AOI, the contaminants of concern, and monitoring wells within the AOI.

4. Section 1.5 Objectives

DTSC Comment:

Please begin this section with discussing the objective of the O&M plan. Move the discussion of the Comprehensive Monitoring Program and Baseline sampling event to Section 1.1 Site Description and Background. The O&M Plan correctly references past data when discussing what has informed the writing of the O&M Plan; however, the basis of the O&M Plan must be on collecting the appropriate data, based on data quality objectives (DQOs), for assessing the effectiveness of the natural attenuation groundwater remedy. The primary data quality objective is to provide the data necessary to determine if the natural attenuation remedy is functioning as intended by the RAP. The Five-Year Review report will address this question. This DQO shall inform which wells are included the O&M Plan and the frequency of monitoring. Describe the type and quantity of data needed to complete an evaluation of the natural attenuation remedy and to determine when the remedy is complete (i.e. remedial goals have been met). Reference the section where this is criteria for making the determinations is discussed.

This section begins with describing past data and while past data was important in understanding the natural attenuation of contaminants in groundwater and the selection of the groundwater remedy for OUs C and D, the past data is actually limited for evaluating the performance of the natural attenuation remedy. As illustrated in Table 3: Proposed Long-Term Monitoring Program, 15 of the 41 wells listed have uninterrupted long-term monitoring data. During the baseline monitoring events (2018/2019), contaminants were detected in several monitoring wells, including many contaminants detected above remedial goals. Please focus the discussion (of objectives) on the objectives of the O&M Plan. Move any discussion of past data to the Previous Investigations and Cleanup Action section.

GP and MR Response:

Discussions of past data, the baseline monitoring events, and regulatory history will be moved to other sections within Section 1. The Objectives section will focus on the objectives of the O&M Plan.

The objectives of the O&M Plan are to:

- Present an evaluation of groundwater conditions and trends based on historical monitoring and the two baseline monitoring events;
- Based on groundwater conditions and trends, define an appropriate program for monitoring effectiveness of the approved remedy in OU-C and OU-D AOIs, which can be re-evaluated in the Five-Year Review; and
- Define an appropriate program for continued monitoring groundwater in OU-E to support the future OU-E RAP.

Semi-annual monitoring in every other year is not necessary to monitor long-term effectiveness of the approved remedy; a lower frequency is appropriate in most cases. For example, if groundwater conditions exceed remedial goals (RGs), as defined in the O&M Plan, but statistical analysis shows the trend is decreasing, conditions do not warrant monitoring twice in 2 years. A lower frequency is further supported if the statistical analysis is consistent with trend analysis completed in 2013 (as reported in the MNA Tech Report). Additionally, if groundwater conditions exceed RGs but other monitoring wells are monitoring the same groundwater condition, a reduced network of monitoring wells is appropriate.

Decision-making factors were described above. Pathways to a completed remedy include, but are not limited to, the following:

- Groundwater conditions are below RGs for four consecutive monitoring events and do not provide downgradient support for a monitoring well that exceeds an RG.
- Groundwater conditions are below RGs, statistical analysis shows the trend is stable or decreasing, and the well is not required to monitor downgradient conditions.

This logic was applied to the existing monitoring wells to prepare a revised O&M program (see Tables 1 through 3). Monitoring wells with an assigned purpose of “none” will be proposed for decommissioning. The O&M program is discussed in more detail in Section 4, and reference will be added to this section. The discussion above will also be added to the text.

5. Section 2.3 Monitoring Network Overview

DTSC Comment:

Please change the name of the section to Past Monitoring Program Overview.

GP and MR Response:

This discussion will be moved to the regulatory status discussion in Section 1.

6. Section 2.5.2 Groundwater Quality

DTSC Comment:

Please reorganize this section discussing the OUs C and D AOIs first and then the OU-E AOIs second. Also, because this document is an O&M Plan, and not a Comprehensive Monitoring Program work plan, please complete the discussion of all contaminants for an individual AOI in each sub section. Consider the AOIs as separate sites and not just areas of a larger site. The remedies are specific to the AOIs and the discussion needs to support the understanding of the groundwater issues for the AOI. Discuss the OU-E monitoring wells in a separate section.

GP and MR Response:

The groundwater quality section will be re-organized by OU and by AOI, and will discuss groundwater quality of each AOI separately. AOIs in OU-E will be discussed separately. Please note that due to this re-organization, the section numbers will change and may not correspond to section numbers in the comment letter.

7. Section 2.5.2 Groundwater Quality

DTSC Comment:

The last sentence in the first paragraph states that "groundwater conditions observed during the February 2019 baseline-monitoring event are presented again in the following sections." Also, discuss the data from the September 2018 baseline-monitoring event. Each baseline event provides useful data when understanding groundwater quality in monitoring wells that have not been sampled for several years.

Please direct the reader to Appendix C: Historical Analytical Data for access to all groundwater monitoring data, including the two baseline monitoring events.

Appendix C includes all data collected from all monitoring wells. However, because much of the past data is not relevant to future monitoring, only include the data from wells included in the O&M Plan and OU-E Monitoring Program. Also, add the remedial goal or Water Quality Objective for each analyte in the top column.

Please discuss the O&M AOIs separately from the OU-E AOIs. For example: Section 2.5.2 Groundwater Quality OUs C and D and Section 2.5.3 Groundwater Quality OU-E.

GP and MR Response:

Results from the September 2018 baseline monitoring event will be added to the discussions. Appendix C is referenced in the text; however, Appendix C will be revised to only include groundwater monitoring data from existing wells for current constituents of interest. The water quality objectives (WQOs) and/or RGs will be added to Appendix C. OU-C and OU-D will be discussed separately from OU-E.

8. Section 2.5.2.1.1 Planer #2 AOI (dissolved metals)

DTSC Comment:

The discussion only uses data from the February 2019 monitoring event. Please look at the last two monitoring events to identify significant contaminant detections for all wells discussed. For example, the text highlights arsenic detected in MW-6.3 at 8.7 µg/L during the February 2019 event but does not discuss that arsenic was detected at 26 µg/L in MW-6.3 in September 2018.

GP Response:

Results from the September 2018 baseline monitoring event will be added to the discussions.

9. Section 2.5.2.1.2 Powerhouse and Fuel Barn AOI and Water Treatment and Truck Dump AOI (dissolved metals)

DTSC Comment:

Please include the September 2018 data in the discussion. For example, in September 2018 arsenic in MW-5.7 measured 20 µg/L. This is a significant detection. The fluctuation between the two wells is also significant and therefore requires continued monitoring. The O&M Plan needs to include MW-5.7 in the O&M monitoring program.

GP Response:

Results from the September 2018 baseline monitoring event will be added to the discussions and additional discussion will be added regarding MW-5.7.

10. Section 2.5.2.1.3 Sawmill #1 and Miscellaneous (dissolved metals)

DTSC Comment:

Please mention that before the baseline monitoring events of September 2018 and February 2019, MW-5.7 and MW-5.9 were last sampled in 2010. Also, discuss the September 2019 arsenic results. In September 2019, arsenic was measured at 20 µg/L in MW-5.7. The draft O&M plan places MW-5.7 in the inactive well list even though the recent baseline events and pre-2010 data show that this well has been consistently above the 2.5 µg/L remedial goal. Long-term data for this well, and others like it, is needed to conduct a natural attenuation remedial action.

GP Response:

Results from the September 2018 baseline monitoring event and the date each well was last monitored prior to the baseline monitoring events will be added to the discussions. The revised monitoring frequency for MW-5.7 is presented in Table 3.

Note that it is assumed Comment #10 intended to reference September 2018 monitoring results, rather than September 2019.

11. Section 2.5.2.1.4 Sawmill/Sorter AOI (dissolved metals)

DTSC Comment:

The groundwater remedial action for the Sawmill/Sorter AOI in the OUs C and D RAP is natural attenuation, use restrictions, and Operations and Maintenance. None of the Sawmill/Sorter AOI wells are included in the 'active' list in the draft O&M Plan. Discuss the September 2018 baseline monitoring event data in this section. Long- term groundwater data for this AOI is needed to conduct a natural attenuation remedial action.

GP Response:

Results from the September 2018 baseline monitoring event will be added to the discussion. The revised monitoring frequency for wells in the Sawmill/Sorter AOI is presented in Table 3.

12. Section 2.5.2.2.1 Former AST AOI, MES/Pilot Study AOI, Dry Sheds #4/#5 AOI, and Rail Lines East AOI (MW-3.18)

DTSC Comment:

In third paragraph of this section, the references to "TPHg" appear to be erroneous because the subject of the paragraph is the detection of TPHd

MR Response:

The text will be corrected.

13. Section 2.5.2.2.2 Former MS/IRM AOI and Rail Lines East AOI (Total Petroleum Hydrocarbons)

DTSC Comment:

The OUs C and D RAP does not include a groundwater remedial action for the Former MS/IRM AOI and Rail Lines East AOI because the groundwater data did not show contaminants above groundwater remedial goals.

MW-3.20 and MW-3.21 are not part of any remedial action and are not needed to implement the OUs C and D natural attenuation remedy. DTSC agrees with characterizing these wells as inactive.

GP Response:

Noted. MW-3.20 and MW-3.21 are located in an AOI that is approved for no further action, and therefore, are proposed for decommissioning.

14. <u>Section 2.5.2.2.3 Sawmill#1 AOI and Miscellaneous AOI (Total Petroleum Hydrocarbons)</u>

DTSC Comment:

Please clarify the AOI where MW-5.6 is located. The location is important because the Sawmill #1 AOI is within OU-E and the Miscellaneous AOI is within OU-D. Because OU-E does not have a RAP, OU-E wells are not part of the O&M Plan and need to be discussed separately from the O&M monitoring wells. Also, the OUs C and D RAP did not include a groundwater remedial action for the Miscellaneous AOI because groundwater is not a concern in that AOI.

GP Response:

In the OU-C/D RI, MW-5.6 was evaluated as part of the Miscellaneous AOI (OU-C). Miscellaneous AOI and Sawmill #1 AOI will be separated in the text. MW-5.6 is located in an AOI that is approved for no further action, and therefore, is proposed for decommissioning.

15. <u>Section 2.5.2.2.4 IRM AOI and West of IRM AOI (Total Petroleum Hydrocarbons)</u>

DTSC Comment:

The presence of free-product in MW-5.5 is significant and needs to be discussed in this section as its thickness has increased over time.

GP Response:

A discussion of free-product at MW-5.5 will be added.

16. <u>Section 2.5.2.3.4 Planer #2 AOI (Volatile Organic Compounds)</u>

DTSC Comment:

The text states that concentrations of 1,1-DCE and 1,1-DCA at MW-6.8 and MW-6.11 dropped by one to two orders of magnitude to below the WQOs. Please clarify the period of this decline. The text discusses data collected in February 2019 but not the September 2018 data. Please include the September 2018 data.

The text highlights 1,1-DCE concentrations for wells measured during the February 2019 monitoring event; however, not including the September 2018 data results gives an incomplete picture of the contaminant concentrations. Contaminant 1,1- DCE was detected in MW-6.7 at 0.58 µg/L in

February 2019 and at 40 µg/L in September 2018. This change in concentration is consistent with historic trends as shown in Figure D-13 (Appendix D: Hydrographs and Concentration Trends).

Please discuss this "saw tooth" trend and its significance in assessing natural attenuation. Please identify if other Planer #2 wells exhibit a similar pattern.

GP Response:

Results from the September 2018 baseline monitoring event will be added to the discussion. Concentrations of 1,1-DCE and 1,1-DCA at MW-6.8 and MW-6.11 dropped by one to two orders of magnitude to below the WQOs between the September 2018 monitoring event and the February 2019 monitoring event. This will be clarified in the text.

In CMP Update No. 6, monitoring at MW-6.4, MW-6.6, MW-6.8, and MW-6.9 was discontinued because the Planer #2 wells were installed to evaluate remedial effectiveness of a proposed pilot study, and due to their proximity and purpose, were redundant in the context of evaluating constituents in groundwater. As shown on Figure 5, MW-6.9 and MW-6.11 are approximately 20 feet from MW-6.10, and MW-6.8 and MW-6.6 are approximately 20 to 30 feet from MW-6.7. Monitoring at MW-6.5 had already been discontinued in CMP Update No. 5. Based on an evaluation of concentration trends and the Planer #2 network, three wells were identified as representative of the AOI: MW-6.7 (source area), MW-6.10 (transition area), and MW 6.3 (downgradient).

Concentration trends were re-evaluated herein using a Mann-Kendall test to include monitoring data collected since 2012. As shown in Table 3, statistical analysis indicates that concentrations of 1,1-DCE are decreasing, probably decreasing, or stable at Planer #2 monitoring wells, despite the “saw tooth” trend indicated by DTSC, and many constituents are either below RGs or non-detect. Further, the saw tooth nature of the trends represents seasonal variability. When data are viewed from each season independently, the trends are likewise stable or decreasing. Therefore, the Planer #2 network proposed and approved in CMP Update No. 6 is still appropriate and representative of groundwater conditions in the AOI. MW-6.4, MW-6.6, MW-6.8, MW 6.9, and MW-6.11 are proposed for destruction.

Based on this analysis, the proposed O&M program was revised. The revised O&M program is presented in Table 3.

17. Section 2.5.2.4.1 Former Dip Tank Area AOI and Former Planer #1/Planer #50 AOI (Chlorophenols)

DTSC Comment:

Only the Former Dip Tank Area AOI is subject to the OUs C and D RAP groundwater remedial action. Please retitle this section.

The text mentions pentachlorophenol detected in MW-3.12R at a concentration of 20 µg/L. However, Appendix C: Historical Analytical Data does not include the February data for MW-3.12. Please ensure that February 2019 data are included in Appendix C.

MR Response:

The section headers will be revised to only reference the AOI with a remedy.

February 2019 will be included in Appendix C. MW-3.12 was abandoned in 2017 and replaced by MW-3.12R in 2018.

18. Section 2.5.2.5.2 Former Dip Tank Area AOI (Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans)

DTSC Comment:

Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans (dioxin) is a contaminant of concern for the Former Dip Tanks Area AOI; however, MW-3.9 is not tested for dioxin. Since only two wells are included in the Former Dip Tank Area AOI, MW-3.9 requires dioxin analysis.

MR Response:

MW-3.9 is not located within the Former Dip Tank AOI and dioxin has never been detected above the WQO at MW-3.9. However, dioxin and chlorophenols analysis at MW 3.9 will be proposed to monitor downgradient conditions from MW-3.12R.

19. Section 2.5.2.5.3 Powerhouse and Fuel Barn API and Water Treatment and truck Dump AOI (Polychlorinated Dibenzo-p-Dioxinsand PolychlorinatedDibenzofurans)

DTSC Comment:

These AOIs are within OU-E and need to be discussed in a section covering the OU- E groundwater monitoring program. Please include the data from the September 2018 baseline groundwater monitoring event. During that event, the calculated 1,2,7,8-TCDD TEQ for MW-4.2 was 0.46 pg/L. This well requires additional sampling to understand groundwater quality.

GP Response:

Results from the September 2018 baseline monitoring event will be added to the discussion. AOIs in OU-E will be discussed separately from OU-C and OU-D.

Although the calculated dioxin TEQ in the September 2018 monitoring event was greater than the WQO at MW-4.2, dioxin TEQ was two orders of magnitude lower and below the WQO in the February 2019 monitoring event. The February 2019 result is consistent with previous monitoring results (dioxin had not been detected at MW-4.2 previously), and therefore, the September 2018 result appears atypical. Additional monitoring for dioxin at MW-4.2 is not proposed.

Concentrations of dissolved barium at MW-4.2, MW-4.5, and MW-4.6 have been below the RG for four consecutive events. Concentrations of dissolved barium have been below the RG at MW-4.1 for three consecutive events and statistical analysis shows a decreasing trend. Concentrations of dissolved arsenic at MW-4.5 have been below the RG for four consecutive events. Concentrations of dissolved arsenic at MW-4.2 and MW 4.5 are occasionally above the RG, but statistical analysis indicates concentrations are decreasing or are consistently near background concentrations. Further, MW-4.2, MW 4.5, and MW-4.6 were kept after sampling was discontinued in CMP Update No. 1 and No. 5 to confirm the potentiometric surface for Wetland Establishment Area, which has been confirmed and therefore, their purpose has been served. Additional monitoring at wells in the AOI on a semi-annual basis every other year does not provide additional benefit. The revised O&M program is presented in Table 3, and the decision-making factors are summarized in Table 1-3.

20. Section 3: Groundwater Monitoring Network

DTSC Comment:

The methodology for selecting long-term monitoring well network must be based on the data needs for evaluating the natural attenuation remedy. Evaluate the monitoring network for each AOI with a groundwater remedial action. Do not discuss AOIs that do not have a groundwater remedial action. Discuss OU-E AOIs in a separate section.

The text states that select monitoring wells are proposed to be included in the O&M Plan as inactive wells and will only be sampled if upgradient conditions changes.

This is not acceptable. Wells that are part of a network of wells retained to evaluate the natural attenuation remedy require some monitoring. DTSC would accept a schedule of semiannual sampling once every five years for some wells. This schedule would provide the data needed to complete the five-year review and evaluate whether the remedy is protective and operating as designed.

GP Response:

Section headers will be revised to only refer to AOIs with a groundwater remedy, and groundwater conditions will be discussed by AOI. Discussion of AOIs without a remedial action will be removed (unless in a remedial action AOI network). AOIs in OU-E will be discussed separately.

The existing monitoring network has been re-evaluated to select monitoring wells appropriate for monitoring effectiveness of the remedy, and the remaining wells will be proposed for decommissioning. The revised O&M program is presented in Table 3.

21. Section 3.1 Parcel 2 AOI and Rail Lines West AOIs

DTSC Comment:

The O&M Plan text proposes a single monitoring well, MW-2.3, for implementation of the natural attenuation groundwater remedial action for Parcel 2 AOI.

However, Table 3: Proposed Long-Term Monitoring Program list both MW-2.2 and MW-2.3 for long-term monitoring. DTSC agrees including both these wells in the long-term natural attenuation monitoring. Further, MW-2.7 also has 1,2,7,8-TCDD TEQ measured above the remedial goal. Include MW-2.7 in the long-term natural attenuation groundwater monitoring program. MW-2.6 is down gradient from MW- 2.2, MW-2.3 and MW-2.7. MW-2.6 was non-detect for 1,2,7,8-TCDD TEQ during the baseline events of September 2018 and February 2019. Sampling MW-2.6 on a 5-year frequency is appropriate and necessary to determine if the 1,2,7,8-TCDD TEQ in groundwater has migrated down gradient.

MR Response:

Monitoring of dioxins at MW-2.2, MW-2.3, and MW-2.7 is proposed for the O&M program. However, dioxin has not been detected at MW-2.6 and it does not provide useful context for other wells in the AOI. Therefore, MW-2.6 is not proposed for the O&M program.

22. Section 3.2 Former Dip Tank Area AOI

DTSC Comment:

As mentioned in earlier comments, focus the discussion on the natural attenuation remedy for the AOI. MW-3.9 serves as a down gradient monitoring well for the Former Dip Tank Area AOI.

Comparison of contaminant detections to the federal Maximum Contaminant Level (MCL) is informative; however, the text must compare concentrations to the remedial goal for the AOI established in the OUs C and D RAP. DTSC agrees with MW-3.9 and MW-3.12R inclusion in the long-term natural attenuation groundwater monitoring program; however, MW-3.9 is currently not sampled for dioxins/furans. Add dioxins/furans to the constituent list for MW-3.9. This is necessary to provide a down-gradient sample point for the Former Dip Tank Area AOI.

MR Response:

See response to Comment #18. Dioxin has not been detected above the WQO at MW-3.9. However, MR recognizes the importance of a downgradient well. Therefore, dioxin and chlorophenols analysis at MW-3.9 will be proposed.

23. Section 3.3 Former AST AOI, MES/Pilot Study AOI, Dry Sheds #4/#5 AOI, and Rail Lines East AOI (MW-3.18)

DTSC Comment:

The wells discussed in this section are included in the Former AST AOI MES/Pilot Study AOI groundwater remedial action. DTSC does not agree with the proposed long-term (O&M) monitoring program. To provide a complete evaluation of the groundwater quality, please discuss the two baseline sample event data. Also, the last sentence in paragraph 2 states that well MW-3.9 will be included as an inactive well. However, Figure 2 and Table 1 identify the well as active. DTSC agrees with MW-3.9 as an active well and monitored semiannually every other year.

The text mentions that No Further Action (NFA) has been approved for the area surrounding MW-3.3 and MW-3.16R (the Dry Sheds #4 / #5). Please clarify that the NFA is for soil and that MW-3.3 and MW-3.16R are part of the groundwater monitoring well network for the Former MES/Pilot Study AOI and the Former AST AOI.

MW-3.2

Historically (2004 - 2010), tetrachloroethene was detected in MW-3.2 above the remedial goal of 0.06 µg/L. However, MW-3.2 has not been tested for Volatile Organic Compounds (VOCs) since 2010. MW-3.2 was not included in the baseline monitoring events for VOCs. Because of historic detections of VOCs and the proximity of other monitoring wells with VOC detections above the remedial goals, include MW 3.2 in the active O&M monitoring program for VOCs. MW-3.2 is already included in the O&M monitoring program for petroleum.

MW-3.3

During the baseline monitoring events, tetrachloroethene was detected in MW-3.3 above the remedial goal of 0.06 µg/L (2.0 µg/L in September 2018 and 1.6 µg/L in February 2019). MW-3.3 is an important downgradient well from MW-3.13 and helps delineate the VOC plume that is present in MW-3.13, MW-3.18 and MW-3.3. Include MW-3.3 in the biennial O&M monitoring program for VOCs.

MW-3.13

DTSC agrees with MW-3.13 inclusion in the biennial O&M program. No changes needed.

MW-3.16R

Historic (2008 - 2010) and baseline (2018 and 2019) monitoring for MW-3.16 has detected tetrachloroethene above the remedial goal of 0.06 µg/L. Include MW- 3.16R in the biennial O&M monitoring program for VOCs.

MW-3.17

VOCs have historically been detected in MW-3.17 and is appropriate for continued monitoring. Include MW-3.17 in the every 5-year monitoring schedule.

MW-3.18

Volatile Organic Compounds (VOCs) were detected in MW-3.18 in both baseline events above the remedial goals for the contaminants including 1,1-Dichloroethane just below the remedial goal of 3 µg/L, tetrachloroethene above the remedial goal of 0.06 µg/L (4.3 µg/L in September 2018 and 3.6 µg/L in February 2019) and trichloroethene at the remedial goal of 1.7 µg/L (1.7 µg/L in September 2018 and 1.6 µg/L in February 2019). Include MW-3.18 in the active list for the O&M monitoring program.

MR Response:

The text will be revised to clarify that NFA is for soil.

To evaluate trends at wells in the AOI, a Mann-Kendall test was used to complete the statistical evaluation. Results of the analysis are reported in Attachment 2. Based on this analysis, the proposed O&M program was revised. MW-3.2, MW-3.3, MW-3.13, MW 3.16R, and MW-3.18 will be included in the long-term monitoring program and monitored in Year 3 and Year 5; MW-3.17 will be included in Year 5 only. The revised O&M program is presented in Table 3, and the decision-making process is summarized in Table 1-1, Table 1-2, and Table 1-3.

24. Section 3.4 Former MS/IRM AOI and Rail Lines East AOI (MW-3.21)

DTSC Comment:

There is no groundwater remedy for Former MS/IRM AOI and Rail Lines East AOI. Sampling for MW-3.20 and MW-3.21 was discontinued in 2010. These wells were included in the 2018/2019 baseline monitoring event. Given that there is no groundwater remedy for the AOIs and the baseline events did not identify any contaminants of concerns, DTSC agrees with the classification of the wells as inactive. These two wells are also candidates for destruction. Monitoring well destruction will require a DTSC approved workplan.

GP Response:

This section will be removed in response to Comment #20. MW-3.20 and MW-3.21 are not included in the proposed O&M program and will be proposed for destruction.

25. Section 3.5 Powerhouse and Fuel Barn AOI and Water Treatment and Truck Dump AOI

DTSC Comment:

These AOIs are located within OU-E and do not yet have a groundwater remedial action. As mentioned in comments on Section 2, please discuss in a separate OU-E section.

GP Response:

OU-E will be discussed separately in Section 3.

26. Section 3.6 Sawmill #1 AOI and Miscellaneous AOI

DTSC Comment:

The Sawmill #1 AOI is within OU-E and the Miscellaneous AOI within OU-C. MW-5.7 and MW-5.9, located within the Sawmill #1 AOI, were included in the 2018/2019 baseline monitoring. Arsenic at MW-5.7 was measured at 20 µg/L in September 2019 and 8.1 µg/L in February 2019. Historic data for this well also shows that arsenic has been consistently measured above the arsenic background level of 2.5 µg/L. Include MW-5.7 in the biennial monitoring schedule. MW-5.7 can be placed in the every 5-year monitoring schedule.

MW-5.6 is located within the Miscellaneous AOI. There is no significant detection of contaminants for MW-5.6. Please clarify the No Further Action determination for the area surrounding MW-5.6 (Miscellaneous AOI). This was completed in the OUs C and D Remedial Investigation Report. Please reference the appropriate decision document when identifying no further action for this and other AOIs.

DTSC agrees with the assignment of MW-5.6 as an inactive well. Because this well is not within a groundwater remedial action area, Georgia-Pacific may consider destruction of this well. Monitoring well destruction will require a DTSC approved workplan.

GP Response:

See response to Comment #14. Miscellaneous AOI and Sawmill #1 AOI will be separated in the text.

It is noted that arsenic concentrations are likely the result of reductive geochemical conditions typically observed where degrading organic materials such as bark and wood chips are present. Monitoring wells that monitor arsenic concentrations in groundwater are monitoring localized geochemistry, rather than a groundwater plume. In the Sawmill #1 AOI, dissolved arsenic concentrations at MW-5.7 exceed the background screening criteria [2.5 micrograms per liter (µg/L)] but dissolved arsenic is not detected at MW 5.9. Monitoring had not been conducted at either location for 9+ years, and transitioning now to semi-annually every other year is more frequent than is warranted. Additionally, monitoring wells to be monitored for arsenic are monitoring changes in geochemistry conditions rather than a groundwater plume, and therefore, a downgradient well does not provide useful context. A revised monitoring program for Sawmill #1 AOI is presented in Table 3.

In the OU-C/D RI, MW-5.6 was evaluated as part of the Miscellaneous AOI (OU-C). NFA has been approved for the Miscellaneous AOI, and therefore, discussion of the Miscellaneous AOI and MW-5.6 will be removed from Section 3. MW-5.6 is not included in the proposed O&M program and will be proposed for destruction.

27. Section 3.7 IRM AOI and West of IRM AOI

DTSC Comment:

These AOIs are included in OU-E and do not have a remedial action defined in a RAP. DTSC agrees with the inclusion of monitoring wells MW-5.18, MW-5.20, and MW-5.21 in the semiannual every other year (years 1, 3, and 5) program. Please discuss that free petroleum product has been measured in MW-5.5 for several years and include that time frame. DTSC understands that because of the free product, analysis of the groundwater is not possible; however, reporting on the free product in the groundwater quality discussion is important to understanding petroleum issues within the IRM AOI. Therefore, specifically include measurement of free product as part of the monitoring program.

Until a groundwater remedial action has been finalized for OU-E, include MW-5.15 in the every five years monitoring program.

GP Response:

OU-E will be discussed separately in Section 3.

TPHg and TPHd at MW-5.15, MW-5.18, MW-5.20, and MW-5.21 have been below the Regional Water Quality Control Board (RWQCB) non-risk-based taste and odor objectives and site-specific risk-based screening concentrations (RBSCs) for aromatics and aliphatics for four consecutive events. However, MW-5.5 is upgradient and contains liquid-phase hydrocarbons (LPH). MW-5.20 is downgradient of MW-5.5 and is proposed to be monitored when liquid level measurements are collected at MW-5.5. Monitoring at MW 5.15, MW-5.18, and MW-5.21 is duplicative and therefore, the wells are proposed for destruction. A revised monitoring program for IRM AOI and West of IRM AOI is presented in Table 3.

28. Section 3.8 Planer #2 AOI

DTSC Comment:

The monitoring well network for Planer #2 AOI includes two distinct areas. One addressing VOCs (MW-6.3, MW-6.6, MW-6.7, MW-6.8, MW-6.9, MW-6.10, and MW-6.11) and the other addressing arsenic (MW-6.3, 6.4 and 6.5).

The O&M Plan proposes limiting the VOC plume monitoring well network to three monitoring wells: MW-6.7, MW-6.10 and MW-6.3 (Table 3: Proposed Long-Term Monitoring Program). However, according to the text, MW-6.10 is proposed as inactive. Monitoring wells MW-6.6, MW-6.8, MW-6.9, and MW-6.11 all have significant detection of VOCs including some with 1,1-DCE above remedial goals. Because the objective of the O&M Plan is to monitor attenuation of contaminants in groundwater all monitoring wells with significant detections (MW-6.3, MW-6.6, MW- 6.7, MW-6.8, MW-6.9, MW-6.10 and MW-6.11) need to be included in the O&M monitoring network and included in the biennial monitoring schedule. Monitoring wells MW-6.4 and MW-6.5 were included in the 2018/2019 baseline monitoring event. During the 2018/2019 baseline monitoring event MW-6.4 was non-detect for VOCs and MW-6.5 showed very low levels of 1,1-dichloroethane (1,1-De A). MW-6.4 can be removed from the VOC monitoring schedule. Include MW-6.5 in the every 5-year monitoring schedule.

This section does not discuss arsenic monitoring for Planer #2 AOI. Arsenic above the remedial goal was measured in September 2018 and February 2019 in MW-6.3 and in September 2018 at MW-6.5. MW-6.4 was only recently analyzed in September 2018 and was below the remedial goal for arsenic. The concentration of arsenic in MW-6.3 and MW-6.4 shows significant variation between the two events with the highest concentrations measured in September. Include MW-6.3 and MW-6.5 in the biennial monitoring schedule. Because very little recent information is available for MW-6.4 also include this monitoring well in the biennial sampling program. This well network can be reevaluated during the first five-year review.

GP Response:

See response to Comment #16. In CMP Update No. 6, monitoring at MW-6.4, MW-6.6, MW-6.8, and MW-6.9 was discontinued because the Planer #2 wells were installed to evaluate remedial effectiveness of a proposed pilot study, and due to their proximity were duplicative in the context of evaluating constituents in groundwater. Monitoring at MW-6.5 had already been discontinued in CMP Update No. 5. Based on an evaluation of concentration trends and the Planer #2 network, three wells were identified as representative of the AOI: MW-6.7 (source area), MW-6.10 (transition area), and MW-6.3 (downgradient).

Concentration trends were re-evaluated herein using a Mann-Kendall test to include monitoring data collected since 2013. As shown in Table 3, statistical analysis indicates that concentrations of 1,1-DCE are decreasing, probably decreasing, or stable at Planer #2 monitoring wells, despite the “saw tooth” trend indicated by DTSC, and many constituents are either below RGs or non-detect. Further, the saw tooth nature of the trends represents seasonal variability. When data is viewed from each season independently, the trends are likewise stable or decreasing. Therefore, the Planer #2 network proposed and approved in CMP Update No. 6 is still appropriate and representative of groundwater conditions in the AOI. MW-6.4, MW-6.6, MW-6.8, MW 6.9, and MW-6.11 are proposed for destruction.

An arsenic discussion will be added to the section. It is noted that arsenic concentrations are likely the result of reductive geochemical conditions typically observed where degrading organic materials such as bark and wood chips are present. Monitoring wells that monitor arsenic concentrations in groundwater are monitoring localized geochemistry, rather than a groundwater plume.

Based on this analysis, the proposed O&M program was revised. The revised O&M program is presented in Table 3.

29. Section 3.9 Sawmill/Sorter AOI

DTSC Comment:

The groundwater remedial action for the Sawmill/Sorter AOI includes natural attenuation of groundwater, O&M Plan specifying groundwater monitoring requirements, and restrictions on the use of groundwater. The O&M Plan proposed that all three monitoring wells in this AOI be placed in the inactive program. Until the recent baseline groundwater monitoring events of 2018 and 2019, the monitoring wells in the Sawmill/Sorter Area had not been tested since 2010. Arsenic was measured above the remedial goal of 2.5 µg/L in MW-7.1 (4 µg/L in September 2018 and 14 µg/L in February 2019) and MW-7.3 (33 µg/L in September 2018 and 31 µg/L in February 2019). Arsenic in MW-7.2 was above the remedial goal when measure in 2019 and 2010, but was non-detect in September 2018 and February 2019.

In order to implement the groundwater remedial action, include MW-7.1 and MW-7.3 in the biennial monitoring program. Because of the historic detection of arsenic in MW-7.2 and the wells location as an upgradient monitoring well, include MW-7.2 in the every five-year schedule.

GP Response:

MW-7.1, MW-7.2, and MW-7.3 will be included in the O&M program. However, statistical analysis indicates concentrations are stable to decreasing, and therefore, GP disagrees that monitoring semi-annually in every other year is necessary. Monitoring is proposed for Year 5 only. A revised monitoring program for the Sawmill/Sorter AOI is presented in Table 3.

It is noted that the elevated arsenic concentrations may be a result of reductive geochemical conditions typically observed where degrading organic materials such as bark and wood chips are present. This is consistent with the evaluation reported in the MNA Tech Report (Arcadis 2013) and is supported by field parameters measured at the time of sampling during the baseline monitoring events.

30. <u>Section 3.10 Greenhouse AOI</u>

DTSC Comment:

Table 3: Proposed Long-Term Monitoring Program includes MW-9.2 and MW-9.3 in the long-term monitoring program (semiannual sampling every two years). The text proposes that only MW-9.2 be included in the long-term monitoring program. DTSC agrees the monitoring program for the Greenhouse AOI found in Table 3. Include MW-9.2 and MW-9.3 in the biennial program. Include MW-9.1 in the every five-year monitoring program.

GP Response:

In the Greenhouse AOI, atrazine concentrations at MW-9.1 and MW-9.3 have been below the RGs for four consecutive events. Atrazine has not been detected at MW-9.1. Atrazine is detected at MW-9.2 approximately at the RG, well below the MCL, and statistical analysis indicates that concentrations at MW-9.2 are decreasing. Therefore, MW 9.1, MW-9.2, and MW-9.3 are proposed for decommissioning and groundwater in the Greenhouse AOI is proposed for no further action. A summary of the decision-making process for the Greenhouse AOI is presented in Table 1-2.

31. <u>Section 4.1 Groundwater Operations and Maintenance Groundwater Monitoring Program and Objectives.</u>

DTSC Comment:

Please see comment number 4 above regarding Section 1.5 Objectives.

Also, the O&M groundwater monitoring program only applies to monitoring wells included in a groundwater remedial action for OUs e and D. Monitoring wells in OU- E are part of a continuing monitoring program and data will be used to support a future RAP. Please reference Table 3 and rename the table Long-Term Monitoring Program.

GP and MR Response:

Noted. Table 3 will be renamed as requested.

32. Section 4.2 Monitoring Frequency

DTSC Comment:

DTSC's comments on specific AOIs provide the acceptable monitoring frequency for both O&M and OU-E monitoring wells. The table below list the acceptable monitoring well program, including frequency. Biennial monitoring (years 1, 3, and 5) is acceptable for many monitoring wells. DTSC does not agree with placing wells on inactive status unless the wells provide no purpose in the O&M or OU-E monitoring program. Some of the well's monitoring frequencies can be reduced to semiannually every five years. These wells will provide data needed to complete the Five-Year Review.

[Tables associated with this comment were not reproduced.]

GP and MR Response:

The existing monitoring wells were re-evaluated, and a summary of the decision-making process is presented in Table 1-1, Table 1-2, and Table 1-3. To evaluate trends at wells in the AOI, a Mann-Kendall test was used to complete the statistical evaluation. Results of the analysis are reported in Attachment 2. Based on this analysis, the proposed O&M program was revised. The revised O&M program is presented in Table 3. A comparison of the program requested in Comment #32 and the revised proposed program is presented in Table 2.

33. Section 4.5 Adapting to Changes in Groundwater Conditions

DTSC Comment:

Given that OUs C and D groundwater is now in O&M and that Year 1 data is now available and being used to establish the O&M monitoring program, the Five-Year Review report is an appropriate report to evaluate groundwater conditions and make recommendations for changes to the O&M monitoring program. The five-year cycle will provide the needed data points (three years of semiannual monitoring) to complete regression analysis and document if monitoring wells consistently meet remedial goals. Please reference the DTSC approved Monitored Natural Attenuation Technical Report (2013) and generally describe the method and criteria used to determine if natural attenuation is occurring. The Five-Year Review is also the appropriate report to make recommendations of No Further Action at an AOI. Contaminants levels in groundwater at an AOI must be below remedial goals for at least two consecutive years of semiannual sampling for DTSC to consider for No Further Action.

GP and MR Response:

The text will be revised to specify that the O&M program will be evaluated in the Five-Year Review report and the requested reference to the 2013 MNA Tech Report will be added. The text will be revised to clarify that NFA is appropriate for groundwater in an AOI if monitoring indicates that groundwater is below the remedial goal for at least four consecutive events.

34. Section 5: Reporting

DTSC Comment:

Because OUs C and D are in the O&M phase of the remediation please refer to those reports (for OUs C and D) as O&M groundwater monitoring reports. Provide a separate report for OU-E. These reports can be combined in a single document.

Discuss the Five-Year Review for the OUs C and D groundwater remedial action.

GP and MR Response:

Text will be added to clarify that the monitoring program will be evaluated in the Five-Year Review and that monitoring for OU-C and OU-D will be presented separately, though in the same document, from OU-E.

Very truly yours,

Kennedy/Jenks Consultants, Inc.

Jeremie Maehr, PE
Principal Engineer

Attachments:

Table 1-1	Summary of Decision-Making Process – Mendocino Railway AOIs in OU-C
Table 1-2	Summary of Decision-Making Process – GP AOIs in OU-C/D
Table 1-3	Summary of Decision-Making Process – GP AOIs in OU-E
Table 2	Comparison of DTSC Comment 32 and Proposed Program
Table 3	Long-Term Monitoring Program
Table 4	Summary of Monitoring History
Table 5	Wells Proposed for Decommissioning
Figure 1	Existing Monitoring Wells, Operable Unit C, Mendocino Railway Property
Figure 2	Existing Monitoring Wells, Operable Unit D, Georgia-Pacific Property
Figure 3	Existing Monitoring Wells, Operable Unit D, Georgia-Pacific Property
Figure 4	Existing Monitoring Wells, Operable Unit E, Georgia-Pacific Property
Figure 5	Planer #2 AOI
Attachment 1	Recent Monitoring Data by AOI
Attachment 2	Mann-Kendall Results
Attachment 3	Historical Data

References:

ARCADIS. 2013. Monitored Natural Attenuation Technical Report, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. March.

ARCADIS. 2015. Remedial Action Plan Operable Units C and D, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. June.

Department of Toxic Substances Control (DTSC). 2019. Site-Wide Groundwater Operation and Maintenance Plan, Former Georgia-Pacific Wood Products Facility, Fort Bragg, California. 30 July.

cc: Craig Hunt, North Coast Regional Water Quality Control Board
David Massengill, Georgia-Pacific
J. Michael Davis, Georgia-Pacific
Mike Buck, Mendocino Railway

Tables

Table 1-1: Summary of Decision-Making Process - Mendocino Railway AOIs in OU-C

Monitoring Well ID	OU	Constituent(s)	Status of Constituent Concentrations (Qualitative)	Below RG for Four Consecutive Events?	Trend Reported in MNA Technical Report (2013)	Mann-Kendall Result Summary (2019)	Purpose	Recommendation
Parcel 2 AOI								
MW-2.2	C	dioxins/furans	Exceed RG	No	Not evaluated	Increasing	Downgradient	Include in long-term monitoring network as downgradient well
MW-2.3	C	dioxins/furans	Exceed RG	No	Decreasing	No trend	Source	Include in long-term monitoring network as source MW
MW-2.6	C	dioxins/furans	Non-detect	Yes - Never detected	Not evaluated	Not evaluated	None	Does not exceed RGs. Monitoring same condition as other MWs nearby. A source and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
MW-2.7	C	dioxins/furans	Exceed RG	No	Not evaluated	Not evaluated	Upgradient	Include in long-term monitoring network as upgradient well
Former AST and MES/Pilot Study AOIs								
MW-3.2	C	TPHd, VOCs	TPHd, benzene, PCE detections above RGs. All others non-detect or below RG.	No	TPHd increasing; benzene no trend; PCE decreasing	TPHd no trend; benzene no trend; PCE decreasing	Source	Include in long-term monitoring network as source MW
MW-3.3	C	VOCs	PCE detections above RGs. All others non-detect or below RG.	PCE - No; all others yes	No trend	PCE decreasing	Downgradient	Include in long-term monitoring network as downgradient well
MW-3.13	C	TPHd, VOCs	TPHd, PCE, and TCE detections above RGs. All others non-detect or below RG.	TPHd, PCE, TCE - No; all others yes	Decreasing	TPHd, PCE, and TCE decreasing	Source	Include in long-term monitoring network as source MW
MW-3.17	C	VOCs	Non-detect or below RGs	Yes	Decreasing	Stable / decreasing	Upgradient	Include in long-term monitoring network as upgradient well
MW-3.16R	C	VOCs	PCE detections above RGs. All others non-detect or below RG.	PCE - No; all others yes	Decreasing	PCE decreasing	Downgradient	Include in long-term monitoring network as downgradient well
MW-3.18	C	VOCs	PCE and TCE detections above RGs. All others non-detect or below RG.	PCE, TCE - No; all others yes	Not evaluated	PCE no trend; TCE increasing	Downgradient	Include in long-term monitoring network as downgradient well
Former Dip Tank AOI								
MW-3.12R	C	dioxins/furans, chlorophenols	Exceed RG	No	Not evaluated	Dioxins/furans no trend; PCP decreasing	Source	Include in long-term monitoring network as source MW
MW-3.9	C	dioxins/furans, chlorophenols	Non-detect	Yes	Not evaluated	No trend	Downgradient	Include in long-term monitoring network as downgradient well

Notes:

(light green) Reason to include in long-term monitoring network
(blue) Reason not to include in long-term monitoring network
(gray) Does not add information

Abbreviations:

--	not applicable	OU	Operable Unit
AOI	area of interest	RG	Remedial Goal
AST	aboveground storage tank	PCE	tetrachloroethene
MES	Mobile Equipment Shop	TCE	trichloroethene
MW	monitoring well	1,1-DCA	1,1-dichloroethane
PCP	Pentachlorophenol	1,1-DCE	1,1-dichloroethene
VOC	volatile organic compounds	TPHd	total petroleum hydrocarbons as diesel

Table 1-2: Summary of Decision-Making Process - GP AOIs in OU-C/D

Monitoring Well ID	OU	Constituent(s)	Status of Constituent Concentrations (Qualitative)	Below RG for Four Consecutive Events?	Trend Reported in MNA Technical Report (2013)	Mann-Kendall Result Summary (2019)	Purpose	Recommendation
Planer #2 AOI								
MW-6.3	D	dissolved arsenic, VOCs	Arsenic detection above RG. VOCs non-detect or below RGs.	Arsenic - No; VOCs - Yes	Decreasing	Arsenic decreasing	Downgradient	Include in long-term monitoring network as downgradient well
MW-6.4	D	dissolved arsenic	Below RG	Below RGs for three of last four events	Not evaluated	Decreasing	None	Arsenic below RGs for three of last four events and trend is decreasing. Propose to decommission.
MW-6.5	D	dissolved arsenic	Exceed RG	No	Not evaluated	Stable	Geochemistry	Include in long-term monitoring network
MW-6.6	D	VOCs	1,1-DCE exceeds RG. All others non-detect or below RGs.	1,1-DCE - No; all others yes	Decreasing	1,1-DCE decreasing	None	Monitoring same condition as other MWs nearby. A source, transition zone, and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
MW-6.7	D	VOCs	1,1-DCA and 1,1-DCE detections above RGs. All others non-detect or below RG.	1,1-DCE, 1,1-DCA - No; all others yes	1,1-DCA decreasing; 1,1-DCE increasing	1,1-DCA decreasing; 1,1-DCE stable	Source	Include in long-term monitoring network as source MW
MW-6.8	D	VOCs	1,1-DCE exceeds RG. All others non-detect or below RGs.	1,1-DCE, 1,1-DCA - No; all others yes	1,1-DCA decreasing; 1,1-DCE no trend	1,1-DCA decreasing; 1,1-DCE stable	None	Monitoring same condition as other MWs nearby. A source, transition zone, and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
MW-6.9	D	VOCs	Non-detect or below RGs	Yes	Not evaluated	Decreasing	None	Monitoring same condition as other MWs nearby. A source, transition zone, and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
MW-6.10	D	VOCs	1,1-DCE exceeds RG. All others non-detect or below RGs.	1,1-DCE, 1,1-DCA - No; all others yes	1,1-DCA decreasing; 1,1-DCE no trend	1,1-DCA and 1,1-DCE stable	Transition	Include in long-term monitoring network as transition zone MW
MW-6.11	D	VOCs	1,1-DCA detection above RG. All others non-detect or below RG.	1,1-DCE, 1,1-DCA - No; all others yes	Not evaluated	Not evaluated	None	Monitoring same condition as other MWs nearby. A source, transition zone, and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
Sawmill/Sorter AOI								
MW-7.1	D	dissolved arsenic	Exceed RG	No	No trend	Stable	Geochemistry	Include in long-term monitoring network as source MW
MW-7.2	D	dissolved arsenic	Non-detect	Non-detect for two consecutive events	Decreasing	Decreasing	Upgradient	Include in long-term monitoring network as upgradient well
MW-7.3	D	dissolved arsenic	Exceed RG	No	Not evaluated	No trend	Geochemistry	Include in long-term monitoring network as source MW
Greenhouse AOI								
MW-9.1	D	atrazine	Non-detect	Yes - Never detected	Not evaluated	Not evaluated	None	Atrazine at MW-9.1 and MW-9.3 is consistently non-detect, and atrazine concentrations at MW-9.2 are on a decreasing trend and approaching the remedial goal. Atrazine at MW-9.1, MW-9.2, and MW-9.3 is consistently below the MCL. Therefore, these wells are proposed for decommissioning and groundwater in the AOI is proposed for no further action.
MW-9.2	D	atrazine	Exceed RG	No	Decreasing	Decreasing	None	
MW-9.3	D	atrazine	Non-detect	Yes	No trend	Stable	None	
GP and DTSC Concur - Candidates for Destruction								
Former MES/IRM AOI								
MW-3.20	C	No Further Action is approved for groundwater in this AOI - Propose to decommission						
MW-3.21	C							
Miscellaneous AOI								
MW-5.6	D	No Further Action is approved for groundwater in this AOI - Propose to decommission						

Notes:

- (light green) Reason to include in long-term monitoring network
- (blue) Reason not to include in long-term monitoring network
- (grey) Does not add information

Abbreviations:

--	not applicable	OU	Operable Unit
AOI	area of interest	RG	Remedial Goal
IRM	interim remedial measure	PCE	tetrachloroethene
MES	Mobile Equipment Shop	TCE	trichloroethene
MW	monitoring well	1,1-DCA	1,1-dichloroethane
VOC	volatile organic compounds	1,1-DCE	1,1-dichloroethene

Kennedy Jenks

Table 1-3: Summary of Decision-Making Process - GP AOIs in OU-E

Monitoring Well ID	OU	Constituent(s)	Status of Constituent Concentrations (Qualitative)	Below RG for Four Consecutive Events?	Trend Reported in MNA Technical Report (2013)	Mann-Kendall Result Summary (2019)	Purpose	Recommendation
Lowland Groundwater (Powerhouse and Fuel Barn, Water Treatment and Truck Dump, Sawmill #1 AOIs)								
MW-4.1	E	dissolved barium	Below RG	Below RGs for three consecutive events	Not evaluated	Decreasing	Geochemistry	Include in long-term monitoring network. Barium was below the water quality objective in the last three monitoring events and the trend is decreasing. It is expected that the criteria of four consecutive monitoring events below the screening critera will be met after the next monitoring event.
MW-4.2	E	dissolved barium, dissolved arsenic	Generally below RG	Arsenic - at or below RGs for three of last four events; Barium - Yes	Not evaluated	Decreasing	None	Intended to confirm pontentiometric surface for Wetland Establishment Area. This has been confirmed, and therefore the well has served its purpose. Arsenic below RGs for three of last four events and trend is decreasing. Barium below RGs for four consecutive events. Propose to decommission.
MW-4.5	E	dissolved barium, dissolved arsenic	Below RG	Yes	Not evaluated	No trend	None	Intended to confirm pontentiometric surface for Wetland Establishment Area. This has been confirmed, and therefore the well has served its purpose. Arsenic and barium below RGs for four consecutive events. Propose to decommission.
MW-4.6	E	dissolved barium, dissolved arsenic	Generally below RG	Arsenic - at or below RGs for three of last four events; Barium - Yes	Not evaluated	Stable	None	Intended to confirm pontentiometric surface for Wetland Establishment Area. This has been confirmed, and therefore the well has served its purpose. Arsenic below RGs for three of last four events and trend is decreasing. Barium below RGs for four consecutive events. Propose to decommission.
MW-5.7	E	dissolved arsenic	Exceed RG	No	Not evaluated	Increasing	Geochemistry	Include in long-term monitoring network
MW-5.9	E	dissolved arsenic	Non-detect or below RG	Yes	Not evaluated	Not evaluated	None	Arsenic is consistently below the RG. Propose for decommissioning.
IRM and West of IRM AOIs								
MW-5.5 [(a)]	E	TPH	Contains product	--	Not evaluated	Not evaluated	Source	Include in long-term monitoring network as source MW
MW-5.15	E	TPHg, TPHd	Non-detect or below RG	Yes	Not evaluated	Not evaluated	None	Monitoring same condition as other MWs nearby. A source and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
MW-5.18	E	TPHg, TPHd	Non-detect or below RG	Yes	Not evaluated	Stable / decreasing	None	Monitoring same condition as other MWs nearby. A source and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.
MW-5.20	E	TPHg, TPHd	Non-detect or below RG	Yes	Not evaluated	Stable / decreasing	Downgradient	Include in long-term monitoring network as downgradient well
MW-5.21	E	TPHg, TPHd	Non-detect or below RG	Yes	Not evaluated	Decreasing	None	Monitoring same condition as other MWs nearby. A source and downgradient well have been identified. This well is duplicative, and is therefore proposed for decommissioning.

Notes:

- (light green) Reason to include in long-term monitoring network
- (blue) Reason not to include in long-term monitoring network
- (grey) Does not add information

Abbreviations:

--	not applicable	OU	Operable Unit
AOI	area of interest	RG	Remedial Goal
IRM	interim remedial measure	TPH	total petroleum hydrocarbons
MW	monitoring well	TPHd	total petroleum hydrocarbons as diesel
		TPHg	total petroleum hydrocarbons as gasoline

Kennedy Jenks

Table 2: Comparison of DTSC Comment 32 and Proposed Program

Monitoring Well ID	OU	AOI	Proposed Program per DTSC Comment 32: Proposed Frequency	Proposed Program per DTSC Comment 32: Proposed Constituent	Proposed Program per DTSC Comment 32: Candidate for Destruction?	Revised Program: Proposed Frequency	Revised Program: Proposed Constituent	Revised Program: Candidate for Destruction?	Length of Break in Monitoring	Proposed Change from DTSC Comment 32
OU-C/D										
Parcel 2 AOI										
MW-2.2	C	Parcel 2	SA-ALT	dioxins/furans	--	SA-ALT	dioxins/furans	--	0	No change
MW-2.3	C	Parcel 2	SA-ALT	dioxins/furans	--	SA-ALT	dioxins/furans	--	0	No change
MW-2.6	C	Parcel 2	SA-5	dioxins/furans	--	NS	--	Yes	13	Propose to decommission
MW-2.7	C	Rail Lines West	SA-ALT	dioxins/furans	--	SA-ALT	dioxins/furans	--	12	No change
Former AST and MES/Pilot Study AOIs										
MW-3.2	C	Former MES/Pilot Study	SA-ALT	TPHg, TPHd, VOCs	--	SA-ALT	TPHd, benzene, 1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	0	Propose focused VOC analyte list
MW-3.3	C	Dry Sheds #4/#5	SA-ALT	VOCs	--	SA-ALT	1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	12	Propose focused VOC analyte list
MW-3.13	C	Former AST	SA-ALT	TPHg, TPHd, VOCs	--	SA-ALT	TPHd, 1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	0	Propose focused VOC analyte list
MW-3.17	C	Former AST	SA-5	VOCs	--	SA-5	1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	9	Propose focused VOC analyte list
MW-3.16R	C	Dry Sheds #4/#5	SA-ALT	VOCs	--	SA-ALT	1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	6	Propose focused VOC analyte list
MW-3.18	C	Rail Lines East	SA-ALT	VOCs	--	SA-ALT	1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	9	Propose focused VOC analyte list
Former Dip Tank AOI										
MW-3.12R	C	Former Dip Tank	SA-ALT	dioxins/furans, chlorophenols	--	SA-ALT	dioxins/furans, chlorophenols	--	0	No change
MW-3.9	C	Former Planer #1/Planer #50	SA-ALT	dioxins/furans, chlorophenols	--	SA-ALT	dioxins/furans, chlorophenols	--	0	No change
Planer #2 AOI										
MW-6.3	D	Planer #2	SA-ALT	arsenic, VOCs	--	SA-5	dissolved arsenic, 1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	0	Propose in Year 5 only, focused VOC analyte list
MW-6.4	D	Planer #2	SA-ALT	arsenic	--	NS	--	Yes	6	Propose to decommission
MW-6.5	D	Planer #2	SA-5	arsenic	--	SA-5	dissolved arsenic	--	9	No change
MW-6.6	D	Planer #2	SA-ALT	VOCs	--	NS	--	Yes	6	Propose to decommission
MW-6.7	D	Planer #2	SA-ALT	VOCs	--	SA-5	1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	0	Propose in Year 5 only; focused VOC analyte list
MW-6.8	D	Planer #2	SA-ALT	VOCs	--	NS	--	Yes	6	Propose to decommission
MW-6.9	D	Planer #2	SA-ALT	VOCs	--	NS	--	Yes	7	Propose to decommission
MW-6.10	D	Planer #2	SA-ALT	VOCs	--	SA-5	1,1-DCA, 1,1-DCE, PCE, TCE, VC	--	0	Propose in Year 5 only; focused VOC analyte list
MW-6.11	D	Planer #2	SA-ALT	VOCs	--	NS	--	Yes	9	Propose to decommission

Table 2: Comparison of DTSC Comment 32 and Proposed Program

Monitoring Well ID	OU	AOI	Proposed Program per DTSC Comment 32			Revised Program			Length of Break in Monitoring	Proposed Change from DTSC Comment 32
			Proposed Frequency	Proposed Constituent	Candidate for Destruction?	Proposed Frequency	Proposed Constituent	Candidate for Destruction?		
Sawmill/Sorter AOI										
MW-7.1	D	Sawmill/Sorter	SA-ALT	arsenic	--	SA-5	dissolved arsenic	--	12	Propose in Year 5 only
MW-7.2	D	Sawmill/Sorter	SA-5	arsenic	--	SA-5	dissolved arsenic	--	9	No change
MW-7.3	D	Sawmill/Sorter	SA-ALT	arsenic	--	SA-5	dissolved arsenic	--	9	Propose in Year 5 only
Greenhouse AOI										
MW-9.1	D	Greenhouse	SA-5	atrazine	--	NS	--	Yes	--	Propose to decommission
MW-9.2	D	Greenhouse	SA-ALT	atrazine	--	NS	--	Yes	0	Propose to decommission
MW-9.3	D	Greenhouse	SA-ALT	atrazine	--	NS	--	Yes	0	Propose to decommission
OU-E										
Lowland Groundwater (Powerhouse and Fuel Barn, Water Treatment and Truck Dump, Sawmill #1 AOIs)										
MW-4.1	E	Powerhouse and Fuel Barn	SA-ALT	barium	--	SA-5	dissolved barium	--	0	Propose in Year 5 only
MW-4.2	E	Water Treatment and Truck Dump	SA-ALT	barium, arsenic	--	NS	--	Yes	12	Propose to decommission
MW-4.5	E	Powerhouse and Fuel Barn	SA-5	barium, arsenic	--	NS	--	Yes	9	Propose to decommission
MW-4.6	E	Powerhouse and Fuel Barn	SA-5	barium, arsenic	--	NS	--	Yes	9	Propose to decommission
MW-5.7	E	Sawmill #1	SA-ALT	arsenic	--	SA-5	dissolved arsenic	--	9	Propose in Year 5 only
MW-5.9	E	Sawmill #1	SA-5	barium, arsenic	--	NS	--	Yes	12	Propose to decommission
IRM and West of IRM AOIs										
MW-5.5 [(a)]	E	IRM	SA-ALT	Petroleum product	--	SA-ALT	TPH	--	--	No change
MW-5.15	E	West of IRM	SA-5	TPHg, TPHd	--	NS	--	Yes	9	Propose to decommission
MW-5.18	E	West of IRM	SA-ALT	TPHg, TPHd	--	NS	--	Yes	0	Propose to decommission
MW-5.20	E	West of IRM	SA-ALT	TPHg, TPHd	--	SA-ALT	TPHg, TPHd	--	0	No change
MW-5.21	E	West of IRM	SA-ALT	TPHg, TPHd	--	NS	--	Yes	0	Propose to decommission

Table 2: Comparison of DTSC Comment 32 and Proposed Program

Monitoring Well ID	OU	AOI	Proposed Program per DTSC Comment 32: Proposed Frequency	Proposed Constituent	Candidate for Destruction?	Revised Program: Proposed Frequency	Proposed Constituent	Candidate for Destruction?	Length of Break in Monitoring	Proposed Change from DTSC Comment 32
Candidates for Destruction										
Former MES/IRM AOI										
MW-3.20	C	Former MS/IRM	NS	--	Yes	NS	Groundwater in AOI is approved for no further action	Yes	--	No change
MW-3.21	C	Rail Lines East	NS	--	Yes	NS		Yes	--	No change
Miscellaneous AOI										
MW-5.6	D	Miscellaneous	NS	--	Yes	NS	Groundwater in AOI is approved for no further action	Yes	--	No change

Notes:

(shaded)	Change proposed to program presented by DTSC in Comment 32
*	replacement well for MW-3.12
--	not applicable
AOI	area of interest
AST	aboveground storage tank
IRM	interim remedial measure
MES	Mobile Equipment Shop
MW	monitoring well
SA	Semi-annual (two per year)
SA-ALT	Semi-annual (two per year) in alternating years (e.g., semi-annual monitoring in Year 3 and Year 5)
SA-5	Semi-annual (two per year) in Year 5 only
NS	not regularly sampled
OU	operable unit
PCDD	polychlorinated dibenzo-p-dioxin
PCDF	polychlorinated dibenzofuran
TPHd	total petroleum hydrocarbons as diesel
TPHg	total petroleum hydrocarbons as gasoline
VOC	volatile organic compound
CMP	Comprehensive Monitoring Plan

Table 3: Long-Term Monitoring Network

Monitoring Well ID	OU	Parcel	Purpose	Year Completed (b)	Proposed Year(s)	Proposed Frequency	AOI	Dissolved CAM-17 Metals by USEPA Method 6020	TPHg by USEPA Method 8260B	TPHd by USEPA Methods 8015B/3630C with silica gel cleanup	VOCs by USEPA Method 8260B	PCP by USEPA Method 8270 SIM	PCDDs/PCDFs by USEPA Method 8290	Atrazine by USEPA Method 619	Constituent
OU-C/D															
Mendocino Railway Property															
Parcel 2 AOI															
MW-2.2	C	2	Downgradient	1	3, 5	SA	Parcel 2						•		dioxins/furans
MW-2.3	C	2	Source	1	3, 5	SA	Parcel 2						•		dioxins/furans
MW-2.7	C	3	Upgradient	1	3, 5	SA	Rail Lines West						•		dioxins/furans
Former AST and MES/Pilot Study AOIs															
MW-3.2	C	3	Source	1	3, 5	SA	Former MES/Pilot Study			•	•				TPHd, benzene, 1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.3	C	3	Downgradient	1	3, 5	SA	Dry Sheds #4/#5				•				1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.13	C	3	Source	1	3, 5	SA	Former AST			•	•				TPHd, 1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.17	C	3	Upgradient	1	5	SA	Former AST				•				1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.16R	C	3	Downgradient	1	3, 5	SA	Dry Sheds #4/#5				•				1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-3.18	C	3	Downgradient	1	3, 5	SA	Rail Lines East				•				1,1-DCA, 1,1-DCE, PCE, TCE, VC
Former Dip Tank AOI															
MW-3.12R	C	3	Source	1	3, 5	SA	Former Dip Tank					•	•		dioxins/furans, chlorophenols
MW-3.9	C	3	Downgradient	1	3, 5	SA	Former Planer #1/Planer #50					•	•		dioxins/furans, chlorophenols

Table 3: Long-Term Monitoring Network

Monitoring Well ID	OU	Parcel	Purpose	Year Completed (b)	Proposed Year(s)	Proposed Frequency	AOI	Dissolved CAM-17 Metals by USEPA Method 6020	TPHg by USEPA Method 8260B	TPHd by USEPA Methods 8015B/3630C with silica gel cleanup	VOCs by USEPA Method 8260B	PCP by USEPA Method 8270 SIM	PCDDs/PCDFs by USEPA Method 8290	Atrazine by USEPA Method 619	Constituent
Georgia-Pacific Property															
Planer #2 AOI															
MW-6.3	D	6	Downgradient	1	5	SA	Planer #2	●			●				dissolved arsenic, 1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-6.5	D	6	Geochemistry	1	5	SA	Planer #2	●							dissolved arsenic
MW-6.7	D	6	Source	1	5	SA	Planer #2				●				1,1-DCA, 1,1-DCE, PCE, TCE, VC
MW-6.10	D	6	Transition	1	5	SA	Planer #2				●				1,1-DCA, 1,1-DCE, PCE, TCE, VC
Sawmill/Sorter AOI															
MW-7.1	D	7	Geochemistry	1	5	SA	Sawmill/Sorter	●							dissolved arsenic
MW-7.2	D	7	Upgradient	1	5	SA	Sawmill/Sorter	●							dissolved arsenic
MW-7.3	D	7	Geochemistry	1	5	SA	Sawmill/Sorter	●							dissolved arsenic

Table 3: Long-Term Monitoring Network

Monitoring Well ID	OU	Parcel	Purpose	Year Completed (b)	Proposed Year(s)	Proposed Frequency	AOI	Dissolved CAM-17 Metals by USEPA Method 6020	TPHg by USEPA Method 8260B	TPHd by USEPA Methods 8015B/3630C with silica gel cleanup	VOCs by USEPA Method 8260B	PCP by USEPA Method 8270 SIM	PCDDs/PCDFs by USEPA Method 8290	Atrazine by USEPA Method 619	Constituent
OU-E															
Lowland Groundwater (Powerhouse and Fuel Barn, Water Treatment and Truck Dump, Sawmill #1 AOIs)															
MW-4.1	E	4	Geochemistry	1	5	A	Powerhouse and Fuel Barn	•							dissolved barium
MW-5.7	E	5	Geochemistry	1	5	SA	Sawmill #1	•							dissolved arsenic
IRM and West of IRM AOIs															
MW-5.5 [(a)]	E	5	Source	1	3, 5	SA	IRM		•	•					TPH
MW-5.20	E	5	Downgradient	1	3, 5	SA	West of IRM		•	•					TPHg, TPHd

Notes:
(a) MW-5.5 will be gauged only during regular sampling events.
(b) Year 1 was completed in September 2018 and February 2019, in accordance with CMP Update No. 6 Amendment 1 and CMP Update No. 6 Amendment 2.

Abbreviations:

--	not applicable		
AOI	area of interest	SA	Semi-annual (two per year)
AST	aboveground storage tank	SA-ALT	Semi-annual (two per year) every other year (e.g., semi-annual monitoring in Year 3 and Year 5)
IRM	interim remedial measure	SA-5	Semi-annual (two per year) in Year 5 only
MES	Mobile Equipment Shop	A	Annual
MW	monitoring well		

Table 4: Summary of Monitoring History

Monitoring Well ID	OU	Parcel	Date Last Sampled	Inactive Years Between Last Event and First Baseline Event	Reason Active Monitoring Stopped
OU-C/D					
Parcel 2 AOI					
MW-2.6	C	2	01-Dec-07	13	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1 based on monitoring results.
MW-2.7	C	3	01-Dec-07	12	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1 based on monitoring results.
Former AST and MES/Pilot Study AOIs					
MW-3.2	C	3	active	0	VOC sampling was proposed to discontinue in CMP Update No. 5 because VOC data was deemed sufficient for remedial decision-making.
MW-3.3	C	3	01-Dec-07	12	Monitored constituents were VOCs. Proposed to discontinue in CMP Update No. 5 because VOC concentrations were low and the dataset was deemed sufficient for remedial decision-making.
MW-3.17	C	3	01-Dec-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
MW-3.16R	C	3	01-Mar-13	6	Monitored constituents were TPHg, TPHd, and VOCs. Sampling for VOCs was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making. Sampling for TPH was proposed to discontinue in CMP Update No. 6. The stated objective in monitoring MW-3.16R was to monitor groundwater post-IRM for TPH impacts. TPH results were below screening criteria, and therefore, additional monitoring was deemed not required.
MW-3.18	C	3	01-Dec-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
Planer #2 AOI					
MW-6.4	D	6	01-Mar-13	6	Monitored constituents were dissolved metals and VOCs. Sampling was proposed to discontinue in CMP Update No. 6 because VOCs and metals were primarily below reporting limits.
MW-6.5	D	6	01-Dec-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
MW-6.6	D	6	01-Mar-13	6	Monitored constituents were dissolved metals and VOCs. Sampling was proposed to discontinue in CMP Update No. 6 because VOCs and metals were stable and consistent, and metals were primarily non-detect.
MW-6.8	D	6	01-Mar-13	6	Monitored constituents were dissolved metals and VOCs. Sampling was proposed to discontinue in CMP Update No. 6 because VOCs and metals were stable and consistent, and metals were primarily non-detect.
MW-6.9	D	6	12-Dec-12	7	Monitored constituents were dissolved metals and VOCs. Sampling was proposed to discontinue in CMP Update No. 6 because VOCs and metals were stable and consistent, and metals were primarily non-detect.
MW-6.11	D	6	01-Dec-10	9	
Sawmill/Sorter AOI					
MW-7.1	D	7	01-Dec-07	12	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1.
MW-7.2	D	7	01-Dec-10	9	Monitoring of dissolved arsenic was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making. Arsenic determined to be naturally-occurring in the area due to reducing conditions in groundwater.
MW-7.3	D	7	01-Dec-10	9	Monitoring of dissolved arsenic was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making. Arsenic determined to be naturally-occurring in the area due to reducing conditions in groundwater.
Greenhouse AOI					
MW-9.1	D	9	--	--	Dioxins/furans had never been analyzed at MW-9.1 prior to the baseline monitoring events. Previous monitoring at MW-9.1 focused on different constituents, and monitoring was proposed to be discontinued at the well in CMP Update No. 5.

Table 4: Summary of Monitoring History

Monitoring Well ID	OU	Parcel	Date Last Sampled	Inactive Years Between Last Event and First Baseline Event	Reason Active Monitoring Stopped
OU-E					
Lowland Groundwater (Powerhouse and Fuel Barn, Water Treatment and Truck Dump, Sawmill #1 AOIs)					
MW-4.2	E	4	01-Dec-07	12	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1.
MW-4.5	E	4	01-Sep-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
MW-4.6	E	4	01-Sep-10	9	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
MW-5.7	E	5	01-Dec-10	9	Monitoring of dissolved arsenic was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making. Arsenic determined to be naturally-occurring in the area due to reducing conditions in groundwater.
MW-5.9	E	5	01-Dec-07	12	Monitoring of all constituents was proposed to discontinue in CMP Update No. 1.
IRM and West of IRM AOIs					
MW-5.5 [(a)]	E	5	01-Dec-10	--	(contains product)
MW-5.15	E	5	01-Sep-10	9	Monitoring of TPH was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
Candidates for Destruction					
Former MES/IRM AOI					
MW-3.20	C	3	01-Dec-10	--	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
MW-3.21	C	3	01-Dec-10	--	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.
Miscellaneous AOI					
MW-5.6	D	5	01-Dec-10	--	Monitoring of all constituents was proposed to discontinue in CMP Update No. 5 because the dataset was sufficient for remedial decision-making.

Note:
(a) For monitoring wells included in CMP Update No. 6, there were no inactive years between the last event and the first baseline event. Therefore, these wells are not included in this table.

Table 5: Wells Proposed for Decommissioning

Monitoring Well ID	OU	AOI
OU-C/D		
Mendocino Railway Property		
Parcel 2 AOI		
MW-2.6	C	Parcel 2
Georgia-Pacific Property		
Planer #2 AOI		
MW-6.4	D	Planer #2
MW-6.6	D	Planer #2
MW-6.8	D	Planer #2
MW-6.9	D	Planer #2
MW-6.11	D	Planer #2
Greenhouse AOI		
MW-9.1	D	Greenhouse
MW-9.2	D	Greenhouse
MW-9.3	D	Greenhouse
Former MES/IRM AOI		
MW-3.20	C	Former MS/IRM
MW-3.21	C	Rail Lines East
Miscellaneous AOI		
MW-5.6	D	Miscellaneous
OU-E		
Lowland Groundwater (Powerhouse and Fuel Barn, Water Treatment and Truck Dump, Sawmill #1 AOIs)		
MW-4.2	E	Water Treatment and Truck Dump
MW-4.5	E	Powerhouse and Fuel Barn
MW-4.6	E	Powerhouse and Fuel Barn
MW-5.9	E	Sawmill #1
IRM and West of IRM AOIs		
MW-5.15	E	West of IRM
MW-5.18	E	West of IRM
MW-5.21	E	West of IRM

Note:
(a) A separate work plan will be prepared to request approval for decommissioning these wells.

Abbreviations:

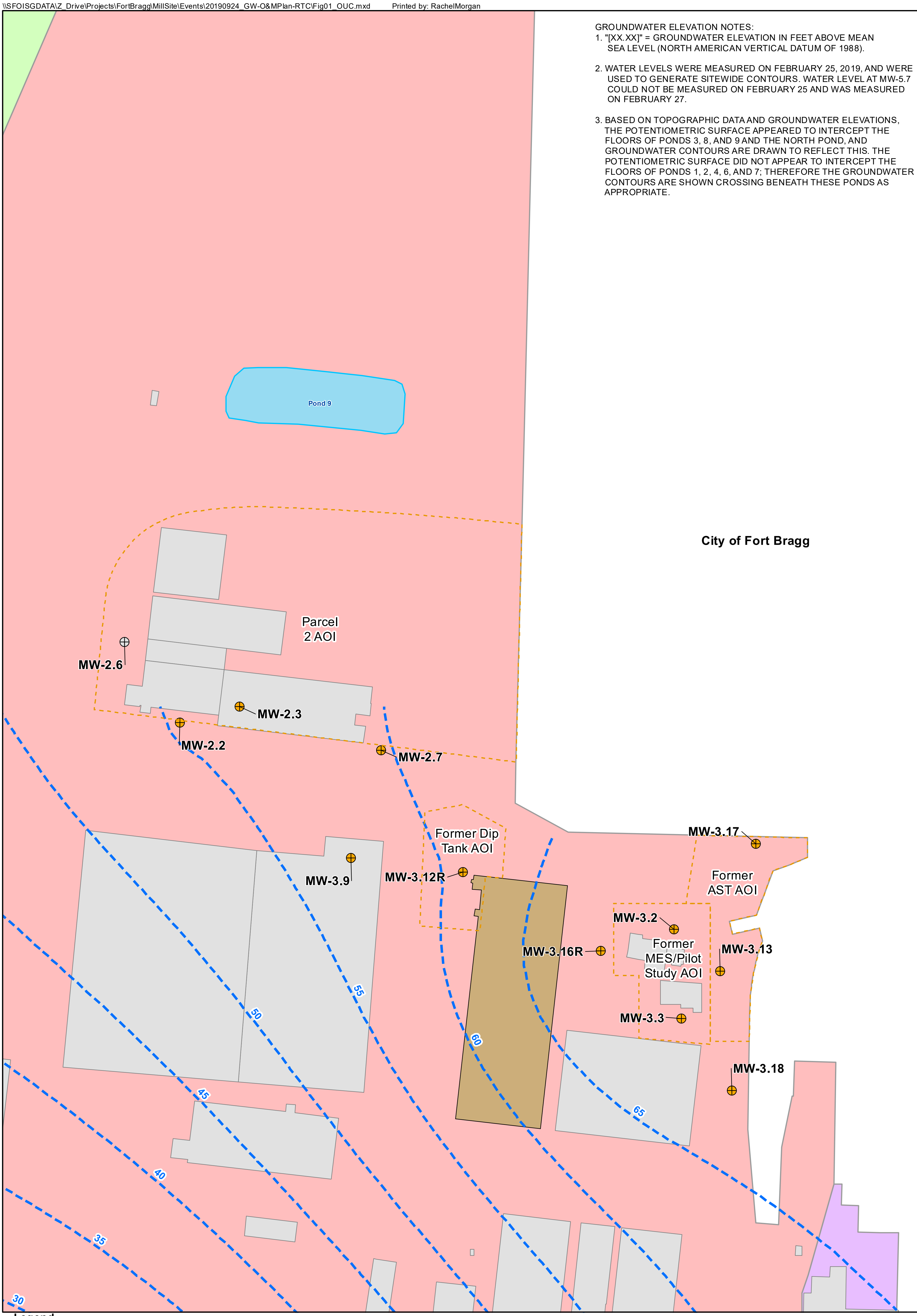
--	not applicable
AOI	area of interest
AST	aboveground storage tank
IRM	interim remedial measure
MES	Mobile Equipment Shop
MW	monitoring well

Figures

\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20190924_GW-O&MPlan-RTC\Fig01_OUC.mxd Printed by: RachelMorgan

GROUNDWATER ELEVATION NOTES:

1. "[XX.XX]" = GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (NORTH AMERICAN VERTICAL DATUM OF 1988).
2. WATER LEVELS WERE MEASURED ON FEBRUARY 25, 2019, AND WERE USED TO GENERATE SITEWIDE CONTOURS. WATER LEVEL AT MW-5.7 COULD NOT BE MEASURED ON FEBRUARY 25 AND WAS MEASURED ON FEBRUARY 27.
3. BASED ON TOPOGRAPHIC DATA AND GROUNDWATER ELEVATIONS, THE POTENTIOMETRIC SURFACE APPEARED TO INTERCEPT THE FLOORS OF PONDS 3, 8, AND 9 AND THE NORTH POND, AND GROUNDWATER CONTOURS ARE DRAWN TO REFLECT THIS. THE POTENTIOMETRIC SURFACE DID NOT APPEAR TO INTERCEPT THE FLOORS OF PONDS 1, 2, 4, 6, AND 7; THEREFORE THE GROUNDWATER CONTOURS ARE SHOWN CROSSING BENEATH THESE PONDS AS APPROPRIATE.



Legend

- Area of Interest (AOI)
- Structure
- Former Structure
- Pond
- Include in Long-Term Monitoring Program
- Propose to Destroy
- Groundwater Contours

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Ponds/Park (OU-E)

N

0 100 200

Scale: Feet

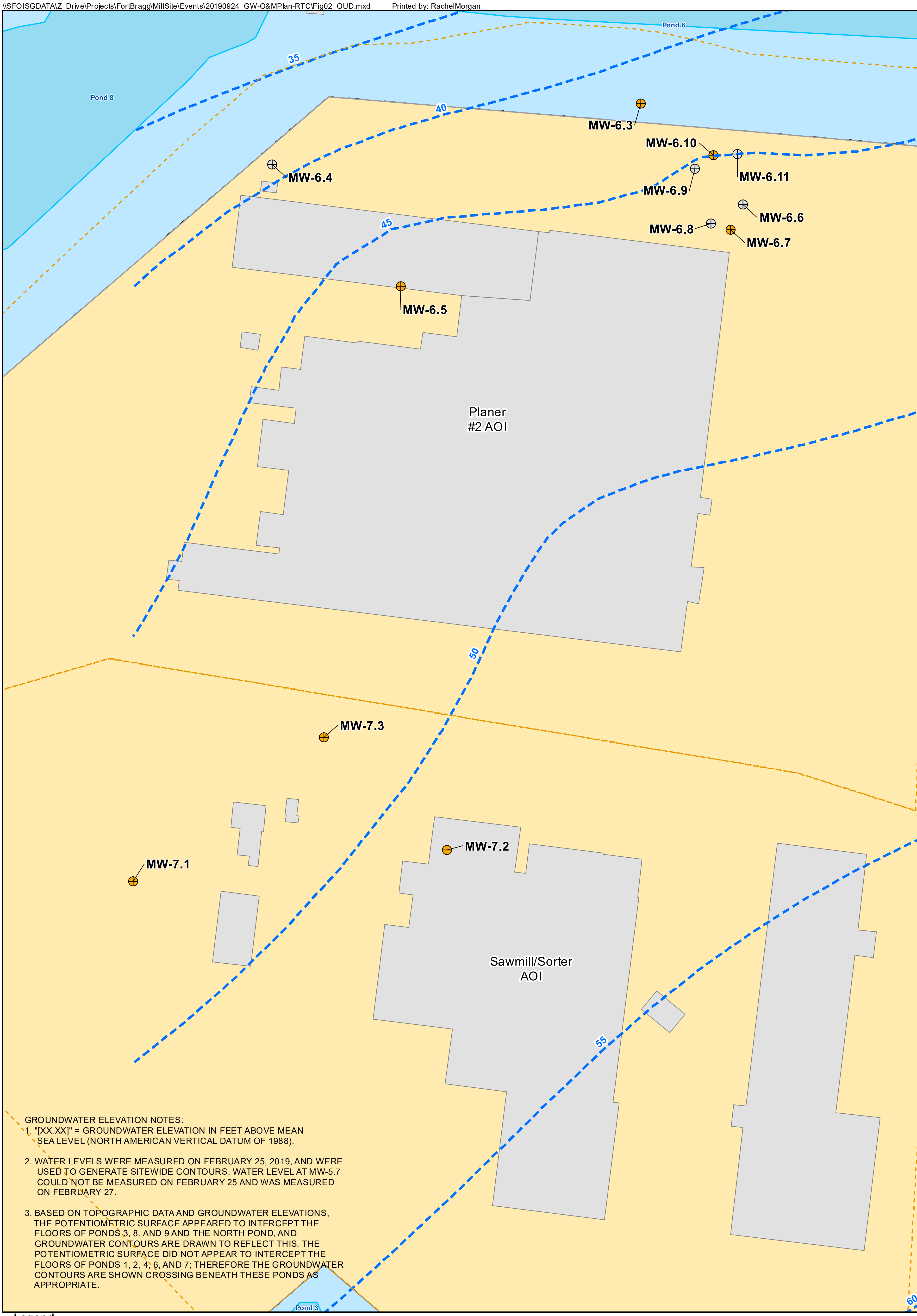
Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Existing Monitoring Wells
Operable Unit C
Mendocino Railway Property

1665018*19

Figure 1



Legend

- Area of Interest (AOI)
- Structure
- Former Structure
- Pond
- Include in Long-Term Monitoring Program
- Propose to Destroy
- Groundwater Contours

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Ponds/Park (OU-E)

N

0 50 100

Scale: Feet

Kennedy/Jenks Consultants

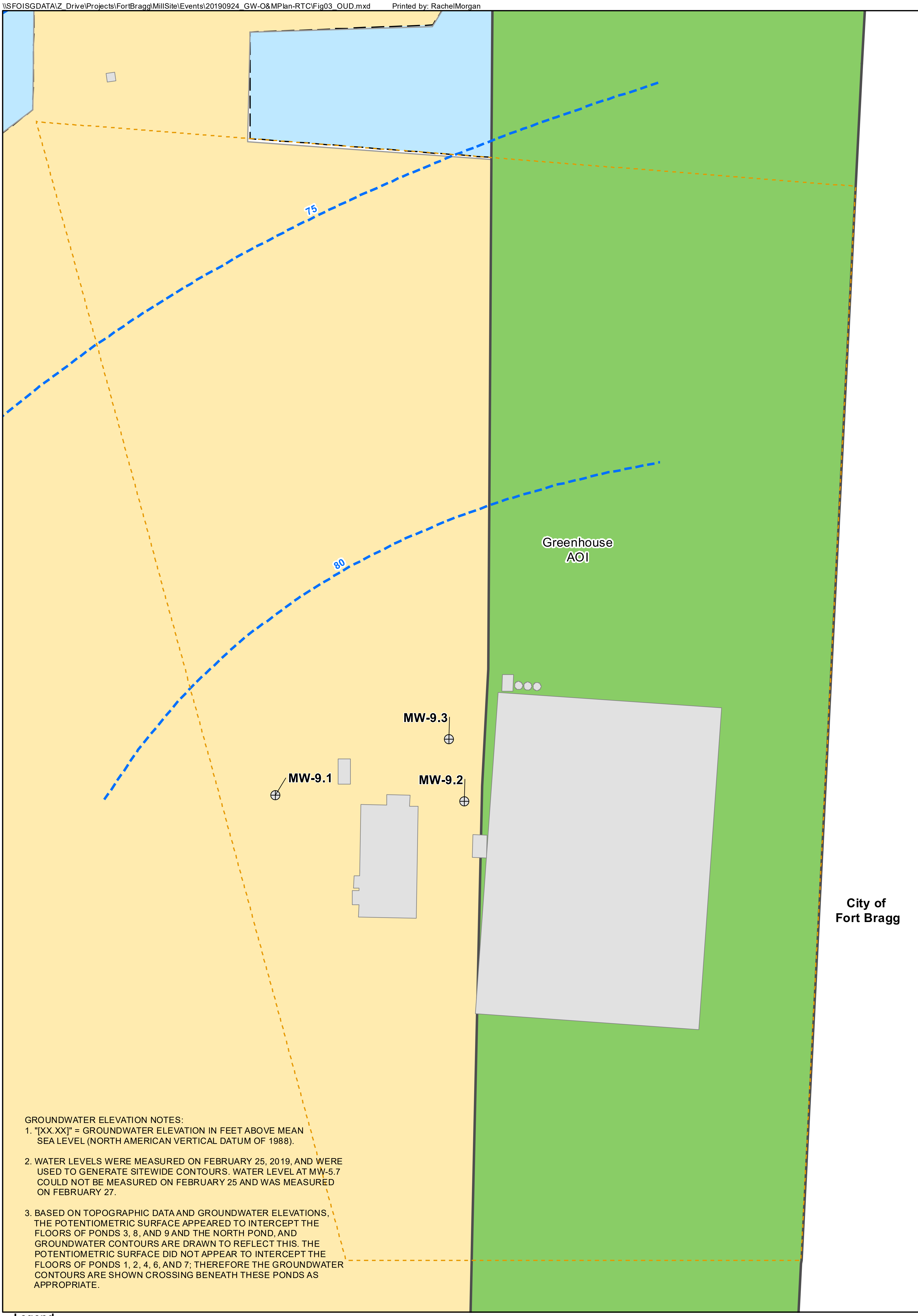
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Existing Monitoring Wells
Operable Unit D
Georgia-Pacific Property

1665018*19

Figure 2

\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20190924_GW-O&MPlan-RTC\Fig03_OUD.mxd Printed by: RachelMorgan



GROUNDWATER ELEVATION NOTES:

1. "[XX.XX]" = GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (NORTH AMERICAN VERTICAL DATUM OF 1988).

2. WATER LEVELS WERE MEASURED ON FEBRUARY 25, 2019, AND WERE USED TO GENERATE SITEWIDE CONTOURS. WATER LEVEL AT MW-5.7 COULD NOT BE MEASURED ON FEBRUARY 25 AND WAS MEASURED ON FEBRUARY 27.

3. BASED ON TOPOGRAPHIC DATA AND GROUNDWATER ELEVATIONS, THE POTENTIOMETRIC SURFACE APPEARED TO INTERCEPT THE FLOORS OF PONDS 3, 8, AND 9 AND THE NORTH POND, AND GROUNDWATER CONTOURS ARE DRAWN TO REFLECT THIS. THE POTENTIOMETRIC SURFACE DID NOT APPEAR TO INTERCEPT THE FLOORS OF PONDS 1, 2, 4, 6, AND 7; THEREFORE THE GROUNDWATER CONTOURS ARE SHOWN CROSSING BENEATH THESE PONDS AS APPROPRIATE.

Legend

- Area of Interest (AOI)
- Structure
- Former Structure
- Pond
- Include in Long-Term Monitoring Program
- Propose to Destroy
- Groundwater Contours

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Ponds/Park (OU-E)
- Property Owned by Others

N

0 50 100

Scale: Feet

Kennedy/Jenks Consultants

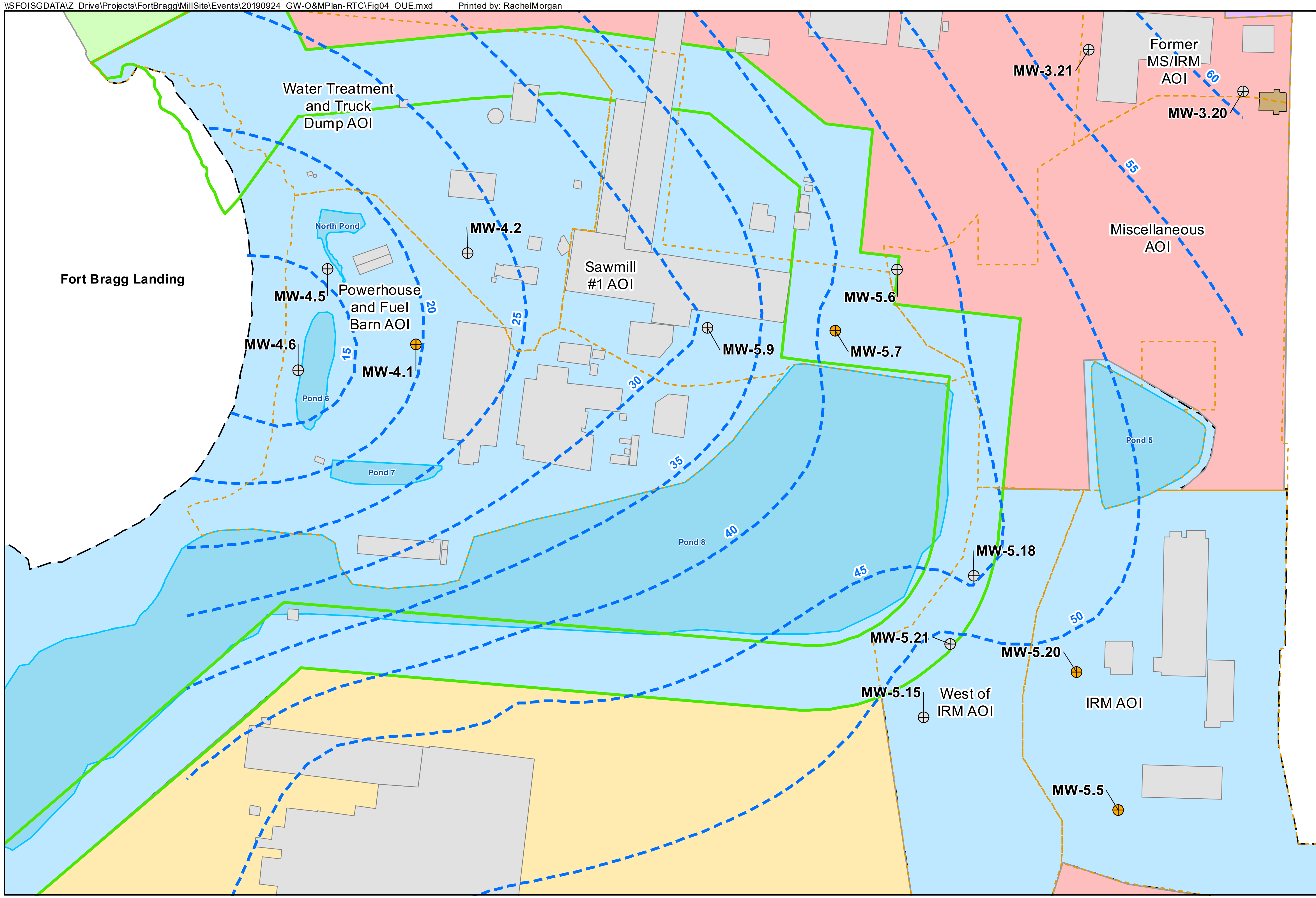
Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Existing Monitoring Wells
Operable Unit D
Georgia-Pacific Property

1665018*19

Figure 3

\\SFOISGDATA\Z_Drive\Projects\FortBragg\MillSite\Events\20190924_GW-O&MPlan-RTC\Fig04_OUE.mxd Printed by: RachelMorgan



GROUNDWATER ELEVATION NOTES:

1. "[XX.XX]" = GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (NORTH AMERICAN VERTICAL DATUM OF 1988).
2. WATER LEVELS WERE MEASURED ON FEBRUARY 25, 2019, AND WERE USED TO GENERATE SITEWIDE CONTOURS. WATER LEVEL AT MW-5.7 COULD NOT BE MEASURED ON FEBRUARY 25 AND WAS MEASURED ON FEBRUARY 27.
3. BASED ON TOPOGRAPHIC DATA AND GROUNDWATER ELEVATIONS, THE POTENTIOMETRIC SURFACE APPEARED TO INTERCEPT THE FLOORS OF PONDS 3, 8, AND 9 AND THE NORTH POND, AND GROUNDWATER CONTOURS ARE DRAWN TO REFLECT THIS. THE POTENTIOMETRIC SURFACE DID NOT APPEAR TO INTERCEPT THE FLOORS OF PONDS 1, 2, 4, 6, AND 7; THEREFORE THE GROUNDWATER CONTOURS ARE SHOWN CROSSING BENEATH THESE PONDS AS APPROPRIATE.

Legend

- Area of Interest (AOI)
- Approximate Central Coastal Trail Property (City of Fort Bragg)
- Structure
- Former Structure
- Pond
- Include in Long-Term Monitoring Program
- Propose to Destroy
- Groundwater Contours

Operable Units

- Coastal Trail/Park Acquisition (OU-A)
- "Offsite" Non-Industrial (OU-B)
- Northern (OU-C)
- Southern (OU-D)
- Ponds/Park (OU-E)

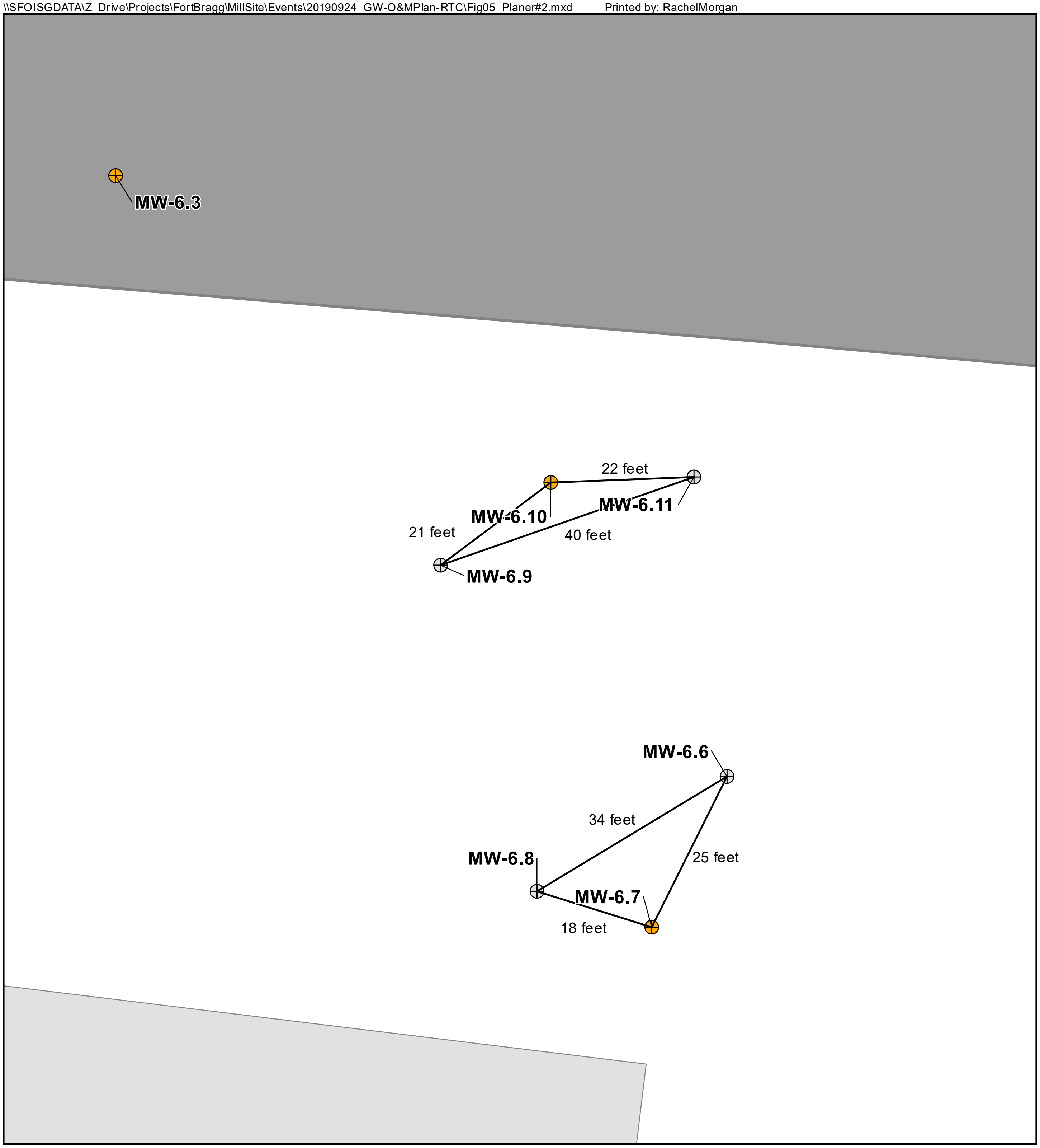
Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

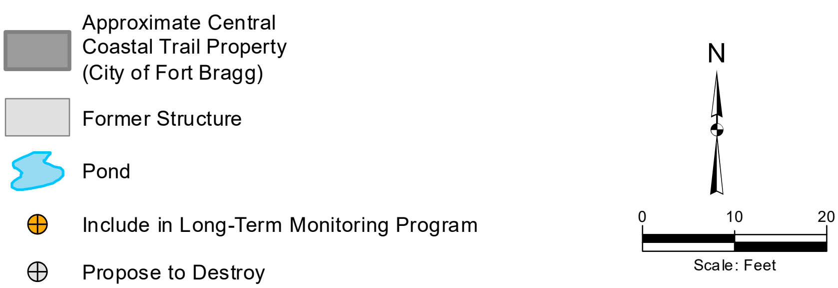
Existing Monitoring Wells
Operable Unit E
Georgia-Pacific Property

1665018*19

Figure 4



Legend



Kennedy/Jenks Consultants

Former Georgia-Pacific Wood Products Facility
Fort Bragg, California

Planer #2 AOI

1665018*19

Figure 5

Attachment 1

Recent Monitoring Data by AOI

Attachment 1-1: Parcel 2 AOI (OU-C)

Location	Date	2,3,7,8-TCDD TEQ (a)
	Units	pg/L
	OU-C/D RAP Remedial Goal (RG)	0.05
	MCL	30
MW-2.3	30-Aug-17	**7.7 J [RG]**
	7-Mar-18	**0.58 [4.18] [RG]**
	11-Sep-18	**1.9 [RG]**
	25-Feb-19	**0.48 [RG]**
MW-2.6	11-Sep-18	< 0.0
MW-2.2	30-Aug-17	**5.5 J [RG]**
	7-Mar-18	**0.051 [RG]**
	11-Sep-18	**0.15 [RG]**
	25-Feb-19	**0.56 [RG]**
MW-2.7	11-Sep-18	**0.33 [RG]**
	27-Feb-19	**0.19 [RG]**

Notes:

(a) Calculated using 2005 WHO (Van den Berg et al. 2006) TEFs for human/mammal; NDs excluded

Attachment 1-2: Former AST and MES/Pilot Study AOIs

Location ID	Date	Total Gasoline	Total Diesel	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	**mg/L**	**mg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
	OU-C/D RAP Remedial Goal (RG)	**0.05**	**0.1**	**3**	**6**	**15**	**0.4**	**0.15**	**6**	**0.06**	**1.7**	**0.05**
	MCL	**--**	**--**	**5**	**6**	**NA**	**0.5**	**1**	**6**	**5**	**5**	**0.5**
OU-C *Parcel 3*												
MW-3.2	5-Mar-09	**0.16 [RG]**	**4.51 [RG]**	**0.7**	<0.5	**48 [RG]**	<0.5	**2.4 [RG]**	**7.1 [RG]**	**1.8 [RG]**	**1**	**0.2 J [RG]**
	9-Jun-09	ND /UB	**0.42 [RG]**	<0.5	<0.5	**5.8**	<0.5	**2.6 [RG]**	**3.8**	**1.9 [RG]**	**0.6**	**0.3 J [RG]**
	8-Dec-09	**0.145 [RG]**	**1.03 [RG]**	**1.8**	<0.5	**35 [RG]**	<0.5	**2 [RG]**	**5.8**	**2.2 /J [RG]**	**1**	**0.1 J [RG]**
	16-Mar-10	**0.063 [RG]**	**1.34 [RG]**	**0.7**	<0.5	**11**	<0.5	**0.8 [RG]**	**3.8**	**3 [RG]**	**1.4**	<0.5
	30-Aug-17	**0.041 J**	**0.43 [RG]**	--	--	--	--	--	--	--	--	--
	07-Mar-18	**0.081 [RG]**	**0.27 [RG]**	--	--	--	--	--	--	--	--	--
	12-Sep-18	**0.048 J**	**0.11 [RG]**	--	--	--	--	--	--	--	--	--
	25-Feb-19	**0.024 J/ J**	**0.65 [RG]**	--	--	--	--	--	--	--	--	--
MW-3.3	23-Sep-10	--	--	**1.5**	**0.3 J**	<0.5	<0.5	<0.5	**0.6**	**2.1 [RG]**	**0.4 J**	<0.5
	16-Dec-10	--	--	**1.8**	**0.2 J**	<0.5	<0.5	<0.5	**0.5**	**2.1 [RG]**	**0.4 J**	<0.5
	12-Sep-18	--	--	**1.1**	< 0.20	< 0.30	< 0.20	< 0.20	**0.36**	**2.0 [RG]**	**0.58**	< 0.020
	28-Feb-19	--	--	**1.2**	**0.10 J/ J**	< 0.30 U	< 0.20 U	< 0.20 U	**0.38**	**1.5 [RG]**	**0.56**	< 0.020 U/ J
MW-3.13	30-Aug-17	<0.05	**0.1 [RG]**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**3.0**	**7.3 [RG]**	**2.0 [RG]**	< 0.50
	06-Mar-18	**0.025 J/J**	<0.059	**0.25 J/J**	<0.50	<0.50	<0.50	<0.50	**2.9**	**10 [RG]**	**1.6**	<0.50
	12-Sep-18	< 0.05	<0.051	**0.12 J**	< 0.20	< 0.30	< 0.20	< 0.20	**2.9**	**12 [RG]**	**2.1 [RG]**	< 0.020
	25-Feb-19	< 0.05 U	**0.32 [RG]**	**0.16 J/ J**	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	**2.2**	**11 [RG]**	**1.5**	< 0.020 U/ J
MW-3.16R	22-Sep-10	--	--	**0.3 J [0.3 J]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.5 [0.5] [RG]**	**0.1 J [0.1 J]**	<0.5 [<0.5]
	16-Dec-10	--	--	**0.2 J [0.2 J]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.6 [0.6] [RG]**	**0.1 J [0.1 J]**	<0.5 [<0.5]
	12-Sep-18	--	--	**0.041 J**	< 0.20	< 0.30	< 0.20	< 0.20	< 0.20	**0.49 J [RG]**	< 0.20	< 0.020
	26-Feb-19	--	--	**0.061 J/ J**	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	**0.59 [RG]**	**0.066 J/ J**	< 0.020 U/ J
MW-3.17	22-Sep-10	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	**0.5 J**	**0.1 J [RG]**	**1.3**	<0.5
	16-Dec-10	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	**0.3 J**	**0.2 J [RG]**	**1.6**	<0.5
	13-Sep-18	--	--	< 0.20 R [< 0.20]	< 0.20 R [< 0.20]	< 0.30 R [< 0.30]	< 0.20 R [< 0.20]	< 0.20 R [<0.20]	**0.78 J [0.61 J]**	**0.32 J [0.41 J] [RG]**	**0.57 J [0.78 J]**	< 0.020 R [< 0.020]
	27-Feb-19	--	--	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.30 U [< 0.30 U]	< 0.20 U [< 0.20 U]	< 0.20 U [<0.20 U]	**0.57 [0.60]**	**0.39 J/J [0.41 J/J] [RG]**	**0.73 [0.76]**	< 0.020 U/J [< 0.020 U/J]
MW-3.18	23-Sep-10	--	--	**2.2 [2.3]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.2 J [0.2 J] [RG]**	**1.7 [1.8]**	**5.0 [4.7] [RG]**	**1.2 [1.2]**	<0.5 [<0.5]
	16-Dec-10	--	--	**2.4**	<0.5	<0.5	<0.5	**0.1 J**	**1.9**	**4.1 [RG]**	**1.4**	<0.5
	12-Sep-18	--	--	**1.4**	< 0.20	< 0.30	< 0.20	< 0.20	**0.96**	**4.3 [RG**	**1.7 [RG]**	< 0.020
	26-Feb-19	--	--	**1.5**	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	**1.0**	**3.6 [RG]**	**1.6**	< 0.020 U/ J

Attachment 1-3: Former Dip Tank AOI (OU-C)

Location	Date	Pentachlorophenol	2,3,7,8-TCDD TEQ (a)
	Units	µg/L	pg/L
	OU-C/D RAP Remedial Goal (RG)	0.3	0.05
	MCL	1	30
MW-3.9	12-Jun-07	<0.30	ND
	5-Sep-07	<0.30 **[0.20 J]**	ND [ND]
	11-Dec-07	<0.30 [<0.30]	**0.002 [0.03]**
	17-Mar-10	**0.1 J**	**0.002**
	30-Aug-17	**0.16 J**	--
	07-Mar-18	<0.31	--
	11-Sep-18	**0.18 J**	--
	26-Feb-19	**0.27 J/J**	--
MW-3.12	21-Feb-17	**3.3 [2.8] [RG]**	**27.228 [15.613] [RG]**
	29-Aug-17	**0.37 [0.46] [RG]**	**10 J [13 J] [RG]**
MW-3.12R	11-Sep-18	**1.7 [1.6] [RG]**	**0.36 [1.9] [RG]**
	26-Feb-19	**20 [18] [RG]**	**0.27 [0.34] [RG]**

Notes:

(a) Calculated using 2005 WHO (Van den Berg et al. 2006) TEFs for human/mammal; NDs excluded

Attachment 1-4: Planer #2 AOI (OU-D)

Location	Date	Arsenic	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal (RG)	2.5	3	6	15	0.4	0.15	6	0.06	1.7	0.05
	MCL	10	5	6	NA	0.5	1	6	5	5	0.5
MW-6.3	14-Dec-10	**9.9 [RG]**	**1.9**	**6.9 [RG]**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	20-Mar-12	**11 [RG]**	**0.68**	**2.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	20-Jun-12	**11 [11] [RG]**	**0.97 [1.0]**	**5.1 [5.1]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	12-Dec-12	**7.4 [7.1] [RG]**	**0.41 J [0.49 J]**	**2.1 [2.4]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	07-Mar-13	**5.2 [5.3] [RG]**	**0.91 [0.92]**	**6.6 [6.8] [RG]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.40 [<0.40]
	30-Aug-17	**6.3 J [RG]**	**0.26 J /J**	**2.1**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	6-Mar-18	**5.9 [RG]**	**0.31 J/J**	**2.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	12-Sep-18	**26 [RG]**	**0.29**	**1.8**	< 0.30	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.020
	28-Feb-19	**8.7 [RG]**	< 0.20 U	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-6.4	18-Sep-12	**2.4**	--	--	--	--	--	--	--	--	--
	12-Dec-12	**2.6 [RG]**	--	--	--	--	--	--	--	--	--
	7-Mar-13	**0.44 J**	--	--	--	--	--	--	--	--	--
	13-Sep-18	**1.6**	--	--	--	--	--	--	--	--	--
MW-6.5	21-Sep-10	**11 [RG]**	--	--	--	--	--	--	--	--	--
	14-Dec-10	**6.6 [RG]**	--	--	--	--	--	--	--	--	--
	13-Sep-18	**21 [RG]**	--	--	--	--	--	--	--	--	--
	28-Feb-19	**2.3 J/ J**	--	--	--	--	--	--	--	--	--
MW-6.6	20-Mar-12	--	**2**	**2.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	--	**3.4 [RG]**	**9.1 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	13-Sep-18	--	**2.6 J**	**9.0 J [RG]**	< 0.30 R	< 0.20 R	< 0.20 R	< 0.20 R	< 0.50 R	< 0.20 R	< 0.020 R
	27-Feb-19	--	**1.3**	**1.6**	0.072 J/ J	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-6.7	28-Dec-10	--	**21 /J [18] [RG]**	**24 /J [25] [RG]**	<0.5 [<0.5]	**0.6 [0.6] [RG]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]
	21-Mar-12	--	**13 [RG]**	**23 [RG]**	<0.50	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	--	**15 [RG]**	**34 [RG]**	<0.50	**0.42 J [RG]**	<0.50	<0.50	<0.50	**0.20 J**	<0.50
	12-Dec-12	--	**10 [RG]**	**19 [RG]**	<0.50	**0.29 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	--	**15.7 [RG]**	**27.3 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.17 J**	<0.40
	30-Aug-17	--	**3.8 [3.8] [RG]**	**49 [48] [RG]**	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]
	6-Mar-18	--	**3.1 [2.9] [RG]**	**7.1 [7.8] [RG]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	13-Sep-18	--	**3.4 J [RG]**	**40 [RG]**	< 0.30	< 0.20	< 0.20	< 0.20	**0.17 J [0.14 J] [RG]**	**0.33 [0.25]**	**0.18 J [0.077 J] [RG]**
	28-Feb-19	--	**0.81 [0.94]**	**0.58 [0.69]**	< 0.30 U [< 0.30 U]	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.50 U [< 0.50 U]	< 0.20 U **[0.17 J/J]**	< 0.20 U [< 0.20 U]
MW-6.8	12-Dec-12	--	**3.5**	**25**	<0.50	**0.40 J [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	--	**3**	**25**	<0.50	**0.26 J**	<0.50	<0.50	<0.50	<0.50	<0.40
	13-Sep-18	--	**2.2 J**	**16 J [RG]**	< 0.30 R	**0.19 J**	< 0.20 R	< 0.20 R	< 0.50 R	< 0.20 R	< 0.020 R
	27-Feb-19	--	**0.087 J/ J**	**0.98**	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-6.9	12-Dec-12	--	**0.85**	**3.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	--	**0.73**	**3.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40
	13-Sep-18	--	**0.46**	**2.8**	< 0.30	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.020
	28-Feb-19	--	**0.061 J/ J**	**0.47**	0.077 J/ J	< 0.20 U	< 0.20 U	**0.095 J/ J**	< 0.50 U	**0.26**	< 0.020 U/ J

Attachment 1-4: Planer #2 AOI (OU-D)

Location	Date	Arsenic	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**	**µg/L**
	OU-C/D RAP Remedial Goal (RG)	**2.5**	**3**	**6**	**15**	**0.4**	**0.15**	**6**	**0.06**	**1.7**	**0.05**
	MCL	**10**	**5**	**6**	**NA**	**0.5**	**1**	**6**	**5**	**5**	**0.5**
MW-6.10	27-Dec-10	--	**3.3 [RG]**	**8.1 [RG]**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	20-Mar-12	--	**2**	**7.8 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	--	**1.9**	**9.1 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	12-Dec-12	--	**1.8**	**6.6 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	--	**2.2**	**10.1 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40
	30-Aug-17	--	**4.4 [RG]**	**9.2 [RG]**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	6-Mar-18	--	**2.5**	**7.1 [RG]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	13-Sep-18	--	**1.7**	**6.3 [RG]**	< 0.30	< 0.20	0.037 J	< 0.20	< 0.50	< 0.20	< 0.020
	28-Feb-19	--	**2.0**	**6.7 [RG]**	< 0.30 U	< 0.20 U	**0.031 J/ J**	**0.13 J/ J**	< 0.50 U	**0.36**	**0.21 J [RG]**
MW-6.11	27-Dec-10	--	**3.9 [RG]**	**3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	13-Sep-18	--	**5.0 J [RG]**	**4.9 J**	< 0.30 R	< 0.20 R	< 0.20 R	< 0.20 R	< 0.50 R	< 0.20 R	< 0.020 R
	28-Feb-19	--	**0.24**	**0.30**	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J

Attachment 1-5: Sawmill/Sorter AOI (OU-D)

Location ID	Date	Arsenic
	Unit	**µg/L**
	OU-C/D RAP Remedial Goal (RG)	**2.5**
	MCL	**10**
MW-7.1	6-Sep-07	**0.93 J**
	13-Dec-07	**4 [RG]**
	12-Sep-18	**4 [RG]**
	27-Feb-19	**14 [15] [RG]**
MW-7.2	23-Sep-10	**19 [RG]**
	16-Dec-10	**9.2 [RG]**
	12-Sep-18	<1.0 [<1.0]
	27-Feb-19	<5.0 U
MW-7.3	23-Sep-10	**1.3**
	16-Dec-10	**1.5**
	12-Sep-18	**33 [RG]**
	26-Feb-19	**31 [RG]**

Attachment 1-6: Greenhouse AOI (OU-D)

Location ID	Date	Atrazine
	Units	µg/L
	OU-C/D RAP Remedial Goal (RG)	0.5
	MCL	3
MW-9.1	18-Sep-18	<0.50
	26-Feb-19	<0.50
MW-9.2	30-Aug-17	**0.76 [RG]**
	07-Mar-18	**0.66 [RG]**
	11-Sep-18	**0.73 [RG]**
	26-Feb-19	**0.52 [RG]**
MW-9.3	01-Sep-17	<0.5
	07-Mar-18	<0.5
	11-Sep-18	<0.5
	26-Feb-19	<0.50

Attachment 1-7: Lowland (OU-E)

Location ID	Date	Arsenic	Barium
	Unit	µg/L	µg/L
	OU-C/D RAP Remedial Goal (RG)	2.5	NA
	WQO	0.004	1000
	MCL	10	1000
MW-4.1	08-Mar-16	---	**1,100 [WQO]**
	23-Feb-17	---	**970**
	06-Mar-18	--	**880**
	27-Feb-19	---	**880**
MW-4.2	5-Sep-07	**2.5**	**72**
	11-Dec-07	**2.5**	**70**
	11-Sep-18	**8.8 [RG]**	**63**
	27-Feb-19	**2.2**	**98**
MW-4.5	17-Sep-09	**1.7**	**200**
	18-Mar-10	<1.0	**110**
	22-Sep-10	<1.0	**140**
	12-Sep-18	**1.5**	**200**
MW-4.6	18-Mar-10	**2.4**	**400**
	22-Sep-10	**2.5 [RG]**	**310**
	12-Sep-18	**2.7 [RG]**	**310**
	27-Feb-19	**1.1**	**740**
MW-5.7	23-Sep-10	**21 [19] [RG]**	---
	14-Dec-10	**1.9**	---
	12-Sep-18	**20 [RG]**	---
	27-Feb-19	**8.1 [RG]**	---
MW-5.9	6-Sep-07	**0.68 J [0.76 J]**	**290 [290]**
	12-Dec-07	**0.45 J [0.39 J]**	**270 [290]**
	12-Sep-18	< 1.0	**130**
	28-Feb-19	< 1.0 U	**130**

Attachment 1-8: IRM and West of IRM AOIs (OU-E)

Location ID	Date	Total Gasoline	Total Diesel
	Units	**mg/L**	**mg/L**
	OU-C/D RAP Remedial Goal (RG)	**0.05**	**0.1**
	RBSC-ali_gw	**1.22**	**1.22**
	RBSC-aro_gw	**0.31**	**0.47**
	RWQCB	**0.05**	**0.1**
MW-5.15	5-Mar-09	ND	ND
	19-Mar-10	ND **[0.011]**	ND [ND]
	23-Sep-10	ND	ND
	13-Sep-18	< 0.05	<0.052
MW-5.18	5-Oct-11	<0.05	**0.088**
	20-Mar-12	<0.05	**0.3 [RG]**
	19-Sep-12	<0.05	**0.21 [RG]**
	6-Mar-13	<0.05	<0.47 /UB
	31-Aug-17	---	<0.049
	07-Mar-18	---	<0.051
	13-Sep-18	---	<0.05
	27-Feb-19	---	<0.049 U
MW-5.20	30-Aug-17	**0.043 J/J**	**0.084**
	07-Mar-18	<0.050	<0.052
	13-Sep-18	**0.027 J**	**0.073**
	27-Feb-19	0.05 U	<0.047 U
MW-5.21	5-Oct-11	<0.05	**0.16 [RG]**
	20-Mar-12	<0.05	**0.67 [RG]**
	20-Sep-12	<0.05	**0.17 [RG]**
	6-Mar-13	<0.05	<0.17 /UB
	01-Sep-17	---	<0.051
	07-Mar-18	---	<0.052
	13-Sep-18	---	<0.051
	27-Feb-19	---	<0.049 U

Notes for All Tables

Notes:

This series of tables presents results from the last four monitoring events for the constituents and wells discussed in the O&M Plan. In some cases, the dates of the last four monitoring events differ for different constituents, and therefore more than four data points may be shown for a specific well.

	Detections are bolded.
	Duplicate sample results are shown in brackets "[ ]" next to the primary sample results.
X/X after result =	Data qualifiers. The first was added by the laboratory and the second by Arcadis during data validation. If there is only a laboratory qualifier, it is shown without a slash. If there is only a validation qualifier, it is shown after the slash (e.g., /UB).
-- =	not available, not measured, not analyzed, not applicable, or not established
< =	Sample result is less than the indicated MRL.
b or B =	Analyte was also detected in the associated method blank.
C =	chemical interference
D =	possible diphenyl ether interference
H =	resembles the quantitated fuel, but also contains a significant portion of heavier hydrocarbons
J =	indicates that the associated numerical value is an estimated concentration
M =	reported concentration is the estimated maximum
MRL =	method reporting limit
mg/L =	milligram(s) per liter
N =	tentatively identified compound
ND =	not detected
OU =	operable unit
pg/L =	picogram(s) per liter
TCDD =	tetrachlorodibenzo-*p*-dioxin
TEF =	toxicity equivalence factor
TEQ =	toxic equivalent
TPH =	total petroleum hydrocarbons
U =	not detected at or above the indicated MRL
UB =	not detected at or above the indicated MRL due to laboratory blank contamination
UJ =	not detected at or above the indicated MRL, which may be elevated due to associated quality-control deficiencies
µg/L =	microgram(s) per liter
VOC =	volatile organic compound
Y =	does not resemble the requested standard
YZ =	quantitation based only on a single peak or peaks

Attachment 2

Mann-Kendall Results

Attachment 2: Summary of Statistical Analysis

Monitoring Well ID	OU	Parcel	AOI	Constituent	Trend Direction Reported in MNA Technical Report (2013)	September 2018 Result	February 2019 Result	OU-C/D RAP Remedial Goal	MCL	Mann Kendall Result (2019)	Conclusion
OU-C/D											
Parcel 2 AOI											
MW-2.2	C	2	Parcel 2	Dioxins/furans	--	0.15 pg/L	0.56 pg/L	0.05 pg/L	30 pg/L	Increasing (99.0%)	Include in long-term monitoring program.
MW-2.3	C	2	Parcel 2	Dioxins/furans	Decreasing	1.9 pg/L	0.48 pg/L	0.05 pg/L	30 pg/L	No trend	Include in long-term monitoring program.
MW-2.6	C	2	Parcel 2	Dioxins/furans	--	--	< 0.0 pg/L	0.05 pg/L	30 pg/L	ND	Does not provide useful context for AOI, and ND (below remedial goal). Candidate for destruction.
MW-2.7	C	3	Rail Lines West	Dioxins/furans	--	0.33 pg/L	0.19 pg/L	0.05 pg/L	30 pg/L	--	Include in long-term monitoring program.
Former AST and MES/Pilot Study AOIs											
MW-3.2	C	3	Former MES/Pilot Study	TPHg	No trend	0.048 mg/L	0.024 mg/L	0.05 mg/L	--	Stable (78.1%)	Below remedial goal and stable, consistent with trend analysis reported in 2013. Remove from sampling matrix.
				TPHd	Increasing	0.11 mg/L	0.65 mg/L	0.1 mg/L	--	No trend (77.1%)	Include in long-term monitoring program.
				1,1-DCA	--	Not included in Baseline monitoring events		3 µg/L	5 µg/L	No trend (53.9%)	Never detected above remedial goal. Consider removing from sampling matrix.
				1,1-DCE	--			6 µg/L	6 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Benzene	No trend			0.15 µg/L	1 µg/L	No trend (88.0%)	Include in long-term monitoring program.
				PCE	Decreasing			0.5 µg/L	5 µg/L	Decreasing (96.2%)	Include in long-term monitoring program.
				TCE	--			1.7 µg/L	5 µg/L	Stable (50.0%)	Never detected above remedial goal and stable. Consider removing from sampling matrix.
				Vinyl Chloride	--			0.5 µg/L	0.5 µg/L	generally ND, not included in baseline events	Include in long-term monitoring program.
MW-3.3	C	3	Former MES/Pilot Study	1,1-DCA	--	1.1 µg/L	1.2 µg/L	3 µg/L	5 µg/L	Prob. Increasing (90.1%)	Never detected above remedial goal. Consider removing from sampling matrix.
				1,1-DCE	--	< 0.020 µg/L	0.1 µg/L	6 µg/L	6 µg/L	Below remedial goal	Below remedial goal and decreasing. Consider removing from sampling matrix.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Not detected in previous 20 monitoring events. Remove from sampling matrix.
				PCE	No trend	2.0 µg/L	1.5 µg/L	0.5 µg/L	5 µg/L	Prob. Decreasing (90.0%)	Include in long-term monitoring program.
				TCE	--	0.58 µg/L	0.56 µg/L	1.7 µg/L	5 µg/L	No trend (88.2%)	Never detected above remedial goal. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.
MW-3.13	C	3	Former AST	TPHg	--	< 0.05 mg/L	< 0.05 mg/L	0.05 mg/L	--	Prob. Decreasing (91.3%)	Below remedial goal and probably decreasing. Consider removing from sampling matrix.
				TPHd	Decreasing	< 0.051 mg/L	0.32 mg/L	0.1 mg/L	--	Prob. Decreasing (93.8%)	Include in long-term monitoring program.
				1,1-DCA	--	0.12 µg/L	0.16 µg/L	3 µg/L	5 µg/L	Stable (89.2%)	Below remedial goal and stable. Consider removing from sampling matrix.
				1,1-DCE	--	< 0.20 µg/L	< 0.20 µg/L	6 µg/L	6 µg/L	Stable (70.8%)	Below remedial goal and stable. Consider removing from sampling matrix.
				Benzene	Decreasing	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Not detected in previous 8 monitoring events, consistent with trend analysis reported in 2013. Consider removing from sampling matrix.
				PCE	Decreasing	12 µg/L	11 µg/L	0.5 µg/L	5 µg/L	Decreasing (>99.9%)	Include in long-term monitoring program. Trend consistent with trend analysis reported in 2013.
				TCE	--	2.1 µg/L	1.5 µg/L	1.7 µg/L	5 µg/L	Decreasing (97.0%)	Include in long-term monitoring program.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.

Kennedy Jenks

Attachment 2: Summary of Statistical Analysis

Monitoring Well ID	OU	Parcel	AOI	Constituent	Trend Direction Reported in MNA Technical Report (2013)	September 2018 Result	February 2019 Result	OU-C/D RAP Remedial Goal	MCL	Mann Kendall Result (2019)	Conclusion
MW-3.17	C	3	Former AST	1,1-DCA	--	< 0.20 µg/L	< 0.20 µg/L	3 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				1,1-DCE	--	< 0.20 µg/L	< 0.20 µg/L	6 µg/L	6 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Remove from sampling matrix.
				PCE	Decreasing	0.32 µg/L	0.39 µg/L	0.5 µg/L	5 µg/L	Decreasing (97.8%)	Below remedial goal and decreasing, consistent with trend analysis reported in 2013. Consider removing from sampling matrix.
				TCE	--	0.57 µg/L	0.73 µg/L	1.7 µg/L	5 µg/L	Stable (89.1%)	Below remedial goal and stable. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.
MW-3.16R	C	3	Dry Sheds #4/#5	1,1-DCA	--	0.041 µg/L	0.061 µg/L	3 µg/L	5 µg/L	Stable (89.1%)	Below remedial goal and stable. Consider removing from sampling matrix.
				1,1-DCE	--	< 0.20 µg/L	< 0.20 µg/L	6 µg/L	6 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Remove from sampling matrix.
				PCE	Decreasing	0.49 µg/L	0.59 µg/L	0.5 µg/L	5 µg/L	Decreasing (98.7%)	Include in long-term monitoring program. Trend consistent with trend analysis reported in 2013.
				TCE	--	< 0.20 µg/L	0.066 µg/L	1.7 µg/L	5 µg/L	No trend (77.0%)	Never detected above remedial goal. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.
MW-3.18	C	3	Rail Lines East	1,1-DCA	--	1.4 µg/L	1.5 µg/L	3 µg/L	5 µg/L	Decreasing (99.8%)	Below remedial goal and decreasing. Consider removing from sampling matrix.
				1,1-DCE	--	< 0.20 µg/L	< 0.20 µg/L	6 µg/L	6 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Generally non-detect or below remedial goal. Remove from sampling matrix.
				PCE	--	4.3 µg/L	3.6 µg/L	0.5 µg/L	5 µg/L	No trend (72.7%)	Include in long-term monitoring program.
				TCE	--	1.7 µg/L	1.6 µg/L	1.7 µg/L	5 µg/L	Prob. Increasing (90.2%)	Include in long-term monitoring program.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Not detected in previous 6 monitoring events. Consider removing from sampling matrix.
Former Dip Tank AOI											
MW-3.12R	C	3	Former Dip Tank	Dioxins/furans	--	0.36 pg/L	0.27 pg/L	0.05 pg/L	30 pg/L	No trend (65.2%)	Include in long-term monitoring program.
				Chlorophenols	--	1.7 µg/L	20 µg/L	0.3 µg/L	1 µg/L	Decreasing (99.5%)	Include in long-term monitoring program.
MW-3.9	C	3	Former Planer #1/Planer #50	Dioxins/furans	--	Not included in Baseline monitoring events		0.05 pg/L	30 pg/L	No trend (below remedial goal)	Dioxin TEQ never detected above remedial goal. Sample only to monitor downgradient conditions from MW-3.12R.
				Chlorophenols	--	0.18 µg/L	0.27 µg/L	0.3 µg/L	1 µg/L	No trend (84.6%)	Below remedial goal in previous 11 monitoring events. Sample only to monitor downgradient conditions from MW-3.12R.

Attachment 2: Summary of Statistical Analysis

Monitoring Well ID	OU	Parcel	AOI	Constituent	Trend Direction Reported in MNA Technical Report (2013)	September 2018 Result	February 2019 Result	OU-C/D RAP Remedial Goal	MCL	Mann Kendall Result (2019)	Conclusion
Planer #2 AOI											
MW-6.3	D	6	Planer #2	Arsenic	--	26 µg/L	8.7 µg/L	2.5 µg/L	10 µg/L	Decreasing (99.2%)	Include in long-term monitoring program.
				1,1-DCA	Decreasing	0.29 µg/L	< 0.20 µg/L	3 µg/L	5 µg/L	Decreasing (>99.9%)	Below remedial goal and decreasing, consistent with trend analysis reported in 2013. Consider removing from sampling matrix.
				1,1-DCE	Decreasing	1.8 µg/L	< 0.20 µg/L	6 µg/L	6 µg/L	Decreasing (>99.9%)	Below remedial goal and decreasing, consistent with trend analysis reported in 2013. Consider removing from sampling matrix.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Not detected in previous 9 monitoring events. Remove from sampling matrix.
				PCE	--	< 0.50 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				TCE	--	< 0.20 µg/L	< 0.20 µg/L	1.7 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Not detected in previous 28 monitoring events. Consider removing from sampling matrix.
MW-6.4	D	6	Planer #2	Arsenic	--	0.44 µg/L	1.6 µg/L	2.5 µg/L	10 µg/L	Prob. Decreasing (91.7%)	Below BkGD and probably decreasing. Candidate for destruction.
MW-6.5	D	6	Planer #2	Arsenic	--	21 µg/L	2.3 µg/L	2.5 µg/L	10 µg/L	Stable (50%)	Include in long-term monitoring program.
MW-6.6	D	6	Planer #2	1,1-DCA	Decreasing	2.6 µg/L	1.3 µg/L	3 µg/L	5 µg/L	Decreasing (>99.9%)	Below remedial goal and decreasing, consistent with trend analysis reported in 2013. Consider removing from sampling matrix.
				1,1-DCE	Decreasing	9.0 µg/L	1.6 µg/L	6 µg/L	6 µg/L	Decreasing (99.9%)	Trend consistent with trend analysis reported in 2013.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Remove from sampling matrix.
				PCE	--	< 0.50 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				TCE	--	< 0.20 µg/L	< 0.20 µg/L	1.7 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.
MW-6.7	D	6	Planer #2	1,1-DCA	Decreasing	3.4 µg/L	0.81 µg/L	3 µg/L	5 µg/L	Decreasing (>99.9%)	Include in long-term monitoring program. Trend consistent with trend analysis reported in 2013.
				1,1-DCE	Increasing	40 µg/L	0.58 µg/L	6 µg/L	6 µg/L	Stable (55.5%)	Include in long-term monitoring program.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Remove from sampling matrix.
				PCE	--	0.17 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Include in long-term monitoring program.
				TCE	--	0.33 µg/L	< 0.20 µg/L	1.7 µg/L	5 µg/L	Below remedial goal/ND	Never detected above remedial goal. Consider removing from sampling matrix.
				Vinyl Chloride	--	0.18 µg/L	< 0.20 µg/L	0.5 µg/L	0.5 µg/L	ND	Include in long-term monitoring program.
MW-6.8	D	6	Planer #2	1,1-DCA	Decreasing	2.2 µg/L	0.087 µg/L	3 µg/L	5 µg/L	Decreasing (97.4%)	Below remedial goal and decreasing, consistent with trend analysis reported in 2013. Consider removing from sampling matrix.
				1,1-DCE	No trend	16 µg/L	0.98 µg/L	6 µg/L	6 µg/L	Stable (70.4%)	Trend consistent with trend analysis reported in 2013.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Remove from sampling matrix.
				PCE	--	< 0.50 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				TCE	--	< 0.20 µg/L	< 0.20 µg/L	1.7 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.
MW-6.9	D	6	Planer #2	1,1-DCA	--	0.46 µg/L	0.061 µg/L	3 µg/L	5 µg/L	Prob. Decreasing (94.6%)	Never detected above remedial goal and probably decreasing. Candidate for destruction.
				1,1-DCE	--	2.8 µg/L	0.47 µg/L	6 µg/L	6 µg/L	Prob. Decreasing (94.6%)	Below remedial goal and probably decreasing. Candidate for destruction.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Candidate for destruction.
				PCE	--	< 0.50 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Never detected. Candidate for destruction.
				TCE	--	< 0.20 µg/L	0.26 µg/L	1.7 µg/L	5 µg/L	ND	Never detected above remedial goal. Candidate for destruction.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Candidate for destruction.

Attachment 2: Summary of Statistical Analysis

Monitoring Well ID	OU	Parcel	AOI	Constituent	Trend Direction Reported in MNA Technical Report (2013)	September 2018 Result	February 2019 Result	OU-C/D RAP Remedial Goal	MCL	Mann Kendall Result (2019)	Conclusion
MW-6.10	D	6	Planer #2	1,1-DCA	Decreasing	1.7 µg/L	2.0 µg/L	3 µg/L	5 µg/L	Stable (52.2%)	Below remedial goal and stable. Consider removing from sampling matrix.
				1,1-DCE	No trend	6.3 µg/L	6.7 µg/L	6 µg/L	6 µg/L	Stable (73.9%)	Include in long-term monitoring program.
				Benzene	--	0.037 µg/L	0.031 µg/L	0.15 µg/L	1 µg/L	ND / Below remedial goal	Never detected above remedial goal. Remove from sampling matrix.
				PCE	--	< 0.50 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				TCE	--	< 0.20 µg/L	0.36 µg/L	1.7 µg/L	5 µg/L	ND / Below remedial goal	Never detected above remedial goal. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	0.21 µg/L	0.5 µg/L	0.5 µg/L	ND	Include in long-term monitoring program.
MW-6.11	D	6	Planer #2	1,1-DCA	--	5.0 µg/L	0.24 µg/L	3 µg/L	5 µg/L	--	Occasionally exceeds RG.
				1,1-DCE	--	4.9 µg/L	0.30 µg/L	6 µg/L	6 µg/L	Below remedial goal	Never detected above remedial goal. Consider removing from sampling matrix.
				Benzene	--	< 0.20 µg/L	< 0.20 µg/L	0.15 µg/L	1 µg/L	ND	Never detected. Remove from sampling matrix.
				PCE	--	< 0.50 µg/L	< 0.50 µg/L	0.5 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				TCE	--	< 0.20 µg/L	< 0.20 µg/L	1.7 µg/L	5 µg/L	ND	Never detected. Consider removing from sampling matrix.
				Vinyl Chloride	--	< 0.020 µg/L	< 0.020 µg/L	0.5 µg/L	0.5 µg/L	ND	Never detected. Consider removing from sampling matrix.
Sawmill/Sorter AOI											
MW-7.1	D	7	Sawmill/Sorter	Arsenic	No trend	4 µg/L	14 µg/L	2.5 µg/L	10 µg/L	Stable (55.3%)	Include in long-term monitoring program.
MW-7.2	D	7	Sawmill/Sorter	Arsenic	Decreasing	< 1.0 µg/L	< 5.0 µg/L	2.5 µg/L	10 µg/L	Prob. Decreasing (90.7%)	Include in long-term monitoring program. Trend consistent with trend analysis reported in 2013.
MW-7.3	D	7	Sawmill/Sorter	Arsenic	--	33 µg/L	31 µg/L	2.5 µg/L	10 µg/L	No trend	Include in long-term monitoring program.
Greenhouse AOI											
MW-9.1	D	9	Greenhouse	Atrazine	--	< 0.5 µg/L	< 0.5 µg/L	0.5 µg/L	3 µg/L	--	Never detected and not downgradient. Candidate for destruction.
MW-9.2	D	9	Greenhouse	Atrazine	Decreasing	0.73 µg/L	0.52 µg/L	0.5 µg/L	3 µg/L	Decreasing (>99.9%)	Decreasing trend, consistent with trend analysis reported in 2013. Approximately at the remedial goal and strong trend indicates it will be below remedial goal soon.
MW-9.3	D	9	Greenhouse	Atrazine	No trend	< 0.5 µg/L	< 0.5 µg/L	0.5 µg/L	3 µg/L	Stable (80.4%)	Consistently non-detect. Consider removing from sampling matrix.
OU-E											
Lowland Groundwater (Powerhouse and Fuel Barn, Water Treatment and Truck Dump, Sawmill #1 AOIs)											
MW-4.1	E	4	Powerhouse and Fuel Barn	Barium	--	--	880 µg/L	1,000 µg/L	1,000 µg/L	Decreasing (>99.9%)	Below remedial goal and decreasing.
MW-4.2	E	4	Water Treatment and Truck Dump	Arsenic	--	8.8 µg/L	2.2 µg/L	2.5 µg/L	10 µg/L	Decreasing (97.7%)	Below BkGD and decreasing. September 2018 result atypical of monitoring history. Remove from sampling matrix.
				Barium	--	63 µg/L	98 µg/L	1,000 µg/L	1,000 µg/L	Decreasing (>99.9%)	Never detected above remedial goal and decreasing. Remove from sampling matrix.
MW-4.5	E	4	Powerhouse and Fuel Barn	Arsenic	--	< 1.0 µg/L	1.5 µg/L	2.5 µg/L	10 µg/L	No trend (below remedial goal)	Below BkGD for previous 6 monitoring events. Remove from sampling matrix.
				Barium	--	140 µg/L	200 µg/L	1,000 µg/L	1,000 µg/L	No trend	Never detected above remedial goal. Remove from sampling matrix.
MW-4.6	E	4	Powerhouse and Fuel Barn	Arsenic	--	2.7 µg/L	1.1 µg/L	2.5 µg/L	10 µg/L	No trend (55.4%)	Remove from sampling matrix.
				Barium	--	310 µg/L	740 µg/L	1,000 µg/L	1,000 µg/L	Stable (74.9%)	Never detected above remedial goal. Remove from sampling matrix.
MW-5.7	E	5	Sawmill #1	Arsenic	--	20 µg/L	8.1 µg/L	2.5 µg/L	10 µg/L	Prob. Increasing (91.6%)	Include in long-term monitoring program.
MW-5.9	E	5	Sawmill #1	Arsenic	--	< 1.0 µg/L	< 1.0 µg/L	2.5 µg/L	10 µg/L	ND	Never detected above BkGD. Remove from sampling matrix.
				Barium	--	130 µg/L	130 µg/L	1,000 µg/L	1,000 µg/L	Consistently below remedial goal	Never detected above remedial goal. Remove from sampling matrix.

Attachment 2: Summary of Statistical Analysis

Monitoring Well ID	OU	Parcel	AOI	Constituent	Trend Direction Reported in MNA Technical Report (2013)	September 2018 Result	February 2019 Result	OU-C/D RAP Remedial Goal	MCL	Mann Kendall Result (2019)	Conclusion
IRM and West of IRM AOIs											
MW-5.5 [(a)]	E	5	IRM	TPH	--	Contains product		--	--	--	Contains product. Include in long-term monitoring program.
MW-5.15	E	5	West of IRM	TPHg	--	< 0.05 mg/L	--	0.05 mg/L	--	ND	Never detected above remedial goal and not downgradient of MW-5.5. Remove from sampling matrix.
				TPHd	--	< 0.052 mg/L	--	0.1 mg/L	--	ND	Never detected above remedial goal and not downgradient of MW-5.5. Remove from sampling matrix.
MW-5.18	E	5	West of IRM	TPHg	--	Not included in Baseline monitoring events		0.05 mg/L	--	Stable (53.5%)	Not detected in previous 8 monitoring events and stable. Remove from sampling matrix.
				TPHd	--	< 0.05 mg/L	< 0.049 mg/L	0.1 mg/L	--	Decreasing (99.7%)	Not detected in previous 4 monitoring events and overall trend is decreasing. Remove from sampling matrix.
MW-5.20	E	5	West of IRM	TPHg	--	0.027 mg/L	< 0.05 mg/L	0.05 mg/L	--	Stable (87.5%)	Not detected in previous 10 monitoring events and stable. Include as downgradient of MW-5.5.
				TPHd	--	0.073 mg/L	< 0.047 mg/L	0.1 mg/L	--	Decreasing (>99.9%)	Below remedial goal and decreasing. Include as downgradient of MW-5.5.
MW-5.21	E	5	West of IRM	TPHg	--	Not included in Baseline monitoring events		0.05 mg/L	--	Consistently ND	Never detected. Remove from sampling matrix.
				TPHd	--	< 0.051 mg/L	< 0.049 mg/L	0.1 mg/L	--	Decreasing (99.6%)	Not detected in previous 10 monitoring events and overall trend is decreasing. Remove from sampling matrix.
Inactive Wells and Candidates for Destruction											
Former MES/IRM AOI											
MW-3.20	C	3	Former MS/IRM	--	--	--	--	--	--	--	Candidate for destruction.
MW-3.21	C	3	Rail Lines East	--	--	--	--	--	--	--	Candidate for destruction.
Miscellaneous AOI											
MW-5.6	D	5	Miscellaneous	--	--	--	--	--	--	--	Candidate for destruction.

Notes:
(a) If a constituent has not been detected in history of monitoring at the well, the statistical analysis was not completed for that well-constituent pairing.

Abbreviations:

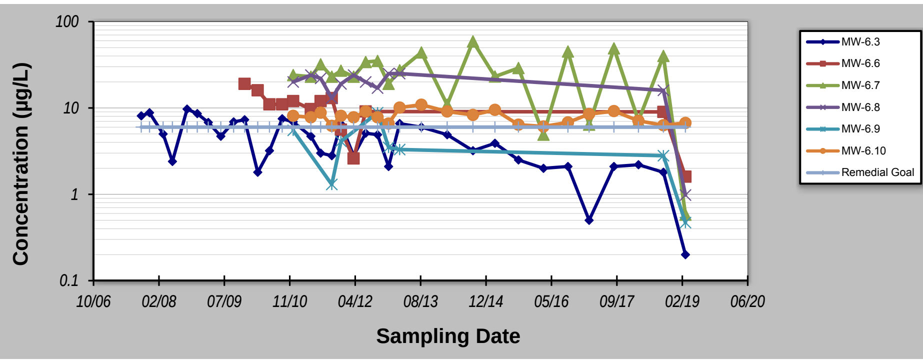
--	not applicable, analysis not completed, or not enough data points for analysis
AOI	area of interest
AST	aboveground storage tank
IRM	interim remedial measure
MCL	maximum contaminant level
MES	Mobile Equipment Shop
MW	monitoring well

(light blue)	Consider removing from sampling matrix
(yellow)	Above remedial goal
(green)	Consider including in long-term monitoring program

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	1,1-DCE
Conducted By:	Kennedy Jenks	Concentration Units:	µg/L

Sampling Event	Sampling Date	MW-6.3	MW-6.6	MW-6.7	MW-6.8	MW-6.9	MW-6.10	Remedial Goal
		1,1-DCE CONCENTRATION (µg/L)						
1	10-Oct-07	8.1						6
2	12-Dec-07	8.8						6
3	25-Mar-08	5						6
4	4-Jun-08	2.4						6
5	24-Sep-08	9.7						6
6	11-Dec-08	8.6						6
7	5-Mar-09	6.8						6
8	9-Jun-09	4.7						6
9	15-Sep-09	6.9						6
10	8-Dec-09	7.3	19					6
11	18-Mar-10	1.8	16					6
12	16-Jun-10	3.2	11					6
13	21-Sep-10	7.5	11					6
14	14-Dec-10	6.9	12	24	20	5.5	8.1	6
15	28-Apr-11	4.7	9.7	23	24		7.8	6
16	12-Jul-11	3	12	32	22		8.8	6
17	5-Oct-11	2.8	13	23	13	1.3	6.2	6
18	14-Dec-11	6.5	5.6	27	19	4.1	8.1	6
19	20-Mar-12	2.8	2.6	23	24		7.8	6
20	20-Jun-12	5.1	9.1	34	20		9.1	6
21	19-Sep-12	4.9		35	17	8.8	7.8	6
22	12-Dec-12	2.1		19	25	3.5	6.6	6
23	7-Mar-13	6.6		27.3	25	3.3	10.1	6
24	20-Aug-13	6		43.9			10.9	6
25	5-Mar-14	4.9		10.9			9.1	6
26	18-Sep-14	3.2		59			8.3	6
27	5-Mar-15	3.9		23.1			9.5	6
28	1-Sep-15	2.5		29			6.4	6
29	10-Mar-16	2		4.9			6.1	6
30	13-Sep-16	2.1		45			6.8	6
31	22-Feb-17	0.5		6.4			8.5	6
32	30-Aug-17	2.1		49			9.2	6
33	6-Mar-18	2.2		7.1			7.1	6
34	12-Sep-18	1.8	9	40	16	2.8	6.3	6
35	28-Feb-19	0.2	1.6	0.58	0.98	0.47	6.7	6
36								
37								
38								
39								
40								
Coefficient of Variation:		0.56	0.48	0.57	0.36	0.69	0.17	0.00
Mann-Kendall Statistic (S):		-316	-48	-6	-9	-14	-24	0
Confidence Factor:		>99.9%	99.9%	55.5%	70.4%	94.6%	73.9%	49.5%
Concentration Trend:		Decreasing	Decreasing	Stable	Stable	Prob. Decreasing	Stable	Stable



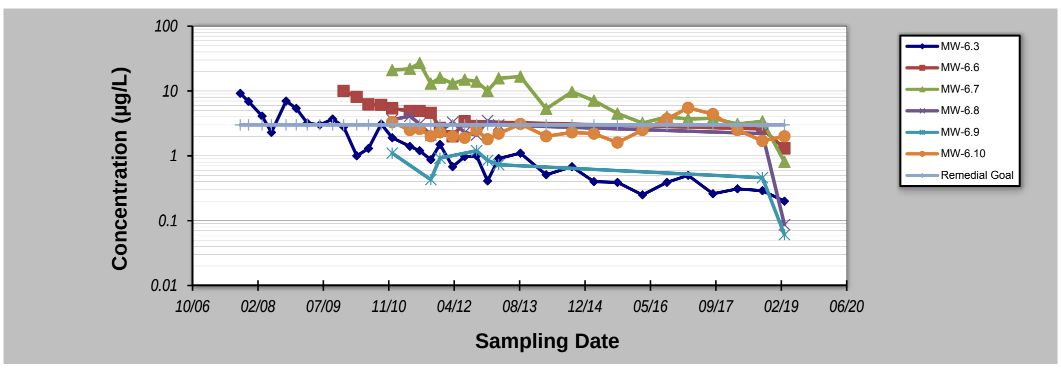
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**1,1-DCA**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**µg/L**

Sampling Event	Sampling Date	MW-6.3	MW-6.6	MW-6.7	MW-6.8	MW-6.9	MW-6.10	Remedial Goal
	Sampling Point ID:	1,1-DCA CONCENTRATION (µg/L)						
1	10-Oct-07	9.2						3
2	12-Dec-07	6.9						3
3	25-Mar-08	4.1						3
4	4-Jun-08	2.3						3
5	24-Sep-08	7						3
6	11-Dec-08	5.4						3
7	5-Mar-09	3.2						3
8	9-Jun-09	3						3
9	15-Sep-09	3.7						3
10	8-Dec-09	2.8	10					3
11	18-Mar-10	1	8.1					3
12	16-Jun-10	1.3	6.2					3
13	21-Sep-10	3.1	6.1					3
14	14-Dec-10	1.9	5.4	21	3.6	1.1	3.3	3
15	28-Apr-11	1.4	4.9	22	4.1		2.5	3
16	12-Jul-11	1.2	4.9	27	3.1		2.6	3
17	5-Oct-11	0.87	4.6	13	2.1	0.43	2	3
18	14-Dec-11	1.5	2.7	16	2.4	0.92	2.3	3
19	20-Mar-12	0.68	2	13	3.3		2	3
20	20-Jun-12	0.97	3.4	15	2.3		1.9	3
21	19-Sep-12	1		14	2.1	1.2	2.5	3
22	12-Dec-12	0.41		10	3.5	0.85	1.8	3
23	7-Mar-13	0.91		15.7	3	0.73	2.2	3
24	20-Aug-13	1.1		16.7			3.1	3
25	5-Mar-14	0.51		5.3			2	3
26	18-Sep-14	0.68		9.7			2.3	3
27	5-Mar-15	0.4		7.1			2.2	3
28	1-Sep-15	0.39		4.5			1.6	3
29	10-Mar-16	0.25		3.2			2.5	3
30	13-Sep-16	0.39		4			3.7	3
31	22-Feb-17	0.5		3.7			5.5	3
32	30-Aug-17	0.26		3.8			4.4	3
33	6-Mar-18	0.31		3.1			2.5	3
34	12-Sep-18	0.29	2.6	3.4	2.2	0.46	1.7	3
35	28-Feb-19	0.2	1.3	0.81	0.087	0.061	2	3
36								
37								
38								
39								
40								
	Coefficient of Variation:	1.12	0.52	0.69	0.39	0.53	0.36	0.00
	Mann-Kendall Statistic (S):	-480	-71	-174	-29	-14	-3	0
	Confidence Factor:	>99.9%	>99.9%	>99.9%	97.4%	94.6%	52.2%	49.5%
	Concentration Trend:	Decreasing	Decreasing	Decreasing	Decreasing	Prob. Decreasing	Stable	Stable



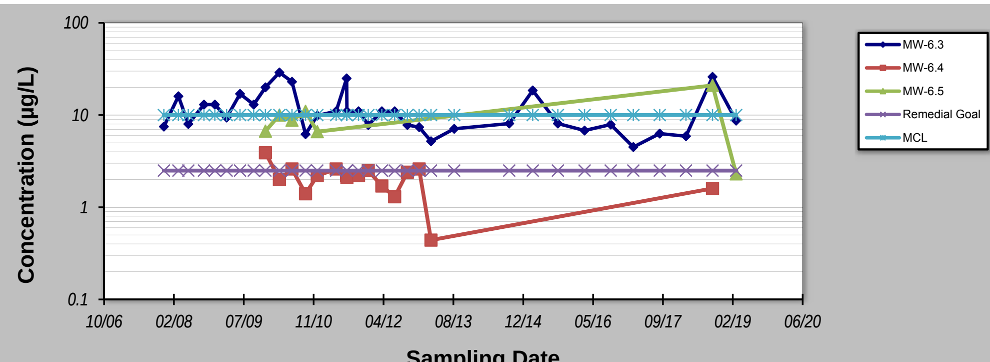
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	arsenic
Conducted By:	Kennedy Jenks	Concentration Units:	µg/L

Sampling Point ID:		MW-6.3	MW-6.4	MW-6.5	Remedial Goal	MCL		
Sampling Event	Sampling Date	ARSENIC CONCENTRATION (µg/L)						
1	12-Dec-07	7.5			2.5	10		
2	25-Mar-08	16			2.5	10		
3	4-Jun-08	8			2.5	10		
4	24-Sep-08	13			2.5	10		
5	11-Dec-08	13			2.5	10		
6	5-Mar-09	9.4			2.5	10		
7	9-Jun-09	17			2.5	10		
8	15-Sep-09	13			2.5	10		
9	8-Dec-09	20	3.9	6.7	2.5	10		
10	18-Mar-10	29	2	10	2.5	10		
11	16-Jun-10	23	2.6	8.8	2.5	10		
12	21-Sep-10	6.2	1.4	11	2.5	10		
13	14-Dec-10	9.9	2.2	6.6	2.5	10		
14	28-Apr-11	11	2.6		2.5	10		
15	12-Jul-11	25	2.2		2.5	10		
16	14-Jul-11	11	2.1		2.5	10		
17	5-Oct-11	11	2.2		2.5	10		
18	14-Dec-11	7.8	2.5		2.5	10		
19	20-Mar-12	11	1.7		2.5	10		
20	20-Jun-12	11	1.3		2.5	10		
21	19-Sep-12	7.8	2.4		2.5	10		
22	12-Dec-12	7.4	2.6		2.5	10		
23	7-Mar-13	5.2	0.44		2.5	10		
24	20-Aug-13	7.1			2.5	10		
25	18-Sep-14	8.1			2.5	10		
26	5-Mar-15	18.5			2.5	10		
27	1-Sep-15	8.1			2.5	10		
28	10-Mar-16	6.8			2.5	10		
29	13-Sep-16	7.9			2.5	10		
30	22-Feb-17	4.5			2.5	10		
31	30-Aug-17	6.3			2.5	10		
32	6-Mar-18	5.9			2.5	10		
33	12-Sep-18	26	1.6	21	2.5	10		
34	28-Feb-19	8.7		2.3	2.5	10		
35								
Coefficient of Variation:		0.54	0.36	0.61	0.00	0.00		
Mann-Kendall Statistic (S):		-162	-32	-1	0	0		
Confidence Factor:		99.2%	91.7%	50.0%	49.4%	49.4%		
Concentration Trend:		Decreasing	Prob. Decreasing	Stable	Stable	Stable		



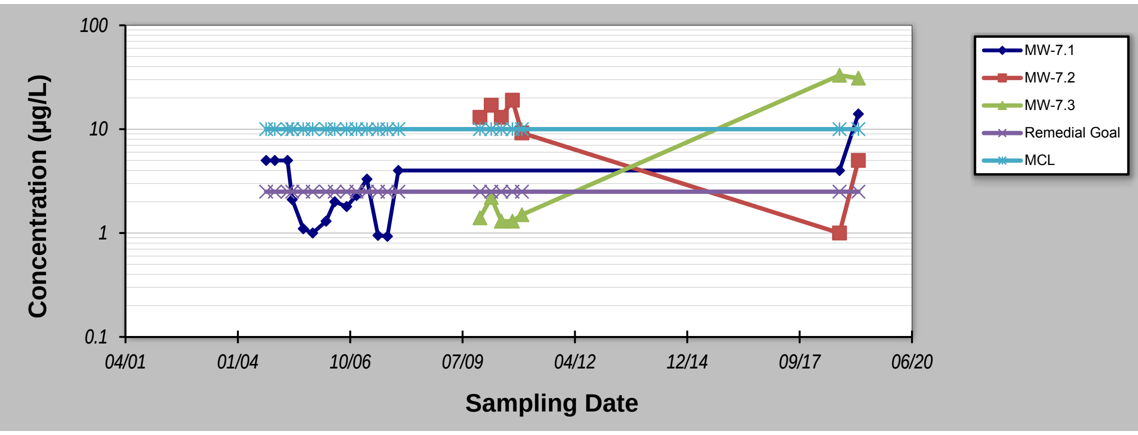
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	arsenic
Conducted By:	Kennedy Jenks	Concentration Units:	µg/L

	Sampling Point ID:	MW-7.1	MW-7.2	MW-7.3	Remedial Goal	MCL		
Sampling Event	Sampling Date	ARSENIC CONCENTRATION (µg/L)						
1	22-Sep-04	5			2.5	10		
2	8-Dec-04	5			2.5	10		
3	31-Mar-05	5			2.5	10		
4	12-May-05	2.1			2.5	10		
5	18-Aug-05	1.1			2.5	10		
6	10-Nov-05	1			2.5	10		
7	9-Mar-06	1.3			2.5	10		
8	25-May-06	2			2.5	10		
9	8-Sep-06	1.8			2.5	10		
10	5-Dec-06	2.3			2.5	10		
11	8-Mar-07	3.3			2.5	10		
12	14-Jun-07	0.95			2.5	10		
13	6-Sep-07	0.93			2.5	10		
14	13-Dec-07	4			2.5	10		
15	8-Dec-09		13	1.4	2.5	10		
16	18-Mar-10		17	2.2	2.5	10		
17	16-Jun-10		13	1.3	2.5	10		
18	23-Sep-10		19	1.3	2.5	10		
19	16-Dec-10		9.2	1.5	2.5	10		
20	12-Sep-18	4	1	33	2.5	10		
21	27-Feb-19	14	5	31	2.5	10		
22								
23								
24								
25								
	Coefficient of Variation:	0.96	0.58	1.45	0.00	0.00		
	Mann-Kendall Statistic (S):	-4	-10	8	0	0		
	Confidence Factor:	55.3%	90.7%	84.5%	48.8%	48.8%		
	Concentration Trend:	Stable	Prob. Decreasing	No Trend	Stable	Stable		



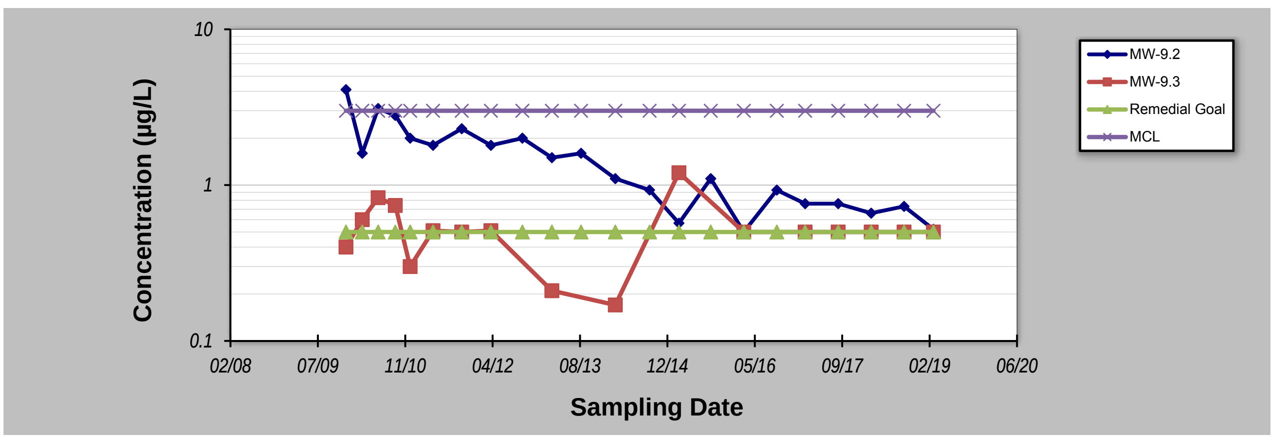
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	atrazine
Conducted By:	Kennedy Jenks	Concentration Units:	µg/L

Sampling Event	Sampling Date	MW-9.2	MW-9.3	Remedial Goal	MCL			
		ATRAZINE CONCENTRATION (µg/L)						
1	14-Dec-09	4.1	0.4	0.5	3			
2	17-Mar-10	1.6	0.6	0.5	3			
3	16-Jun-10	3.1	0.83	0.5	3			
4	22-Sep-10	2.8	0.74	0.5	3			
5	16-Dec-10	2	0.3	0.5	3			
6	26-Apr-11	1.8	0.51	0.5	3			
7	7-Oct-11	2.3	0.5	0.5	3			
8	22-Mar-12	1.8	0.51	0.5	3			
9	18-Sep-12	2		0.5	3			
10	6-Mar-13	1.5	0.21	0.5	3			
11	20-Aug-13	1.6		0.5	3			
12	4-Mar-14	1.1	0.17	0.5	3			
13	16-Sep-14	0.93		0.5	3			
14	3-Mar-15	0.57	1.2	0.5	3			
15	1-Sep-15	1.1		0.5	3			
16	8-Mar-16	0.5	0.5	0.5	3			
17	13-Sep-16	0.929		0.5	3			
18	22-Feb-17	0.76	0.5	0.5	3			
19	30-Aug-17	0.76	0.5	0.5	3			
20	7-Mar-18	0.66	0.5	0.5	3			
21	11-Sep-18	0.73	0.5	0.5	3			
22	26-Feb-19	0.52	0.5	0.5	3			
23								
24								
25								
Coefficient of Variation:		0.62	0.45	0.00	0.00			
Mann-Kendall Statistic (S):		-174	-22	0	0			
Confidence Factor:		>99.9%	80.4%	48.9%	48.9%			
Concentration Trend:		Decreasing	Stable	Stable	Stable			



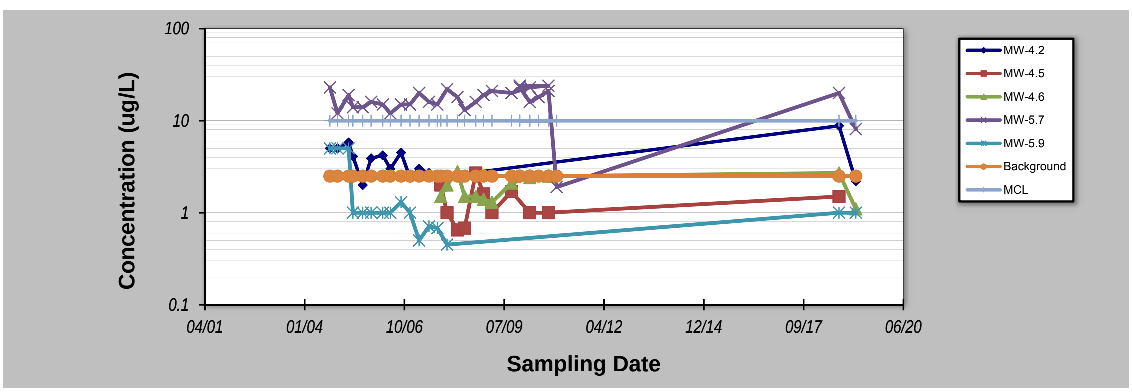
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	Arsenic
Conducted By:	Kennedy Jenks	Concentration Units:	ug/L

Sampling Event	Sampling Date	MW-4.2	MW-4.5	MW-4.6	MW-5.7	MW-5.9	Background	MCL
		ARSENIC CONCENTRATION (ug/L)						
1	23-Sep-04	5			23	5	2.5	10
2	8-Dec-04	5			12	5	2.5	10
3	30-Mar-05	5.8			19	5	2.5	10
4	12-May-05	4.1			14	1	2.5	10
5	18-Aug-05	2			14	1	2.5	10
6	10-Nov-05	3.9			16	1	2.5	10
7	7-Mar-06	4.2			15	1	2.5	10
8	22-May-06	3			12	1	2.5	10
9	6-Sep-06	4.5			15	1.3	2.5	10
10	5-Dec-06	2.4			15	1	2.5	10
11	6-Mar-07	3			20	0.5	2.5	10
12	13-Jun-07	2.7			16	0.71	2.5	10
13	5-Sep-07	2.5			15	0.68	2.5	10
14	10-Oct-07		2	1.5			2.5	10
15	11-Dec-07	2.5	1	2	22	0.45	2.5	10
16	25-Mar-08		0.65	2.8	18		2.5	10
17	4-Jun-08		0.68	1.5	13		2.5	10
18	24-Sep-08		2.7	1.5	16		2.5	10
19	11-Dec-08		1.6	1.4	19		2.5	10
20	5-Mar-09		1	1.3	21		2.5	10
21	17-Sep-09		1.7	2.1	20		2.5	10
22	18-Mar-10		1	2.4	23		2.5	10
23	22-Sep-10		1	2.5	24		2.5	10
24	8-Dec-09				24		2.5	10
25	8-Dec-09				23		2.5	10
26	19-Mar-10				16		2.5	10
27	16-Jun-10				18		2.5	10
28	23-Sep-10				21		2.5	10
29	14-Dec-10				1.9		2.5	10
30	11-Sep-18	8.8	1.5	2.7	20	1	2.5	10
31	27-Feb-19	2.2		1.1	8.1	1	2.5	10
32								
33								
34								
35								
Coefficient of Variation:		0.46	0.46	0.31	0.29	1.00	0.00	0.00
Mann-Kendall Statistic (S):		-45	1	3	97	-59	0	0
Confidence Factor:		97.7%	50.0%	55.4%	95.7%	99.7%	49.4%	49.4%
Concentration Trend:		Decreasing	No Trend	No Trend	Increasing	Decreasing	Stable	Stable



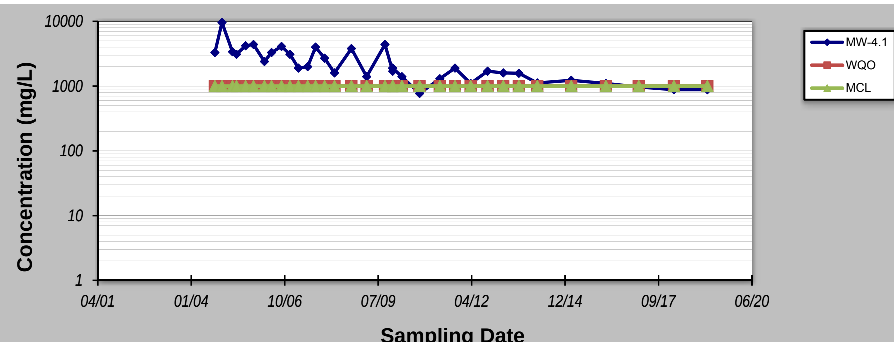
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**Barium**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**mg/L**

	Sampling Point ID:	**MW-4.1**	**WQO**	**MCL**				
Sampling Event	Sampling Date	BARIUM CONCENTRATION (mg/L)						
1	23-Sep-04	3300	1000	1000				
2	8-Dec-04	9600	1000	1000				
3	30-Mar-05	3400	1000	1000				
4	12-May-05	3100	1000	1000				
5	18-Aug-05	4200	1000	1000				
6	10-Nov-05	4400	1000	1000				
7	7-Mar-06	2400	1000	1000				
8	22-May-06	3300	1000	1000				
9	6-Sep-06	4100	1000	1000				
10	5-Dec-06	3100	1000	1000				
11	6-Mar-07	1900	1000	1000				
12	13-Jun-07	2000	1000	1000				
13	5-Sep-07	4000	1000	1000				
14	11-Dec-07	2700	1000	1000				
15	26-Mar-08	1600	1000	1000				
16	23-Sep-08	3800	1000	1000				
17	5-Mar-09	1400	1000	1000				
18	17-Sep-09	4400	1000	1000				
19	9-Dec-09	1700	1000	1000				
20	9-Dec-09	1900	1000	1000				
21	9-Dec-09	1900	1000	1000				
22	17-Mar-10	1400	1000	1000				
23	22-Sep-10	770	1000	1000				
24	27-Apr-11	1300	1000	1000				
25	6-Oct-11	1900	1000	1000				
26	22-Mar-12	1100	1000	1000				
27	19-Sep-12	1700	1000	1000				
28	6-Mar-13	1600	1000	1000				
29	20-Aug-13	1580	1000	1000				
30	5-Mar-14	1120	1000	1000				
31	3-Mar-15	1230	1000	1000				
32	8-Mar-16	1100	1000	1000				
33	23-Feb-17	970	1000	1000				
34	6-Mar-18	880	1000	1000				
35	27-Feb-19	880	1000	1000				
36								
37								
38								
39								
40								
	Coefficient of Variation:	0.69	0.00	0.00				
	Mann-Kendall Statistic (S):	-391	0	0				
	Confidence Factor:	>99.9%	49.5%	49.5%				
	Concentration Trend:	Decreasing	Stable	Stable				



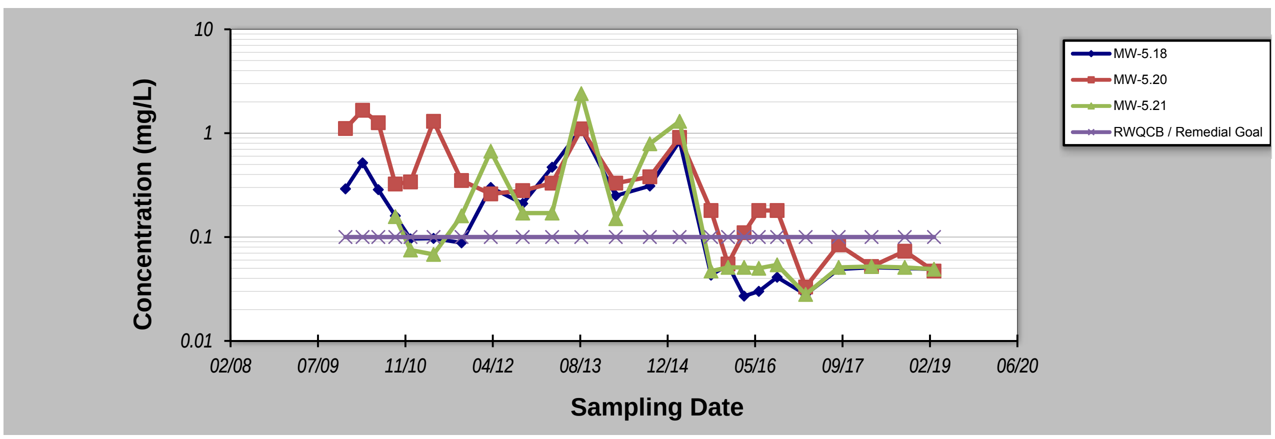
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	TPHd
Conducted By:	Kennedy Jenks	Concentration Units:	mg/L

Sampling Event	Sampling Date	MW-5.18	MW-5.20	MW-5.21	QCB / Remedial Goal			
		TPHD CONCENTRATION (mg/L)						
1	10-Dec-09	0.291	1.108		0.1			
2	18-Mar-10	0.518	1.66		0.1			
3	16-Jun-10	0.286	1.26		0.1			
4	21-Sep-10	0.16	0.324	0.157	0.1			
5	17-Dec-10	0.096	0.339	0.075	0.1			
6	28-Apr-11	0.097	1.3	0.068	0.1			
7	5-Oct-11	0.088	0.35	0.16	0.1			
8	20-Mar-12	0.3	0.26	0.67	0.1			
9	19-Sep-12	0.21	0.28	0.17	0.1			
10	6-Mar-13	0.47	0.33	0.17	0.1			
11	20-Aug-13	1.1	1.1	2.4	0.1			
12	5-Mar-14	0.25	0.33	0.15	0.1			
13	16-Sep-14	0.31	0.38	0.79	0.1			
14	5-Mar-15	0.84	0.91	1.3	0.1			
15	1-Sep-15	0.043	0.18	0.047	0.1			
16	7-Dec-15	0.054	0.055	0.051	0.1			
17	8-Mar-16	0.027	0.11	0.051	0.1			
18	31-May-16	0.03	0.18	0.05	0.1			
19	13-Sep-16	0.041	0.18	0.054	0.1			
20	23-Feb-17	0.028	0.033	0.028	0.1			
21	31-Aug-17	0.049	0.084	0.051	0.1			
22	7-Mar-18	0.051	0.052	0.052	0.1			
23	13-Sep-18	0.05	0.073	0.051	0.1			
24	27-Feb-19	0.049	0.047	0.049	0.1			
25								
Coefficient of Variation:		1.20	1.06	1.83	0.00			
Mann-Kendall Statistic (S):		-109	-174	-79	0			
Confidence Factor:		99.7%	>99.9%	99.2%	49.0%			
Concentration Trend:		Decreasing	Decreasing	Decreasing	Stable			



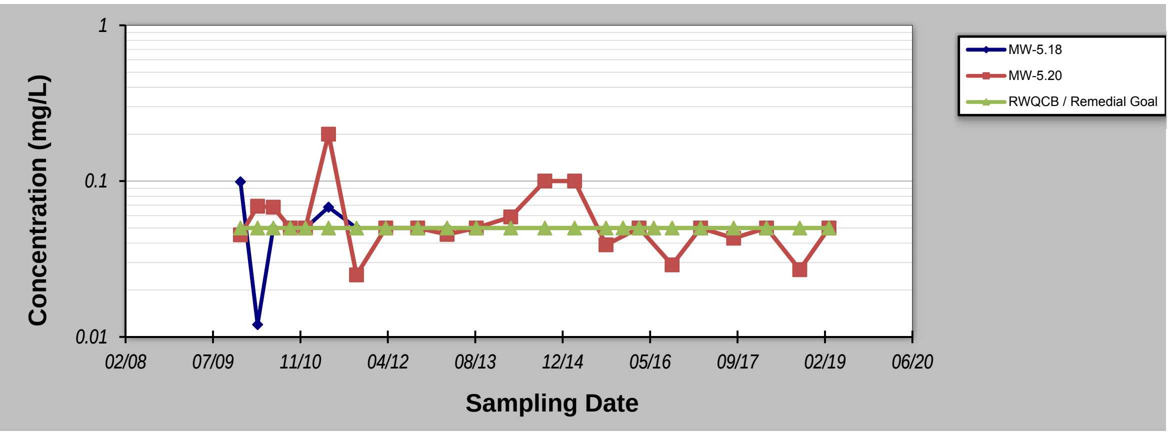
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	TPHg
Conducted By:	Kennedy Jenks	Concentration Units:	mg/L

Sampling Event	Sampling Date	MW-5.18	MW-5.20	QCB / Remedial Goal				
		TPHG CONCENTRATION (mg/L)						
1	10-Dec-09	0.099	0.0452	0.05				
2	18-Mar-10	0.012	0.069	0.05				
3	16-Jun-10	0.05	0.068	0.05				
4	21-Sep-10	0.05	0.05	0.05				
5	17-Dec-10	0.05	0.05	0.05				
6	28-Apr-11	0.068	0.2	0.05				
7	5-Oct-11	0.05	0.025	0.05				
8	20-Mar-12	0.05	0.05	0.05				
9	19-Sep-12	0.05	0.05	0.05				
10	6-Mar-13	0.05	0.0455	0.05				
11	20-Aug-13		0.05	0.05				
12	5-Mar-14		0.0589	0.05				
13	16-Sep-14		0.1	0.05				
14	5-Mar-15		0.1	0.05				
15	1-Sep-15		0.039	0.05				
16	7-Dec-15			0.05				
17	8-Mar-16		0.05	0.05				
18	31-May-16			0.05				
19	13-Sep-16		0.029	0.05				
20	23-Feb-17		0.05	0.05				
21	31-Aug-17		0.043	0.05				
22	7-Mar-18		0.05	0.05				
23	13-Sep-18		0.027	0.05				
24	27-Feb-19		0.05	0.05				
25								
Coefficient of Variation:		0.40	0.62	0.00				
Mann-Kendall Statistic (S):		-2	-42	0				
Confidence Factor:		53.5%	87.5%	49.0%				
Concentration Trend:		Stable	Stable	Stable				



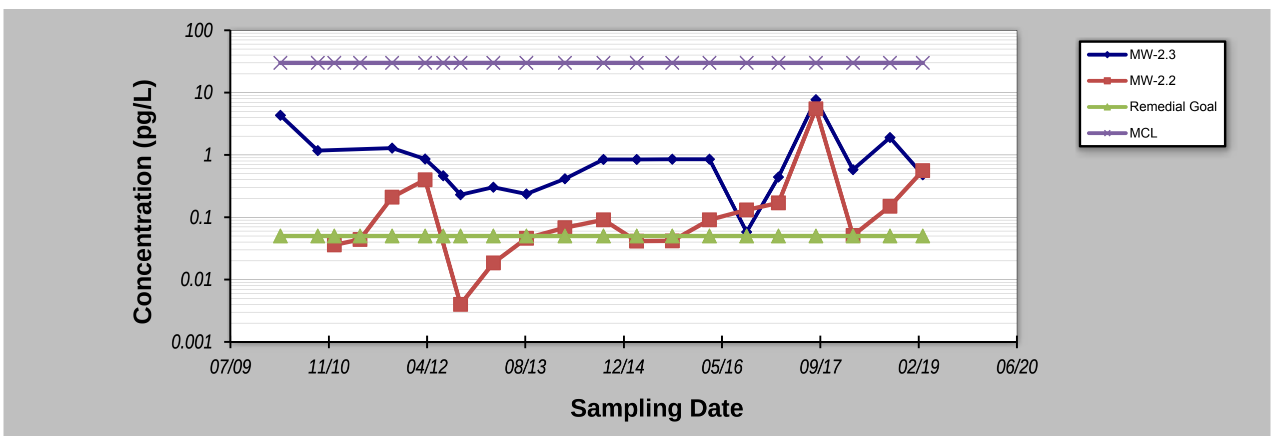
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	Dioxin TEQ
Conducted By:	Kennedy Jenks	Concentration Units:	pg/L

Sampling Event	Sampling Date	MW-2.3	MW-2.2	Remedial Goal	MCL			
		DIOXIN TEQ CONCENTRATION (pg/L)						
1	17-Mar-10	4.318		0.05	30			
2	23-Sep-10	1.174		0.05	30			
3	16-Dec-10		0.036	0.05	30			
4	26-Apr-11		0.044	0.05	30			
5	6-Oct-11	1.287	0.21	0.05	30			
6	22-Mar-12	0.8603	0.3994	0.05	30			
7	22-Jun-12	0.463		0.05	30			
8	18-Sep-12	0.23	0.004	0.05	30			
9	4-Mar-13	0.3034	0.0185	0.05	30			
10	19-Aug-13	0.236	0.046	0.05	30			
11	3-Mar-14	0.414	0.068	0.05	30			
12	15-Sep-14	0.846	0.091	0.05	30			
13	3-Mar-15	0.846	0.0414	0.05	30			
14	31-Aug-15	0.854	0.0418	0.05	30			
15	7-Mar-16	0.854	0.091	0.05	30			
16	12-Sep-16	0.058	0.131	0.05	30			
17	21-Feb-17	0.442	0.17	0.05	30			
18	30-Aug-17	7.7	5.5	0.05	30			
19	7-Mar-18	0.58	0.051	0.05	30			
20	11-Sep-18	1.9	0.15	0.05	30			
21	25-Feb-19	0.48	0.56	0.05	30			
22								
23								
24								
25								
Coefficient of Variation:		1.45	3.00	0.00	0.00			
Mann-Kendall Statistic (S):		-11	62	0	0			
Confidence Factor:		63.5%	99.0%	48.8%	48.8%			
Concentration Trend:		No Trend	Increasing	Stable	Stable			



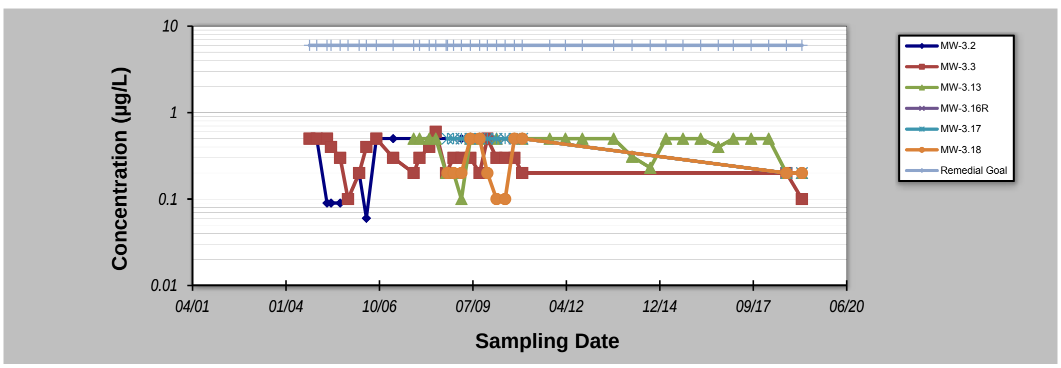
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	1,1-DCE
Conducted By:	Kennedy Jenks	Concentration Units:	µg/L

Sampling Event	Sampling Date	MW-3.2	MW-3.3	MW-3.13	MW-3.16R	MW-3.17	MW-3.18	Remedial Goal
	Sampling Point ID:	1,1-DCE CONCENTRATION (µg/L)						
1	22-Sep-04	0.5	0.5					6
2	8-Dec-04	0.5	0.5					6
3	28-Mar-05	0.09	0.5					6
4	10-May-05	0.09	0.4					6
5	16-Aug-05	0.09	0.3					6
6	8-Nov-05	0.1	0.1					6
7	7-Mar-06	0.2	0.2					6
8	23-May-06	0.06	0.4					6
9	7-Sep-06	0.5	0.5					6
10	6-Mar-07	0.5	0.3					6
11	11-Oct-07		0.2	0.5				6
12	13-Dec-07		0.3	0.5				6
13	26-Mar-08	0.5	0.4	0.5				6
14	4-Jun-08		0.6	0.5				6
15	23-Sep-08		0.2	0.2				6
16	7-Oct-08					0.5	0.2	6
17	11-Dec-08		0.3	0.2	0.5	0.5	0.2	6
18	5-Mar-09	0.5	0.3	0.1	0.5	0.5	0.2	6
19	9-Jun-09	0.5	0.3	0.5	0.5	0.5	0.5	6
20	16-Sep-09		0.2	0.5	0.5	0.5	0.5	6
21	8-Dec-09	0.5	0.5		0.5	0.5	0.2	6
22	16-Mar-10	0.5	0.3	0.5	0.5	0.5	0.1	6
23	16-Jun-10		0.3		0.5	0.5	0.1	6
24	23-Sep-10		0.3		0.5	0.5	0.5	6
25	16-Dec-10		0.2	0.5	0.5	0.5	0.5	6
26	6-Oct-11			0.5				6
27	22-Mar-12			0.5				6
28	19-Sep-12			0.5				6
29	20-Aug-13			0.5				6
30	5-Mar-14			0.31				6
31	16-Sep-14			0.23				6
32	3-Mar-15			0.5				6
33	1-Sep-15			0.5				6
34	8-Mar-16			0.5				6
35	13-Sep-16			0.4				6
36	21-Feb-17			0.5				6
37	30-Aug-17			0.5				6
38	6-Mar-18			0.5				6
39	12-Sep-18		0.2	0.2	0.2	0.2	0.2	6
40	25-Feb-19		0.1	0.2	0.2	0.2	0.2	6
	Coefficient of Variation:	0.59	0.41	0.33	0.27	0.26	0.58	0.00
	Mann-Kendall Statistic (S):	32	-102	-26	-18	-20	0	0
	Confidence Factor:	93.7%	98.8%	70.8%	90.5%	90.2%	47.3%	49.5%
	Concentration Trend:	Prob. Increasing	Decreasing	Stable	Prob. Decreasing	Prob. Decreasing	Stable	Stable



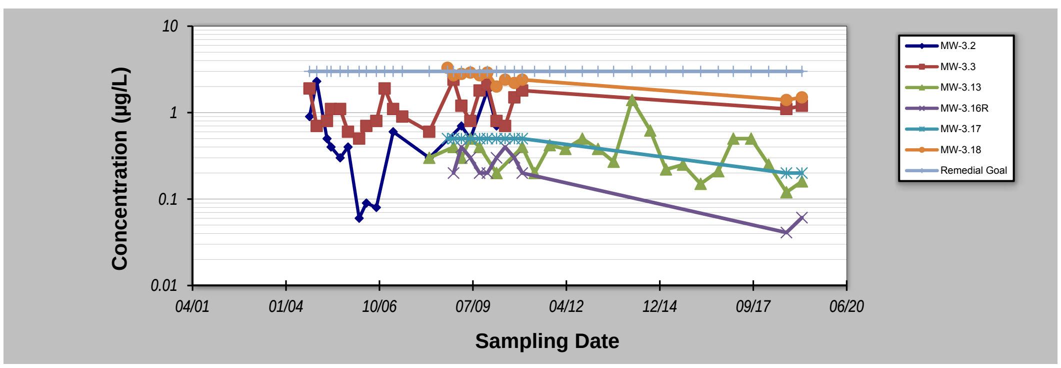
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	23-Sep-19	Job ID:	1665018*19
Facility Name:	FB Mill Site	Constituent:	1,1-DCA
Conducted By:	Kennedy Jenks	Concentration Units:	µg/L

Sampling Point ID:		MW-3.2	MW-3.3	MW-3.13	MW-3.16R	MW-3.17	MW-3.18	Remedial Goal
Sampling Event	Sampling Date	1,1-DCA CONCENTRATION (µg/L)						
1	22-Sep-04	0.9	1.9					3
2	8-Dec-04	2.3	0.7					3
3	28-Mar-05	0.5	0.8					3
4	10-May-05	0.4	1.1					3
5	16-Aug-05	0.3	1.1					3
6	8-Nov-05	0.4	0.6					3
7	7-Mar-06	0.06	0.5					3
8	23-May-06	0.09	0.7					3
9	7-Sep-06	0.08	0.8					3
10	5-Dec-06		1.9					3
11	6-Mar-07	0.6	1.1					3
12	12-Jun-07		0.9					3
13	26-Mar-08	0.3	0.6	0.3				3
14	7-Oct-08					0.5	3.3	3
15	11-Dec-08		2.4	0.4	0.2	0.5	2.7	3
16	5-Mar-09	0.7	1.2	0.3	0.4	0.5	2.8	3
17	9-Jun-09	0.5	0.8	0.5	0.3	0.5	2.9	3
18	16-Sep-09		1.8	0.4	0.2	0.5	2.7	3
19	8-Dec-09	1.8	2.1		0.2	0.5	2.9	3
20	16-Mar-10	0.7	0.8	0.2	0.3	0.5	2	3
21	16-Jun-10		0.7		0.4	0.5	2.4	3
22	23-Sep-10		1.5		0.3	0.5	2.2	3
23	16-Dec-10		1.8	0.4	0.2	0.5	2.4	3
24	27-Apr-11			0.2				3
25	6-Oct-11			0.42				3
26	22-Mar-12			0.38				3
27	19-Sep-12			0.5				3
28	6-Mar-13			0.38				3
29	20-Aug-13			0.27				3
30	5-Mar-14			1.4				3
31	16-Sep-14			0.62				3
32	3-Mar-15			0.22				3
33	1-Sep-15			0.25				3
34	8-Mar-16			0.15				3
35	13-Sep-16			0.21				3
36	21-Feb-17			0.5				3
37	30-Aug-17			0.5				3
38	6-Mar-18			0.25				3
39	12-Sep-18		1.1	0.12	0.041	0.2	1.4	3
40	25-Feb-19		1.2	0.16	0.061	0.2	1.5	3
Coefficient of Variation:		0.98	0.46	0.68	0.50	0.26	0.24	0.00
Mann-Kendall Statistic (S):		3	53	-51	-17	-20	-41	0
Confidence Factor:		53.9%	90.1%	89.2%	89.1%	90.2%	99.8%	49.5%
Concentration Trend:		No Trend	Prob. Increasing	Stable	Stable	Prob. Decreasing	Decreasing	Stable



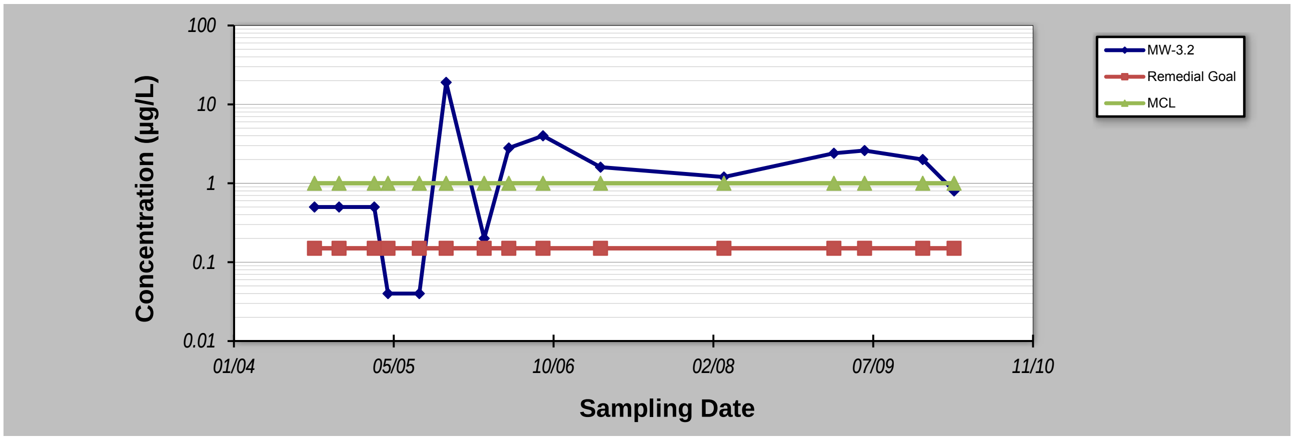
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**Benzene**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**µg/L**

Sampling Event	Sampling Date	MW-3.2	Remedial Goal	MCL				
		BENZENE CONCENTRATION (µg/L)						
1	22-Sep-04	0.5	0.15	1				
2	8-Dec-04	0.5	0.15	1				
3	28-Mar-05	0.5	0.15	1				
4	10-May-05	0.04	0.15	1				
5	16-Aug-05	0.04	0.15	1				
6	8-Nov-05	19	0.15	1				
7	7-Mar-06	0.2	0.15	1				
8	23-May-06	2.8	0.15	1				
9	7-Sep-06	4	0.15	1				
10	6-Mar-07	1.6	0.15	1				
11	26-Mar-08	1.2	0.15	1				
12	5-Mar-09	2.4	0.15	1				
13	9-Jun-09	2.6	0.15	1				
14	8-Dec-09	2	0.15	1				
15	16-Mar-10	0.8	0.15	1				
16								
17								
18								
19								
20								
Coefficient of Variation:		1.85	0.00	0.00				
Mann-Kendall Statistic (S):		25	0	0				
Confidence Factor:		88.0%	48.0%	48.0%				
Concentration Trend:		No Trend	Stable	Stable				



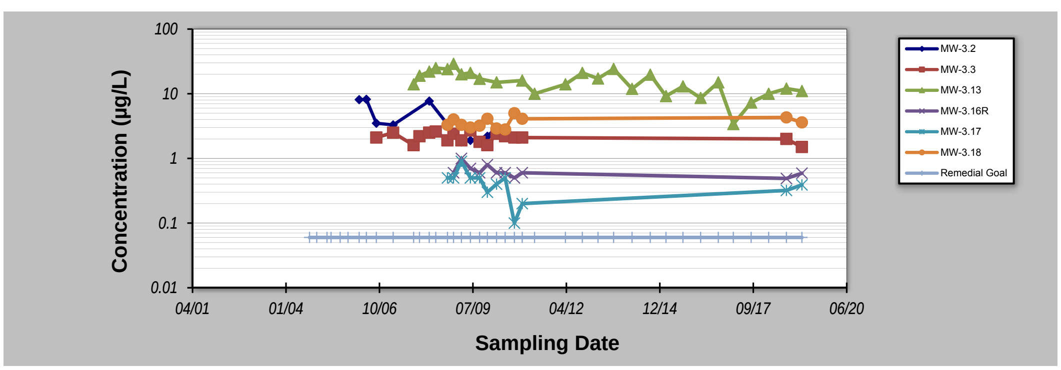
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**PCE**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**µg/L**

Sampling Point ID:		MW-3.2	MW-3.3	MW-3.13	MW-3.16R	MW-3.17	MW-3.18	Remedial Goal
Sampling Event	Sampling Date	PCE CONCENTRATION (µg/L)						
1	22-Sep-04							0.06
2	8-Dec-04							0.06
3	28-Mar-05							0.06
4	10-May-05							0.06
5	16-Aug-05							0.06
6	8-Nov-05							0.06
7	7-Mar-06	8.1						0.06
8	23-May-06	8.2						0.06
9	7-Sep-06	3.5	2.1					0.06
10	6-Mar-07	3.3	2.5					0.06
11	11-Oct-07		1.6	14				0.06
12	13-Dec-07		2.2	19				0.06
13	26-Mar-08	7.7	2.5	22				0.06
14	4-Jun-08		2.6	25				0.06
15	7-Oct-08		1.9	24		0.5	3.3	0.06
16	11-Dec-08		2.4	29	0.6	0.5	4	0.06
17	5-Mar-09	1.8	1.9	20	1	0.9	3.3	0.06
18	9-Jun-09	1.9	2.7	21	0.7	0.5	3	0.06
19	16-Sep-09		1.8	17	0.6	0.5	3.2	0.06
20	8-Dec-09	2.2	1.6		0.8	0.3	4.1	0.06
21	16-Mar-10	3	2.4	15	0.6	0.4	2.9	0.06
22	16-Jun-10		2.2		0.6	0.5	2.8	0.06
23	23-Sep-10		2.1		0.5	0.1	5	0.06
24	16-Dec-10		2.1	16	0.6	0.2	4.1	0.06
25	27-Apr-11			10				0.06
26	22-Mar-12			14				0.06
27	19-Sep-12			21				0.06
28	6-Mar-13			17.2				0.06
29	20-Aug-13			24.2				0.06
30	5-Mar-14			11.9				0.06
31	16-Sep-14			19.7				0.06
32	3-Mar-15			9.2				0.06
33	1-Sep-15			13				0.06
34	8-Mar-16			8.6				0.06
35	13-Sep-16			15				0.06
36	21-Feb-17			3.4				0.06
37	30-Aug-17			7.3				0.06
38	6-Mar-18			10				0.06
39	12-Sep-18		2	12	0.49	0.32	4.3	0.06
40	25-Feb-19		1.5	11	0.59	0.39	3.6	0.06
Coefficient of Variation:		0.63	0.17	0.39	0.23	0.47	0.18	0.00
Mann-Kendall Statistic (S):		-18	-35	-169	-29	-30	10	0
Confidence Factor:		96.2%	90.0%	>99.9%	98.7%	97.8%	72.7%	49.5%
Concentration Trend:		Decreasing	Prob. Decreasing	Decreasing	Decreasing	Decreasing	No Trend	Stable



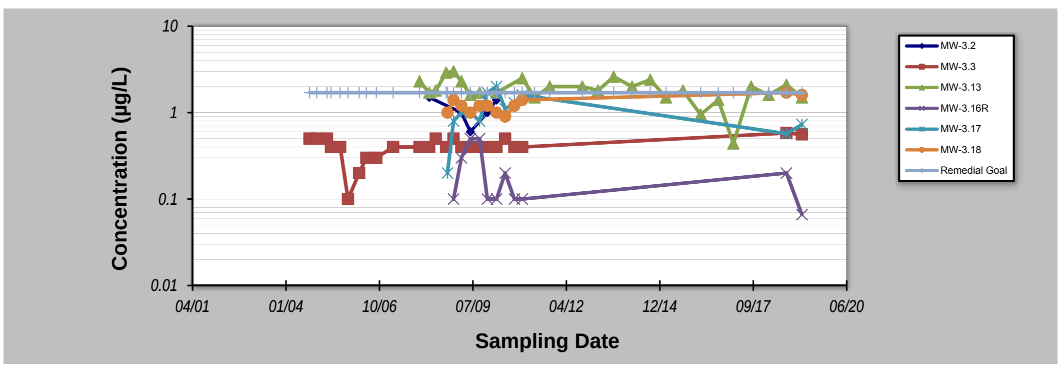
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**TCE**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**µg/L**

Sampling Event	Sampling Date	MW-3.2	MW-3.3	MW-3.13	MW-3.16R	MW-3.17	MW-3.18	Remedial Goal
		TCE CONCENTRATION (µg/L)						
1	22-Sep-04		0.5					1.7
2	8-Dec-04		0.5					1.7
3	28-Mar-05		0.5					1.7
4	10-May-05		0.4					1.7
5	16-Aug-05		0.4					1.7
6	8-Nov-05		0.1					1.7
7	7-Mar-06		0.2					1.7
8	23-May-06		0.3					1.7
9	7-Sep-06		0.3					1.7
10	6-Mar-07		0.4					1.7
11	13-Dec-07		0.4	2.3				1.7
12	26-Mar-08	1.5	0.4	1.7				1.7
13	4-Jun-08		0.5	1.8				1.7
14	23-Sep-08		0.4	2.9				1.7
15	7-Oct-08					0.2	1	1.7
16	11-Dec-08		0.5	3	0.1	0.8	1.4	1.7
17	5-Mar-09	1	0.4	2.3	0.3	1	1.2	1.7
18	9-Jun-09	0.6	0.4	1.6	0.5	1	1	1.7
19	16-Sep-09		0.4	1.7	0.5	0.8	1.2	1.7
20	8-Dec-09	1	0.4		0.1	1.7	1.2	1.7
21	16-Mar-10	1.4	0.4	1.7	0.1	2	1	1.7
22	16-Jun-10		0.5		0.2	1.1	0.9	1.7
23	23-Sep-10		0.4		0.1	1.3	1.2	1.7
24	16-Dec-10		0.4	2.5	0.1	1.6	1.4	1.7
25	27-Apr-11			1.5				1.7
26	6-Oct-11			2				1.7
27	19-Sep-12			2				1.7
28	6-Mar-13			1.8				1.7
29	20-Aug-13			2.6				1.7
30	5-Mar-14			2				1.7
31	16-Sep-14			2.4				1.7
32	3-Mar-15			1.5				1.7
33	1-Sep-15			1.8				1.7
34	8-Mar-16			0.95				1.7
35	13-Sep-16			1.4				1.7
36	21-Feb-17			0.44				1.7
37	30-Aug-17			2				1.7
38	6-Mar-18			1.6				1.7
39	12-Sep-18		0.58	2.1	0.2	0.57	1.7	1.7
40	25-Feb-19		0.56	1.5	0.066	0.73	1.6	1.7
	Coefficient of Variation:	0.33	0.26	0.30	0.78	0.48	0.20	0.00
	Mann-Kendall Statistic (S):	-1	52	-86	-17	12	20	0
	Confidence Factor:	50.0%	88.2%	97.0%	89.1%	77.0%	90.2%	49.5%
	Concentration Trend:	Stable	No Trend	Decreasing	Stable	No Trend	Prob. Increasing	Stable



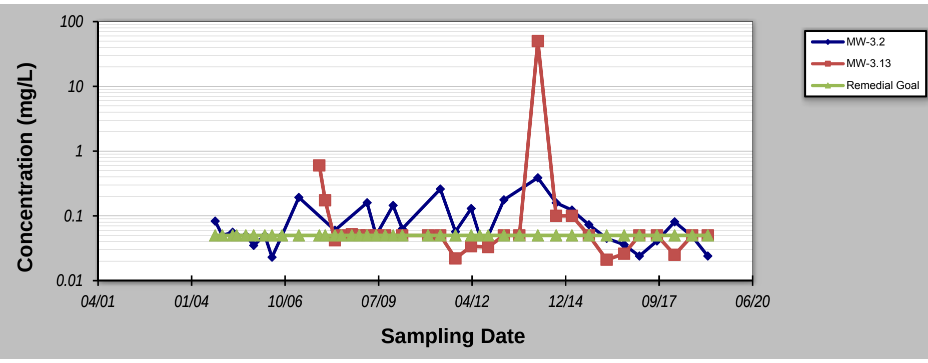
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**TPHg**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**mg/L**

Sampling Point ID:		MW-3.2	MW-3.13	Remedial Goal				
Sampling Event	Sampling Date	TPHG CONCENTRATION (mg/L)						
1	22-Sep-04	0.083		0.05				
2	8-Dec-04	0.05		0.05				
3	28-Mar-05	0.056		0.05				
4	10-May-05	0.05		0.05				
5	16-Aug-05	0.05		0.05				
6	8-Nov-05	0.035		0.05				
7	7-Mar-06	0.05		0.05				
8	23-May-06	0.023		0.05				
9	7-Sep-06	0.05		0.05				
10	6-Mar-07	0.193		0.05				
11	11-Oct-07		0.601	0.05				
12	13-Dec-07		0.174	0.05				
13	26-Mar-08	0.06	0.042	0.05				
14	4-Jun-08		0.05	0.05				
15	23-Sep-08		0.052	0.05				
16	11-Dec-08		0.05	0.05				
17	5-Mar-09	0.16	0.05	0.05				
18	9-Jun-09	0.05	0.05	0.05				
19	15-Sep-09		0.05	0.05				
20	8-Dec-09	0.145		0.05				
21	16-Mar-10	0.063	0.05	0.05				
22	17-Dec-10		0.05	0.05				
23	27-Apr-11	0.26	0.05	0.05				
24	6-Oct-11	0.057	0.022	0.05				
25	22-Mar-12	0.13	0.034	0.05				
26	21-Jun-12	0.049		0.05				
27	20-Sep-12	0.049	0.033	0.05				
28	7-Mar-13	0.177	0.05	0.05				
29	20-Aug-13		0.05	0.05				
30	5-Mar-14	0.388	50	0.05				
31	17-Sep-14	0.159	0.1	0.05				
32	5-Mar-15	0.123	0.1	0.05				
33	2-Sep-15	0.073	0.05	0.05				
34	10-Mar-16	0.045	0.021	0.05				
35	13-Sep-16	0.036	0.026	0.05				
36	23-Feb-17	0.024	0.05	0.05				
37	30-Aug-17	0.041	0.05	0.05				
38	7-Mar-18	0.081	0.025	0.05				
39	12-Sep-18	0.048	0.05	0.05				
40	25-Feb-19	0.024	0.05	0.05				
Coefficient of Variation:		0.88	5.08	0.00				
Mann-Kendall Statistic (S):		-49	-70	0				
Confidence Factor:		78.1%	91.3%	49.5%				
Concentration Trend:		Stable	Prob. Decreasing	Stable				



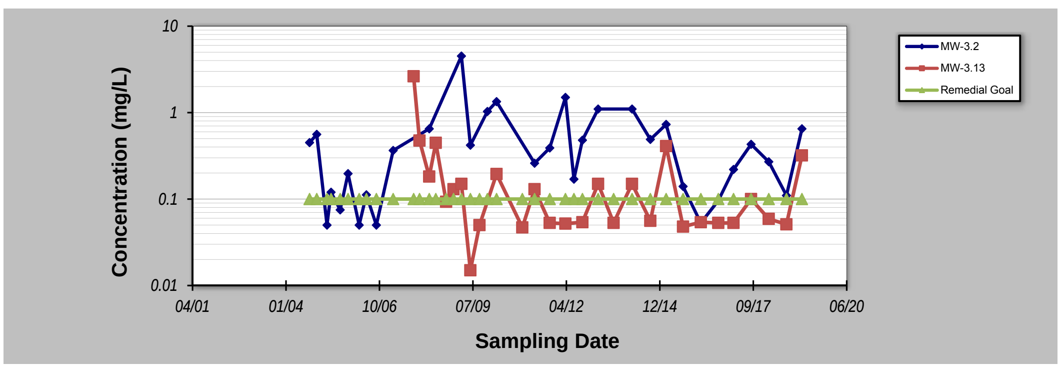
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	**23-Sep-19**	Job ID:	**1665018*19**
Facility Name:	**FB Mill Site**	Constituent:	**TPHd**
Conducted By:	**Kennedy Jenks**	Concentration Units:	**mg/L**

Sampling Event	Sampling Date	MW-3.2	MW-3.13	Remedial Goal				
		TPHD CONCENTRATION (mg/L)						
1	22-Sep-04	0.45		0.1				
2	8-Dec-04	0.56		0.1				
3	28-Mar-05	0.05		0.1				
4	10-May-05	0.12		0.1				
5	16-Aug-05	0.075		0.1				
6	8-Nov-05	0.197		0.1				
7	7-Mar-06	0.05		0.1				
8	23-May-06	0.112		0.1				
9	7-Sep-06	0.05		0.1				
10	6-Mar-07	0.365		0.1				
11	11-Oct-07		2.63	0.1				
12	13-Dec-07		0.475	0.1				
13	26-Mar-08	0.65	0.182	0.1				
14	4-Jun-08		0.447	0.1				
15	23-Sep-08		0.093	0.1				
16	11-Dec-08		0.13	0.1				
17	5-Mar-09	4.51	0.15	0.1				
18	9-Jun-09	0.42	0.015	0.1				
19	15-Sep-09		0.05	0.1				
20	8-Dec-09	1.03		0.1				
21	16-Mar-10	1.34	0.195	0.1				
22	17-Dec-10		0.047	0.1				
23	27-Apr-11	0.26	0.13	0.1				
24	6-Oct-11	0.39	0.053	0.1				
25	22-Mar-12	1.5	0.052	0.1				
26	21-Jun-12	0.17		0.1				
27	20-Sep-12	0.48	0.054	0.1				
28	7-Mar-13	1.1	0.15	0.1				
29	20-Aug-13		0.053	0.1				
30	5-Mar-14	1.1	0.15	0.1				
31	17-Sep-14	0.49	0.056	0.1				
32	5-Mar-15	0.73	0.41	0.1				
33	2-Sep-15	0.14	0.048	0.1				
34	10-Mar-16	0.053	0.054	0.1				
35	13-Sep-16	0.096	0.053	0.1				
36	23-Feb-17	0.22	0.053	0.1				
37	30-Aug-17	0.43	0.1	0.1				
38	7-Mar-18	0.27	0.059	0.1				
39	12-Sep-18	0.11	0.051	0.1				
40	25-Feb-19	0.65	0.32	0.1				
Coefficient of Variation:		**1.45**	**2.18**	**0.00**				
Mann-Kendall Statistic (S):		**47**	**-79**	**0**				
Confidence Factor:		**77.1%**	**93.8%**	**49.5%**				
Concentration Trend:		No Trend	Prob. Decreasing	Stable				



Notes:

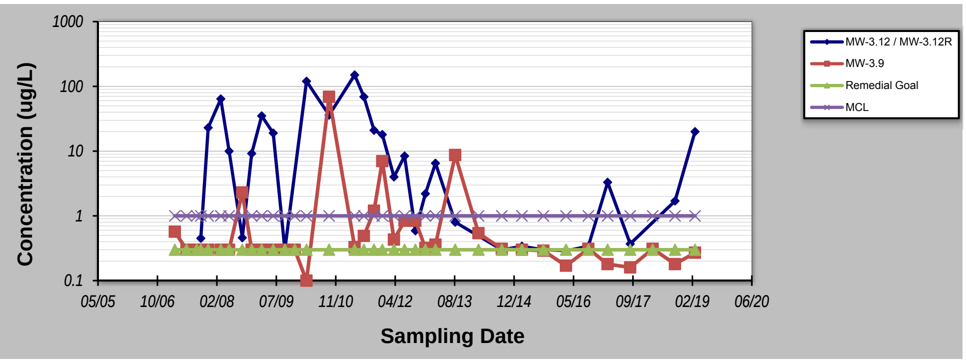
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **23-Sep-19**
Facility Name: **FB Mill Site**
Conducted By: **Kennedy Jenks**

Job ID: **1665018*19**
Constituent: **PCP**
Concentration Units: **ug/L**

Sampling Point ID:		W-3.12 / MW-3.1	MW-3.9	Remedial Goal	MCL			
Sampling Event	Sampling Date	PCP CONCENTRATION (ug/L)						
1	6-Mar-07		0.57	0.3	1			
2	12-Jun-07		0.3	0.3	1			
3	5-Sep-07		0.3	0.3	1			
4	10-Oct-07	0.45		0.3	1			
5	11-Dec-07	23	0.3	0.3	1			
6	26-Mar-08	64	0.3	0.3	1			
7	4-Jun-08	10	0.3	0.3	1			
8	23-Sep-08	0.46	2.3	0.3	1			
9	11-Dec-08	9.2	0.3	0.3	1			
10	5-Mar-09	35	0.3	0.3	1			
11	10-Jun-09	19	0.3	0.3	1			
12	16-Sep-09	0.3	0.3	0.3	1			
13	8-Dec-09		0.3	0.3	1			
14	17-Mar-10	120	0.1	0.3	1			
15	23-Sep-10	36	69	0.3	1			
16	26-Apr-11	150	0.33	0.3	1			
17	13-Jul-11	69	0.49	0.3	1			
18	6-Oct-11	21	1.2	0.3	1			
19	15-Dec-11	18	7	0.3	1			
20	22-Mar-12	4	0.43	0.3	1			
21	19-Jun-12	8.4	0.84	0.3	1			
22	18-Sep-12	0.59	0.84	0.3	1			
23	11-Dec-12	2.2	0.32	0.3	1			
24	6-Mar-13	6.5	0.36	0.3	1			
25	19-Aug-13	0.8	8.7	0.3	1			
26	3-Mar-14		0.54	0.3	1			
27	15-Sep-14	0.3	0.31	0.3	1			
28	3-Mar-15	0.34	0.3	0.3	1			
29	31-Aug-15	0.3	0.29	0.3	1			
30	8-Mar-16	0.29	0.17	0.3	1			
31	12-Sep-16	0.34	0.31	0.3	1			
32	21-Feb-17	3.3	0.18	0.3	1			
33	30-Aug-17	0.37	0.16	0.3	1			
34	7-Mar-18		0.31	0.3	1			
35	11-Sep-18	1.7	0.18	0.3	1			
36	26-Feb-19	20	0.27	0.3	1			
37								
38								
39								
40								
Coefficient of Variation:		1.73	4.14	0.00	0.00			
Mann-Kendall Statistic (S):		-143	-73	0	0			
Confidence Factor:		99.5%	84.6%	49.5%	49.5%			
Concentration Trend:		Decreasing	No Trend	Stable	Stable			



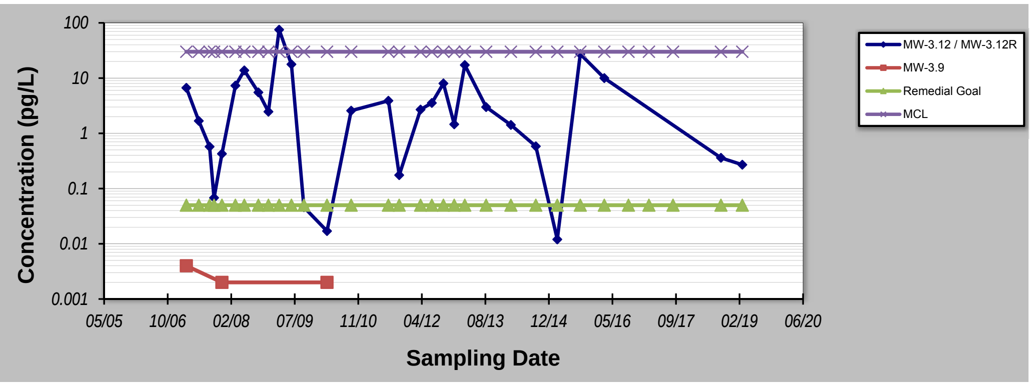
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **23-Sep-19** Job ID: **1665018*19**
Facility Name: **FB Mill Site** Constituent: **Dioxin TEQ**
Conducted By: **Kennedy Jenks** Concentration Units: **pg/L**

Sampling Point ID:		W-3.12 / MW-3.12	MW-3.9	Remedial Goal	MCL
Sampling Event	Sampling Date	DIOXIN TEQ CONCENTRATION (pg/L)			
1	6-Mar-07	6.67	0.004	0.05	30
2	12-Jun-07	1.68	0	0.05	30
3	5-Sep-07	0.573	0	0.05	30
4	10-Oct-07	0.068		0.05	30
5	11-Dec-07	0.426	0.002	0.05	30
6	26-Mar-08	7.306		0.05	30
7	4-Jun-08	13.769		0.05	30
8	23-Sep-08	5.515		0.05	30
9	11-Dec-08	2.463		0.05	30
10	5-Mar-09	75.257		0.05	30
11	10-Jun-09	17.753		0.05	30
12	16-Sep-09	0.046		0.05	30
13	17-Mar-10	0.017	0.002	0.05	30
14	23-Sep-10	2.569		0.05	30
15	13-Jul-11	3.891		0.05	30
16	6-Oct-11	0.175		0.05	30
17	22-Mar-12	2.692		0.05	30
18	19-Jun-12	3.551		0.05	30
19	18-Sep-12	8.009		0.05	30
20	12-Dec-12	1.456		0.05	30
21	5-Mar-13	17.238		0.05	30
22	20-Aug-13	2.99		0.05	30
23	3-Mar-14	1.42		0.05	30
24	15-Sep-14	0.583		0.05	30
25	3-Mar-15	0.012		0.05	30
26	31-Aug-15	27.228		0.05	30
27	7-Mar-16	10		0.05	30
28	13-Sep-16			0.05	30
29	21-Feb-17			0.05	30
30	29-Aug-17			0.05	30
31	11-Sep-18	0.36		0.05	30
32	26-Feb-19	0.27		0.05	30
33					
34					
35					
Coefficient of Variation:		**1.98**	**1.05**	**0.00**	**0.00**
Mann-Kendall Statistic (S):		**-22**	**0**	**0**	**0**
Confidence Factor:		**65.2%**	**40.8%**	**49.4%**	**49.4%**
Concentration Trend:		No Trend	No Trend	Stable	Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Attachment 3

Historical Data

Attachment 3-1: Dissolved Metals in Groundwater

Location ID	Date	Arsenic	Barium
	Unit	µg/L	µg/L
	BKGD	2.5	25.6
	OU-C/D RAP Remedial Goal	2.5	1000
	MCL	10	1000
OU-D *Parcel 6*			
MW-6.3	10-Oct-07	**2.4**	**15**
	12-Dec-07	**7.5**	**12**
	25-Mar-08	**16**	**62**
	4-Jun-08	**8**	**26**
	24-Sep-08	**13**	**23**
	11-Dec-08	**13**	**32**
	5-Mar-09	**9.4**	**73 /J**
	9-Jun-09	**17**	**120**
	15-Sep-09	**13**	**78**
	8-Dec-09	**20**	**160**
	18-Mar-10	**29**	**210**
	16-Jun-10	**23**	**260 /J**
	21-Sep-10	**6.2 [6.5]**	**110 [120]**
	14-Dec-10	**9.9**	**150**
	16-Dec-10	---	---
	28-Apr-11	**11 [12]**	**290 [280]**
	12-Jul-11	**25 [23]**	**210 [200]**
	14-Jul-11	**11 [11]**	---
	5-Oct-11	**11 [9.0]**	**180 [160]**
	14-Dec-11	**7.8 [6.7]**	**190 /J [200 /J]**
	20-Mar-12	**11**	**250**
	20-Jun-12	**11 [11]**	**240 [240]**
	19-Sep-12	**7.8 [6.9]**	**160 [160]**
	12-Dec-12	**7.4 [7.1]**	**240 [230]**
	7-Mar-13	**5.2 [5.3]**	**160 [161]**
	20-Aug-13	**7.1**	**---**
	18-Sep-14	**8.1**	---
	05-Mar-15	**18.5**	---
	01-Sep-15	**8.1**	---
	10-Mar-16	**6.8**	---
	13-Sep-16	**7.9**	---
	22-Feb-17	**4.5 J**	---
	30-Aug-17	**6.3 J**	---
	06-Mar-18	**5.9 [WQO, BkGD]**	---
	12-Sep-18	**26 [WQO, BkGD]**	---
	28-Feb-19	**8.7**	---
MW-6.4	8-Dec-09	**4.2**	---
	8-Dec-09	**4.1**	---
	8-Dec-09	**3.9**	---
	18-Mar-10	<1.0	---
	16-Jun-10	**2.6**	**31 /J**
	21-Sep-10	**1.4**	**52**
	14-Dec-10	**2.2**	**46**
	16-Dec-10	---	---
	27-Apr-11	**2.6**	**110**
	12-Jul-11	**2.2**	**60**
	14-Jul-11	**2.1**	---
	6-Oct-11	**2.2**	**90**
	13-Dec-11	**2.5**	**81 /J**
	20-Mar-12	**1.7**	**56**
	19-Jun-12	**1.3**	**59**
	18-Sep-12	**2.4**	**100**
	12-Dec-12	**2.6**	**96**
	7-Mar-13	**0.44 J**	**89.8**
	13-Sep-18	**1.6 [WQO]**	---
MW-6.5	8-Dec-09	**6.7**	---
	18-Mar-10	**10**	---
	16-Jun-10	**8.8**	**250 /J**
	21-Sep-10	**11**	**360**
	14-Dec-10	**6.6**	**210**
	13-Sep-18	**21 [WQO, BkGD]**	---
	28-Feb-19	**2.3 J/ J**	---
Parcel 7			
MW-7.1	22-Sep-04	<5	**42**
	8-Dec-04	<5	**50**
	31-Mar-05	<5	**57**
	12-May-05	<2.1	**51**
	18-Aug-05	**1.1**	**53**
	10-Nov-05	<1	**53**
	9-Mar-06	**1.3 [2]**	**50 [50]**
	25-May-06	**2**	**55**
	8-Sep-06	**1.8**	**39**
	5-Dec-06	**2.3**	**55**
	8-Mar-07	**3.3**	**68**
	14-Jun-07	**0.95 J**	**53**
	6-Sep-07	**0.93 J**	**51**
	13-Dec-07	**4**	**63**
	12-Sep-18	**4 [WQO, BkGD]**	---
	27-Feb-19	**14 [15]**	---
MW-7.2	8-Dec-09	**13**	---
	18-Mar-10	**17**	---
	16-Jun-10	**13 [13]**	---
	23-Sep-10	**19**	---
	16-Dec-10	**9.2**	---
	12-Sep-18	<1.0 [<1.0]	---
	27-Feb-19	<5.0 U	---

Attachment 3-1: Dissolved Metals in Groundwater

Location ID	Date	Arsenic	Barium
	Unit	µg/L	µg/L
	BKGD	2.5	25.6
	OU-C/D RAP Remedial Goal	2.5	1000
MW-7.3	11-Dec-09	**1.4**	---
	18-Mar-10	**2.2**	---
	16-Jun-10	**1.3**	---
	23-Sep-10	**1.3**	---
	16-Dec-10	**1.5**	---
	12-Sep-18	**33 [WQO, BkGD]**	---
	26-Feb-19	**31**	---
OU-E			
Parcel 4			
MW-4.1	23-Sep-04	<5	**3300**
	8-Dec-04	<5	**9600**
	30-Mar-05	<5	**3400**
	12-May-05	**1.9**	**3100**
	18-Aug-05	**2**	**4200**
	10-Nov-05	**1.4 [1.5]**	**4400 [4400]**
	7-Mar-06	<1	**2400**
	22-May-06	<1	**3300**
	6-Sep-06	<1.8	**4100 J/J**
	5-Dec-06	<1.0 J/UB	**3100**
	6-Mar-07	**0.81 J**	**1900**
	13-Jun-07	<1.0 J/UB	**2000**
	5-Sep-07	**1.3**	**4000**
	11-Dec-07	**0.75 J**	**2700**
	26-Mar-08	---	**1600**
	23-Sep-08	---	**3800**
	5-Mar-09	---	**1400 /J**
	17-Sep-09	---	**4400**
	9-Dec-09	---	**1700 /J**
	9-Dec-09	---	**1900 /J**
	9-Dec-09	---	**1900 /J**
	17-Mar-10	---	**1400 [1400]**
	22-Sep-10	---	**770**
	27-Apr-11	**1.1**	**1300**
	6-Oct-11	---	**1900**
	22-Mar-12	---	**1100**
	19-Sep-12	---	**1700**
	6-Mar-13	---	**1600**
	20-Aug-13	---	**1580**
	05-Mar-14	---	**1120**
	03-Mar-15	---	**1,230 [WQO,BkGD]**
	08-Mar-16	---	**1,100 [WQO,BkGD]**
	23-Feb-17	---	**970**
	06-Mar-18	--	**880**
	27-Feb-19	---	**880**
MW-4.2	23-Sep-04	<5	**130**
	8-Dec-04	<5	**200**
	30-Mar-05	**5.8**	**110**
	12-May-05	**4.1**	**100**
	18-Aug-05	**2**	**120**
	10-Nov-05	**3.9**	**100**
	7-Mar-06	**4.2**	**76**
	22-May-06	**3**	**79**
	6-Sep-06	**4.5**	**68 J/J**
	5-Dec-06	**2.4**	**70**
	6-Mar-07	**3**	**64**
	13-Jun-07	**2.7**	**59**
	5-Sep-07	**2.5**	**72**
	11-Dec-07	**2.5**	**70**
	11-Sep-18	**8.8 [WQO, BkGD]**	**63 [BkGD]**
	27-Feb-19	**2.2**	**98**
MW-4.5	10-Oct-07	**2**	**150**
	11-Dec-07	**1**	**140**
	25-Mar-08	**0.65 J [0.90 J]**	**150 [150]**
	4-Jun-08	**0.68 J**	**120**
	24-Sep-08	**2.7 [3.2]**	**220 [210]**
	11-Dec-08	**1.6**	**180**
	5-Mar-09	<1.0	**110 /J**
	17-Sep-09	**1.7**	**200**
	18-Mar-10	<1.0	**110**
	22-Sep-10	<1.0	**140**
	12-Sep-18	**1.5 [WQO]**	**200 [BkGD]**
MW-4.6	10-Oct-07	**1.5**	**400**
	11-Dec-07	**2**	**500**
	25-Mar-08	**2.8**	**540**
	4-Jun-08	**1.5 [1.4]**	**600 [630]**
	24-Sep-08	**1.5**	**430**
	11-Dec-08	**1.4**	**500**
	5-Mar-09	**1.3**	**510 /J**
	17-Sep-09	**2.1**	**470**
	18-Mar-10	**2.4**	**400**
	22-Sep-10	**2.5**	**310**
	12-Sep-18	**2.7 [WQO, BkGD]**	**310 [BkGD]**
	27-Feb-19	**1.1**	**740**

Attachment 3-1: Dissolved Metals in Groundwater

Location ID	Date	Arsenic	Barium
	Unit	µg/L	µg/L
	BKGD	2.5	25.6
	OU-C/D RAP Remedial Goal	2.5	1000
Parcel 5			
MW-5.7	23-Sep-04	**23**	**210**
	9-Dec-04	**12**	**130**
	30-Mar-05	**19**	**220**
	11-May-05	**14**	**220**
	17-Aug-05	**14**	**210**
	9-Nov-05	**16**	**200**
	7-Mar-06	**15**	**150**
	22-May-06	**12**	**260**
	6-Sep-06	**15**	**200 J/J**
	5-Dec-06	**15**	**220**
	6-Mar-07	**20**	**250**
	13-Jun-07	**16**	**220**
	5-Sep-07	**15**	**170**
	12-Dec-07	**22**	**230**
	25-Mar-08	**18**	---
	4-Jun-08	**13**	---
	24-Sep-08	**16**	---
	12-Dec-08	**19**	---
	5-Mar-09	**21**	---
	10-Jun-09	**20**	---
	16-Sep-09	**23**	---
	8-Dec-09	**24 /J**	**180**
	8-Dec-09	**24**	**170**
	8-Dec-09	**23 [23]**	**190 [180]**
	19-Mar-10	**16**	---
	16-Jun-10	**18**	---
	23-Sep-10	**21 [19]**	---
	14-Dec-10	**1.9**	---
	12-Sep-18	**20 [WQO, BkGD]**	---
	27-Feb-19	**8.1**	---
MW-5.9	23-Sep-04	<5	**250**
	8-Dec-04	<5	**230**
	30-Mar-05	<5	**230**
	12-May-05	<1	**230**
	18-Aug-05	<1	**260**
	10-Nov-05	<1	**270**
	7-Mar-06	<1	**290**
	22-May-06	<1	**310**
	6-Sep-06	<1.3	**270 J/J**
	5-Dec-06	<1.0 J/UB	**280**
	6-Mar-07	**0.50 J**	**300**
	13-Jun-07	**0.71 J**	**260**
	6-Sep-07	**0.68 J [0.76 J]**	**290 [290]**
	12-Dec-07	**0.45 J [0.39 J]**	**270 [290]**
	12-Sep-18	< 1.0	**130 [BkGD]**
	28-Feb-19	< 1.0 U	**130**

Attachment 3-2: TPH in Groundwater

Location ID	Analyte	Total Gasoline	Total Diesel
	Units	mg/L	mg/L
	OU-C/D RAP Remedial Goal	0.05	0.1
	RBSC-ali_gw	1.22	1.22
	RBSC-aro_gw	0.31	0.47
	RWQCB	0.05	0.1
	Date		
OU-C *Parcel 3*			
MW-3.2	28-Jan-04	**0.18 [RWQCB]**	**0.4 [RWQCB]**
	24-Jun-04	**0.12 [RWQCB]**	**0.24 [RWQCB]**
	22-Sep-04	**0.083 [RWQCB]**	**0.45 [RWQCB]**
	8-Dec-04	<0.05	**0.56 [RBSC-aro_gw,RWQCB]**
	28-Mar-05	**0.056 [0.058] [RWQCB]**	<0.05 [<0.05]
	10-May-05	<0.05	**0.12 [RWQCB]**
	16-Aug-05	<0.05	**0.075**
	8-Nov-05	**0.035**	**0.197 [RWQCB]**
	7-Mar-06	ND	ND
	23-May-06	**0.023**	**0.112 [RWQCB]**
	7-Sep-06	ND	ND
	6-Mar-07	**0.193 [RWQCB]**	**0.365 [RWQCB]**
	26-Mar-08	**0.06 [RWQCB]**	**0.65 [RBSC-aro_gw,RWQCB]**
	5-Mar-09	**0.16 [RWQCB]**	**4.51 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**
	9-Jun-09	ND /UB	**0.42 [RWQCB]**
	8-Dec-09	**0.145 [RWQCB]**	**1.03 [RBSC-aro_gw,RWQCB]**
	16-Mar-10	**0.063 [RWQCB]**	**1.34 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**
	27-Apr-11	**0.26 [RWQCB]**	**0.26 [RWQCB]**
	6-Oct-11	**0.057 [RWQCB]**	**0.39 [RWQCB]**
	22-Mar-12	**0.13 [RWQCB]**	**1.5 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**
	21-Jun-12	**0.049 J**	**0.17 [RWQCB]**
	20-Sep-12	**0.049 J**	**0.48 [RBSC-aro_gw,RWQCB]**
	7-Mar-13	**0.177 [RWQCB]**	**1.1 [RBSC-aro_gw,RWQCB]**
	20-Aug-13	**Not sampled due to the presence of LPH**	
	05-Mar-14	**0.388 /J [RBSC-aro_gw,RWQCB]**	**1.1 [RBSC-aro_gw,RWQCB]**
	17-Sep-14	**0.159 [RWQCB]**	**0.49 [RBSC-aro_gw,RWQCB]**
	05-Mar-15	**0.123 [RWQCB]**	**0.73 [RBSC-aro_gw,RWQCB]**
	02-Sep-15	**0.073 [RWQCB]**	**0.14 [RWQCB]**
	10-Mar-16	**0.045 J**	<0.053
	13-Sep-16	**0.036 J**	**0.096**
	23-Feb-17	**0.024 J**	**0.22 [RWQCB]**
	30-Aug-17	**0.041 J**	**0.43**
	07-Mar-18	**0.081**	**0.27 [RWQCB]**
	12-Sep-18	**0.048 J**	**0.11 [RWQCB]**
	25-Feb-19	**0.024 J/ J**	**0.65 [RWQCB]**
MW-3.13	11-Oct-07	**0.601 [RBSC-aro_gw,RWQCB]**	**2.63 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**
	13-Dec-07	**0.174 [RWQCB]**	**0.475 [RBSC-aro_gw,RWQCB]**
	26-Mar-08	**0.042 /J**	**0.182 [RWQCB]**
	4-Jun-08	ND /UB	**0.447 [RWQCB]**
	23-Sep-08	**0.052 [RWQCB]**	**0.093**
	11-Dec-08	ND /UB	**0.13 [RWQCB]**

Attachment 3-2: TPH in Groundwater

Location ID	Analyte	Total Gasoline	Total Diesel
	Units	mg/L	mg/L
	OU-C/D RAP Remedial Goal	0.05	0.1
	RBSC-ali_gw	1.22	1.22
	RBSC-aro_gw	0.31	0.47
	RWQCB	0.05	0.1
	Date		
MW-3.13 Cont'd	5-Mar-09	ND /UB	**0.15 [RWQCB]**
	9-Jun-09	ND /UB	**0.015 J**
	15-Sep-09	ND /UB	ND
	16-Mar-10	ND /UB	**0.195 [RWQCB]**
	17-Dec-10	ND /UB	**0.047**
	27-Apr-11	<0.05 J/UB	**0.13 [RWQCB]**
	6-Oct-11	**0.022 J**	<0.053 J/UB
	22-Mar-12	**0.034 J**	<0.052
	19-Sep-12	**0.033 J**	<0.054
	6-Mar-13	<0.05	<0.15 /UB
	20-Aug-13	<0.05	**0.053**
	05-Mar-14	<50.0 /UJ [<50.0 /UJ]	**0.15 [0.13] [RWQCB]**
	16-Sep-14	<0.1	**0.056**
	03-Mar-15	<0.1	**0.41 [RWQCB]**
	01-Sep-15	<0.05	<0.048
	08-Mar-16	**0.021 J**	<0.054
	13-Sep-16	**0.026 J**	<0.053
	21-Feb-17	<0.05	<0.053
	30-Aug-17	<0.05	**0.1 [RWQCB]**
	06-Mar-18	**0.025 J/J**	<0.059
	12-Sep-18	< 0.05	<0.051
	25-Feb-19	< 0.05 U	**0.32 [RWQCB]**
MW-3.20	14-Dec-09	**0.0083**	ND
	17-Mar-10	**0.033 [0.043]**	**0.017 [0.036]**
	17-Jun-10	ND /UB [ND /UB]	ND [ND]
	23-Sep-10	ND /UB	ND
	16-Dec-10	ND /UB	ND
	12-Sep-18	< 0.05 [< 0.05]	<0.052 [<0.05]
MW-3.21	15-Dec-09	ND	**0.024**
	16-Mar-10	ND /UB	ND /UB
	15-Jun-10	ND	ND
	22-Sep-10	ND	**0.028**
	16-Dec-10	ND /UB	**0.032**
	12-Sep-18	< 0.05	<0.052
	26-Feb-19	---	**0.031 J/ J**
Parcel 5			
MW-5.5	29-Jan-04	<0.05	<0.05
	25-Jun-04	<0.05	<0.05
	22-Sep-04	<0.05	**0.61 [RBSC-aro_gw,RWQCB]**
	9-Dec-04	<0.05	**0.37 [RWQCB]**
	29-Mar-05	<0.05	<0.05
	11-May-05	<0.05 [<0.05]	<0.021 [<0.021]
	17-Aug-05	<0.05	<0.016
	9-Nov-05	**0.0227**	ND
	8-Mar-06	ND	**0.062**
	23-May-06	ND	ND
	7-Sep-06	ND	ND
	7-Dec-06	ND	ND

Attachment 3-2: TPH in Groundwater

Location ID	Analyte	Total Gasoline	Total Diesel
	Units	mg/L	mg/L
	OU-C/D RAP Remedial Goal	0.05	0.1
	RBSC-ali_gw	1.22	1.22
	RBSC-aro_gw	0.31	0.47
	RWQCB	0.05	0.1
	Date		
MW-5.5 Cont'd	8-Mar-07	ND	**0.016**
	13-Jun-07	ND	ND
	5-Sep-07	ND	---
	5-Sep-07	---	ND
	12-Dec-07	ND	**0.033**
MW-5.15	10-Oct-07	ND	ND
	12-Dec-07	**0.014**	**0.026**
	25-Mar-08	**0.027**	ND
	4-Jun-08	ND	**0.031**
	24-Sep-08	**0.027**	**0.017**
	11-Dec-08	ND /UB	ND
	5-Mar-09	ND	ND
	19-Mar-10	**ND [0.011]**	ND [ND]
	23-Sep-10	ND	ND
	13-Sep-18	< 0.05	<0.052
MW-5.18	10-Dec-09	**0.099 [RWQCB]**	**0.291 [RWQCB]**
	18-Mar-10	**0.012**	**0.518 [RBSC-aro_gw,RWQCB]**
	16-Jun-10	ND /UB	**0.286 [RWQCB]**
	21-Sep-10	ND /UB	**0.16 [RWQCB]**
	17-Dec-10	ND /UB	**0.096**
	28-Apr-11	<0.068 B/UB	**0.097**
	5-Oct-11	<0.05	**0.088**
	20-Mar-12	<0.05	**0.3 [RWQCB]**
	19-Sep-12	<0.05	**0.21 [RWQCB]**
	6-Mar-13	<0.05	<0.47 /UB
	20-Aug-13	---	**1.1 [RBSC-aro_gw,RWQCB]** [18]
	05-Mar-14	---	**0.25 [RWQCB]**
	16-Sep-14	---	**0.31 [RWQCB]**
	05-Mar-15	---	**0.840 [RBSC-aro_gw, RWQCB]**
	01-Sep-15	---	**0.043 J**
	07-Dec-15	---	**0.054**
	08-Mar-16	---	**0.027 J**
	31-May-16	---	**0.030 J**
	13-Sep-16	---	**0.041 J**
	23-Feb-17	---	**0.028 J**
	31-Aug-17	---	<0.049
	07-Mar-18	---	<0.051
	13-Sep-18	---	<0.05
	27-Feb-19	---	<0.049 U
MW-5.20	11-Dec-09	**0.0452**	**1.108 [RBSC-aro_gw,RWQCB]**
	18-Mar-10	**0.069 [RWQCB]**	**1.66 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**
	16-Jun-10	**0.068 [RWQCB]**	**1.26 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**
	21-Sep-10	ND /UB	**0.324 [RWQCB]**
	17-Dec-10	ND /UB [ND /UB]	**0.339 [0.299] [RWQCB]**
	26-Apr-11	**0.2 [RWQCB]**	**1.3 [RBSC-ali_gw,RBSC-aro_gw,RWQCB]**

Attachment 3-2: TPH in Groundwater

Location ID	Analyte	Total Gasoline	Total Diesel
	Units	mg/L	mg/L
	OU-C/D RAP Remedial Goal	0.05	0.1
	RBSC-ali_gw	1.22	1.22
	RBSC-aro_gw	0.31	0.47
	RWQCB	0.05	0.1
	Date		
MW-5.20 Cont'd	5-Oct-11	**0.025 J**	**0.35 [RWQCB]**
	20-Mar-12	<0.05	**0.26 [RWQCB]**
	19-Sep-12	<0.05	**0.28 [RWQCB]**
	6-Mar-13	**0.0455 J**	<0.33 /UB
	20-Aug-13	<0.05	**1.1 [RBSC-aro_gw,RWQCB]** [18]
	05-Mar-14	**0.0589 [RWQCB]**	**0.33 [RWQCB]**
	16-Sep-14	<0.1	**0.38 [RWQCB]**
	04-Mar-15	<0.1	**0.910 [RBSC-aro_gw, RWQCB]**
	01-Sep-15	**0.039 J**	**0.18 [RWQCB]**
	07-Dec-15	**---**	**0.055 [0.063]**
	08-Mar-16	<0.050	**0.110 [RWQCB]**
	31-May-16	**---**	**0.180 [0.170] [RWQCB]**
	13-Sep-16	**0.029 J**	**0.180 [RWQCB]**
	23-Feb-17	<0.050	**0.033 J**
	30-Aug-17	**0.043 J/J**	**0.084**
	07-Mar-18	<0.050	<0.052
	13-Sep-18	**0.027 J**	**0.073**
	27-Feb-19	0.05 U	<0.047 U
MW-5.21	10-Dec-09	ND	**0.044**
	18-Mar-10	ND	**0.058**
	16-Jun-10	ND /UB	ND
	22-Sep-10	ND	**0.157 [RWQCB]**
	17-Dec-10	ND /UB	**0.075**
	28-Apr-11	<0.05 JB/UB	**0.068**
	5-Oct-11	<0.05	**0.16 [RWQCB]**
	20-Mar-12	<0.05	**0.67 [RBSC-aro_gw,RWQCB]**
	20-Sep-12	<0.05	**0.17 [RWQCB]**
	6-Mar-13	<0.05	<0.17 /UB
	20-Aug-13	---	**2.4 [RBSC-ali_gw, RBSC-aro_gw, RWQCB]** [18]
	05-Mar-14	---	**0.15 [RWQCB]**
	16-Sep-14	---	**0.79 [RQSC-aro_gw, RWQCB]**
	05-Mar-15	---	**1.3 [RBSC-ali_gw, RBSC-aro_gw, RWQCB]**
	02-Sep-15	---	<0.047
	07-Dec-15	---	<0.051
	10-Mar-16	---	<0.051
	31-May-16	---	<0.050
	13-Sep-16	---	<0.054
	23-Feb-17	---	**0.028 J**
	01-Sep-17	---	**<0.051**
	07-Mar-18	---	<0.052
	13-Sep-18	---	<0.051
	27-Feb-19	---	<0.049 U

Attachment 3-3: VOCs in Groundwater

Location	Date	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal	3	6	15	0.5	0.15	6	0.5	1.7	0.5
	MCL	5	6	NA	0.5	1	6	5	5	0.5
OU-C										
Parcel 3										
MW-3.2	22-Sep-04	0.9	<0.5	<0.5	<0.5	<0.5	2.4	2.2	0.8	<0.5
	8-Dec-04	2.3	<0.5	<0.5	<0.5	<0.5	5.5	1.5	0.5	<0.5
	28-Mar-05	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	3.3 [3.4]	2.1 [2.1]	0.6 [0.5]	<0.5 [<0.5]
	10-May-05	0.4 J	<0.09	<0.08	<0.06	<0.04	3.4	1.8	0.5 J	<0.2
	16-Aug-05	0.3 J	<0.09	<0.08	<0.06	<0.04	1.5	2.4	0.4 J	<0.2
	8-Nov-05	0.4 J	<0.1	<0.1	<0.1	19	0.8	0.9	0.4 J	<0.1
	7-Mar-06	<0.06	<0.2	<0.09	<0.09	0.2 J	1.3	8.1	0.8	<0.2
	23-May-06	0.09 J	<0.06	<0.07	<0.1	2.8	1.5	8.2	0.8	<0.1
	7-Sep-06	0.08 J [0.09 J/J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	4 [3]	1.3 [1.1]	3.5 [4.7]	0.7 [0.8]	<0.5 [<0.5]
	6-Mar-07	0.6	<0.5	52	<0.5	1.6	3.6	3.3	0.9	<0.5
	26-Mar-08	0.3 J	<0.5	2.4	<0.5	1.2	5.2	7.7	1.5	<0.5
	5-Mar-09	0.7	<0.5	48	<0.5	2.4	7.1	1.8	1	0.2 J
	9-Jun-09	<0.5	<0.5	5.8	<0.5	2.6	3.8	1.9	0.6	0.3 J
	8-Dec-09	1.8	<0.5	35	<0.5	2	5.8	2.2 /J	1	0.1 J
	16-Mar-10	0.7	<0.5	11	<0.5	0.8	3.8	3	1.4	<0.5
	12-Sep-18	---	---	---	---	---	---	---	---	---
	25-Feb-19	---	---	---	---	---	---	---	---	---
MW-3.3	22-Sep-04	1.9	<0.5	<0.5	<0.5	<0.5	0.7	1.8	<0.5	<0.5
	8-Dec-04	0.7	<0.5	2.3	<0.5	<0.5	<0.5	0.9	<0.5	<0.5
	28-Mar-05	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5
	10-May-05	1.1 [0.8]	0.4 J [0.4 J]	<0.08 [<0.1]	<0.06 [<0.1]	<0.04 [<0.04]	0.6 [0.3 J]	1.9 [1.7]	0.4 J [0.3 J]	<0.2 [<0.1]
	16-Aug-05	1.1	0.3 J	<0.08	<0.06	<0.04	0.5 J	1.8	0.4 J	<0.2
	8-Nov-05	0.6	<0.1	<0.1	<0.1	<0.04	<0.2	0.9	0.1 J	<0.1
	7-Mar-06	0.5	<0.2	<0.09	<0.09	<0.04	0.3 J	1.2	0.2 J	<0.2
	23-May-06	0.7	0.4 J	<0.07	<0.1	0.07 J	0.5 J	1.5	0.3 J	<0.1
	7-Sep-06	0.8	0.5 J/J	<0.5	<0.5	<0.5	0.5 J/J	2.1	0.3 J/J	<0.5
	5-Dec-06	1.9 [1.8]	0.5 J [0.5 J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.5 [0.5]	2.3 [2.2]	<0.5 J/UB [<0.5 J/UB]	<0.5 [<0.5]
	6-Mar-07	1.1 [1]	0.3 J [0.4 J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.5 [0.5]	2.5 [2.4]	0.4 J [0.4 J]	<0.5 [<0.5]
	12-Jun-07	0.9 [0.7]	0.5 J [0.3 J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.6 [0.5 J]	2.4 [2.4]	0.4 J [0.3 J]	<0.5 [<0.5]
	11-Oct-07	1.6	0.2 J	<0.5	<0.5	<0.5	0.4 J	1.6	0.3 J	<0.5
	13-Dec-07	1.8	0.3 J	<0.5	<0.5	<0.5	0.6	2.2	0.4 J	<0.5
	26-Mar-08	0.6	0.4 J	<0.5	<0.5	<0.5	0.4 J	2.5	0.4 J	<0.5
	4-Jun-08	0.8	0.6	<0.5	<0.5	<0.5	0.7	2.6	0.5 J	<0.5
	23-Sep-08	1.6	0.2 J	<0.5	<0.5	<0.5	0.4 J	1.9	0.4 J	<0.5
	11-Dec-08	2.4	0.3 J	<0.5	<0.5	<0.5	0.7	2.4	0.5	<0.5
	5-Mar-09	1.2	0.3 J	<0.5	<0.5	<0.5	0.5 J	1.9	0.4 J	<0.5
	9-Jun-09	0.8	0.3 J	<0.5	<0.5	<0.5	0.4 J	2.7	0.4 J	<0.5
	15-Sep-09	1.8	0.2 J	<0.5	<0.5	<0.5	0.4 J	1.8	0.4 J	<0.5
	8-Dec-09	2.1	<0.5	<0.5	<0.5	<0.5	0.5 J	1.6 /J	0.4 J	<0.5
	16-Mar-10	0.8	0.3 J	<0.5	<0.5	<0.5	0.4 J	2.4	0.4 J	<0.5
	16-Jun-10	0.7	0.3 J	<0.5	<0.5	<0.5	0.4 J	2.2	0.5 J	<0.5
	23-Sep-10	1.5	0.3 J	<0.5	<0.5	<0.5	0.6	2.1	0.4 J	<0.5
	16-Dec-10	1.8	0.2 J	<0.5	<0.5	<0.5	0.5	2.1	0.4 J	<0.5
	12-Sep-18	1.1	< 0.20	< 0.30	< 0.20	< 0.20	0.36	2.0 [WQO]	0.58	< 0.020
	28-Feb-19	1.2	0.10 J/ J	< 0.30 U	< 0.20 U	< 0.20 U	0.38	1.5	0.56	< 0.020 U/ J

Attachment 3-3: VOCs in Groundwater

Location	Date	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal	3	6	15	0.5	0.15	6	0.5	1.7	0.5
	MCL	5	6	NA	0.5	1	6	5	5	0.5
MW-3.13	11-Oct-07	0.3 J	<0.5	81	<0.5	3.6	2.4	14	2	<0.5
	13-Dec-07	0.7	<0.5	2.7	<0.5	0.6	3.6	19	2.3	<0.5
	26-Mar-08	0.3 J	<0.5	0.3 J	<0.5	1.6	5.8	22	1.7	<0.5
	4-Jun-08	0.3 J	<0.5	<0.5 J/UB	<0.5	0.5	3.8	25	1.8	<0.5
	23-Sep-08	0.4 J	0.2 J	0.8	<0.5	1.7	2.4	24	2.9	<0.5
	11-Dec-08	0.4 J	0.2 J	1	<0.5	1.9	2.6	29	3	<0.5
	5-Mar-09	0.3 J	0.1 J	0.2 J	<0.5	0.6	3.3	20	2.3	<0.5
	9-Jun-09	<0.5	<0.5	<0.5	<0.5	0.2 J	1.4	21	1.6	<0.5
	15-Sep-09	0.4 J	<0.5	<0.5	<0.5	0.5	2.5	17	1.7	<0.5
	16-Mar-10	0.2 J	<0.5	0.2 J	<0.5	1.5	4.3	15	1.7	<0.5
	17-Dec-10	0.4 J	<0.5	<0.5	<0.5	0.2 J	2.9	16	2.5	<0.5
	27-Apr-11	0.20 J	<0.50	<0.50	<0.50	0.73	4.8	10	1.5	<0.50
	6-Oct-11	0.42 J	<0.50	<0.50	<0.50	<0.50	3.5	13	2	<0.50
	22-Mar-12	0.38 J	<0.50	<0.50	<0.50	<0.50	3.7	14	1.9	<0.50
	19-Sep-12	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	21	2	<0.5
	06-Mar-13	0.38 J	<0.50	<0.50	<0.50	<0.50	5.3	17.2	1.8	<0.40
	20-Aug-13	0.27 J	<0.50	<0.50	<0.50	<0.50	2.5	24.2	2.6	<0.40
	05-Mar-14	1.4 [1.3]	0.31 J [<0.50]	<0.50 [<0.50]	---	0.43 J [0.43 J]	6.7 [6.5]	11.9 [11.9]	2.0 [1.9]	<0.20 [<0.20]
	16-Sep-14	0.62	0.23 J	<0.50	---	0.30 J	4.8	19.7	2.4	<0.20
	3-Mar-15	0.22 J	<0.50	<0.50	---	0.19 J	4.1	9.2	1.5	<0.20
	01-Sep-15	0.25 J	<0.50	<0.50	<0.50	<0.50	4.0	13	1.8	<0.50
	08-Mar-16	0.15 J	<0.50	<0.50	<0.50	<0.50	2.4	8.6	0.95	<0.50
	13-Sep-16	0.21 J	0.40 J	<0.50	<0.50	<0.50	1.8	15	1.4	<0.50
	21-Feb-17	<0.5	<0.5	<0.5	<0.5	<0.5	0.95	3.4 [WQO]	0.44 J	<0.5
	30-Aug-17	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	3.0	7.3 [WQO]	2.0 [WQO]	< 0.50
	06-Mar-18	0.25 J/J	<0.50	<0.50	<0.50	<0.50	2.9	10 [WQO]	1.6	<0.50
	12-Sep-18	0.12 J	< 0.20	< 0.30	< 0.20	< 0.20	2.9	12 [WQO]	2.1 [WQO]	< 0.020
	25-Feb-19	0.16 J/ J	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	2.2	11	1.5	< 0.020 U/ J
MW-3.16R	11-Dec-08	0.2 J [0.1 J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.6 [0.6]	0.1 J [<0.5]	<0.5 [<0.5]
	5-Mar-09	0.4 J	<0.5	<0.5	<0.5	<0.5	0.1 J	1	0.3 J	<0.5
	9-Jun-09	0.3 J	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5
	15-Sep-09	0.2 J	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5
	8-Dec-09	0.2 J	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	0.1 J	<0.5
	16-Mar-10	0.3 J	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.1 J	<0.5
	16-Jun-10	0.4 J	<0.5	<0.5	<0.5	<0.5	<0.5	0.6 /J	0.2 J	<0.5
	22-Sep-10	0.3 J [0.3 J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.5 [0.5]	0.1 J [0.1 J]	<0.5 [<0.5]
	16-Dec-10	0.2 J [0.2 J]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.6 [0.6]	0.1 J [0.1 J]	<0.5 [<0.5]
	12-Sep-18	0.041 J	< 0.20	< 0.30	< 0.20	< 0.20	< 0.20	0.49 J [WQO]	< 0.20	< 0.020
	26-Feb-19	0.061 J/ J	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	0.59	0.066 J/ J	< 0.020 U/ J
MW-3.17	7-Oct-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.2 J	<0.5
	11-Dec-08	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.8	<0.5
	4-Mar-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	1	<0.5
	10-Jun-09	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	0.5 J [0.4 J]	1.0 [1.0]	<0.5 [<0.5]
	15-Sep-09	<0.5	<0.5	<0.5	<0.5	<0.5	0.3 J	<0.5	0.8	<0.5
	8-Dec-09	<0.5	<0.5	<0.5	<0.5	<0.5	0.1 J	0.3 J	1.7	<0.5
	16-Mar-10	<0.5	<0.5	<0.5	<0.5	<0.5	0.2 J	0.4 J	2	<0.5
	17-Jun-10	<0.5	<0.5	<0.5	<0.5	<0.5	0.3 J	<0.5	1.1	<0.5
	22-Sep-10	<0.5	<0.5	<0.5	<0.5	<0.5	0.5 J	0.1 J	1.3	<0.5
	16-Dec-10	<0.5	<0.5	<0.5	<0.5	<0.5	0.3 J	0.2 J	1.6	<0.5

Attachment 3-3: VOCs in Groundwater

Location	Date	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal	3	6	15	0.5	0.15	6	0.5	1.7	0.5
	MCL	5	6	NA	0.5	1	6	5	5	0.5
MW-3.17 Cont'd	13-Sep-18	< 0.20 R [< 0.20]	< 0.20 R [< 0.20]	< 0.30 R [< 0.30]	< 0.20 R [< 0.20]	< 0.20 R [<0.20]	**0.78 J [0.61 J]**	**0.32 J [0.41 J] [WQO]**	**0.57 J [0.78 J]**	< 0.020 R [< 0.020]
	27-Feb-19	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.30 U [< 0.30 U]	< 0.20 U [< 0.20 U]	< 0.20 U [<0.20 U]	**0.57 [0.60]**	**0.39 J/J [0.41 J/J] [WQO]**	**0.73 [0.76]**	< 0.020 U/J [< 0.020 U/J]
MW-3.18	7-Oct-08	**3.3**	**0.2 J**	<0.5	<0.5	**0.2 J**	**1.2**	**3.3**	**1**	<0.5
	11-Dec-08	**2.7**	**0.2 J**	<0.5	<0.5	**0.2 J**	**2.2**	**4**	**1.4**	<0.5
	5-Mar-09	**2.8**	**0.2 J**	<0.5	<0.5	<0.5	**1.7**	**3.3**	**1.2**	**0.1 J**
	9-Jun-09	**2.9**	<0.5	<0.5	<0.5	<0.5	**1.2**	**3**	**1**	<0.5
	16-Sep-09	**2.7 [2.6]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**1.4 [1.4]**	**3.2 [3.4]**	**1.2 [1.2]**	**<0.5 [0.1 J]**
	9-Dec-09	**2.9**	**0.2 J**	<0.5	<0.5	<0.5	**2.8**	**4.1**	**1.2**	**0.2 J**
	16-Mar-10	**2.0 [2.2]**	**0.1 J [0.1 J]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**1.2 [1.4]**	**2.9 [3.2]**	**1.0 [1.1]**	<0.5 [<0.5]
	16-Jun-10	**2.4**	**0.1 J**	<0.5	<0.5	**0.2 J**	**1**	**2.8**	**0.9**	<0.5
	23-Sep-10	**2.2 [2.3]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.2 J [0.2 J]**	**1.7 [1.8]**	**5.0 [4.7]**	**1.2 [1.2]**	<0.5 [<0.5]
	16-Dec-10	**2.4**	<0.5	<0.5	<0.5	**0.1 J**	**1.9**	**4.1**	**1.4**	<0.5
	12-Sep-18	**1.4**	< 0.20	< 0.30	< 0.20	< 0.20	**0.96**	**4.3 [WQO]**	**1.7 [WQO]**	< 0.020
	26-Feb-19	**1.5**	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	**1.0**	**3.6 [WQO]**	**1.6**	< 0.020 U/ J
MW-3.20	14-Dec-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.2 J**
	17-Mar-10	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.2 J [<0.5]**	<0.5 [<0.5]	<0.5 [<0.5]	**0.4 J [0.3 J]**
	17-Jun-10	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	**0.2 J [0.2 J]**	<0.5 [<0.5]	<0.5 [<0.5]	**0.3 J [0.3 J]**
	23-Sep-10	<0.5	<0.5	<0.5	<0.5	<0.5	**0.2 J**	<0.5	<0.5	**0.1 J**
	16-Dec-10	<0.5	<0.5	<0.5	<0.5	<0.5	**0.1 J**	<0.5	<0.5	**0.6**
	12-Sep-18	< 0.20 J [< 0.20]	< 0.20 [< 0.20]	< 0.30 J [< 0.30]	< 0.20 [< 0.20]	< 0.20 [<0.20]	**0.12 J [0.18 J]**	< 0.50 [< 0.50]	< 0.20 [<0.20]	< 0.020 J [< 0.20]
	26-Feb-19	< 0.20 U	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	**0.12 J/ J**	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-3.21	15-Dec-09	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16-Mar-10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	15-Jun-10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	22-Sep-10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16-Dec-10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12-Sep-18	< 0.20	< 0.20	< 0.30	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.020
OU-D *Parcel 6*										
MW-6.3	10-Oct-07	**9.2**	**8.1**	<0.5	**0.05 J**	**0.1 J**	<0.5	<0.5	<0.5	**0.09 J**
	12-Dec-07	**6.9**	**8.8**	<0.5	<0.5	**0.1 J**	<0.5	<0.5	<0.5	**0.3 J**
	25-Mar-08	**4.1**	**5**	<0.5	<0.5	**0.1 J**	<0.5	<0.5	<0.5	**0.1 J**
	4-Jun-08	**2.3**	**2.4**	<0.5	<0.5	**0.2 J**	<0.5	<0.5	<0.5	<0.5
	24-Sep-08	**7**	**9.7**	<0.5	<0.5	**0.1 J**	<0.5	<0.5	<0.5	<0.5
	11-Dec-08	**5.4**	**8.6**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	5-Mar-09	**3.2**	**6.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	**0.1 J**
	9-Jun-09	**3**	**4.7**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	15-Sep-09	**3.7**	**6.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	8-Dec-09	**2.8**	**7.3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	18-Mar-10	**1**	**1.8**	<0.5	<0.5	**0.1 J**	<0.5	<0.5	<0.5	<0.5
	16-Jun-10	**1.3**	**3.2**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	21-Sep-10	**3.1**	**7.5 /J**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	14-Dec-10	**1.9**	**6.9**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	28-Apr-11	**1.4 [1.4]**	**4.7 [4.8]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	12-Jul-11	**1.2 [1.2]**	**3.0 [3.3]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	5-Oct-11	**0.87 [0.85]**	**2.8 [2.8]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	14-Dec-11	**1.5 [1.5]**	**6.5 [6.6]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	20-Mar-12	**0.68**	**2.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	20-Jun-12	**0.97 [1.0]**	**5.1 [5.1]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]

Attachment 3-3: VOCs in Groundwater

Location	Date	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal	3	6	15	0.5	0.15	6	0.5	1.7	0.5
	MCL	5	6	NA	0.5	1	6	5	5	0.5
MW-6.3	19-Sep-12	**1 [1.1]**	**4.9 [4.8]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
Cont'd	12-Dec-12	**0.41 J [0.49 J]**	**2.1 [2.4]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	07-Mar-13	**0.91 [0.92]**	**6.6 [6.8]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.40 [<0.40]
	20-Aug-13	**1.1**	**6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
	05-Mar-14	**0.51**	**4.9**	<0.50	---	<0.50	<0.50	<0.50	<0.40	<0.20
	18-Sep-14	**0.68**	**3.2**	<0.50	---	**0.099 J**	<0.50	<0.50	<0.40	<0.20
	5-Mar-15	**0.40 J**	**3.9**	<0.50	---	<0.50	<0.50	<0.50	<0.40	<0.20
	01-Sep-15	**0.39 J**	**2.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	10-Mar-16	**0.25 J**	**2.0**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	13-Sep-16	**0.39 J**	**2.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	22-Feb-17	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	30-Aug-17	**0.26 J /J**	**2.1**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	6-Mar-18	**0.31 J/J**	**2.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	12-Sep-18	**0.29**	**1.8**	< 0.30	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.020
	28-Feb-19	< 0.20 U	< 0.20 U	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-6.6	8-Dec-09	**10**	**19**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	18-Mar-10	**8.1**	**16**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	16-Jun-10	**6.2 [6.1]**	**11 [11]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]
	21-Sep-10	**6.1**	**11**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	14-Dec-10	**5.4 [5.0]**	**12 [12]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]
	28-Apr-11	**4.9**	**9.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	12-Jul-11	**4.9**	**12**	<0.50	**0.079 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	5-Oct-11	**4.6**	**13**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	14-Dec-11	**2.7**	**5.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	20-Mar-12	**2**	**2.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	**3.4**	**9.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	13-Sep-18	**2.6 J**	**9.0 J [WQO]**	< 0.30 R	< 0.20 R	< 0.20 R	< 0.20 R	< 0.50 R	< 0.20 R	< 0.020 R
	27-Feb-19	**1.3**	**1.6**	0.072 J/ J	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-6.7	28-Dec-10	**21 /J [18]**	**24 /J [25]**	<0.5 [<0.5]	**0.6 [0.6]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]
	28-Apr-11	**22**	**23**	<0.50	**0.45 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	12-Jul-11	**27**	**32**	<0.50	**0.62**	<0.50	<0.50	<0.50	**0.21 J**	<0.50
	5-Oct-11	**13**	**23**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	14-Dec-11	**16**	**27**	<0.50	**0.49 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	21-Mar-12	**13**	**23**	<0.50	**0.34 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	**15**	**34**	<0.50	**0.42 J**	<0.50	<0.50	<0.50	**0.20 J**	<0.50
	18-Sep-12	**14**	**35**	<0.5	**0.51**	<0.5	<0.50	<0.5	**0.24 J**	<0.5
	12-Dec-12	**10**	**19**	<0.50	**0.29 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	**15.7**	**27.3**	<0.50	<0.50	<0.50	<0.50	<0.50	**0.17 J**	<0.40
	20-Aug-13	**16.7 [17.5]**	**43.9 [47.2]**	<0.50 [<0.50]	**0.55 [0.55]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	**0.21 J [0.25 J]**	<0.40 [<0.40]
	05-Mar-14	**5.3**	**10.9 /J**	<0.50	---	<0.50	<0.50	<0.50	<0.40	<0.20
	18-Sep-14	**9.7 [9.6]**	**59.0 [58.8]**	<0.50 [<0.50]	---	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	**0.42 [0.39 J]**	**0.26 [0.30]**
	5-Mar-15	**7.1 [7.1]**	**23.1 [23.7]**	<0.50 [<0.50]	---	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	**0.17 J [0.19 J]**	<0.20 [<0.20]
	01-Sep-15	**4.5 [4.5]**	**29 [28]**	<0.50 [<0.50]	**0.084 J** [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	**0.20 J** [<0.50]	<0.50 [<0.50]
	10-Mar-16	**3.2 [3.6]**	**4.9 [5.9]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
	13-Sep-16	**4.0 [4.1]**	**45 [40]**	<0.50 [<0.50]	**0.10 J [0.14 J]**	<0.50 [<0.50]	**0.083 J** [<0.50]	<0.50 [<0.50]	**0.22 J** [<0.50]	**0.30 J [0.36 J]**
	22-Feb-17	**3.7 [3.6] [WQO]**	**6.4 [6.2] [WQO]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]
	30-Aug-17	**3.8 [3.8] [WQO]**	**49 [48] [WQO]**	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]	< 0.50 [< 0.50]

Attachment 3-3: VOCs in Groundwater

Location	Date	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trimethylbenzene	1,2-Dichloroethane	Benzene	cis-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	OU-C/D RAP Remedial Goal	3	6	15	0.5	0.15	6	0.5	1.7	0.5
	MCL	5	6	NA	0.5	1	6	5	5	0.5
MW-6.7	6-Mar-18	**3.1 [2.9] [WQO]**	**7.1 [7.8] [WQO]**	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]
Cont'd	13-Sep-18	**3.4 J [WQO]**	**40 [WQO]**	< 0.30	< 0.20	< 0.20	< 0.20	**0.17 J [0.14 J] [WQO]**	**0.33 [0.25]**	**0.18 J [0.077 J] [WQO]**
	28-Feb-19	**0.81 [0.94]**	**0.58 [0.69]**	< 0.30 U [< 0.30 U]	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.20 U [< 0.20 U]	< 0.50 U [< 0.50 U]	< 0.20 U **[0.17 J/J]**	< 0.20 U [< 0.20 U]
MW-6.8	28-Dec-10	**3.6**	**20**	<0.5	**0.4 J**	<0.5	<0.5	<0.5	<0.5	<0.5
	28-Apr-11	**4.1**	**24**	<0.50	**0.42 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	14-Jul-11	**3.1**	**22**	<0.50	**0.45 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	6-Oct-11	**2.1**	**13**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	14-Dec-11	**2.4**	**19**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	21-Mar-12	**3.3**	**24**	<0.50	**0.33 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	**2.3**	**20**	<0.50	**0.21 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Sep-12	**2.1**	**17**	<0.5	**0.22 J**	<0.5	<0.5	<0.5	<0.5	<0.5
	12-Dec-12	**3.5**	**25**	<0.50	**0.40 J**	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	**3**	**25**	<0.50	**0.26 J**	<0.50	<0.50	<0.50	<0.50	<0.40
	13-Sep-18	**2.2 J**	**16 J [WQO]**	< 0.30 R	**0.19 J**	< 0.20 R	< 0.20 R	< 0.50 R	< 0.20 R	< 0.020 R
	27-Feb-19	**0.087 J/ J**	**0.98**	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J
MW-6.9	27-Dec-10	**1.1**	**5.5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	6-Oct-11	**0.43 J**	**1.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	14-Dec-11	**0.92**	**4.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Sep-12	**1.2**	**8.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12-Dec-12	**0.85**	**3.5**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	**0.73**	**3.3**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40
	13-Sep-18	**0.46**	**2.8**	< 0.30	< 0.20	< 0.20	< 0.20	< 0.50	< 0.20	< 0.020
	28-Feb-19	**0.061 J/ J**	**0.47**	0.077 J/ J	< 0.20 U	< 0.20 U	**0.095 J/ J**	< 0.50 U	**0.26**	< 0.020 U/ J
MW-6.10	27-Dec-10	**3.3**	**8.1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	28-Apr-11	**2.5**	**7.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**0.20 J**
	14-Jul-11	**2.6**	**8.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	5-Oct-11	**2**	**6.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	14-Dec-11	**2.3**	**8.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	20-Mar-12	**2**	**7.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Jun-12	**1.9**	**9.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	19-Sep-12	**2.5**	**7.8**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	12-Dec-12	**1.8**	**6.6**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	07-Mar-13	**2.2**	**10.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40
	20-Aug-13	**3.1**	**10.9**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.40	<0.40
	05-Mar-14	**2.0 [2.0]**	**9.1 [8.7]**	<0.50 [<0.50]	---	<0.50 [<0.50]	<0.50 [<0.50]	<0.50 [<0.50]	<0.40 [<0.40]	<0.20 [<0.20]
	18-Sep-14	**2.3**	**8.3**	<0.50	---	**0.12 J**	<0.50	<0.50	<0.40	**0.097 J**
	5-Mar-15	**2.2**	**9.5**	<0.50	---	**0.086 J**	<0.50	<0.50	<0.40	**0.16 J**
	01-Sep-15	**1.6**	**6.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	10-Mar-16	**2.5**	**6.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	13-Sep-16	**3.7**	**6.8**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	22-Feb-17	**5.5 [WQO]**	**8.5 [WQO]**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	30-Aug-17	**4.4 [WQO]**	**9.2 [WQO]**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	6-Mar-18	**2.5**	**7.1 [WQO]**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
	13-Sep-18	**1.7**	**6.3 [WQO]**	< 0.30	< 0.20	0.037 J	< 0.20	< 0.50	< 0.20	< 0.020
	28-Feb-19	**2.0**	**6.7 [WQO]**	< 0.30 U	< 0.20 U	**0.031 J/ J**	**0.13 J/ J**	< 0.50 U	**0.36**	**0.21 J [WQO]**
MW-6.11	27-Dec-10	**3.9**	**3**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	13-Sep-18	**5.0 J**	**4.9 J**	< 0.30 R	< 0.20 R	< 0.20 R	< 0.20 R	< 0.50 R	< 0.20 R	< 0.020 R
	28-Feb-19	**0.24**	**0.30**	< 0.30 U	< 0.20 U	< 0.20 U	< 0.20 U	< 0.50 U	< 0.20 U	< 0.020 U/ J

Attachment 3-4: Chlorophenols in Groundwater

Location ID	Date	Pentachlorophenol
	Units	µg/L
	OU-C/D RAP Remedial Goal	**0.3**
	MCL	**1**
OU-C		
Parcel 3		
MW-3.9	6-Mar-07	**0.57**
	12-Jun-07	<0.30
	5-Sep-07	<0.30 **[0.20 J]**
	11-Dec-07	<0.30 [<0.30]
	26-Mar-08	<0.30 [<0.30]
	4-Jun-08	<0.30
	23-Sep-08	**2.3**
	11-Dec-08	<0.30 J/UB [<0.30 J/UB]
	5-Mar-09	**0.30 J**
	10-Jun-09	<0.30
	16-Sep-09	<0.30 [<0.30]
	8-Dec-09	<0.30 [<0.30]
	17-Mar-10	**0.1 J**
	23-Sep-10	**69**
	26-Apr-11	<0.33 JB/UB
	13-Jul-11	<0.49 /UB
	6-Oct-11	**1.2**
	15-Dec-11	**7**
	22-Mar-12	**0.43**
	19-Jun-12	**0.84**
	18-Sep-12	**0.84**
	11-Dec-12	<0.32
	6-Mar-13	**0.36 J**
	19-Aug-13	**8.7**
	03-Mar-14	<0.54 J/UB
	15-Sep-14	<0.31
	03-Mar-15	<0.30
	31-Aug-15	<0.29
	08-Mar-16	**0.17 J**
	12-Sep-16	<0.31 /UJ
	21-Feb-17	**0.18 J**
	30-Aug-17	**0.16 J**
	07-Mar-18	<0.31
	11-Sep-18	**0.18 J**
	26-Feb-19	**0.27 J/J**
MW-3.12	10-Oct-07	**0.45 [0.43]**
	11-Dec-07	**23 [14]**
	26-Mar-08	**64**
	4-Jun-08	**10**
	23-Sep-08	**0.46**
	11-Dec-08	**9.2**
	5-Mar-09	**35**
	10-Jun-09	**19**
	16-Sep-09	<0.30 J/UB
	17-Mar-10	**120**
	23-Sep-10	**36**
	27-Apr-11	**150 B [150 B]**
	13-Jul-11	**69 [70]**
	6-Oct-11	**21 /J [15 /J]**
	14-Dec-11	**18 [24]**
	22-Mar-12	**4**
	19-Jun-12	**8.4 [8.8]**
	18-Sep-12	<0.59 B/UB
	12-Dec-12	**2.2 [2.3]**
	5-Mar-13	**6.5 [7.5]**
	19-Aug-13	**0.8 [0.64]**
	03-Mar-14	---18
	15-Sep-14	<0.30 [<0.31]
	03-Mar-15	<0.34 [<0.34]
	31-Aug-15	<0.30 [<0.29]
	07-Mar-16	**0.29 J [0.32 J]**
	13-Sep-16	**0.34 J [0.31 J]**
	21-Feb-17	**3.3 [2.8]**
	29-Aug-17	**0.37 [0.46] [WQO]**
MW-3.12R	11-Sep-18	**1.7 [1.6] [WQO]**
	26-Feb-19	**20 [18] [WQO]**

Attachment 3-5: PCDDs in Groundwater

Location	Date	2,3,7,8-TCDD TEQ[5]
	Units	pg/L
	OU-C/D RAP Remedial Goal	0.05
	MCL	30
OU-C		
Parcel 2		
MW-2.3	17-Mar-10	**4.318 /J [7.284 /J]**
	23-Sep-10	**1.174 [0.884]**
	26-Apr-11	----
	6-Oct-11	**1.287**
	22-Mar-12	<0.8603 /UB
	22-Jun-12	**0.463**
	18-Sep-12	**0.23**
	04-Mar-13	<0.3034 /UB
	19-Aug-13	**0.236**
	03-Mar-14	**0.414**
	15-Sep-14	**0.846**
	03-Mar-15	**0.846**
	31-Aug-15	**0.854**
	07-Mar-16	**0.854**
	12-Sep-16	**0.058 J**
	21-Feb-17	**0.442 [WQO]**
	30-Aug-17	**7.7 J [WQO] (I)**
	7-Mar-18	**0.58 [WQO] [4.18] [WQO]**
	11-Sep-18	**1.9 [WQO]**
	25-Feb-19	**0.48 [WQO]**
MW-2.6	11-Sep-18	< 0.0
Parcel 3		
MW-2.2	16-Dec-10	**0.036**
	26-Apr-11	**0.044**
	6-Oct-11	**0.21**
	22-Mar-12	<0.3994 /UB
	18-Sep-12	**0.004**
	04-Mar-13	<0.0185 /UB
	19-Aug-13	**0.046**
	03-Mar-14	**0.068**
	15-Sep-14	**0.091**
	02-Mar-15	**0.0414**
	01-Sep-15	**0.0418**
	07-Mar-16	**0.091**
	12-Sep-16	**0.131 J**
	21-Feb-17	**0.17 [WQO]**
	30-Aug-17	**5.5 J [WQO]**
	7-Mar-18	**0.051 [WQO]**
	11-Sep-18	**0.15 [WQO]**
	25-Feb-19	**0.56 [WQO]**
MW-2.7	11-Sep-18	**0.33**
	27-Feb-19	**0.19 [WQO]**
MW-3.9	6-Mar-07	**0.004**
	12-Jun-07	ND
	5-Sep-07	ND [ND]
	11-Dec-07	**0.002 [0.03]**
	17-Mar-10	**0.002**
MW-3.12	10-Oct-07	**6.670 [9.970]**
	11-Dec-07	**1.680 [0.091]**
	26-Mar-08	**0.573**
	4-Jun-08	**0.068 [0.092]**
	23-Sep-08	**0.426 [2.961]**
	11-Dec-08	**7.306**
	5-Mar-09	**13.769**
	10-Jun-09	**5.515 [4.068]**
	16-Sep-09	**2.463**
	17-Mar-10	**75.257**
	23-Sep-10	**17.753**
	13-Jul-11	**0.046 [0.719]**
	6-Oct-11	**0.017 [0.015]**
	22-Mar-12	**2.569 /J**
	19-Jun-12	**3.891 [0.999]**
	18-Sep-12	**0.175 [0.272]**
	12-Dec-12	**2.692 [2.508]**
	05-Mar-13	**3.551 [4.828]**
	20-Aug-13	**8.009 [14.176]**
	03-Mar-14	**1.456**
	15-Sep-14	**17.238 [3.042]**
	03-Mar-15	**[2.99] [3.67]**
	31-Aug-15	**1.42 [2.56]**
	07-Mar-16	**0.583 [1.543]**
	13-Sep-16	**0.012 J [0.125 J]**
	21-Feb-17	**27.228 [15.613] [WQO]**
	29-Aug-17	**10 J [13 J] [WQO] (I)**
MW-3.12R	11-Sep-18	**0.36 [1.9] [WQO]**
	26-Feb-19	**0.27 [0.34] [WQO]**

Attachment 3-6: Atrazine in Groundwater

Location ID	Analyte	Atrazine
	Units	µg/L
	OU-C/D RAP Remedial Goal	0.5
	MCL	3
OU-D *Parcel 9*		
MW-9.1	18-Sep-18	<0.50
	26-Feb-19	<0.50
MW-9.2	14-Dec-09	**4.1**
	17-Mar-10	**1.6**
	16-Jun-10	**3.1 [2.9]**
	22-Sep-10	**2.8 /J [1.6 /J]**
	16-Dec-10	**2**
	26-Apr-11	**1.8**
	7-Oct-11	**2.3**
	22-Mar-12	**1.8 /J**
	18-Sep-12	**2.0 /J [1.4 /J]**
	6-Mar-13	**1.5**
	20-Aug-13	**1.6**
	4-Mar-14	**1.1**
	16-Sep-14	**0.93**
	03-Mar-15	**0.57**
	01-Sep-15	**1.1 J**
	08-Mar-16	<0.50
	13-Sep-16	**0.92[9] [WQO]**
	22-Feb-17	**0.76**
	30-Aug-17	**0.76 [WQO]**
	07-Mar-18	**0.66 [WQO]**
	11-Sep-18	**0.73 [WQO]**
	26-Feb-19	**0.52 [WQO]**
MW-9.3	14-Dec-09	**0.4 J [0.4 J]**
	17-Mar-10	**0.60 [0.61]**
	16-Jun-10	**0.83**
	22-Sep-10	**0.74**
	16-Dec-10	**0.3 J [0.3 J]**
	27-Apr-11	**0.51**
	7-Oct-11	**<0.50 [<0.50]**
	22-Mar-12	**0.51**
	6-Mar-13	**0.21 J [0.30 J]**
	20-Aug-13	Not sampled; insufficient water
	5-Mar-14	**0.17 J**
	16-Sep-14	Not sampled; insufficient water
	03-Mar-15	**1.2**
	01-Sep-15	Not sampled; insufficient water
	08-Mar-16	<0.50
	13-Sep-16	Not sampled; insufficient water
	22-Feb-17	<0.5
	01-Sep-17	<0.5
	07-Mar-18	<0.5
	11-Sep-18	<0.5
	26-Feb-19	<0.50