First Semiannual 2017 Groundwater Monitoring Report Defense Fuel Support Point Norwalk, California

Prepared for

Kinder Morgan Energy Partners, L.P.

July 2017



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The material and data presented in this report were prepared consistent with current and generally accepted consulting principles and practices. This work was supervised by the following CH2M licensed professional.

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Acronyms and Abbreviations

μg/L microgram(s) per liter 1,2-DCA 1,2-dichloroethane Alpha Alpha Analytical, Inc. amsl above mean sea level

Blaine Tech Services, Inc. BTEX benzene, toluene, ethylbenzene, and total xylenes

CH2M CH2M HILL Engineers, Inc.

CIMIS California Irrigation Management Information System

DFSP Defense Fuel Support Point

DIPE di-isopropyl ether

Blaine Tech

DLA Defense Logistics Agency Installation Support for Energy

EPA U.S. Environmental Protection Agency

ETBE ethyl tertiary butyl ether

ft/ft foot-per-foot

GWE groundwater extraction

 JP_4 jet propellant 4 JP_5 jet propellant 5 JP₈ jet propellant 8

Kinder Morgan Energy Partners, L.P. Kinder Morgan **MRP** Monitoring and Reporting Program

MTBE methyl tertiary butyl ether

ND nondetect

NPDES National Pollutant Discharge Elimination System

QA quality assurance QC quality control

Restoration Advisory Board RAB RTO regenerative thermal oxidizer

RWQCB Regional Water Quality Control Board, Los Angeles Region

SFPP SFPP, L.P.

SGI The Source Group, Inc.

Defense Fuel Support Point, Norwalk, California site

SVE soil vapor extraction

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ACRONYMS AND ABBREVIATIONS

TAME tertiary amyl methyl ether

TBA tertiary butyl alcohol

TFE total fluids extraction

TPH total petroleum hydrocarbons

TPH-d total petroleum hydrocarbons quantified as diesel fuel

TPH-g total petroleum hydrocarbons quantified as gasoline

VOC volatile organic compound

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Introduction

CH2M HILL Engineers, Inc. (CH2M) prepared this groundwater monitoring report on behalf of SFPP, L.P. (SFPP), an operating partnership of Kinder Morgan Energy Partners, L.P. (Kinder Morgan), and the Defense Logistics Agency Installation Support for Energy (DLA) to summarize the results of groundwater monitoring activities conducted at the Defense Fuel Support Point (DFSP), Norwalk, California (site) during the first half of 2017. The site location and vicinity are shown on Figure 1.

The results documented in this report are based on groundwater monitoring that has been conducted in accordance with revised sampling and analysis plans prepared by SFPP (CH2M, 2013) and DLA (Parsons, 2013). The Regional Water Quality Control Board, Los Angeles Region (RWQCB) approved the sampling plans on June 27, 2013, and October 23, 2013, respectively (RWQCB, 2013a, 2013b).

SFPP and DLA jointly perform groundwater monitoring events at the site to address respective impacts to groundwater by each entity. SFPP contracted CH2M, and DLA contracted The Source Group, Inc. (SGI), to perform project oversight of groundwater monitoring activities. SFPP contracted Blaine Tech Services, Inc. (Blaine Tech) to gauge and sample the designated SFPP wells; SGI personnel conducted the gauging and sampling for DLA. CH2M was retained by SFPP to compile and interpret the data from these sources and prepare this summary report.

Since 1986, environmental assessments have been performed at the DFSP facility (both onsite and offsite) by several consultants on behalf of SFPP and DLA. During these investigations, wells were installed for monitoring and as components of groundwater remediation activities. Table 1 presents a summary of groundwater monitoring and remediation wells associated with the site. These investigations evaluated and defined the extent of liquid-phase, adsorbed-phase, and dissolved-phase hydrocarbons in soil and groundwater beneath the site and offsite to the south, east, and west.

Site assessments identified the following principal constituents of concern at the site:

- Total petroleum hydrocarbons (TPH), including TPH quantified as gasoline (TPH-g), diesel fuel (TPH-d), jet propellant 4 (JP₄), jet propellant 5 (JP₅), and jet propellant 8 (JP₈)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX)
- 1,2-dichloroethane (1,2-DCA)
- Methyl tertiary butyl ether (MTBE)
- Tertiary butyl alcohol (TBA)

Additional background information regarding investigations and monitoring events at the site is presented in previously submitted semiannual groundwater monitoring reports. Monitoring wells and remediation wells are monitored on a semiannual basis to evaluate groundwater elevation and groundwater quality conditions.

In December 2014, DLA decommissioned 28 wells across the site to facilitate ongoing soil excavation (source removal) activities, as the wells were located within the footprint of the proposed excavation areas. Thirteen of the decommissioned wells were monitoring or extraction wells included in the RWQCB-approved Monitoring and Reporting Program (MRP). When soil excavation activities are complete, DLA has agreed to replace these wells at their original locations or at locations approved by the RWQCB, and to monitor them on a semiannual basis thereafter.

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To date, 9 of the 13 decommissioned wells in the MRP have been replaced (replacement wells are shown in parentheses below):

- DLA wells: GMW-32 (GMW-32R), GMW-35 (GMW-35R), GMW-66 (GMW-66R), GW-14 (GW-14R), and TF-20 (TF-20R)
- SFPP wells: GMW-4 (GMW-4R), GMW-14 (GMW-14R), GWR-1 (GWR-1R), and MW-15 (MW-15R)

The remaining four decommissioned wells in the MRP have not yet been replaced; consequently, no groundwater analytical or elevation data for the April 2017 event are presented for these wells in this report:

- DLA wells: GMW-17, TF-9, and TF-17
- SFPP well GMW-27

In addition, SGI and Blaine Tech did not gauge or sample the following wells in April 2017 because the wells either could not be located or could not be accessed:

- DLA wells: GMW-42 and MW-SF-9
- SFPP wells: GMW-1 and GMW-3

Once these wells become accessible, they will be gauged and sampled in accordance with the revised MRP during future semiannual events.

This report provides information pertaining to the April 2017 Semiannual Groundwater Monitoring Event (conducted from April 17 to 24, 2017) and includes groundwater gauging and sampling data from selected wells throughout the DFSP site and from wells located offsite to the south, east, and west. This report also provides a summary of remediation progress for the first half of 2017, and an updated description of the status of the dissolved-phase and liquid-phase hydrocarbon plumes.

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Field and Laboratory Activities

An overview of the semiannual monitoring event is provided in Section 2.1. Field and laboratory methods are described in Section 2.2.

2.1 Semiannual Groundwater Monitoring

Groundwater levels were gauged and samples collected as follows:

- SFPP wells were gauged by Blaine Tech on April 17, 2017.
- DLA wells were gauged by SGI between April 17 and 20, 2017.
- SFPP and DLA wells were sampled by Blaine Tech and SGI, respectively, from April 17 through 24, 2017.

Overall, water levels were measured in 167 wells, of which 12 were dry and three (EXP-1, EXP-2, and EXP-3) were gauged twice. Groundwater samples were collected from 116 of the wells. In total, 119 samples were collected because two split samples were included for EXP-1, EXP-2, and EXP-3.

Sampling was conducted using low-flow methods as described in Section 2.2. Tables 2 and 3 list the wells that were gauged and sampled during the first semiannual 2017 event, respectively, as well as their associated groundwater elevations and analytical results. Well gauging and sampling records for the semiannual event are provided in Appendix A.

2.2 Field and Laboratory Methods

Field activities were conducted in accordance with the revised sampling plans as described in Section 1. Groundwater samples collected for DLA were submitted to American Analytics in Chatsworth, California. Groundwater samples collected for SFPP were submitted to Alpha Analytical, Inc. (Alpha) in Sparks, Nevada. Both analytical laboratories are certified by the Environmental Laboratory Accreditation Program of the California Department of Public Health. Samples were submitted to these laboratories for the analyses described in Section 2.2.2.

2.2.1 Field Methods

Prior to starting gauging, purging, and sampling activities, SFPP and DLA remediation systems were shut down for approximately 1 week. Subsequently, SGI or Blaine Tech measured depth to water in each well using an electronic water level sounder, or depth to water and free product thickness using an interface probe. The down-well field instruments used to gauge the wells were cleaned with a laboratory-grade, nondetergent cleaner, and then rinsed successively in two containers with distilled water before each use.

Before sampling, each well was purged by using low-flow purge techniques at a rate of approximately 200 to 500 milliliters per minute. During purging, groundwater field parameters consisting of temperature, pH, electrical conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential were monitored. Water levels also were monitored during low-flow purging to verify minimal drawdown. Samples for SFPP were collected using a 2-inch-diameter submersible Grundfos pump with new or dedicated tubing, whereas samples for DLA were collected using a 2-inch-diameter Mega-Monsoon submersible pump with new or dedicated tubing used for each well. Well gauging and sampling records are provided in Appendix A.

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Water samples were collected after groundwater field parameters stabilized. Water samples to be analyzed for TPH-g, TPH-d, and volatile organic compounds (VOCs) were collected in 40-milliliter volatile organic analysis (VOA) vials containing hydrochloric acid preservative, filled slightly above the top of the vial to form a positive meniscus (that is, zero headspace), and sealed with Teflon septa and airtight caps. DLA water samples for TPH-d analysis were collected in 1/2-liter amber bottles and sealed with Teflon-lined airtight caps. The samples were labeled and placed on ice for transport to the laboratory following proper chain-of-custody procedures.

2.2.2 Laboratory Analytical Methods

Samples collected for DLA were sent to American Analytics for laboratory analysis; samples collected for SFPP were sent to Alpha for laboratory analysis. The laboratory analytical program for the sampling events included analysis for VOCs using U.S. Environmental Protection Agency (EPA) Method 8260B, and TPH using purge-and-trap and/or extraction sample preparation techniques followed by EPA Method 8015 (modified). Results for TPH analyses using the purge-and-trap preparation technique were quantified and reported against a commercial gasoline standard (C4 to C13) and are abbreviated as "TPH-g" throughout this report. Results for TPH analyses using extraction sample preparation for groundwater samples were quantified and reported against a commercial diesel standard (C14 to C22) and are abbreviated as "TPH-d" throughout this report. Copies of the laboratory analytical reports are presented in Appendix B.

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Groundwater Gauging Results

Measurements of groundwater levels and free product thickness collected during the semiannual monitoring event are described in this section. Groundwater extraction (GWE) systems for both DLA and SFPP were shut down approximately 1 week prior to the first semiannual 2017 groundwater gauging and sampling activities. Free product thicknesses, depths to groundwater, and calculated groundwater elevations are presented in Table 2. Groundwater elevations in wells with measurable free product were corrected for water-product density differences using the estimated specific gravity for the free product. The measured product thickness was multiplied by the specific gravity value and then added to the groundwater elevation (resulting in the Corrected Groundwater Elevation values in Table 2). A specific gravity value of 0.80 was used for DLA wells; the specific gravity for SFPP's wells, ranging from 0.77 to 0.83, was based on field measurements collected during baildown testing conducted in 2014. Wells with minimal measured product thicknesses (less than 0.05 foot) assumed a specific gravity of 1.0. Groundwater elevation contours for the uppermost groundwater zone, along with estimated extents of free product, are shown on Figure 2. Historical groundwater level measurements, free product thicknesses, and groundwater elevations are presented in Appendix C. Wells meeting at least one of the following criteria were not considered in contouring groundwater elevation in the uppermost groundwater zone (and are denoted with an asterisk "*" in the well name on Figure 2):

- Wells screened in the deeper Exposition aquifer (denoted as "EXP" wells), which is separated from the uppermost groundwater zone by the Bellflower aquitard (CH2M, 2013)
- Wells screened near the bottom of the uppermost aguifer (denoted as "MID" wells)
- Wells with groundwater elevations that were inconsistent with surrounding groundwater elevations

3.1 Groundwater Flow Conditions

Overall, groundwater flow and gradient conditions encountered during the first half semiannual 2017 monitoring event differed from conditions observed during previous first half semiannual monitoring events at the site. During the first half semiannual monitoring events from 2010 through 2016, the overall flow direction in the uppermost aquifer was to the north/northwest/northeast, generally with inferred converging flow toward the site. This has been largely driven by relative similarity in groundwater elevations in wells to the east/southeast (such as GMW-O-16, GMW-O-17, GMW-O-19, GMW-O-24, PZ-5, PZ-7A, PZ-7B, and MW-8) and wells to the west/southwest (such as WCW-1, WCW-2, WCW-3, WCW-10, WCW-11, WCW-12, WCW-13, WCW-14, and GMW-O-8) with lower groundwater elevations in the south-central portion of the site (where there is a high density of remediation wells). As shown on Figure 2, there was a difference of almost 2 feet in groundwater elevation between these sets of wells (to the southwest/southeast) during this monitoring event, inferring an overall flow direction to the west/northwest. Unlike previous monitoring events, the converging flow in the southern portion of the site was not present. Groundwater elevations used in contouring ranged from 40.87 feet above mean sea level (amsl) in WCW-13 (northwest of the site) to 44.36 feet amsl in GMW-SF-8 (in the southeast corner of the site).

In general, groundwater elevations were higher in April 2017 (increases of up to nearly 4 feet) than those reported in April 2016 east of and across most the site, and lower (decreases to 1.5 feet) in the very western portion of and west of the site (CH2M, 2016). These differences in groundwater elevation contributed to the overall inferred west/northwesterly groundwater flow direction. The estimated horizontal hydraulic gradient during this event ranged from approximately 0.0011 to 0.0021 foot per foot (ft/ft) (Figure 2).

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As shown on Figure 2, several groundwater depressions are interpreted across the gauging area. One such depression is located on the eastern border of the site extending from MW-17 northeast to GMW-63. A second relatively larger groundwater depression is located in the northern portion of the site, extending from TF-24 eastward to GMW-66R. Several smaller depressions are centered around single wells, such as GMW-10, GMW-24, GMW-44, and GMW-54. As shown on Figure 2, a relatively small groundwater mound is inferred in the east-central portion of the site, centered on wells GMW-59 and TF-19. This is consistent with past interpretations of a groundwater mound in this area. Smaller mounds are interpreted in the south-central portion of the site, including wells MW-SF-1, MW-SF-13, and MW-SF-16. As previously discussed, past interpretations included converging groundwater flow toward the south-central portion of the site. The differences between the April 2017 gauging event and previous events may be related to factors such as increased precipitation during the 2016-2017 rainy season, differing operation of the remediation systems in this area (at the time of the April 2017 event, the soil vapor extraction [SVE] and biosparge systems had been shut down for nearly 6 months, as discussed in Section 5.1.2 below), a longer period of system shutdown prior to gauging, quicker recovery in groundwater levels, or changes in regional groundwater use. Groundwater elevations in this area were generally 2 feet higher in April 2017 as compared to April 2016. Small groundwater mounds are interpreted as being centered on single wells: GMW-SF-8 (in the southeast corner of the site) and GMW-43 (in the north-central portion of the site).

Groundwater levels in MW-18 (MID), MW-19 (MID), MW-20 (MID), MW-21 (MID), and MW-22 (MID) screened in the lower section of the uppermost aquifer varied from groundwater levels measured in nearby wells installed in the upper portion of the uppermost aquifer. Groundwater elevations in these five "MID" wells ranged from 38.17 feet amsl in MW-18 (MID) to 42.81 feet amsl in MW-21 (MID).

Groundwater levels were measured in the five Exposition aquifer wells (EXP-1 through EXP-5) on and near the site. Groundwater elevations used in contouring the Exposition aquifer ranged from 17.97 feet amsl in EXP-1 (in the east-central portion of the site) to 18.40 feet amsl in EXP-4 (northwest of the site). Figure 3 shows the inferred groundwater elevation contours for the Exposition aquifer. Groundwater elevations in the Exposition aquifer were approximately 1 foot lower than those in April 2016 (CH2M, 2016). The groundwater gradient in the Exposition aquifer beneath the site in April 2017 was 0.0003 ft/ft toward the east-northeast, indicating a flow direction generally similar to those previously interpreted for the site. The groundwater flow direction in the Exposition aquifer remains substantially different from the uppermost groundwater zone.

Groundwater elevations across the site in the uppermost aquifer are higher than elevations in the Exposition aquifer by approximately 20 to 25 feet (as shown in Exhibit 1 below). This vertical gradient across the aquitard is consistent with historical conditions and indicates that the aquitard impedes groundwater flow from the uppermost aquifer to the Exposition aquifer. Additionally, the difference in groundwater flow direction between the uppermost aquifer and Exposition aquifer (northwestward and east-northeastward, respectively) also indicates that there is limited communication between the two water bearing zones.

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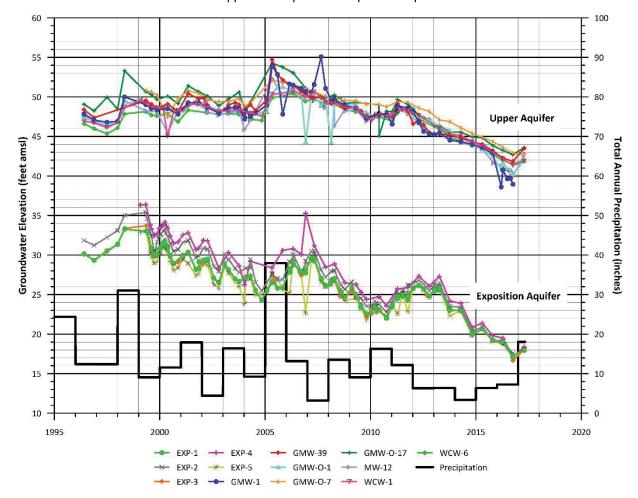


Exhibit 1. Groundwater Elevations in the Uppermost Aquifer and Exposition Aquifer

3.2 Distribution of Free Product

During this semiannual monitoring event, measurable free product was observed in 18 of the 167 wells that were gauged:

- North-central area: wells GMW-7, GMW-45, PZ-3, TF-16, RTF-18-E, RTF-18-W, and RTF-18-NW
- Eastern area: wells GMW-62 and GMW-68
- South-central area: wells GMW-23, GMW-24, GMW-29, GMW-30, GMW-0-11, GMW-0-12, and MW-0-2
- Southeastern area: wells GMW-O-15 and GMW-O-18

Free product was detected at thicknesses ranging from 0.01 foot in well PZ-3 to 4.20 feet in offsite well GMW-O-12. Free product thicknesses, well gauging data, and groundwater elevations are summarized in Table 2. The detection of free product in these wells during this sampling event were used in interpreting the current extent of free product at the site. These interpretations are shown on Figure 2 and indicate free product in the northern tank farm area (the north-central area), the eastern area, the south-central area, and the southeastern 24-inch block valve area.

Free product was present in the north-central area in wells GMW-7, GMW-45, PZ-3, TF-16, RTF-18-E, RTF-18-W, and RTF-18-NW. The product thickness for these wells ranged from 0.01 foot in well PZ-3 to 1.42 feet in well GMW-45. The extent of the north-central free product plumes are interpreted as isolated or separate plumes, with the exception of the "RTF"- series wells.

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In the eastern area, a limited extent of free product was interpreted based on a measurable thickness of free product in wells GMW-62 and GMW-68 (0.02 and 0.98 foot thick, respectively). Free product has been detected in both GMW-62 and GMW-68 during past events.

Free product was detected in the south-central area in wells GMW-23, GMW-24, GMW-29, GMW-30, GMW-O-11, GMW-O-12, and MW-O-2. Free product has been detected in south-central area wells during past events. The product thickness ranged from 0.06 foot in well MW-O-2 to 4.20 feet in well GMW-O-12. The magnitude and extent of free product in the south-central area has declined since April 2016. The extent of the south-central area free product plume has been interpreted as one continuous plume in recent years; however, the plume is now interpreted as separate smaller plumes. It is believed that the decrease in product thickness and areal extent is a result of increased precipitation in 2016-2017 compared to 2015-2016 (18.06 versus 7.26 inches, respectively, as measured by the Long Beach, California Irrigation Management Information System [CIMIS] Number 174 weather station [California Department of Water Resources, 2017]) and biosparging that has been implemented in the south-central area since January 2016 (however, the biosparge system was shut down between November 2016 and June 2017; further details regarding biosparging operations are provided in Section 5.1).

Free product was detected in the southeastern 24-inch block valve area in wells GMW-O-15 and GMW-O-18 (0.13 and 0.03 foot, respectively) during this monitoring event. Observation of free product in these wells is consistent with historical data.

Continued total fluids extraction (TFE), manual bailing, and the use of fuel-absorbent socks should continue to remove product that has accumulated in wells across the site.

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Groundwater Quality

Groundwater quality results for the semiannual monitoring event are presented in Section 4.1. Related quality assurance/quality control (QA/QC), water disposal, and health and safety are discussed in Sections 4.2 through 4.4.

4.1 Results for the First Semiannual 2017 Groundwater Monitoring Event

The April 2017 analytical results for TPH, benzene, 1,2-DCA, MTBE, and TBA were used to develop isoconcentration contours and interpret the extent of these analytes in groundwater beneath the site. Isoconcentration contours for TPH, benzene, 1,2-DCA, MTBE, and TBA are shown on Figures 4 through 8, respectively. Analytical results from the current semiannual monitoring event (April 2017) and two previous semiannual monitoring events (April and October 2016) are also posted on these figures. The data labels are color-coded to indicate whether concentrations from the April 2017 semiannual event are increasing, decreasing, or stable compared with concentrations from the April 2016 semiannual event. A blue data label indicates a decrease in concentration greater than or equal to 10 percent from the previous year, a red label indicates an increase greater than or equal to 10 percent, and a white label indicates that the change is less than 10 percent or the change could not be determined because of insufficient data.

Laboratory analytical results for TPH, BTEX, 1,2-DCA, MTBE, TBA, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), and tertiary amyl methyl ether (TAME) are summarized in Table 3; other VOCs analyzed by EPA Method 8260B are summarized in Table 4. Historical analytical results for TPH, BTEX, 1,2-DCA, MTBE, TBA, DIPE, ETBE, and TAME are presented in Appendix D. Time series charts for select monitoring and remediation wells are presented in Appendix E. Copies of the laboratory reports for the April 2017 semiannual monitoring event are presented in Appendix B. The following subsections summarize the results for selected analytes or analyte groups.

4.1.1 Total Petroleum Hydrocarbons

As shown on Figure 4, the analytical results for TPH-g and TPH-d reported for each well during the first semiannual 2017 monitoring event are summed and contoured as "TPH." Where both TPH-g and TPH-d were detected, the TPH concentration included in the isoconcentration contour represents the sum of the detected concentrations. Where only one of the components was detected, that value was considered in the isoconcentration contouring. The concentrations of TPH-g and TPH-d components are listed separately in Table 3. The maximum reported concentration of TPH-g was 54,000 micrograms per liter (μ g/L) in well TF-18 in the north-central portion of the site. This well also had the maximum reported concentration of TPH-d (7,300 μ g/L). As shown on Figure 4, the maximum concentrations of both TPH-g and TPH-d during the April 2016 semiannual sampling event were reported for well GW-O-18 in the southeastern 24-inch-block valve area. The 2016 concentrations were anomalously high (11,000,000 and 5,900,000 μ g/L for TPH-g and TPH-d, respectively) and were attributed to the presence of free product in the groundwater sample. Groundwater quality samples were not collected from wells with measurable free product (including GMW-O-18) during the April 2017 semiannual event.

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As shown on Figure 4, the following wells had TPH concentrations that increased or decreased by more than 10 percent relative to the April 2016 sampling event:

- Decrease: GMW-8, GMW-15, GMW-36, GMW-59, GMW-69, GMW-0-10, GMW-0-14, GMW-0-16, MW-9, MW-18(MID), MW-22(MID), MW-26, MW-27, PZ-2, and TF-8.
 - The largest decrease was reported at well GMW-O-10 (999 μ g/L in April 2016 to 52 μ g/L in April 2017), located offsite to the south.
- Increase: GMW-21, GMW-47, GMW-57, GMW-58, GMW-60, GMW-61, MW-21(MID), and PZ-5.
 - The largest increase was at well PZ-5 (1,260 μg/L in April 2016 to 16,840 μg/L in April 2017), located in the southeastern 24-inch block valve area. These concentrations are within the historical range for this well, as indicated by the data in Appendix D.
- Detect to Nondetect (ND): GMW-26, GMW-28, GMW-67, GMW-0-9, HL-2, HL-3, and MW-19(MID).
- ND to Detect: GMW-66R, GMW-O-3, GMW-O-19, GW-2, WCW-2, and WCW-13.

The areal extent of TPH shown on Figure 4 was relatively similar to the April 2016 monitoring event. Other observations regarding the April 2017 TPH plumes include the following:

- The extent of TPH in the eastern area was reduced as a result of decreased concentrations at GMW-67 and GMW-69.
- The increase in TPH concentration at GMW-66R results in a larger extent of the plume to the northeast.
- The inferred extent of TPH exceeding 1,000 μg/L in the northeastern area was slightly smaller in April 2017 than in April 2016 due to several wells not being sampled in 2017 (PZ-3, GMW-7, GMW-18, TF-15, and TF-16), and there is a new inferred area of TPH exceeding 10,000 μg/L located around wells TF-18 (61,300 μg/L), RTF-18-N (30,200 μg/L), and RTF-18-NNW (36,900 μg/L).
- The areal extent of TPH in the northwestern portion of the site expanded slightly to the north to encompass detected concentrations at wells GW-2 (170 μ g/L) and MW-14 (160 μ g/L).
- Isolated detections of TPH were recorded in two western offsite wells (230 μ g/L at WCW-2 and 450 μ g/L at WCW-13) during April 2017. These are the only detections of TPH at wells WCW-2 and WCW-13 since monitoring began in 1996.
- The areal extent of TPH in the south-central and southern offsite areas expanded slightly to the south to encompass well GMW-O-3 (260 μg/L).
- The extent of TPH exceeding 1,000 μg/L in the south-central portion of the site decreased due to decreased concentrations at wells GMW-O-10, GMW-O-14, and several wells not being sampled in April 2017 (such as GMW-23, GMW-29, GMW-30, and MW-SF-14).
- The previously interpreted area of TPH exceeding 1,000 μg/L near the truck rack area is not present in the current dataset due to relatively lower TPH detections at wells GMW-4R (154 μg/L), MW-9 (699 μg/L), and GMW-15R (210 μg/L).
- In the southeastern part of the site, the interpreted extent of TPH expanded slightly to encompass well GMW-O-19 (52 μ g/L).
- TPH was not detected in any of the Exposition aquifer wells.

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4.1.2 Benzene

Figure 5 presents the benzene isoconcentration contours interpreted from data collected during the April 2017 semiannual monitoring event. Analytical results for benzene in groundwater samples collected during this semiannual event indicate that concentrations ranged from ND in many wells to a maximum of 5,800 μ g/L in southeastern offsite well PZ-5. As discussed in Section 4.1.1, elevated dissolved-phase concentrations in several wells (including remediation wells southeast of the site) reported during the April 2016 monitoring event were attributed to residual free product in the groundwater samples. Groundwater quality samples were not collected from wells with measurable free product during the April 2017 monitoring event.

As shown on Figure 5, the following wells had benzene concentrations that increased or decreased by more than 10 percent relative to April 2016:

- Decrease: GMW-28, GMW-67, GMW-69, and GMW-0-14.
 - The largest decreases were in wells GMW-28 (370 μ g/L in April 2016 to 0.69 μ g/L in April 2017) and GMW-0-14 (1,300 μ g/L in April 2016 to 0.59 μ g/L in April 2017).
- Increase: GMW-36, GMW-58, GMW-59, GMW-60, and GMW-61.
 - The largest increase was reported in well GMW-61 (0.65 μg/L in April 2016 to 18 μg/L in April 2017) in the eastern portion of the site.
- Detect to ND: GMW-6, GMW-15, GMW-0-10, GW-2, GW-3, GW-13(6"), MW-9, MW-13, MW-16, MW-18(MID), MW-26, MW-27, PZ-2, and TF-8.
- ND to Detect: GMW-O-3 (1.3 μ g/L), GMW-O-16 (1.2 μ g/L), GMW-O-19 (2.2 μ g/L), GMW-O-24 (0.8 μ g/L), and PZ-5 (5,800 μ g/L).

The areal extent of benzene in groundwater beneath the site in April 2017 was relatively unchanged from the plume configuration observed during the April 2016 monitoring event, with the exception of the plume footprint in the northwest corner of the site. Previously, the plume in the northwest corner of the site was inferred from low-level benzene results at wells GW-2, GW-3, GW-13, MW-26, MW-27, and TF-8, which were all ND for benzene in April 2017. Other observations regarding the April 2017 benzene plumes include the following:

- The areal extent of the benzene plume located in the north-central/eastern portion of the site presented on Figure 5 is slightly smaller than inferred during April 2016, due to ND concentrations in wells GMW-6, GMW-15, and GMW-19 in April 2017.
- Although several wells in the north-central/eastern area were not sampled during April 2017 due to
 the presence of free product (GMW-7, GMW-45, GMW-62, GMW-68, TF-16, RTF-18-NW, RTF-18-W,
 RTF-18-E, and PZ-3) the footprint of the plume was extended to encompass these locations,
 recognizing the presence of product likely indicates that historical elevated concentrations at many
 of these wells persists.
- An area of benzene in groundwater exceeding 1,000 μg/L is inferred between Tanks 80008 and 55004 based on concentrations at wells RTF-18-N (1,700 μg/L) and RTF-18-NNW (5,000 μg/L). Wells defining the April 2016 area of benzene exceeding 1,000 μg/L in the eastern portion of the site (GMW-62, GMW-68, and GW-15[6"]) were not sampled in April 2017.
- In the south-central area, the northern extent of the plume contracted due to ND concentrations at wells GWR-1R, GMW-25, and MW-18(MID), and because well GMW-10 was not sampled during April 2017.

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- The southern extent of the plume in the south-central area expanded to include offsite well GMW-O-3.
- The extent of benzene exceeding 1,000 μg/L in the south-central area in April 2016 is not present in the April 2017 dataset due to relatively lower detected concentrations at wells GMW-9, GMW-O-14, GMW-O-20, GMW-O-21, GMW-O-23, and MW-SF-6, and because wells with historically high benzene concentrations (such as GMW-23 and GMW-30) were not sampled during April 2017 due to the presence of free product.
- Due to the single detection of benzene in new replacement monitoring well GMW-4R, an isolated plume was interpreted south of the truck rack area. The area of detected benzene centralized on well MW-9 in April 2016 was not present as results from this well were ND in April 2017.
- The overall areal extent of the benzene plume in the southeastern area of the site and southeastern offsite area expanded between April 2016 and April 2017 due to increases in concentration at wells GMW-O-16, GMW-O-19, GMW-O-24, and PZ-5.
- An area of benzene exceeding 1,000 μ g/L is present in the southeastern offsite area, encompassing wells PZ-5 and GMW-36.
- Benzene was not detected in wells west of the site or in any of the Exposition aquifer wells.

4.1.3 1,2-Dichloroethane

Figure 6 presents isoconcentration contours for 1,2-DCA reported during the April 2017 semiannual monitoring event. Analytical results for 1,2-DCA collected during this event ranged from ND in many wells to a maximum of 9 μ g/L in well MW-20(MID) in the western onsite area. Relatively higher concentrations of 1,2-DCA were generally reported in wells screened within the deeper portion of the shallow aquifer (wells with "MID" in the name). 1,2-DCA was not detected in wells sampled in the eastern, southeastern, and western offsite areas of the site.

As shown on Figure 6, there was generally a decrease in 1,2-DCA concentrations within the inferred groundwater plume. The following wells had 1,2-DCA concentrations that increased or decreased by more than 10 percent relative to April 2016:

- Decrease: GMW-26, GW-2, GW-13(6"), MW-19(MID), MW-20(MID), MW-21(MID), and MW-22(MID).
 - The largest decrease was reported in well GW-13(6") (6.6 μ g/L in April 2016 to 1.7 μ g/L in April 2017).
- Increase: MW-6 (0.72 μg/L in April 2016 to 0.99 μg/L in April 2017).
- Detect to ND: GMW-8 and MW-16.
- ND to Detect: PW-3 (0.67 μ g/L), GMW-O-14 (3.7 μ g/L), and EXP-3 (0.53 μ g/L).

The areal extent of 1,2-DCA presented on Figure 6 is slightly larger than the extent inferred during April 2016. Other observations regarding the April 2017 1,2-DCA plumes include the following:

- The western plume was expanded to incorporate detected concentrations at wells PW-3 (0.67 μ g/L, an increase since April 2016) and GWR-1R (0.72 μ g/L, not sampled in April 2016) in the south-central/southwest portion of the site.
- An isolated 1,2-DCA plume was interpreted in the southern offsite area at well GMW-O-14. Elevated concentrations of 1,2-DCA have been detected at this well in the past, exceeding 100 μ g/L in 2010-2011, and at a concentration of 13 μ g/L more recently in August 2016.

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- A second small, individual plume is interpreted based on the detection at well EXP-3 in the south-southeastern area (although the split sample collected at this well by SGI was ND for 1,2-DCA).
 1,2-DCA has been periodically detected at this well in the past, at concentrations of up to 1.3 μg/L (April 2011).
- 1,2-DCA results were ND for the Exposition aquifer wells, except EXP-3, during the April 2017 monitoring event.
- As listed in Appendix D and shown on Figure 6, concentrations of 1,2-DCA in groundwater in the
 vicinity of the West Side Barrier and in the western offsite area have remained consistently low.
 Pumping of the West Side Barrier wells was discontinued in August 2008; groundwater quality
 conditions in the area have been stable since then and will continue to be monitored.

4.1.4 Methyl Tertiary Butyl Ether

Figure 7 presents isoconcentration contours for MTBE reported during the April 2017 semiannual monitoring event. Analytical results for MTBE indicate concentrations ranged from ND, in many wells, to a maximum of 1,900 μ g/L in southeastern area well GMW-36. Elevated MTBE concentrations at the site have historically been located in the southeastern area, primarily at remediation wells GMW-O-15 and GMW-O-18, which were not sampled during this event due to the presence of free product.

As shown on Figure 7, the following wells had MTBE concentrations that increased or decreased by more than 10 percent relative to April 2016:

- Decrease: GMW-28, GMW-0-14, MW-9, MW-18(MID), MW-22(MID), PZ-2, and EXP-1.
 - The largest magnitude decrease was reported for well GMW-28 in the south-central portion of the site (from 25 μ g/L in April 2016 to 4.8 μ g/L in April 2017).
- Increase: GMW-36, MW-6, MW-21(MID), and PZ-5.
 - The largest magnitude increase was reported for well PZ-5, located in the southeastern offsite area (from 7.6 μ g/L in April 2016 to 770 μ g/L in April 2017). These concentrations are within the historical range for this well, as indicated by the data in Appendix D.
- Detect to ND: GMW-8, GMW-21, GMW-26, GMW-47, GMW-59, MW-19(MID), MW-27, and TF-8.
- ND to Detect: GMW-57 (1.7 μg/L) and GMW-0-16 (4 μg/L).

The major change to the extent of MTBE in groundwater beneath the site between April 2016 and April 2017 is the modification of the plume configuration in the western/south-central area from a single plume into two separate plumes. The modified interpretation was based on ND results at wells GMW-8, GMW-26, MW-7, and MW-19(MID). Other observations regarding the April 2017 MTBE plumes include the following:

- The areal extent of MTBE in the western area of the site decreased relative to that inferred in April 2016 based on ND concentrations at GMW-8, GMW-41, GMW-54, HL-3, MW-7, MW-26, MW-27, MW-19(MID), and TF-8; many of these wells decreased from detected concentrations to ND between April 2016 and 2017.
- MTBE was not detected in western offsite wells; however, WCW-7 (which resulted in extension of the plume slightly west of the site in April 2016) was not sampled during the April 2017 monitoring event.
- The plume in the south-central area is similar in extent to what was inferred in April 2016, with the exception of extending northeast to the truck rack area. The extent of MTBE in the truck rack area in April 2016 was limited to a detection at well MW-9, because nearby wells GMW-4, MW-14, and MW-15 were either inaccessible or decommissioned. Replacement wells GMW-4R and MW-14R had

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detected MTBE concentrations of 0.74 and 0.68 μ g/L, respectively. Replacement well MW-15R was ND for MTBE during this semiannual monitoring event.

- MTBE was detected in three offsite wells south of the site: GMW-O-14 (3.5 μ g/L), GMW-O-20 (24 μ g/L), and GMW-O-23 (4 μ g/L). MTBE was not detected in monitoring wells located south of Cheshire Street.
- The areas of detected MTBE in the north-central and eastern areas of the site differ from the extents interpreted for April 2016. Previously, two isolated plumes were interpreted based on low-level detections of MTBE in well GMW-21 (2.8 μg/L) near former Tank 80002, and in wells GMW-47 (5.7 μg/L), GMW-50 (1.3 μg/L), and GMW-59 (1 μg/L) near former Tanks 80004, 80008, and 80017. MTBE in wells GMW-21, GMW-47, and GMW-59 were ND in April 2017; well GMW-50 was not sampled during this event.
- Three isolated plumes are inferred in the north/northeastern area, centered on wells TF-23
 (1.5 μg/L), GMW-57 (1.7 μg/L), and EXP-1 (0.81 μg/L). As shown on Figure 7, the remainder of sampled wells in this area had ND results. Further, MTBE was not detected in eastern offsite wells in April 2017.
- The size of the area of detected MTBE in the southeastern 24-inch-block-valve area was similar to what was interpreted for April 2016; however, the location of the detected MTBE plume shifted approximately 100 feet to the southeast. This shift was based on a decrease in concentration in southeastern area well GMW-39 from 0.51 μg/L (in the QA/QC sample) in April 2016 to ND in April 2017, and an increase in concentration at offsite well GMW-O-16 from ND in April 2016 to 4 μg/L in April 2017.
- MTBE concentrations in offsite southeastern wells increased by one order of magnitude in well GMW-36 and two orders of magnitude in PZ-5 between April 2016 and 2017, and remained ND in wells GMW-O-17, GMW-O-19, and GMW-O-24 during the April 2017 sampling event.
- MTBE was detected at Exposition aquifer well EXP-1 during this semiannual monitoring event. The
 concentration was consistent with past detections, up to 2.2 μg/L in recent years. As shown on
 Figure 7, MTBE results were ND for the remaining four Exposition aquifer wells during the April 2017
 monitoring event.

4.1.5 Tertiary Butyl Alcohol

Figure 8 presents the TBA isoconcentration contours interpreted from data collected during the April 2017 semiannual monitoring event. Data collected during this event indicate that TBA concentrations range from ND in 98 of the 116 wells sampled to a maximum of 47,000 μ g/L in southeastern offsite area well PZ-5.

As shown on Figure 8, the following wells had TBA concentrations that increased or decreased by more than 10 percent relative to April 2016:

- Decrease: MW-9, MW-18(MID), MW-19(MID), MW-20(MID), and PZ-5.
 - The largest magnitude decrease was at well MW-19(MID) in the western area, where concentrations declined from 420 μg/L in April 2016 to 21 μg/L in April 2017.
- Increase: GMW-36 (1,400 μg/L in April 2016 to 7,800 μg/L in April 2017).
- ND to Detect: GMW-28 (32 μ g/L), GMW-60 (55 μ g/L), GMW-O-14 (15 μ g/L), and MW-21(MID) (12 μ g/L).

TBA is primarily present in the western/south-central portion of the site. Overall, the areal extent of TBA in groundwater beneath the site presented on Figure 8 is slightly smaller than what was reported during

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the April 2016 monitoring event due to ND results at offsite wells GMW-O-20, GMW-O-21, and GMW-O-23 during the April 2017 monitoring event. These wells were not sampled in April 2016, and therefore did not previously limit the plume from encompassing GMW-O-12 (where free product has been observed). Other observations regarding the April 2017 TBA plumes include the following:

- The extent of the plume between the truck rack and Kinder Morgan lease areas decreased due to an ND result at well MW-SF-4 and the absence of April 2017 sample data at GMW-1, PZ-10, and MW-SF-9.
- TBA was not detected in any offsite wells to the south of Cheshire Street or west of the site.
- There are two small, isolated TBA plumes interpreted in the truck rack area based on detected results from MW-9 (20 μ g/L) and replacement well MW-15R (15 μ g/L). TBA was not detected in well GMW-13 or replacement wells GMW-4R and GMW-14R.
- Two small, isolated TBA plumes are interpreted in the north-central/eastern area. These are centered on detections at well TF-23 (94 μ g/L) and GMW-60 (55 μ g/L).
- The extent of TBA in groundwater in the southeastern area shown on Figure 8 is similar to what was interpreted for April 2016. Detected TBA concentrations ranged from 7,800 μ g/L at GMW-36 to 47,000 μ g/L at PZ-5.
- Offsite remediation wells GMW-O-15 and GMW-O-18 have historically shown elevated concentrations of TBA; however, these wells were not sampled during April 2017 due to the presence of free product.
- TBA was not detected in offsite wells GMW-O-16, GMW-O-17, GMW-O-19, and GMW-O-24, or onsite wells MW-8, GMW-39, GMW-SF-7, and GMW-SF-8 during the April 2017 monitoring event.
- As shown on Figure 8, TBA was not detected in wells west of the site or in any of the Exposition aquifer wells.

4.1.6 Other Fuel Oxygenates

Pursuant to the RWQCB's request in March 2009, analysis for other fuel oxygenates including ETBE, DIPE, TBA, and TAME using EPA Method 8260B was included in the April 2017 sampling event (RWQCB, 2009a, 2009b). Analytical data for these compounds are provided in Table 3. ETBE was not detected in any of the samples collected during the April 2017 sampling event. TAME was detected in two wells in the southeastern offsite area: GMW-36 (36 μ g/L) and PZ-5 (44 μ g/L). DIPE was detected in 12 of the 116 wells sampled. Detected concentrations of DIPE were reported in wells in the western and south-central areas ranging from 1.6 μ g/L at well MW-18(MID) to 48 μ g/L at well MW-SF-15.

4.2 Quality Assurance/Quality Control

Alpha and American Analytics did not report any significant QA/QC issues with the analytical work performed during the April 2017 semiannual event. A total of 14 duplicate groundwater samples, 10 trip blanks, and 12 equipment blanks were submitted to the laboratories. All trip blank and equipment blank samples were reported as ND for all analytes of concern. Analytical results for duplicate groundwater samples and trip and equipment blanks are summarized in Tables 5 and 6, respectively.

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4.3 Water Disposal

Purged groundwater from this monitoring event was treated at the onsite remediation systems. Purged groundwater extracted by Blaine Tech, on behalf of SFPP, was treated in the SFPP system located in the south-central area and discharged under National Pollutant Discharge Elimination System (NPDES) Permit No. CA0063509. Purged groundwater extracted by SGI, on behalf of DLA, was treated in the DLA system located in the northern part of the site and discharged under NPDES Permit No. CAG834001.

4.4 Health and Safety

Field activities were conducted in accordance with site-specific health and safety procedures, including protocol for safe work practices during the field portion of the project. Personnel working at the site were required to adhere to the health and safety program.

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Remediation System Operations and Effectiveness

5.1 System Operations

SFPP and DLA currently submit quarterly remediation progress reports to the RWQCB and the Restoration Advisory Board (RAB) to provide details of remediation system operations. DLA created a website (www.norwalkrab.com) to house project information including agendas, minutes, and presentations from RAB meetings dating back to 1994. In addition, historical project information and reports are located in the information repository at the Norwalk Regional Library.

5.1.1 DLA

The remediation system operated at the site by DLA consists of SVE, GWE, biosparging, and absorbent sock installations for passive recovery of free product. DLA conducts GWE from two pumping wells (GW-2 and GW-13) in the northwestern corner of the site, and from two wells (GW-15 and GW-16) in the northeastern area bordering Holifield Park. The GWE system is designed to contain and reduce the extent of the free product and dissolved plumes. SVE also is conducted from a network of vertical and horizontal wells that span the entire former aboveground tank farm area, and from the northeastern and eastern boundaries of the site. Localized vacuum recovery of free product is conducted as needed, and passive absorption is conducted at specific wells.

Startup of an automated product-recovery system occurred on August 8, 2016, following the completion of permitting and well installation. The system consists of four pneumatically activated product-removal pumps deployed in key wells located in the north-central portion of the site, including wells TF-18, RTF-18-NW, RTF-18-N, and RTF-18-E.

DLA Energy conducted shallow soil remediation from January 2015 to March 2017 in accordance with the RWQCB-approved *Soil Remedial Action Plan* (SGI, 2014), *Revised Field Sampling and Analysis Plan and Sampling Strategy* (SGI, 2015a), *Workplan for VOC Analysis Results Validation* (SGI, 2015b), and *Proposed Addendum to the Soil Cleanup Goals* (SGI, 2015c). Soils in areas identified for remediation were excavated and treated onsite by the SVE system. Treatment was achieved via the construction of soil biopiles that were connected to the SVE system for South Coast Air Quality Management District permit compliance purposes. A total estimated volume of 67,574 cubic yards of petroleum-hydrocarbon-contaminated soil was excavated at the site to depths up to 35 feet below grade. The goal of this remediation was to clean up source area soils that contributed to the degradation of groundwater, and ready the real property of the site for eventual conveyance. After the RWQCB reviews confirmation sample results, the RWQCB approves use of the treated soil as backfill for the remedial excavations.

The biosparge system is currently offline due to these recently completed soil cleanup activities.

5.1.2 SFPP

The remediation systems operated by SFPP consist of SVE, TFE, GWE, and treatment of extracted soil vapor and groundwater to address the south-central and southeastern areas of the site. SFPP also previously operated a GWE system for remediation of the western offsite area (or West Side Barrier area). SFPP is currently extracting groundwater from four wells in the south-central area (GMW-9, GMW-O-20, GMW-O-23, and MW-SF-3) and from three wells in the southeastern 24-inch block valve

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area (GMW-O-15, GMW-O-18, and GMW-SF-9). The TFE and GWE systems are designed to contain and reduce the extent of free product, provide hydraulic capture of dissolved constituents of concern, and lower the free product surface (where present) and groundwater table, thus exposing more hydrocarbon-impacted soil for SVE. Additionally, SFPP conducts manual bailing of free product from select wells, as needed.

In December 2015, SFPP completed installation of a horizontal biosparge system in the south-central area of the site to enhance natural attenuation of hydrocarbon constituents. Construction of the biosparge well is documented in the report titled, *Horizontal Biosparge Well and Soil Vapor Monitoring Probe Completion Report* (CH2M, 2015), and the location of the well is depicted on Figure 2 of that report. SFPP's SVE system has an interlock that prevents the biosparge system from operating unless the SVE system is operating, reducing the potential for off-gassing of VOCs during biosparge operations.

Pilot testing of the biosparge system began on January 6, 2016, and continued until both the SVE and biosparge systems were shut down on November 1, 2016, to facilitate replacement of the old thermal oxidizer with a new regenerative thermal oxidizer (RTO). Installation of the RTO was completed on June 6, 2017. The SVE was restarted on June 6, 2017, and the biosparge was restarted on June 27, 2017.

5.2 System Effectiveness

Based on the results presented in this report, it is believed that DLA's remediation systems in the north-central area and SFPP's remediation systems in the south-central and southeastern areas are effectively restricting migration of dissolved-phase constituents across the site. In general, the areal extent of dissolved-phase plumes has been reduced from the historical maximum extent and appears to be consistent with previous monitoring events.

- Except for anomalous TPH detections at wells WCW-2 and WCW-13, dissolved-phase constituents have not been detected offsite to the west, indicating the plumes in the western area generally have been contained onsite.
- Dissolved TPH and benzene in the eastern area are interpreted to extend offsite to just beyond new monitoring wells GMW-67 and GMW-69. Dissolved-phase constituents are not detected in wells GMW-63, GMW-64, and GMW-65 located to the east.
- The offsite extent of TPH and benzene in the south-central area has expanded slightly south of Cheshire Street due to detections of these compounds at well GMW-O-3. TPH and benzene have not been detected in this well since 2008 and 2007, respectively. The offsite extent of other dissolved-phase constituents in the vicinity is limited to areas north of Cheshire Street, consistent with previous monitoring events. SFPP will continue to extract groundwater in the south-central area and monitor for TPH, BTEX, MTBE, and other constituents.
- In the southeastern area, the areal extent of the dissolved-phase plume has been relatively consistent since hydrocarbon constituents were pulled downgradient from wells GMW-36 and GMW-O-15, after extraction activities were initiated at well GMW-O-18 in April 2010 in response to a request from RWQCB. With the exception of a minor detection of benzene (0.8 μg/L), downgradient well GMW-O-24 has not had detectable hydrocarbon constituents since the second semiannual 2015 event. SFPP will continue to extract groundwater in the southeastern area and monitor for MTBE and other constituents.

SFPP continues to monitor the amount of free product that has accumulated in the product holding tank of the groundwater treatment system. Two gallons of free product accumulated in the tank during the first half of 2017, whereas a year ago, 22 gallons of accumulated product was reported. The magnitude and extent of free product in the south-central area has declined substantially since April 2015. It is believed that the decrease in product thickness and areal extent is a result of biosparge operations that

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have been implemented in the south-central area since January 2016. A total of 2,025,235 gallons of groundwater were extracted during the first half of 2017 by the GWE system. Since SFPP's GWE system operations first began in 1996, approximately 99.9 million gallons of groundwater have been extracted from the south-central, southeastern, and West Side Barrier areas; hydrocarbon mass removed by the GWE system is estimated to be 19,416 pounds. During the first half of 2017, the mass removal of hydrocarbons was estimated to be 85 pounds. TFE and manual product removal from extraction wells will continue to be performed during the third and fourth quarters of 2017 to maximize product removal across the site. Additionally, since SVE implementation in September 1995, a cumulative mass of 3,483,014 pounds of VOCs have been removed.

The low detections of MTBE and 1,2-DCA and the estimated plume extents in the western area do not warrant restarting the West Side Barrier treatment system. VOCs and TPH will continue to be monitored in this area.

DLA's GWE system has extracted over 76,000,000 gallons of groundwater since April 1996, with an associated mass removal estimated at nearly 10,000 pounds of diesel-range organic compounds. The system continues to successfully contain and reduce the extent of the free product and dissolved plumes. Over 6,000 gallons of product have been removed since January 2014 via bailing, skimming, the use of absorbent socks, and the recently added automated product recovery system. Additionally, the SVE system operated by DLA continues to successfully remediate the vadose zone with nearly 3,000,000 pounds of gasoline-range organic compounds removed to date. DLA anticipates that biosparge system operations will commence on an expanded basis during the next reporting period.

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Summary

The first semiannual 2017 groundwater monitoring event was conducted from April 17 to 24, 2017. In general, groundwater quality conditions observed during this monitoring event are similar to observations from the April 2016 semiannual monitoring event. Free product accumulation in several remediation and monitoring wells decreased since April 2016 likely due to increased precipitation and/or biosparge system operations in the south-central area of the site that occurred in 2016. In general, the areal extent of dissolved-phase plumes has been reduced from the historical maximum extent and appears to be consistent with previous monitoring events.

6.1 Groundwater Flow Conditions

Groundwater elevations in the uppermost groundwater zone increased over most of the site (by up to 4 feet) and decreased in the western portion of the site and offsite to the west (by up to 1.5 feet) since April 2016. Groundwater levels in the Exposition aquifer decreased by approximately 1 foot since the April 2016 semiannual monitoring event. The overall flow direction during this monitoring event in the uppermost groundwater zone was to the northwest, with an estimated horizontal hydraulic gradient of approximately 0.0011 to 0.0021 ft/ft. Groundwater flow directions in the uppermost groundwater zone differed from past monitoring events due to the lack of converging flow toward the site. The horizontal hydraulic gradient in the Exposition aquifer was 0.0003 ft/ft to the east-northeast, similar to the general historical flow direction.

6.2 Distribution of Free Product

During this semiannual monitoring event, measurable free product was observed in 18 of the 167 wells that were gauged:

- North-central area: wells GMW-7, GMW-45, PZ-3, TF-16, RTF-18-E, RTF-18-W, and RTF-18-NW.
- Eastern area: wells GMW-62 and GMW-68.
- South-central area: wells GMW-23, GMW-24, GMW-29, GMW-30, GMW-O-11, GMW-O-12, and MW-O-2.
- Southeastern area: wells GMW-O-15 and GMW-O-18.

Free product was detected at thicknesses ranging from 0.01 foot to 4.20 feet. The magnitude and extent of free product in the south-central area has declined since April 2016. The extent of the south-central area free product plume has been interpreted as one continuous plume in recent years; however, it is now interpreted as separate smaller plumes. It is believed that the decrease in product thickness and areal extent is a result of increased precipitation in 2016-2017 compared to 2015-2016 (18.06 inches versus 7.26 inches, respectively, as measured by the Long Beach CIMIS Number 174 weather station [California Department of Water Resources, 2017]), and biosparging that has been implemented in the south-central area since January 2016.

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6.3 Dissolved-Phase Constituents

6.3.1 Total Petroleum Hydrocarbons

The areal extent of TPH in the north-central, eastern, south-central, and southern offsite areas during April 2017 was generally similar to the interpreted plumes for April 2016. In the northwestern portion of the site, the plume was expanded slightly to encompass detected results at wells GMW-2 and MW-14. There were also slight increases in the plume extent to the south (to encompass GMW-O-3), in the southeastern area (to encompass offsite well GMW-O-19), and in the northeastern area (to encompass GMW-66R). Anomalous detections of TPH-d were reported for offsite wells west of the site (WCW-2 and WCW-13). These wells have not had reported detections of TPH since sampling began in 1996 and will continue to be monitored.

6.3.2 Benzene

Benzene was not detected in wells west of the site nor in any of the Exposition aquifer wells in April 2017. The areal extent of the benzene plume in the north-central area was slightly smaller than the April 2016 interpretation. In the south-central area, the southern extent increased to encompass offsite well GMW-O-3, while the northern extent decreased based on ND concentrations at wells GWR-1R, GMW-25, and MW-18(MID), and because well GMW-10 was not sampled during April 2017. There was an increase in the extent of the benzene plume in the southeastern area based on detections at wells GMW-O-16, GMW-O-19, and GMW-O-24.

6.3.3 1,2-Dichloroethane

The areal extent of 1,2-DCA in April 2017 was slightly larger than the April 2016 interpretation, as 1,2-DCA was detected at wells GWR-1R and PW-3. Additionally, 1,2-DCA was detected at offsite well GMW-O-14 and Exposition aquifer well EXP-3. 1,2-DCA was not detected in the remaining four Exposition aquifer wells, nor in wells in the western offsite, eastern, and southeastern areas of the site during the semiannual monitoring event.

6.3.4 Methyl Tertiary Butyl Ether

The distribution of MTBE, as inferred by the April 2017 dataset, differed slightly from the April 2016 interpretation. The continuous MTBE plume in the western/south-central area interpreted during April 2016 was separated into two distinct plumes based on ND results at several monitoring wells. The extent of detected MTBE in the southeastern area shifted to the southeast based on an ND result at GMW-39 and an increased concentration at GMW-O-16. Several small, isolated plumes are interpreted in the north-central/northeastern area of the site centered on detected results at individual wells. MTBE was detected in well EXP-1, but was not detected in the remaining four Exposition aquifer wells. MTBE was not detected in offsite wells to the west or south of Cheshire Street.

6.3.5 Tertiary Butyl Alcohol

The areal extent of TBA in April 2017 was generally similar to that interpreted for April 2016. The extent of TBA in the south-central area was slightly smaller in April 2017 than in the previous year based on ND results at wells GMW-O-20, GMW-O-21, GMW-O-23, and MW-SF-4. The extent of TBA in the southeastern area was similar to that in April 2016, but the concentrations within the plume at GMW-36 and PZ-5 increased. Several smaller, isolated plumes are interpreted based on detected TBA concentrations at single wells in the truck rack, north-central, and northeastern areas. TBA was not detected in any Exposition aquifer wells nor in offsite wells west of the site or south of Cheshire Street during the April 2017 monitoring event.

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6.3.6 Other Fuel Oxygenates

Other fuel oxygenates including ETBE, DIPE, and TAME were analyzed during the April 2017 semiannual event. ETBE was not detected in any of the samples collected in April 2017. TAME was detected in two wells in the southeastern offsite area, GMW-36 (36 μ g/L) and PZ-5 (44 μ g/L). Of the 116 wells sampled, DIPE was detected in 12 wells located in the western and south-central areas, with concentrations ranging from 1.6 μ g/L at well MW-18(MID) to 48 μ g/L at well MW-SF-15.

6.4 System Effectiveness

Based on the results presented in this report, it is believed that DLA's remediation systems in the north-central area and SFPP's remediation systems in the south-central and southeastern areas are effectively restricting migration of dissolved-phase constituents across the site (despite anomalous TPH detections at wells WCW-2 and WCW-13).

- As a result of hydraulic containment by the treatment systems and natural attenuation mechanisms, the areal extent of dissolved-phase plumes has been reduced from the historical maximum extent and appears to be consistent with previous monitoring events. The hydraulic containment systems will continue to be operated.
- The magnitude and extent of free product in the south-central area has declined substantially since April 2015. It is believed that the decrease in product thickness and areal extent is a result of increased precipitation and/or biosparge operations that have been implemented in the south-central area since January 2016 (although the biosparge system was shut down between November 2016 and June 2017). TFE and manual product removal from extraction wells will continue to be performed during the third and fourth quarters of 2017 to maximize product removal across the site.
- The low detections of MTBE and 1,2-DCA and the estimated plume extents in the western area do
 not warrant restarting the West Side Barrier treatment system. VOCs and TPH will continue to be
 monitored in this area.

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Tables

Table 1. Monitoring Well Summary

Well	Installation Date	Installed By	Total Depth (feet bgs)	Casing Diameter (inches)	Screen Interval (feet bgs)	Slot Size (inches)	Casing Elevation (feet amsl)
BW-1	5/16/1996	GMX	55	5	31.9 - 51.4	0.01	73.17
BW-2	5/20/1996	GMX	53.5	5	27 - 46.5	0.01	73.57
BW-3	5/17/1996	GMX	55.5	5	30.6 - 50	0.01	74.16
BW-4	5/20/1996	GMX	53.1	5	28.2 - 47	0.01	74.61
BW-6	5/22/1996	GMX	52.4	5	27.6 - 46.9	0.01	73.48
BW-7	5/22/1996	GMX	52	5	27.1 - 46.3	0.01	74.65
BW-8	5/21/1996	GMX	51.5	5	27 - 46.4	0.01	75.08
BW-9	5/21/1996	GMX	52.5	5	26.9 - 46.4	0.01	76.19
EXP-1	3/6/1992	WC	128.5	4	82 - 122	0.01	78.44
EXP-2	10/15/1992	WC	149	4	90 - 120	0.02	79.43
EXP-3	10/20/1992	WC	150	4	85 - 115	0.01	77.58
EXP-4	7/7/1998	GMX	118	4	96.1 - 115.2	0.02	79.81
EXP-5	7/8/1998	GMX	120	4	94.4 - 113.4	0.02	72.41
GMW-1	5/16/1991	GTI	50	4	20 - 50	0.02	74.77
GMW-2		GTI	50	4	20 - 50	0.01	73.57
GMW-3	5/16/1991 5/17/1991	GTI	50	4	20 - 50	0.01	75.10
				4			/5.10
GMW-4R	11/1/2016	SGI	50 50	4	20 - 50	0.02	77.61
GMW-5 GMW-6	5/21/1991	GTI GTI	50 50	4	20 - 50 25 - 50	0.01	77.61
	7/9/1991						77.31
GMW-7	7/9/1991	GTI	50	4	25 - 50	0.01	76.87
GMW-8	7/10/1991	GTI	50	4	25 - 50	0.01	73.20
GMW-9	7/8/1991	GTI	50	4	20 - 50	0.01	77.16
GMW-10	7/8/1991	GTI	50	4	25 - 50	0.01	73.35
GMW-11	7/9/1991	GTI	50	4	20 - 50	0.01	72.90
GMW-12	7/9/1991	GTI	50	4	25 - 50	0.01	75.21
GMW-13	7/8/1991	GTI	50	4	25 - 50	0.01	74.17
GMW-14R	10/31/2016	SGI	50	4	20 - 50	0.02	78.77
GMW-15	7/30/1991	GTI	50	4	25 - 50	0.01	76.21
GMW-16	8/1/1991	GTI	50	4	25 - 50	0.01	77.00
GMW-18	7/31/1991	GTI	50	4	25 - 50	0.01	75.36
GMW-19	7/31/1991	GTI	50	4	25 - 50	0.01	76.83
GMW-20	8/1/1991	GTI	50	4	25 - 50	0.01	75.10
GMW-21	8/2/1991	GTI	50	4	25 - 50	0.01	76.23
GMW-22	8/2/1991	GTI	61	4	25 - 60	0.01	77.24
GMW-23	8/2/1991	GTI	60	4	25 - 60	0.01	74.85
GMW-24	8/5/1991	GTI	60	4	25 - 60	0.01	77.48
GMW-25	1/10/1992	GTI	50	6	20 - 50	0.01	78.14
GMW-26	1/7/1992	GTI	51.5	4	20 - 50	0.01	74.52
GMW-28	1/7/1992	GTI	50	4	20 - 50	0.01	74.68
GMW-29	1/9/1992	GTI	50	4	20 - 50	0.01	77.57
GMW-30	1/9/1992	GTI	51.5	6	20 - 50	0.01	74.91
GMW-31	6/2/1993	GTI	65	4	25 - 65	0.01	76.50
GMW-32R	11/9/2016	SGI	50	4	20 - 50	0.02	
GMW-33	6/1/1993	GTI	50	4	20 - 50	0.02	74.88
GMW-34	6/3/1993	GTI	50	4	20 - 50	0.02	75.25
GMW-35R	11/8/2016	SGI	50	4	20 - 50	0.02	75.90
GMW-36	4/11/1994	GTI	50	4	20 - 50	0.01	76.66
GMW-37	4/11/1994	GTI	50	4	20 - 50	0.01	77.32
GMW-38	4/12/1994	GTI	50	4	20 - 50	0.01	75.47
GMW-39	4/12/1994	GTI	50	4	20 - 50	0.01	75.05
GMW-40	6/29/1994	GTI	50.5	4	20 - 50	0.01	73.13
GMW-41	6/30/1994	GTI	50.5	4	20 - 50	0.01	74.46
GMW-42	6/30/1994	GTI	50.5	4	20 - 50	0.01	75.50
GMW-43	7/1/1994	GTI	50.5	4	20 - 50	0.01	74.44
	7/1/1994	GTI	50.5	4	20 - 50	0.01	74.45

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Table 1. Monitoring Well Summary

Well	Installation Date	Installed By	Total Depth (feet bgs)	Casing Diameter (inches)	Screen Interval (feet bgs)	Slot Size (inches)	Casing Elevation (feet amsl)
GMW-45	7/1/1994	GTI	50.5	4	20 - 50	0.01	75.67
GMW-46	7/5/1994	GTI	50.5	4	20 - 50	0.01	76.10
GMW-47	7/5/1994	GTI	50.5	4	20 - 50	0.01	75.98
GMW-48	7/5/1994	GTI	50.5	4	20 - 50	0.01	75.03
GMW-49	7/6/1994	GTI	50.5	4	20 - 50	0.01	74.75
GMW-50	12/19/1994	GTI	46.5	4	15 - 45	0.01	75.51
GMW-51	12/19/1994	GTI	41.5	4	15 - 40	0.01	75.93
GMW-53	12/19/1994	GTI	46.5	4	15 - 45	0.01	74.90
GMW-54	12/20/1994	GTI	46.5	4	15 - 45	0.01	75.16
GMW-55	12/20/1994	GTI	41.5	4	15 - 40	0.01	74.60
GMW-56	8/12/1998	FDGTI	55	2	20 - 55	0.02	76.50
GMW-56	8/12/1998	FDGTI	55	4	20 - 55	0.02	76.52
GMW-57	8/13/1998	FDGTI	55	2	19 - 54	0.02	76.66
GMW-57	8/13/1998	FDGTI	55	4	19 - 54	0.02	76.66
GMW-58	8/14/1998	FDGTI	55	2	20 - 55	0.02	75.46
GMW-58	8/14/1998	FDGTI	55	4	20 - 55	0.02	75.48
GMW-59	8/14/1998	FDGTI	55	2	20 - 55	0.02	75.28
GMW-59	8/14/1998	FDGTI	55	4	20 - 55	0.02	75.28
GMW-60	4/14/2004	Parsons	50	4	25 - 40	0.01	76.24
GMW-61	4/14/2004	Parsons	50	4	30 - 40	0.01	75.6
GMW-62	6/2/2007	Parsons	40.5	4	20 - 40	0.02	76.34
GMW-63	9/29/2008	Parsons	41	4	20 - 40	0.02	77.32
GMW-64	9/29/2008	Parsons	41	4	19.5 - 39.5	0.02	75.84
GMW-65	7/6/2009	Parsons	41.5	4	21 - 41	0.02	76.78
GMW-66R	4/7/2016	SGI	45	4	20-45	0.02	79.23
GMW-67	7/13/2015	SGI	47	4	25-45	0.02	76.00
GMW-68	7/15/2016	SGI	45	4	25-45	0.02	75.52
GMW-69	7/14/2015	SGI	45	4	25-45	0.02	75.31
GMW-0-1	3/4/1992	GTI	51.5	4	19 - 49.5	0.01	71.45
GMW-0-2	3/2/1992	GTI	51.5	4	20 - 50	0.01	72.54
GMW-0-3	3/2/1992	GTI	51.5	4	20 - 50	0.01	72.19
GMW-0-4	3/3/1992	GTI	51.5	4	20 - 50	0.01	71.95
GMW-O-4 (MID)	3/3/1992	GTI	66.5	4	54.5 - 64.5	0.01	72.24
GMW-0-5	3/4/1992	GTI	51.5	4	20 - 50	0.01	72.36
GMW-O-6	5/18/1992	GTI	51.5	4	20 - 50	0.01	71.41
GMW-0-7	5/19/1992	GTI	51.5	4	20 - 50	0.01	70.98
GMW-0-8	5/18/1992	GTI	51.5	4	19.5 - 49.5	0.01	70.91
GMW-O-9	7/29/1992	GTI	51.5	4	20 - 50	0.01	73.50
GMW-0-10	7/29/1992	GTI	51.5	4	20 - 50	0.01	73.98
GMW-0-11	5/20/1992	GTI	51.5	4	20 - 50	0.01	74.17
GMW-0-12	5/21/1992	GTI	51.5	4	20 - 50	0.01	73.49
GMW-0-14	5/20/1992	GTI	51.5	4	20 - 50	0.01	74.08
GMW-0-15	4/19/1994	GTI	50	4	20 - 50	0.02	74.23
GMW-0-16	4/19/1994	GTI	50	4	20 - 50	0.02	74.23
GMW-0-17	7/26/1994	GMX	41	4	20.4 - 39.5	0.02	73.78
GMW-0-18	7/25/1994	GMX	41	4	20.8 - 40.4	0.01	74.36
GMW-0-19	7/29/1994	GMX	41.5	4	20.2 - 39.9	0.01	74.46
GMW-0-20	6/15/1995	GMX	45.9	4			73.32
GMW-0-21	10/1/1997	GMX	45.9	4	25.5 - 45.5	0.01	71.43
GMW-0-22		GMX	41	4			74.36
GMW-0-23	6/25/2007	GMX	44	4	20 - 40	0.02	73.63
GMW-0-24	9/24/2012	CH2M HILL	45	4	20 - 40	0.02	73.03
GIVI VV-U-24	J/ 24/ 2012				1		
GMM-SE-7	7/27/100/	GMY	//1	/	201-200	U U1	75 26
GMW-SF-7 GMW-SF-8	7/27/1994 7/28/1994	GMX GMX	41 41	4	20.1 - 39.9 19.5 - 39.5	0.01	75.26 76.75

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Table 1. Monitoring Well Summary

Well	Installation Date	Installed By	Total Depth (feet bgs)	Casing Diameter (inches)	Screen Interval (feet bgs)	Slot Size (inches)	Casing Elevation (feet amsl)
GMW-SF-10	9/23/2003	GMX	47	4	36.7 - 46.4	0.02	75.77
GW-1	6/12/1995	GTI	63	1	25 - 60	0.02	75.46
GW-1	6/12/1995	GTI	63	4	25 - 60	0.02	75.97
GW-2	6/12/1995	GTI	63	1	25 - 60	0.02	76.39
GW-2	6/12/1995	GTI	63	4	25 - 60	0.02	75.78
GW-3	6/13/1995	GTI	63	1	25 - 60	0.02	76.56
GW-3	6/13/1995	GTI	63	4	25 - 60	0.02	75.79
GW-4	6/13/1995	GTI	63	1	24 - 59	0.02	74.77
GW-4	6/13/1995	GTI	63	4	24 - 59	0.02	73.86
GW-5R	11/9/2016	SGI	50	4	20 - 50	0.02	79.06
GW-6	6/15/1995	GTI	63	1	25 - 60	0.02	77.41
GW-6	6/15/1995	GTI	63	4	25 - 60	0.02	76.38
GW-7	6/16/1995	GTI	63	1	25 - 60	0.02	76.76
GW-7	6/16/1995	GTI	63	4	25 - 60	0.02	75.02
GW-8	6/14/1995	GTI	63	1	24 - 59	0.02	76.88
GW-8	6/14/1995	GTI	63	4	24 - 59	0.02	76.15
GW-13	4/26/2007	Parsons	65	1	25 - 65	0.02	77.00
GW-13	4/26/2007	Parsons	67	6	25 - 65	0.02	76.85
GW-14R	11/8/2016	SGI	50	4	20 - 50	0.02	78.77
GW-15	4/26/2007	Parsons	62.5	1	20.5 - 60.5	0.02	75.36
GW-15	4/24/2007	Parsons	62.5	6	20.5 - 60.5	0.02	74.94
GW-16	7/7/2009	Parsons	61.3	1	21 - 61	0.02	76.55
GW-16	7/7/2009	Parsons	62.5	6	20.5 - 60.5	0.02	76.33
GW-17R	11/10/2016	SGI	50	4	20 - 50	0.02	77.79
GWR-1R	11/10/2016	SGI	50	4	20 - 50	0.02	76.64
GWR-2	7/12/1991	GTI	50	4	25 - 50	0.01	73.66
GWR-3	1/10/1992	GTI	50	6	20 - 50	0.01	77.60
HL-1	10/14/1986	HLA	39	4	18 - 38	0.01	75.83
HL-2	10/13/1986	HLA	39	4	16.5 - 36.5	0.01	76.94
HL-3	10/15/1986	HLA	44	4	19 - 39	0.01	76.86
HL-5	10/16/1986	HLA	39.5	4	18.5 - 39	0.01	76.13
MW-6	8/9/1990	WC	50	4	18 - 48	0.01	77.20
MW-7	8/27/1990	WC	50	4	19 - 48	0.01	78.13
MW-8	8/24/1990	WC	51	4	18 - 48	0.01	76.06
MW-9	8/8/1990	WC	50	4	18 - 48	0.01	77.11
MW-10	8/24/1990	WC	51	4	18 - 48	0.01	79.12
MW-11	8/9/1990	WC	50	4	18 - 48	0.01	78.17
MW-12	8/27/1990	WC	50	4	18 - 48	0.01	75.76
MW-13	8/23/1990	WC	50	4	18 - 48	0.01	78.25
MW-14	8/7/1990	WC	50	4	18 - 48	0.01	78.60
MW-15R	10/31/2016	SGI	50	4	20 - 50	0.02	
MW-16	8/8/1990	WC	50	4	18 - 48	0.01	76.87
MW-17	8/6/1990	WC	50	4	18 - 48	0.01	77.86
MW-18 (MID)	6/10/1991	WC	62.2	4	50 - 60	0.01	75.67
MW-19 (MID)	6/11/1991	WC	62.2	4	49.5 - 59.5	0.01	78.14
MW-20 (MID)	6/12/1991	WC	65.7	4	43 - 53	0.01	77.19
MW-21 (MID)	6/12/1991	WC	62.4	4	47 - 57	0.01	77.55
MW-22 (MID)	6/13/1991	WC	57.9	4	42 - 52	0.01	79.57
MW-23 (MID)	6/14/1991	WC	57.1	4	42 - 52	0.01	79.59
MW-24	6/14/1991	WC	47	4	14 - 44	0.01	77.67
MW-25	6/17/1991	WC	47.2	4	22.5 - 42.5	0.01	79.15
MW-26	6/17/1991	WC	47.3	4	23.5 - 43.5	0.01	77.40
MW-27	6/17/1991	WC	52.3	4	18 - 48	0.01	78.46
	6/19/1991	WC	51.5	4	16.5 - 46.5	0.01	78.53
MW-28							

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Table 1. Monitoring Well Summary

Well	Installation Date	Installed By	Total Depth (feet bgs)	Casing Diameter (inches)	Screen Interval (feet bgs)	Slot Size (inches)	Casing Elevation (feet amsl)
MW-SF-1	6/18/1990	GMX	40	4	25 - 40	0.02	78.93
MW-SF-2	6/19/1990	GMX	40	4	25 - 40	0.02	78.53
MW-SF-3	6/18/1990	GMX	40	4	25 - 40	0.02	78.12
MW-SF-4	6/19/1990	GMX	40	4	25 - 40	0.02	79.38
MW-SF-5	9/19/1990	GMX	40	4	23 - 38	0.02	79.74
MW-SF-6	9/19/1990	GMX	40	4	24 - 39	0.02	76.80
MW-SF-9	6/15/1995	GMX	40	4	25 - 40		74.1
MW-SF-10	9/23/2003	GMX	30.5	4	10.3 - 29.9	0.02	76.53
MW-SF-11	6/19/2007	GMX	44	4	20 - 40	0.02	78.56
MW-SF-12	6/18/2007	GMX	44	4	20 - 40	0.02	78.07
MW-SF-13	6/19/2007	GMX	44	4	20 - 40	0.02	73.40
MW-SF-14	6/21/2007	GMX	44	4	20 - 40	0.02	78.16
MW-SF-15	6/21/2007	GMX	44	4	20 - 40	0.02	78.27
MW-SF-16	6/20/2007	GMX	44	4	20 - 40	0.02	78.21
MW-0-1	1/22/1991	GMX	40	2	25 - 40	0.02	75.48
MW-0-2	1/23/1991	GMX	40	2	25 - 40	0.02	71.90
MW-0-3	10/25/1991	GMX	41	6	20 - 39.5	0.01	74.53
MW-0-4	10/25/1991	GMX	41	4	20 - 40	0.01	75.00
PO-7	5/1/1989	GW	56	4	29 - 49	0.02	80.26
PW-1	1/6/1992	GTI	51.5	4	20 - 50	0.01	75.52
PW-2	1/6/1992	GTI	50	4	20 - 50	0.01	74.71
PW-3	1/6/1992	GTI	50	4	20 - 50	0.01	73.71
PZ-1	7/12/1991	GTI	50	2	25 - 50	0.01	73.74
PZ-2	7/12/1991	GTI	50	2	25 - 50	0.01	73.74
PZ-3	6/3/1993	GTI	65	2	25 - 65	0.02	76.17
PZ-4	6/2/1993	GTI	60	2	25 - 60	0.02	76.17
PZ-5	9/26/2000	GMX	40.3	4	20.6 - 39.4	0.02	73.97
PZ-6	9/26/2000	GMX	37.5	4	22.8 - 37.8	0.01	73.91
PZ-7A	4/7/2003	GMX	32	2	21.5 - 31.2	0.01	73.91
PZ-7A	4/7/2003	GMX	47.5	2	42 - 46.7	0.01	73.79
PZ-8A	4/8/2003	GMX	31.5	2	21.2 - 31	0.01	75.79
PZ-8B	4/8/2003	GMX	47	2	41.4 - 46.2	0.01	75.69
PZ-9A	4/9/2003	GMX	32	2	21.6 - 30.9	0.01	76.14
PZ-9B	4/9/2003	GMX	47	2	41.5 - 46.2	0.01	76.26
PZ-10	4/10/2003	GMX	38.5	2	23.2 - 37.9	0.01	74.34
RTF-18-E	12/28/2015	SGI	40	4	25-40	0.02	75.19
RTF-18-N	12/28/2015	SGI	40	4	25-40	0.02	75.19
RTF-18-NNW	12/29/2015	SGI	40	4	25-40	0.02	76.77
RTF-18-NNW		SGI	40	4	25-40	0.02	76.77
	12/29/2015	SGI	40	4	25-40	0.02	76.22
RTF-18-W	12/28/2015		63	1.5	25-40 25 - 60	0.02	74.86 75.60
TF-8	9/22/1995	GTI	63	4			
TF-10	9/22/1995	GTI GTI	63		25 - 60 25 - 60	0.02	74.86 74.19
TF-10	9/25/1995 9/25/1995	GTI	63	1.5 4	25 - 60	0.02	74.19
TF-10		GTI	63	1.5	25 - 60	0.02	75.90
TF-13	9/26/1995 9/26/1995	GTI	63	4	25 - 60 25 - 60	0.02	75.90 75.47
TF-13	9/26/1995	GTI	63	1.5	25 - 60 25 - 60	0.02	74.78
TF-14	9/27/1995	GTI	63	4	25 - 60	0.02	74.35
TF-15	9/28/1995	GTI	63	1.5	25 - 60	0.02	75.40
TF-15	9/28/1995	GTI	63	4	25 - 60	0.02	74.78
TF-16	9/28/1995	GTI	63	1.5	25 - 60	0.02	76.48
TF-16	9/28/1995	GTI	63	4	25 - 60	0.02	75.89
TF-18	7/6/1994	GTI	50.5	4	20 - 50	0.02	73.94
TF-19	10/3/1995	GTI	63	1.5	25 - 60	0.02	75.61
TF-19	10/3/1995	GTI	63	4	25 - 60	0.02	75.07

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Table 1. Monitoring Well Summary

Defense Fuel Support Point, Norwalk, California

Well	Installation Date	Installed By	Total Depth (feet bgs)	Casing Diameter (inches)	Screen Interval (feet bgs)	Slot Size (inches)	Casing Elevation (feet amsl)
TF-20R	11/7/2016	SGI	50	4	20 - 50	0.02	75.26
TF-21	9/29/1995	GTI	63	1.5	25 - 60	0.02	75.60
TF-21	9/29/1995	GTI	63	4	25 - 60	0.02	74.96
TF-23	7/5/1994	GTI	50.5	4	20 - 50	0.02	75.31
TF-24	9/26/1995	GTI	63	1.5	25 - 60	0.02	76.35
TF-24	9/26/1995	GTI	63	4	25 - 60	0.02	76.43
TF-25	4/4/2001	GTI	47	1.5	41 - 46	0.02	75.81
TF-25	4/4/2001	GTI	47	5	26 - 36	0.02	74.85
TF-26	4/3/2001	GTI	47	1.5	41 - 46	0.02	76.15
TF-26	4/3/2001	GTI	47	5	26 - 36	0.02	75.85
WCW-1	2/18/1992	WC	52	4	20 - 50	0.01	72.86
WCW-2	2/21/1992	WC	52	4	20 - 50	0.01	75.34
WCW-3	2/19/1992	WC	56.5	4	19 - 49	0.01	76.16
WCW-4	2/20/1992	WC	56.5	4	20 - 50	0.01	78.05
WCW-5	4/30/1992	WC	52	4	19 - 49	0.01	73.49
WCW-6	4/20/1992	WC	53.5	4	20 - 50	0.01	75.52
WCW-7	4/29/1992	WC	53	4	20 - 50	0.01	76.44
WCW-8	4/21/1992	WC	53.5	4	20 - 50	0.01	77.34
WCW-9	4/28/1992	WC	53.5	4	20 - 50	0.01	77.74
WCW-10	9/11/1992	WC	56.5	4	25 - 55	0.01	74.06
WCW-11	9/9/1992	WC	61.5	4	30 - 60	0.01	75.29
WCW-12	9/8/1992	WC	61.5	4	30 - 60	0.01	76.27
WCW-13	9/10/1992	WC	61.5	4	30 - 60	0.01	77.70
WCW-14	8/12/1998	FDGTI	59	4	24 - 59	0.01	78.81

Notes:

Biosparge and additional soil vapor extraction wells used for remediation purposes only are not listed here.

--- = information not available

CH2M HILL = CH2M HILL Engineers, Inc.

FDGTI = Fluor Daniel GTI

feet amsl = feet above mean sea level

feet bgs = feet below ground surface

GMX = Geomatrix Consultants, Inc.

GTI = Groundwater Technology/Groundwater Technology Government Services

GW = Golden West

HLA = Harding Lawson Associates

Parsons = Parsons Corporation

SGI = The Source Group, Inc.

WC = Woodward-Clyde

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Table 2. Summary of Groundwater Elevations – First Semiannual 2017 Monitoring Event

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Assumed Specific Gravity	Corrected Groundwater Elevation (feet amsl)
EXP-1	04/17/17	78.44		60.47			17.97
EXP-1	04/18/17	78.44		60.48			17.96
EXP-2	04/17/17	79.43		61.39			18.04
EXP-2	04/17/17	79.43		61.42			18.01
EXP-3	04/17/17	77.58		59.52			18.06
EXP-3	04/18/17	77.58		59.59			17.99
EXP-4	04/17/17	79.81		61.41			18.40
EXP-5	04/17/17	72.41		54.26			18.15
GMW-1	04/17/17	74.77		NM			NC
GMW-4R	04/17/17			36.15			NC
GMW-5	04/17/17	77.61		DRY			NC
GMW-6	04/17/17	77.31		34.91			42.40
GMW-7	04/19/17	75.84	34.28	34.30	0.02	1.00	41.56
GMW-8	04/17/17	73.20		30.74			42.46
GMW-9	04/20/17	77.16		33.32			43.84
GMW-10	04/20/17	73.35		31.15			42.20
GMW-11	04/17/17	72.90		30.29			42.61
GMW-12	04/20/17	75.21		32.40			42.81
GMW-13	04/17/17	74.17		30.92			43.25
GMW-14R	04/17/17	78.77		35.32			43.45
GMW-15	04/19/17	76.21		33.75			42.46
GMW-16	04/17/17	77.00		34.15			42.85
GMW-18	04/20/17	75.36		32.81			42.55
GMW-19	04/21/17	76.83		34.18			42.65
GMW-20	04/18/17	75.10		32.42			42.68
GMW-21	04/19/17	76.23		33.64			42.59
GMW-22	04/17/17	77.24		34.47			42.77
GMW-23	04/17/17	74.85	31.91	33.40	1.49	0.80	42.64
GMW-24	04/17/17	77.48	35.09	35.64	0.55	0.80	42.28
GMW-25	04/17/17	78.14		35.23		0.00	42.91
GMW-26	04/17/17	74.52		31.90			42.62
GMW-28	04/17/17	74.68		32.10			42.58
GMW-29	04/17/17	77.57	31.74	33.80	2.06	0.80	45.42
GMW-30	04/17/17	74.91	32.16	32.53	0.37	0.81	42.68
GMW-31	04/17/17	76.50		32.03	0.57	0.81	44.47
GMW-33	04/18/17	74.88		DRY			NC
GMW-36	04/18/17	76.66		32.96			43.70
GMW-37	04/17/17	77.32		33.68			43.64
GMW-38	04/17/17	75.47		31.83			43.64
GMW-39	04/17/17	75.47		31.83			43.48
GMW-40	04/17/17	73.13		32.80			40.33
GMW-41	04/20/17	74.46		29.79			44.67
GMW-42	04/17/17	75.50		29.79 NM			NC
GMW-43	04/17/17	74.44		31.42			43.02
GMW-44	04/17/17	74.44		32.08			42.37
GMW-45	04/18/17	75.67	33.30	34.72	1.42	0.80	42.09
GMW-47	04/19/17	75.98		33.55	1.42	0.00	42.43
GMW-48	04/19/17	75.03		36.15			38.88
GMW-54		75.16		32.80			42.36
	04/19/17						
GMW-56	04/17/17	76.52		34.19		+	42.33
GMW-57	04/19/17	76.66		34.21			42.45
GMW-58 GMW-59	04/19/17 04/19/17	75.48 75.28		32.08 31.45			43.40

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Table 2. Summary of Groundwater Elevations – First Semiannual 2017 Monitoring Event

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Assumed Specific Gravity	Corrected Groundwater Elevation (feet amsl)
GMW-60	04/18/17	76.24		32.92			43.32
GMW-61	04/19/17	75.60		33.65			41.95
GMW-62	04/17/17	76.34	34.14	34.16	0.02	1.00	42.20
GMW-63	04/17/17	77.32		34.43			42.89
GMW-64	04/17/17	75.84		32.78			43.06
GMW-65	04/17/17	76.78		34.43			42.35
GMW-66R	04/17/17	79.23		36.98			42.25
GMW-67	04/17/17	76.00		33.44			42.56
GMW-68	04/17/17	75.52	32.64	33.62	0.98	0.80	42.68
GMW-69	04/17/17	75.31		32.68			42.63
GMW-0-1	04/17/17	71.45		29.51			41.94
GMW-O-2	04/17/17	72.54		30.00			42.54
GMW-O-3	04/17/17	72.19		29.40			42.79
GMW-0-4	04/17/17	71.95		28.90			43.05
GMW-O-5	04/17/17	72.36		29.23			43.13
GMW-O-6	04/17/17	71.41		28.60			42.81
GMW-0-7	04/17/17	70.98		28.40			42.58
GMW-O-8	04/17/17	70.91		29.20			41.71
GMW-O-9	04/17/17	73.50		31.25			42.25
GMW-0-10	04/17/17	73.98		31.47			42.51
GMW-0-11	04/17/17	74.17	29.96	30.12	0.16	0.81	44.18
GMW-0-12	04/17/17	73.49	28.70	32.90	4.20	0.80	43.93
GMW-0-14	04/17/17	74.08		31.15			42.93
GMW-0-15	04/20/17	74.86	29.52	29.65	0.13	0.77	45.31
GMW-0-16	04/17/17	74.10		30.49			43.61
GMW-0-17	04/17/17	73.78		30.20			43.58
GMW-0-18	04/17/17	74.32	31.80	31.83	0.03	1.00	42.52
GMW-0-19	04/17/17	74.46		30.94		2.00	43.52
GMW-0-20	04/20/17	73.32		29.70			43.62
GMW-0-21	04/17/17	71.43		30.48			40.95
GMW-0-23	04/20/17	73.63		30.88			42.75
GMW-0-24	04/17/17	74.39		28.60			45.79
GMW-SF-7	04/17/17	75.26		31.47			43.79
GMW-SF-8	04/17/17	76.75		32.39			44.36
GW-1	04/18/17	75.97		34.40			41.57
GW-2	04/18/17	75.78		34.15			41.63
GW-3	04/18/17	75.79		34.35			41.44
GW-4	04/17/17	73.86		DRY			NC
GW-6	04/17/17	76.38		34.46		1	41.92
GW-7	04/17/17	75.02		32.95		1	42.07
GW-8	04/17/17	76.15		34.29		1	41.86
GW-13(6")	04/17/17	76.85		35.35		1	41.50
GW-15(6")	04/20/17	74.94		33.91		1	41.03
GW-16(6")	04/18/17	76.33		34.07		+	42.26
GWR-1R	04/17/17	76.64		33.77		+	42.87
GWR-3	04/17/17	77.60		34.88		+	42.72
HL-2	04/17/17	76.94		34.45		+	42.49
HL-3	04/17/17	76.86		34.06		+	42.80
MW-6	04/17/17	77.20		34.93		+	42.27
MW-7	04/17/17	78.13		35.26			42.87
MW-8	04/17/17	76.06		32.21		+	43.85
MW-9		77.11		31.80		+	45.83
MW-12	04/17/17 04/17/17	75.76		31.80		+	45.31

Table 2. Summary of Groundwater Elevations – First Semiannual 2017 Monitoring Event

MW-14 04/17/17 78.60 36.99 4 MW-15R 04/18/17 76.87 34.41 4 MW-16 04/18/17 76.87 33.81 4 MW-18 (MID) 04/17/17 77.86 35.22 4 MW-18 (MID) 04/17/17 77.56 37.50 3 MW-21 (MID) 04/17/17 77.19 37.30 3 MW-22 (MID) 04/17/17 77.55 34.74 4 MW-22 (MID) 04/17/17 78.51 34.90 4 MW-22 (MID) 04/17/17 78.51 34.90 4 MW-22 (MI) 04/17/17 78.53 35.85 4 MW-28 (MI) 04/17/17 78.53 32.90 4 MW-29 (MID) 04/17/17	orrected undwater evation eet amsl)
MW-16 04/18/17	42.60
MW-16 04/18/17 76.87 — 33.81 — 4 MW-17 04/18/17 77.86 — 35.52 — 4 MW-18 (MID) 04/17/17 75.67 — 37.50 — 3 MW-10 (MID) 04/17/17 77.19 — 37.30 — 3 MW-21 (MID) 04/17/17 77.55 — 34.74 — 4 MW-22 (MID) 04/17/17 77.55 — 34.74 — 4 MW-22 (MID) 04/17/17 78.51 — 34.90 — 4 MW-24 04/17/17 78.46 — 35.85 — 4 MW-27 04/17/17 78.46 — 35.85 — 4 MW-29 04/18/17 78.53 — 32.90 — 4 MW-29 04/18/17 78.53 — 36.66 — 4 MW-9-1 04/17/17 75.83 — DRY <td< td=""><td>41.61</td></td<>	41.61
MW-17 04/18/17 77.86 35.22 4 MW-18 (MID) 04/17/17 75.67 37.50 3 MW-20 (MID) 04/17/17 77.19 37.30 3 MW-21 (MID) 04/17/17 77.55 34.74 4 MW-22 (MID) 04/17/17 79.57 34.90 4 MW-24 04/17/17 77.40 35.37 4 MW-26 04/17/17 78.66 35.85 4 MW-29 04/18/17 78.53 32.90 4 MW-20 04/18/17 78.53 35.85 4 MW-24 04/17/17 78.53 35.75 4 MW-29 04/18/17 79.13 36.36 MW-9-6-10 04/17/17 78.53	NC
MW-18 (MID) 04/17/17 75.67 37.50 3 MW-20 (MID) 04/17/17 77.19 37.30 3 MW-21 (MID) 04/17/17 77.59 37.30 4 MW-22 (MID) 04/17/17 77.55 39.40 4 MW-24 (MID) 04/17/17 77.40 35.37 4 MW-26 (MIT) 77.40 35.37 4 MW-27 (MIT) 78.46 35.85 4 MW-29 (MIR) 79.13 36.36 4 MW-29 (MIR) 79.13 36.36 4 MW-0-1 (MIT) 78.93 35.75 4 MW-S-1 (MIT) 78.93 35.75 4 MW-SF-2 (MIT) 78.53 35.78 4 MW-SF-3 (MIT) <t< td=""><td>43.06</td></t<>	43.06
MW-19 (MID) 04/17/17 78.14	42.64
MW-20 (MID)	38.17
MW-21 (MID) 04/17/17 77.55 34.74 4 MW-22 (MID) 04/17/17 79.57 39.40 4 MW-24 04/17/17 78.51 39.40 4 MW-27 04/17/17 77.40 35.37 4 MW-27 04/17/17 78.6 35.85 4 MW-28 04/17/17 78.53 32.90 4 MW-28 04/17/17 78.53 32.90 4 MW-29 04/18/17 77.48 58.56 MW-29 04/18/17 77.54 DRY MW-0-1 04/17/17 77.54 DRY MW-0-2 04/17/17 77.90 30.85 30.91 0.06 0.83 4 MW-SF-1 04/17/17 78.53 35.75 4 MW-SF-2 04/17/17 78.53 35.75 4 MW-SF-2 04/17/17 78.53 35.75 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-5 04/17/17 79.74 36.88 4 MW-SF-5 04/17/17 76.80 34.03 4 MW-SF-1 04/17/17 76.53 DRY MW-SF-10 04/17/17 78.56 35.91 MW-SF-10 04/17/17 78.67 35.12 MW-SF-10 04/17/17 78.67 35.12 MW-SF-10 04/17/17 78.67 35.91 MW-SF-15 04/17/17 78.67 35.91 4 MW-SF-15 04/17/17 78.67 35.39 4 MW-SF-15 04/17/17 78.67 35.39 4 MW-SF-15 04/17/17 78.67 35.39 4 MW-SF-16 04/17/17 78.67 35.30 MW-SF-16 04/17/17 78.71 31.60 4 MW-SF-16 04/17/17 73.96 31.31 04/19/17 76.17 33.55 33.56 0.01 1.00 4 MW-SF-16 04/17/17 73.96 31.35 31.53 0.18 0.80 4 MW-SF-16 04/17/17 75.97 31.20	39.52
MW-22 (MID) 04/17/17 79.57 39.40 4 MW-26 04/17/17 78.51 34.90 4 MW-27 04/17/17 78.46 35.85 4 MW-29 04/18/17 78.53 32.90 4 MW-29 04/18/17 79.13 36.36 4 MW-0-1 04/17/17 75.48 DRY MW-SF-1 04/17/17 71.90 30.85 30.91 0.06 0.83 4 MW-SF-1 04/17/17 78.93 35.75 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-3 04/17/17 79.38 36.67 4 MW-SF-4 04/17/17 79.34 36.88 4 MW-SF-6 04/17/17 76.80	39.89
MW-24 04/17/17 78.51 34.90 4 MW-26 04/17/17 77.40 35.37 4 MW-27 04/17/17 78.46 35.85 4 MW-28 04/17/17 78.53 32.90 4 MW-29 04/18/17 79.13 36.36 4 MW-01 04/17/17 75.48 DRY 4 MW-51 04/17/17 71.90 30.85 30.91 0.06 0.83 4 MW-SF-1 04/17/17 78.93 35.78 4 MW-SF-2 04/17/17 78.93 35.78 4 MW-SF-3 04/17/17 78.93 36.67 4 MW-SF-3 04/17/17 79.33 36.67 4 MW-SF-4 04/17/17 76.50	42.81
MW-26 04/17/17 77.40	40.17
MW-27 04/17/17 78.46	43.61
MW-28 04/17/17 78.53 32.90 4 MW-29 04/18/17 79.13 36.36 4 MW-0-1 04/17/17 75.48 DRY MW-9-2 04/17/17 71.90 30.85 30.91 0.06 0.83 4 MW-5F-1 04/17/17 78.93 35.75 4 MW-5F-2 04/17/17 78.53 35.78 4 MW-5F-3 04/20/17 78.12 35.15 4 MW-SF-3 04/17/17 79.38 36.67 4 MW-SF-5 04/17/17 79.74 36.88 4 MW-SF-6 04/17/17 76.80 34.03 4 MW-SF-10 04/17/17 76.53 DRY MW-SF-10 04/17/17 78.56 35.91 <t< td=""><td>42.03</td></t<>	42.03
MW-29 04/18/17 79.13 36.36 4 MW-O-1 04/17/17 75.48 DRY MW-O-2 04/17/17 71.90 30.85 30.91 0.06 0.83 4 MW-SF-1 04/17/17 78.93 35.75 4 MW-SF-2 04/17/17 78.53 35.78 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-4 04/17/17 79.38 36.67 4 MW-SF-6 04/17/17 79.74 36.88 4 MW-SF-9 04/17/17 76.80 34.03 4 MW-SF-19 04/17/17 76.53 DRY MW-SF-11 04/17/17 78.07 35.91 4 MW-SF-12 04/17/17 78.16 <td< td=""><td>42.61</td></td<>	42.61
MW-29 04/18/17 79.13 36.36 4 MW-O-1 04/17/17 75.48 DRY MW-O-2 04/17/17 71.90 30.85 30.91 0.06 0.83 4 MW-SF-1 04/17/17 78.93 35.75 4 MW-SF-2 04/17/17 78.53 35.78 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-4 04/17/17 79.38 36.67 4 MW-SF-6 04/17/17 79.74 36.88 4 MW-SF-9 04/17/17 76.80 34.03 4 MW-SF-19 04/17/17 76.53 DRY MW-SF-11 04/17/17 78.07 35.91 4 MW-SF-12 04/17/17 78.16 <td< td=""><td>45.63</td></td<>	45.63
MW-O-1 04/17/17 75.48 DRY MW-O-2 04/17/17 71.90 30.85 30.91 0.06 0.83 4 MW-SF-1 04/17/17 78.93 35.75 4 MW-SF-2 04/17/17 78.53 35.78 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-4 04/17/17 79.74 36.88 4 MW-SF-5 04/17/17 79.74 36.88 4 MW-SF-6 04/17/17 76.80 34.03 4 MW-SF-10 04/17/17 76.53 DRY MM MW-SF-11 04/17/17 78.56 35.91 4 MW-SF-13 04/17/17 78.07 35.12 4 MW-SF-14 04/17/17 78.16 <	42.77
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MW-SF-1 04/17/17 78.93 35.75 4 MW-SF-2 04/17/17 78.53 35.78 4 MW-SF-3 04/20/17 78.12 35.15 4 MW-SF-4 04/17/17 79.38 36.67 4 MW-SF-5 04/17/17 79.74 36.88 4 MW-SF-6 04/17/17 76.80 34.03 4 MW-SF-10 04/17/17 76.53 DRY 4 MW-SF-10 04/17/17 78.56 35.91 4 MW-SF-11 04/17/17 78.07 35.12 4 MW-SF-13 04/17/17 78.16 DRY 4 MW-SF-14 04/17/17 78.27 35.39 4 MW-SF-13 04/17/17 78.21	41.04
MW-SF-2 04/17/17 78.53	43.18
MW-SF-3 04/20/17 78.12	42.75
MW-SF-4 04/17/17 79.38	42.97
MW-SF-5 04/17/17 79.74 36.88 4 MW-SF-6 04/17/17 76.80 34.03 4 MW-SF-9 04/17/17 74.10 NM MW-SF-10 04/17/17 76.53 DRY MW-SF-11 04/17/17 78.56 35.91 4 MW-SF-12 04/17/17 78.07 35.12 4 MW-SF-13 04/17/17 73.40 30.40 4 MW-SF-14 04/17/17 78.16 DRY MW-SF-15 04/17/17 78.21 35.39 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52	42.71
MW-SF-6 04/17/17 76.80 34.03 4 MW-SF-9 04/17/17 74.10 NM MW-SF-10 04/17/17 76.53 DRY MW-SF-11 04/17/17 78.56 35.91 4 MW-SF-12 04/17/17 78.07 35.12 4 MW-SF-13 04/17/17 78.16 DRY 4 MW-SF-14 04/17/17 78.16 DRY 4 MW-SF-15 04/17/17 78.27 35.20 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY PW-2 04/17/17 73.71 31.60 4 P2-2 04/17/17 73.96 </td <td>42.86</td>	42.86
MW-SF-9 04/17/17 74.10 NM MW-SF-10 04/17/17 76.53 DRY MW-SF-11 04/17/17 78.56 35.91 4 MW-SF-12 04/17/17 78.07 35.12 4 MW-SF-13 04/17/17 73.40 30.40 4 MW-SF-14 04/17/17 78.16 DRY MW-SF-15 04/17/17 78.27 35.39 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY PW-2 04/17/17 73.71 31.60 PW-3 04/17/17 73.96 31.13 PZ-3 04/20/17 76.17 33.55 33.56 0.01 <td< td=""><td>42.77</td></td<>	42.77
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MW-SF-11 04/17/17 78.56 35.91 4 MW-SF-12 04/17/17 78.07 35.12 4 MW-SF-13 04/17/17 73.40 30.40 4 MW-SF-14 04/17/17 78.16 DRY 4 MW-SF-15 04/17/17 78.27 35.20 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY 4 PW-2 04/17/17 75.52 DRY 4 PW-3 04/17/17 73.71 DRY 4 PV-3 04/17/17 73.96 31.63 4 P2-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 P2-5 04/17/17 74.34 <	NC
MW-SF-12 04/17/17 78.07 35.12 4 MW-SF-13 04/17/17 73.40 30.40 4 MW-SF-14 04/17/17 78.16 DRY 4 MW-SF-15 04/17/17 78.27 35.39 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY 4 PW-2 04/17/17 74.71 DRY PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.13 4 PZ-5 04/17/17 73.97 30.07 RTF-18-E 04/19/17 75.19 31.35	42.65
MW-SF-13 04/17/17 73.40 30.40 4 MW-SF-14 04/17/17 78.16 DRY MW-SF-15 04/17/17 78.27 35.39 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY PW-2 04/17/17 74.71 DRY PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-10 04/17/17 74.34 DRY 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-NW 04/19/17 76.77 <td>42.95</td>	42.95
MW-SF-14 04/17/17 78.16 DRY MW-SF-15 04/17/17 78.27 35.39 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY PW-2 04/17/17 74.71 DRY PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.39 30.07 4 PZ-10 04/17/17 74.34 DRY RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-NW 04/19/17 76.27	43.00
MW-SF-15 04/17/17 78.27 35.39 4 MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY 2 PW-2 04/17/17 74.71 DRY 3 PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 73.97 30.07 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-NW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17	NC
MW-SF-16 04/17/17 78.21 35.20 4 PW-1 04/17/17 75.52 DRY 1 PW-2 04/17/17 74.71 DRY 4 PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 74.34 DRY 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-NW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W	42.88
PW-1 04/17/17 75.52 DRY PW-2 04/17/17 74.71 DRY PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 74.34 DRY 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-NW 04/19/17 75.17 31.44 4 RTF-18-NW 04/19/17 76.77 31.72 4 RTF-18-W 04/19/17 76.22 31.04 31.08 0.04 1.00 4 TF-8 04/17/17 74.86	43.01
PW-2 04/17/17 74.71 DRY PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 74.34 DRY 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-NNW 04/19/17 75.17 31.44 4 RTF-18-NNW 04/19/17 76.77 31.72 4 RTF-18-W 04/19/17 76.22 31.04 31.08 0.04 1.00 4 TF-18-W 04/19/17 74.86 32.41 4 TF-15 04/20/17 </td <td>NC</td>	NC
PW-3 04/17/17 73.71 31.60 4 PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 74.34 DRY 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-N 04/19/17 75.17 31.44 4 RTF-18-NW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-15 04/20/17 74.78 31.88 4	NC
PZ-2 04/17/17 73.96 31.13 4 PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 74.34 DRY RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-N 04/19/17 75.17 31.44 4 RTF-18-NWW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-15 04/20/17 74.78 32.41 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81	
PZ-3 04/20/17 76.17 33.55 33.56 0.01 1.00 4 PZ-5 04/17/17 73.97 30.07 4 PZ-10 04/17/17 74.34 DRY 4 RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-N 04/19/17 75.17 31.44 4 RTF-18-NNW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 <t< td=""><td>42.11 42.83</td></t<>	42.11 42.83
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PZ-10 04/17/17 74.34 DRY RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-N 04/19/17 75.17 31.44 4 RTF-18-NWW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF	42.62 43.90
RTF-18-E 04/19/17 75.19 31.35 31.53 0.18 0.80 4 RTF-18-N 04/19/17 75.17 31.44 4 RTF-18-NW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 76.43 32.50 4	NC
RTF-18-N 04/19/17 75.17 31.44 4 RTF-18-NW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 75.31 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24	
RTF-18-NNW 04/19/17 76.77 31.72 4 RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	43.80
RTF-18-NW 04/19/17 76.22 31.04 31.08 0.04 1.00 4 RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	43.73
RTF-18-W 04/19/17 74.86 30.98 31.15 0.17 0.80 4 TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	45.05
TF-8 04/17/17 74.86 32.41 4 TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	45.18
TF-15 04/20/17 74.78 31.88 4 TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	43.85
TF-16 04/19/17 75.89 33.26 33.53 0.27 0.81 4 TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	42.45
TF-18 04/20/17 73.94 30.92 4 TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	42.90
TF-19 04/20/17 75.07 31.60 4 TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	42.58
TF-21 04/19/17 74.96 35.32 3 TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	43.02
TF-23 04/20/17 75.31 32.50 4 TF-24 04/19/17 76.43 34.15 4	43.47
TF-24 04/19/17 76.43 34.15 4	39.64
	42.81
	42.28
	NC NC

Table 2. Summary of Groundwater Elevations – First Semiannual 2017 Monitoring Event

Well	Date	Top of Casing Elevation (feet amsl)	Depth to Product (feet btoc)	Depth to Water (feet btoc)	Apparent Product Thickness (feet)	Assumed Specific Gravity	Corrected Groundwater Elevation (feet amsl)
WCW-1	04/17/17	72.86		31.00			41.86
WCW-2	04/17/17	75.34		33.62			41.72
WCW-3	04/17/17	76.16		34.70			41.46
WCW-4	04/17/17	78.05		36.61			41.44
WCW-5	04/17/17	73.49		31.21			42.28
WCW-6	04/17/17	75.52		33.51			42.01
WCW-7	04/17/17	76.44		DRY			NC
WCW-8	04/17/17	77.34		36.00			41.34
WCW-9	04/17/17	77.74		35.10			42.64
WCW-10	04/17/17	74.06		32.13			41.93
WCW-11	04/17/17	75.29		33.65			41.64
WCW-12	04/17/17	76.27		35.00			41.27
WCW-13	04/17/17	77.70		36.83			40.87
WCW-14	04/17/17	78.81		37.40			41.41

Notes:

--- = not detected, applicable, or available

DRY = No measurable water observed in the well.

feet btoc = feet below top of casing

feet amsl = feet above mean sea level, based on Los Angeles County Datum, 1980

NC = Not calculated

NM = Not measured

DLA Energy and SFPP calculated groundwater elevation in wells with measurable product using the formula:

groundwater elevation = (top of casing elevation - depth to water) + apparent product thickness x specific gravity.

(Product specific gravity of 0.80 was used for calculation above for DLA wells)

(Product specific gravity ranging between 0.77 and 0.83 was used for calculation above for SFPP wells)

(Product specific gravity of 1.0 was used for calculation in wells where the apparent product thickness was less than 0.05 foot)

The soil vapor extraction (SVE) and total fluids extraction (TFE) systems in the south-central, southeastern, and north-central areas were offline 1 week prior to semiannual gauging activities.

Table 3. Summary of Groundwater Analytical Data – First Semiannual 2017 Monitoring Event

				Res	ults reported	in micrograms pe	r liter (μg/L)						
Well	Date	TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
EXP-1	04/20/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
EXP-1	04/20/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.81	<10	<1	<1	<1
EXP-2	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-2	04/19/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
EXP-3	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	0.53	<0.50	<10	<1	<1	<1
EXP-3	04/18/17	<100	<100	<0.50	<0.50	<0.50	<0.50	<0.50	<1	<10	<2	<2	<2
EXP-4	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EXP-5	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-4R	04/18/17	84	70	6.1	<0.50	2.2	1.2	<0.50	0.74	<10	<1	<1	<1
GMW-6	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-8	04/18/17	<50	170	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-9	04/21/17	750	760	9.2	0.98	0.71	20	<1	1.9	18	5.5	<1	<1
GMW-12	04/21/17	<100	150	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-13	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-14R	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	0.68	<10	<1	<1	<1
GMW-15	04/21/17	<100	1600	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-16	04/19/17	<100	660	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-19	04/21/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-20	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-21	04/21/17	180	3300	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-25	04/20/17	<500	3700	<2.5	<2.5	<2.5	<2.5	<5	<2.5	<50	<5	<5	<5
GMW-26	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	0.66	<0.50	<10	<1	<1	<1
GMW-28	04/19/17	<50	<100	0.69	<0.50	<0.50	<0.50	<0.50	4.8	32	5.2	<1	<1
GMW-31	04/20/17	<100	120	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-36	04/19/17	6900	4000	1500	<10	140	<10	<0.50	1900	7800	<20	<20	36
GMW-37	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-38	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-39	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-41	04/20/17	<100	140	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-42	04/17/17	<100	<100	<0.50	<0.50	1.6	<1	<0.50	<1	<10	<2	<2	<2
GMW-43	04/17/17	<100	550	<0.50	<0.50	0.98	<1	<0.50	<1	<10	<2	<2	<2
GMW-44	04/20/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-47	04/21/17	<100	860	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-48	04/21/17	460	1500	190	<0.50	0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-54	04/21/17	<100	850	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-56	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-57	04/20/17	<100	670	<0.50	<0.50	<0.50	<1	<0.50	1.7	<10	<2	<2	<2
GMW-58	04/20/17	150	1400	1.6	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-59	04/21/17	400	1300	130	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-60	04/20/17	220	1200	26	<0.50	2.4	<1	<0.50	<1	55	<2	<2	<2
GMW-61	04/20/17	140	1200	18	<0.50	<0.50	5.6	<0.50	<1	<10	<2	<2	<2
GMW-63	04/17/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-64	04/17/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-65	04/17/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-66R	04/18/17	<100	120	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2

Table 3. Summary of Groundwater Analytical Data – First Semiannual 2017 Monitoring Event

				Res	ults reported	in micrograms pe	r liter (μg/L)						
Well	Date	TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-67	04/17/17	<100	<100	2.5	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-69	04/17/17	740	150	84	<1	140	16	<1	<2	<20	<4	<4	<4
GMW-0-1	04/20/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-2	04/20/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-3	04/20/17	260	<50	1.3	<0.50	1.9	2.6	<0.50	<0.50	<10	<1	<1	<1
GMW-O-4	04/20/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-5	04/20/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-O-9	04/20/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-0-10	04/21/17	<50	52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-0-14	04/21/17	250	620	0.59	<0.50	0.82	2.4	3.7	3.5	15	30	<1	<1
GMW-0-16	04/18/17	66	<50	1.2	<0.50	<0.50	<0.50	<0.50	4.0	<10	<1	<1	<1
GMW-0-17	04/21/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-0-19	04/18/17	52	<50	2.2	2.8	<0.50	11	<0.50	<0.50	<10	<1	<1	<1
GMW-0-20	04/21/17	2900	5900	850	14	24	85	<10	24	<200	<10	<10	<10
GMW-0-21	04/21/17	3100	1100	55	5.7	11	180	<2	<1	<20	<2	<2	<2
GMW-0-23	04/21/17	1600	1300	11	3.6	1.6	220	<2	4.0	<20	3.5	<2	<2
GMW-0-24	04/21/17	<50	<50	0.80	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-7	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GMW-SF-8	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
GW-1	04/19/17	<100	<100	<0.50	<0.50	<0.50	<1	1.8	<1	<10	<2	<2	<2
GW-2	04/19/17	<100	170	<0.50	<0.50	<0.50	<1	0.50	<1	<10	<2	<2	<2
GW-3	04/19/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GW-6	04/19/17	<100	110	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GW-7	04/19/17	<100	270	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GW-8	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GW-13(6")	04/19/17	<100	<100	<0.50	<0.50	<0.50	<1	1.7	<1	<10	<2	<2	<2
GW-16(6")	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GWR-1R	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	0.72	<0.50	93	4.7	<1	<1
HL-2	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
HL-3	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-6	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	0.99	2.2	<10	<1	<1	<1
MW-7	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	0.77	<0.50	<10	<1	<1	<1
MW-8	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-9	04/19/17	99	600 J	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	20	<1	<1	<1
MW-12	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
MW-13	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-14	04/19/17	<100	160	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-15R	04/19/17	<100	210	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	15	<1	<1	<1
MW-16	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-17	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-18 (MID)	04/20/17	<100	200	<0.50	<0.50	<0.50	<0.50	<1	1.3	32	1.6	<1	<1
MW-19 (MID)	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	2.1	<0.50	88	11	<1	<1
MW-20 (MID)	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	9.0	8.1	21	6.0	<1	<1
MW-21 (MID)	04/19/17	<100	120	<0.50	<0.50	<0.50	<0.50	2.2	1.0	12	<1	<1	<1
MW-22 (MID)	04/19/17	<100	110	<0.50	<0.50	<0.50	<1	2.9	2.1	<10	<2	<2	<2

Table 3. Summary of Groundwater Analytical Data - First Semiannual 2017 Monitoring Event

				Res	ults reported	in micrograms pe	r liter (μg/L)						
Well	Date	TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
MW-24	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-26	04/19/17	<100	100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-27	04/19/17	<100	130	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-28	04/20/17	<100	170	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-29	04/20/17	<100	380	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
MW-SF-1	04/20/17	<100	1800	2.1	<0.50	<0.50	<0.50	<1	0.92	17	<1	<1	<1
MW-SF-4	04/20/17	<100	1400 J	3.4	<0.50	0.53	1.2	<1	1.2	<10	5.6	<1	<1
MW-SF-6	04/20/17	2000	3900	42	<1	5.8	37	<2	21	130	22	<2	<2
MW-SF-13	04/20/17	2000	1500	3.9	1.6	26	60	<2	1.9	36	4.8	<2	<2
MW-SF-15	04/20/17	190	550	2.5	<0.50	0.69	<0.50	<1	17	300	48	<1	<1
PW-3	04/21/17	<50	<50	<0.50	<0.50	<0.50	<0.50	0.67	<0.50	<10	<1	<1	<1
PZ-2	04/20/17	<50	94	<0.50	<0.50	<0.50	<0.50	<0.50	0.88	<10	<1	<1	<1
PZ-5	04/21/17	16000	840	5800	450	910	1900	<40	770	47000	<40	<40	44
RTF-18-N	04/24/17	25000	5200	1700	6.7	800	2500	<5	<10	<100	<20	<20	<20
RTF-18-NNW	04/24/17	30000	6900	5000	16	1500	5200	<5	<10	<100	<20	<20	<20
TF-8	04/20/17	<100	100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
TF-18	04/24/17	54000	7300	320	<5	340	530	<5	<10	<100	<20	<20	<20
TF-21	04/21/17	420	1400	10	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
TF-23	04/24/17	410	2900	2.2	0.62	0.90	2.4	<0.50	1.5	94	<2	<2	<2
TF-24	04/21/17	<100	1700	<0.50	<0.50	<0.50	<1	< 0.50	<1	<10	<2	<2	<2
WCW-2	04/18/17	<50	230	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
WCW-3	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	< 0.50	<0.50	<10	<1	<1	<1
WCW-4	04/18/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
WCW-5	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	< 0.50	<0.50	<10	<1	<1	<1
WCW-6	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
WCW-8	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
WCW-12	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
WCW-13	04/18/17	<50	450	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
WCW-14	04/19/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1

Notes:

Bold results indicate detected concentrations.

< = not detected at or above the laboratory reporting limit shown

1,2-DCA = 1,2-dichloroethane

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard

Xylenes = total of m,p-xylene and o-xylene when detected

Table 4. Summary of Miscellaneous Compounds Detected in Groundwater Samples – First Semiannual 2017 Monitoring Event Defense Fuel Support Point, Norwalk, California

					Resul	ts reported	in micrograi	ms per liter	(μg/L)						
Well	Date	Acetone	Styrene	1,1-Dichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	cis-1,2-Dichloroethene	Carbon Disulfide	Isopropylbenzene	Naphthalene	n-Butylbenzene	n-Propyl benzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene
EXP-2	04/19/17	11	<1	<1	<1	<1	<1	<2.5	<1	<10	<1	<1	<1	<1	<1
GMW-4R	04/18/17	<10	<1	<1	<1	<1	<1	<2.5	1.7	<10	<1	<1	<1	<1	<1
GMW-9	04/21/17	<20	<1	<1	12	29	<1	<5	<1	<10	4.6	<1	<1	2.5	<1
GMW-15	04/21/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	1.5	<0.5
GMW-21	04/21/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	3.0	<2	<0.5	<0.5	<1	2.8	1.2
GMW-36	04/19/17	<400	<20	<20	500	<20	<20	<100	<20	150	<20	63	<20	<20	<20
GMW-42	04/17/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	4.8	<0.5	<2	<0.5	<0.5	<1	<0.5	<0.5
GMW-48	04/21/17	<10	<0.5	<0.5	<0.5	<0.5	4.5	<0.5	34	<2	<0.5	0.78	<1	4.1	0.52
GMW-57	04/20/17	<10	<0.5	0.58	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<1	<0.5	<0.5
GMW-58	04/20/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	0.64	<2	<0.5	<0.5	<1	<0.5	0.52
GMW-59	04/21/17	<10	<0.5	<0.5	<0.5	<0.5	4.3	<0.5	39	3.7	<0.5	2.4	<1	3.6	1.2
GMW-60	04/20/17	<10	<0.5	<0.5	9.3	<0.5	<0.5	0.54	10	<2	<0.5	2.8	<1	0.86	<0.5
GMW-61	04/20/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	0.82	2.0	<2	<0.5	<0.5	<1	<0.5	<0.5
GMW-67	04/17/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<2	<0.5	1.2	<1	<0.5	<0.5
GMW-69	04/17/17	<20	<1	<1	56	<1	<1	<1	17	22	<1	18	<2	<1	<1
GMW-O-3	04/20/17	<10	<1	<1	12	8.5	<1	<2.5	1.1	<10	<1	<1	<1	1.2	<1
GMW-0-14	04/21/17	<10	<1	<1	2.4	<1	<1	<2.5	4.9 J	<10	<1	4.7 J	<1	2.2 J	<1
GMW-0-20	04/21/17	<200	<10	<10	40	17	<10	<50	<10	110	<10	<10	<10	<10	<10
GMW-0-21	04/21/17	<40	<2	<2	190	130	<2	<10	3.6	95	2.4	11	2.8	2.9	<2
GMW-0-23	04/21/17	<40	3.1	<2	96	28	<2	<10	<2	75	<2	<2	<2	<2	<2
MW-SF-6	04/20/17	<40	<2	<2	97	6.4	<2	<10	4.8	14	<2	10	3.4	2.5	<2
MW-SF-13	04/20/17	<40	<2	<2	250	<2	<2	<10	6.3	35	3.5	20	<2	4.8	<2
MW-SF-15	04/20/17	<20	<1	<1	<1	<1	<1	<5	<1	<10	<1	1.2	<1	<1	<1
PZ-5	04/21/17	<800	<40	<40	460	100	<40	<200	<40	210	<40	41	<40	<40	68
RTF-18-N	04/24/17	<100	<5	<5	680	300	<5	<5	180	180	<5	170	27	<5	<5
RTF-18-NNW	04/24/17	<100	<5	<5	740	330	<5	<5	160	220	<5	160	31	<5	<5
TF-18	04/24/17	<100	<5	<5	410	170	<5	<5	120	200	<5	100	35	<5	<5
TF-21	04/21/17	<10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	44	5.4	<0.5	18	<1	5.6	1.2
TF-23	04/24/17	<10	<0.5	0.60	<0.5	<0.5	<0.5	<0.5	2.0	5.7	<0.5	0.86	<1	2.2	1.8

Notes:

Bold results indicate detected concentrations.

< = not detected at or above the laboratory reporting limit shown

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

Table 5. Summary of Field Duplicate Results – First Semiannual 2017 Monitoring Event

				Re	sults reporte	d in micrograms p	er liter (μg/L)						
Well	Date	TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	TBA	DIPE	ETBE	TAME
GMW-20	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-56	04/18/17	<100	<100	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GWR-1R	04/18/17	<50	55 J	<0.50	<0.50	<0.50	<0.50	0.59	<0.50	82	3.7	<1	<1
GMW-16	04/19/17	<100	210	<0.50	<0.50	<0.50	<1	<0.50	1.0	<10	<2	<2	<2
GW-1	04/19/17	<100	<100	<0.50	<0.50	<0.50	<1	2.0	<1	<10	<2	<2	<2
MW-9	04/19/17	96	590	<0.50	<0.50	<0.50	<0.50	<0.50	1.4	19	<1	<1	<1
MW-21 (MID)	04/19/17	<100	140	<0.50	<0.50	<0.50	<0.50	2.2	0.99	11	<1	<1	<1
GMW-31	04/20/17	<100	130	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-58	04/20/17	100	1,900	1.5	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
PZ-2	04/20/17	<50	81	<0.50	<0.50	<0.50	<0.50	<0.50	0.80	<10	<1	<1	<1
GMW-12	04/21/17	<100	150	<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
GMW-59	04/21/17	300	660	84	<0.50	0.68	<1	<0.50	<1	<10	<2	<2	<2
GMW-0-14	04/21/17	330	680	1.2	<0.50	1.0	2.9	4.5	4.6	19	40	<1	<1
GMW-0-24	04/21/17	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1

Notes:

Bold results indicate detected concentrations.

< = not detected at or above the laboratory reporting limit shown

1,2-DCA = 1,2-dichloroethane

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard

Xylenes = total of m,p-xylene and o-xylene when detected

Table 6. Summary of Quality Assurance/Quality Control Analytical Data – First Semiannual 2017 Monitoring Event

	port / 0111t) / 101 Wall	· •		Results re	eported in m	icrograms p	er liter (μg/L)							•
Sample ID	Date	Sample Type	TPH-g	TPH-d	Benzene	Toluene	Ethylbenzene	Xylenes	1,2-DCA	MTBE	ТВА	DIPE	ETBE	TAME
QCEB	04/17/17	Equipment Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
QCTB	04/17/17	Trip Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
EB-1	04/18/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EB-2	04/18/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
QCEB	04/18/17	Equipment Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
QCTB	04/18/17	Trip Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
TB-1	04/18/17	Trip Blank			<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
EB-3	04/19/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	< 0.50	<0.50	< 0.50	<10	<1	<1	<1
EB-4	04/19/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
QCTB	04/19/17	Trip Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
TB-1	04/19/17	Trip Blank			<0.50	<0.50	<0.50	< 0.50	<0.50	<0.50	<10	<1	<1	<1
EB-5	04/20/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	< 0.50	<0.50	< 0.50	<10	<1	<1	<1
EB-6	04/20/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	< 0.50	<0.50	< 0.50	<10	<1	<1	<1
QCEB	04/20/17	Equipment Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
QCTB	04/20/17	Trip Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
TB-1	04/20/17	Trip Blank			<0.50	<0.50	<0.50	< 0.50	<0.50	<0.50	<10	<1	<1	<1
EB-7	04/21/17	Equipment Blank	<50	<50	<0.50	<0.50	<0.50	< 0.50	<0.50	< 0.50	<10	<1	<1	<1
QCEB	04/21/17	Equipment Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
QCTB	04/21/17	Trip Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
TB-1	04/21/17	Trip Blank	<50	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<1	<1	<1
QCEB	04/24/17	Equipment Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2
QCTB	04/24/17	Trip Blank	<100		<0.50	<0.50	<0.50	<1	<0.50	<1	<10	<2	<2	<2

Notes:

--- = not analyzed

< = not detected at or above the laboratory reporting limit shown

1,2-DCA = 1,2-dichloroethane

DIPE = di-isopropyl ether

ETBE = ethyl tertiary butyl ether

MTBE = methyl tertiary butyl ether

TAME = tertiary amyl methyl ether

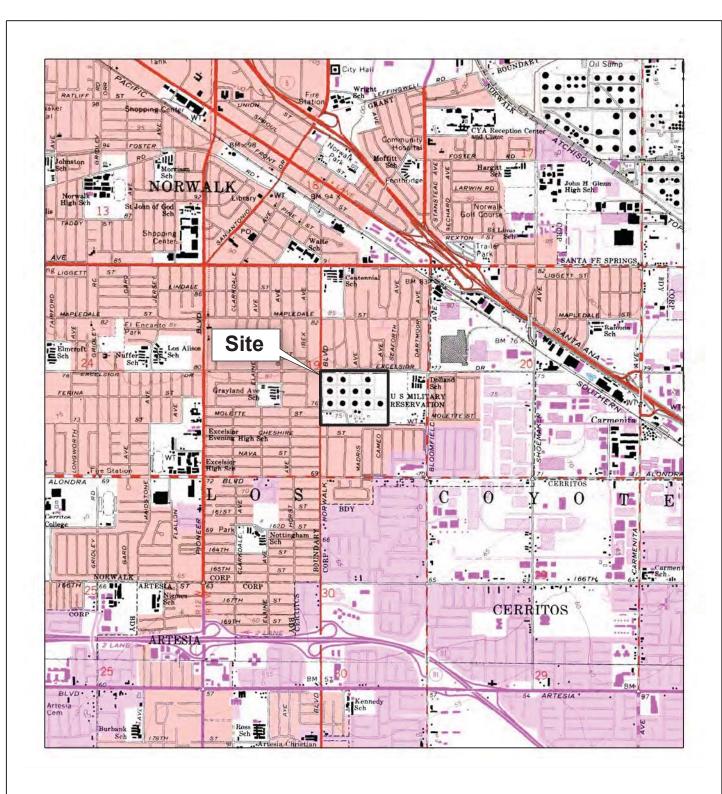
TBA = tertiary butyl alcohol

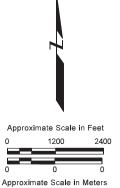
TPH-d = total extractable petroleum hydrocarbons quantified using a diesel standard

TPH-g = total purgeable petroleum hydrocarbons quantified using a gasoline standard

Xylenes = total of m,p-xylene and o-xylene when detected

Figures





By: Andy Vollmar

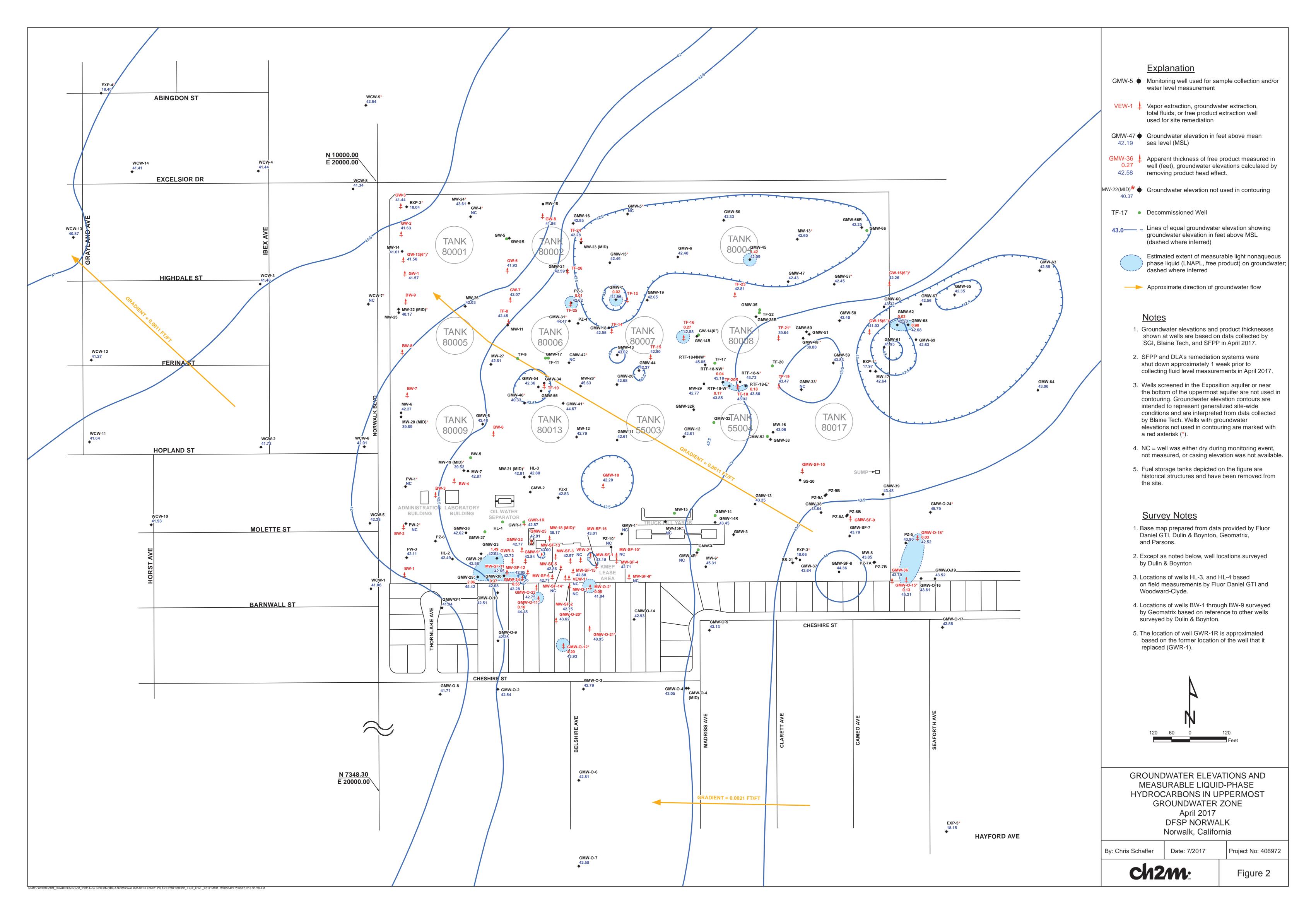
SITE LOCATION MAP

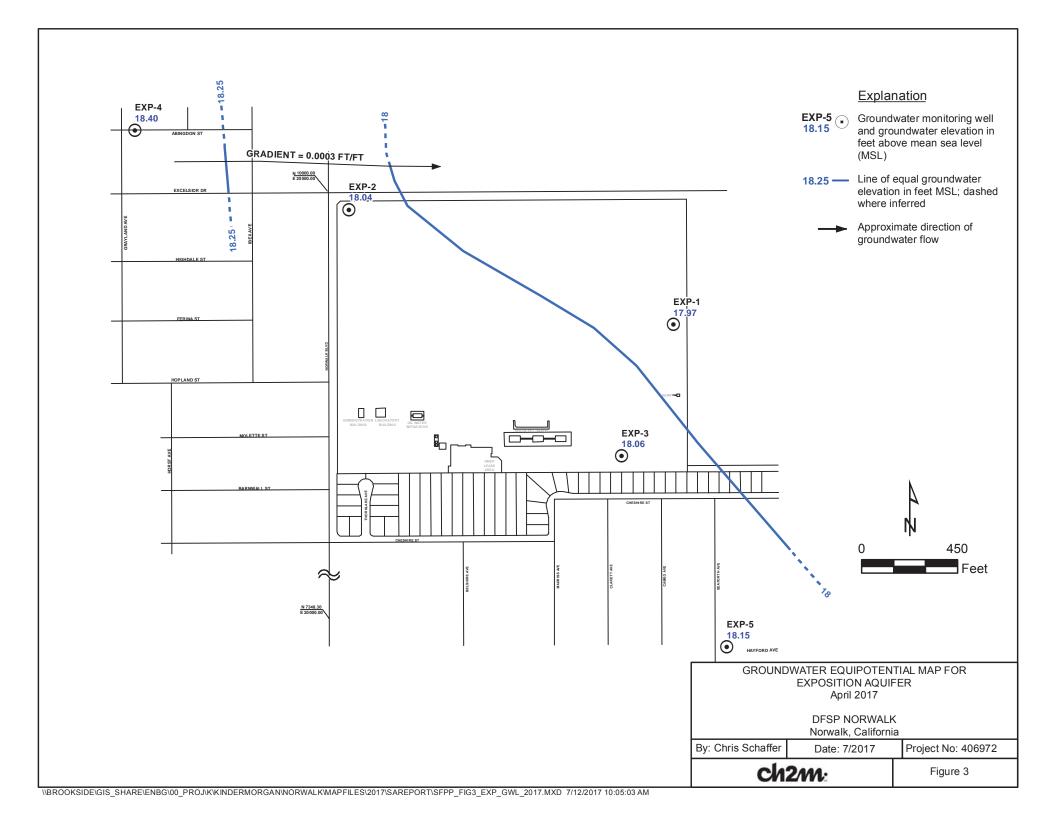
DFSP NORWALK Norwalk, California

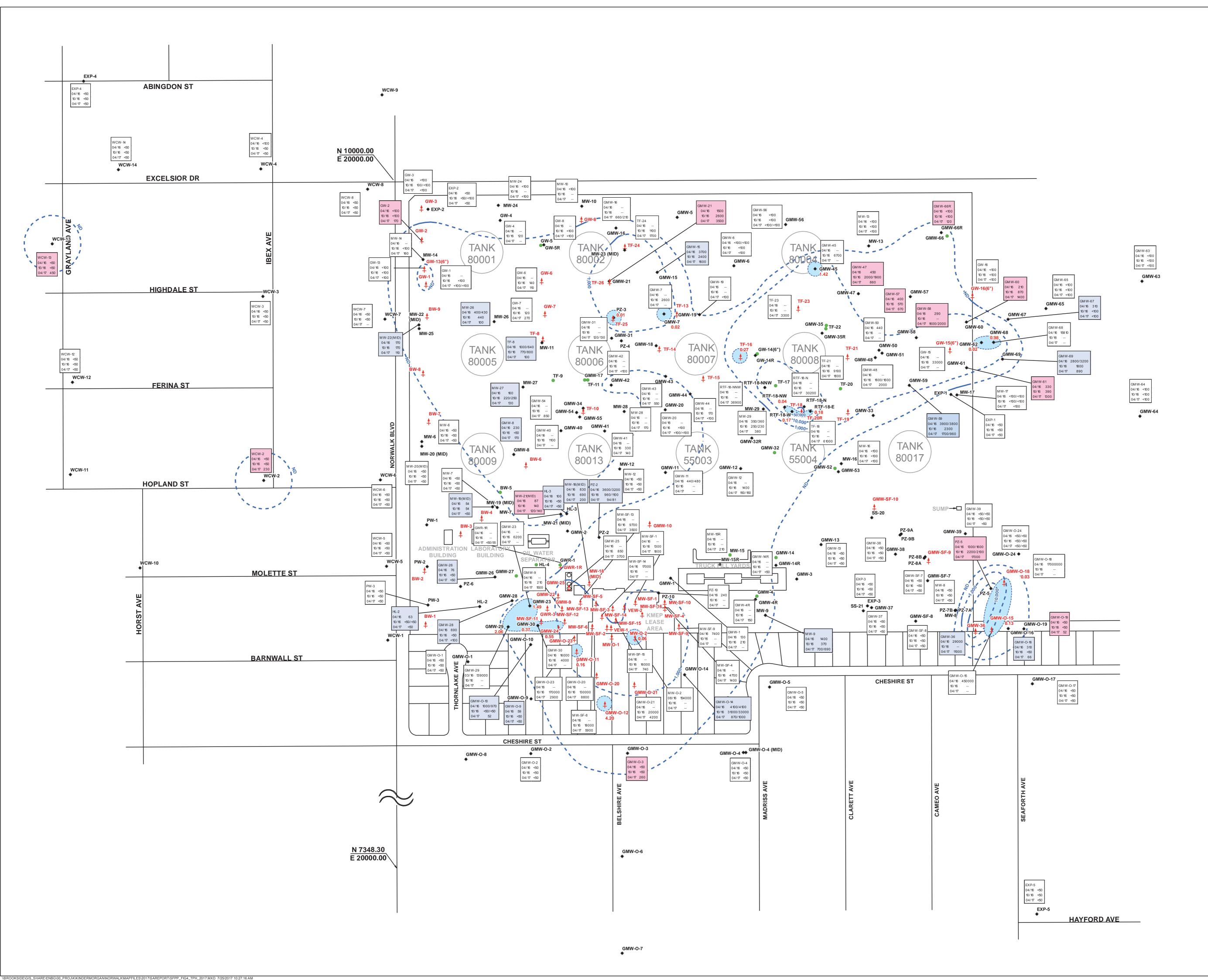
Date: July 21, 2010 Project No: 407609



Figure 1







GMW-5

Monitoring well and designation

total fluids, or free product extraction well used for site remediation

TF-23 Apparent thickness of free product measured in well (feet)

TF-17 • Decommissioned Well

GMW-63 TPH [TPHg and TPHd] is shown in white, the concentration of TPH has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.

Where the databox is shown in red, the 10/16 870 10/16 10 first semiannual monitoring event of the previous year.

Where the databox is shown in blue, the concentration of TPH has decreased by 10% or more at that location since the concentration of TPH has decreased by first semiannual monitoring event of the previous year.

Where the databox is shown in blue, the

<100 Not detected at or above laboratory reporting limit

Not sampled/not analyzed

<100/<100 Primary sample analytical result/duplicate sample analytical result (µg/L)

ND—— - Estimated extent of detected dissolved TPH in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred

1,000 — - Lines of equal TPH concentration (µg/L) in groundwater; dashed where inferred



Estimated extent of measurable light nonaqueous phase liquid (LNAPL, free product) on groundwater; dashed where inferred

<u>Notes</u>

1. TPH included in data labels and contouring represents the sum of detected TPH-d and TPH-g concentrations.

2. Fuel storage tanks depicted on the figure are historical structures and have been removed from the site.

Survey Notes

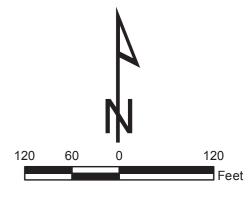
1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.

2. Except as noted below, well locations surveyed by Dulin & Boynton.

3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.

4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.

5. The location of well GWR-1R is approximated based on the former location of the well that it replaced (GWR-1).



TOTAL PETROLEUM HYDROCARBONS IN GROUNDWATER April 2017

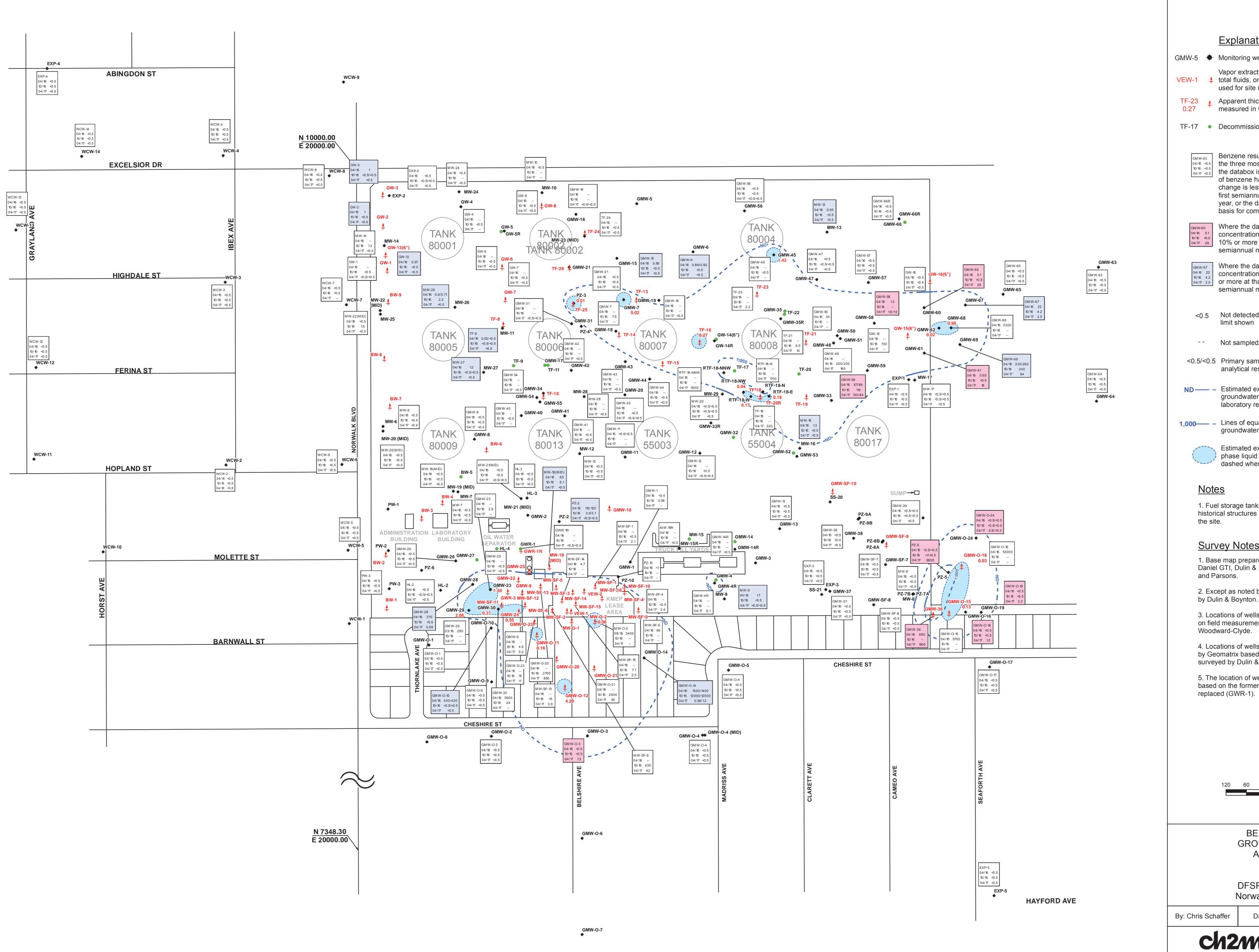
> DFSP NORWALK Norwalk, California

> > Date: 7/2017

Ch2m:

By: Chris Schaffer

Figure 4



GMW-5 • Monitoring well and designation

Vapor extraction, groundwater extraction, used for site remediation

> Apparent thickness of free product measured in well (feet)

TF-17 • Decommissioned Well

Benzene results in micrograms per liter (µg/L) for 04/16 <0.5 the three most recent semiannual events; where $\frac{10/16}{04/17}$ $\stackrel{< 0.5}{< 0.5}$ the databox is shown in white, the concentration of benzene has remained similar(concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.

Where the databox is shown in red, the concentration of benzene has increased by 04/17 26 10% or more at that location since the first semiannual monitoring event of the previous year.

Where the databox is shown in blue, the or more at that location since the first concentration of benzene has decreased by 10% semiannual monitoring event of the previous year.

Not detected at or above laboratory reporting limit shown

Not sampled/not analyzed

<0.5/<0.5 Primary sample analytical result/duplicate sample analytical result (µg/L)

ND — Estimated extent of detected dissolved benzene in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred

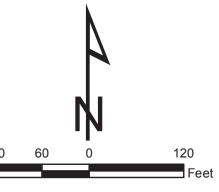
1.000— – Lines of equal benzene concentration (μg/L) in groundwater; dashed where inferred

> Estimated extent of measurable light nonaqueous phase liquid (LNAPL, free product) on groundwater; dashed where inferred

1. Fuel storage tanks depicted on the figure are historical structures and have been removed from

Survey Notes

- 1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix,
- 2. Except as noted below, well locations surveyed
- 3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and
- 4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.
- 5. The location of well GWR-1R is approximated based on the former location of the well that it replaced (GWR-1).



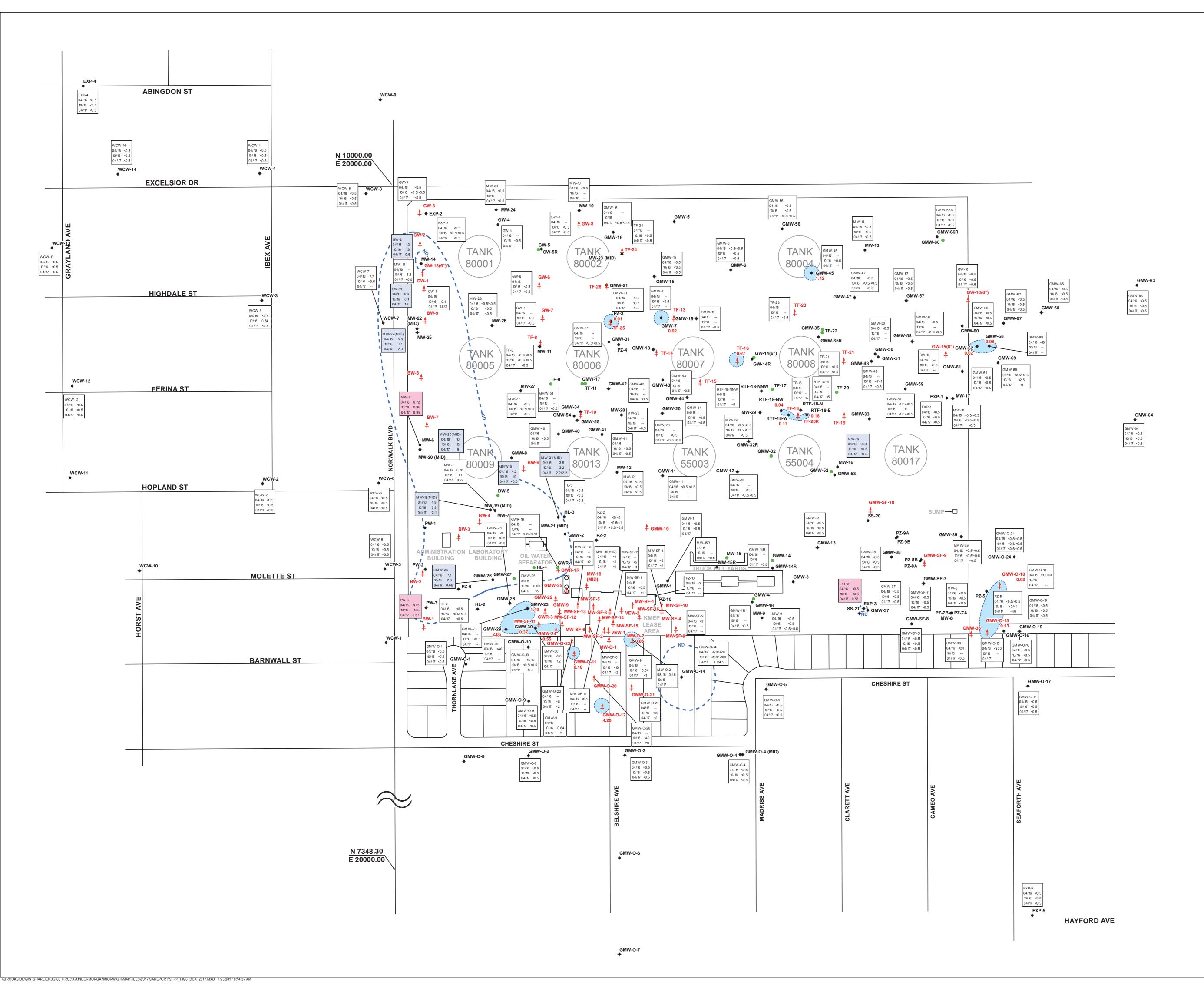
BENZENE IN GROUNDWATER April 2017

DFSP NORWALK Norwalk, California

Date: 7/2017 Project No: 420932



Figure 5



GMW-5

Monitoring well and designation

Vapor extraction, groundwater extraction,

VEW-1

total fluids, or free product extraction well
used for site remediation

Apparent thickness of free product measured in well (feet)

TF-17 • Decommissioned Well

GM W-63 04/16 <0.5 10/16 <0.5 04/17 <0.5

1,2-DCA results in micrograms per liter (μg/L) for the three most recent semiannual events; where the databox is shown in white, the concentration of 1,2-DCA has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.



Where the databox is shown in red, the concentration of 1,2-DCA has increased by 10% or more at that location since the first semiannual monitoring event of the previous year.



Where the databox is shown in blue, the concentration of 1,2-DCA has decreased by 10% or more at that location since the first semiannual monitoring event of the previous year.

<0.5 Not detected at or above laboratory reporting

-- Not sampled/not analyzed

<0.5/<0.5 Primary sample analytical result/duplicate sample analytical result (µg/L)

ND—— – Estimated extent of detected dissolved 1,2-DCA in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred



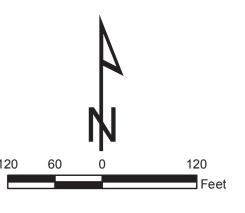
Estimated extent of measurable light nonaqueous phase liquid (LNAPL, free product) on groundwater; dashed where inferred

<u>Notes</u>

1. Fuel storage tanks depicted on the figure are historical structures and have been removed from the site.

Survey Notes

- Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
- 2. Except as noted below, well locations surveyed by Dulin & Boynton.
- 3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
- 4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.
- 5. The location of well GWR-1R is approximated based on the former location of the well that it replaced (GWR-1).



1,2-DICHLOROETHANE IN GROUNDWATER April 2017

DFSP NORWALK Norwalk, California

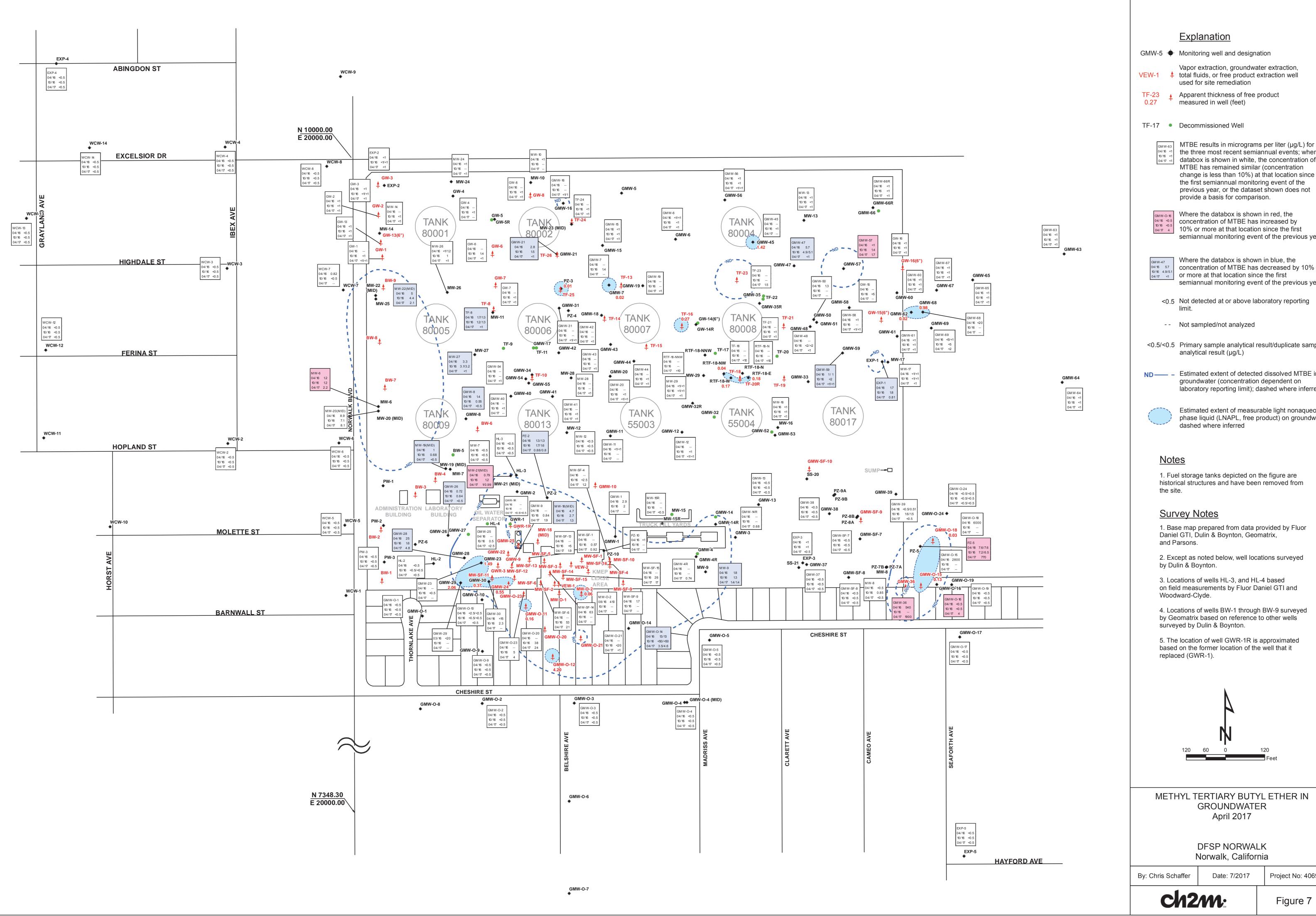
Date: 7/2017

Ttorwant, Gamerri

ch2m:

By: Chris Schaffer

Figure 6



\\BROOKSIDE\GIS SHARE\ENBG\\00 PRO.\\K\KINDERMORGAN\NORWALK\\MAPFILES\\2017\SAREPORT\\SEPP FIG7 MTBE 2017.MXD 7/25/2017 9:30:35 AM

GMW-5

Monitoring well and designation

Vapor extraction, groundwater extraction,

> ▲ Apparent thickness of free product measured in well (feet)

TF-17 • Decommissioned Well

the three most recent semiannual events; where the od/17 < databox is shown in white, the concentration of MTBE has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.

GMW-O-16 Where the databox is shown in red, the 04/16 0.5 concentration of MTBE has increased by 10/16 < 0.5 04/17 4 10% or more at that location since the first semiannual monitoring event of the previous year.

Where the databox is shown in blue, the concentration of MTBE has decreased by 10% or more at that location since the first semiannual monitoring event of the previous year.

<0.5 Not detected at or above laboratory reporting

- Not sampled/not analyzed

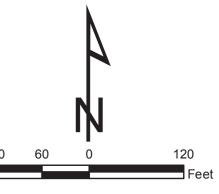
<0.5/<0.5 Primary sample analytical result/duplicate sample analytical result (µg/L)

ND — Estimated extent of detected dissolved MTBE in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred

> Estimated extent of measurable light nonaqueous phase liquid (LNAPL, free product) on groundwater; dashed where inferred

1. Fuel storage tanks depicted on the figure are historical structures and have been removed from

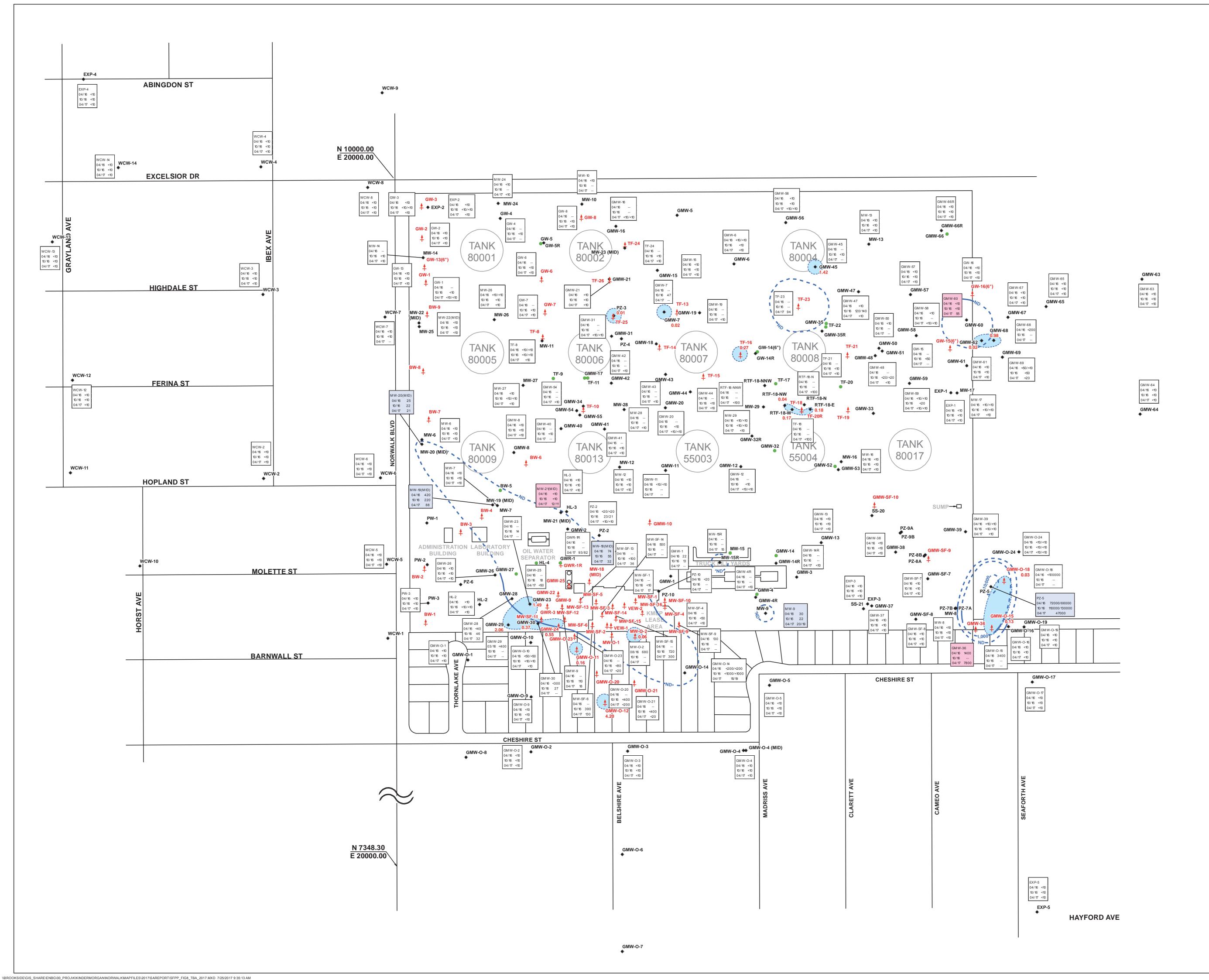
- 1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix,
- 2. Except as noted below, well locations surveyed
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- 4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells
- 5. The location of well GWR-1R is approximated based on the former location of the well that it



METHYL TERTIARY BUTYL ETHER IN GROUNDWATER April 2017

> DFSP NORWALK Norwalk, California

Figure 7



GMW-5

Monitoring well and designation

Vapor extraction, groundwater extraction,

VEW-1

total fluids, or free product extraction well
used for site remediation

TF-23
0.27

Apparent thickness of free product measured in well (feet)

TF-17 • Decommissioned Well

TBA results in micrograms per liter (μg/L) for the three most recent semiannual events; where the databox is shown in white, the concentration of TBA has remained similar (concentration change is less than 10%) at that location since the first semiannual monitoring event of the previous year, or the dataset shown does not provide a basis for comparison.



Where the databox is shown in red, the concentration of TBA has increased by 10% or more at that location since the first semiannual monitoring event of the previous year.



Where the databox is shown in blue, the concentration of TBA has decreased by 10% or more at that location since the first semiannual monitoring event of the previous year.

< 0.5 Not detected at or above laboratory reporting limit shown

Not sampled/not analyzed

<10/<10 Primary sample analytical result/duplicate sample analytical result (µg/L)

ND — Estimated extent of detected dissolved TBA in groundwater (concentration dependent on laboratory reporting limit); dashed where inferred

1000— – Lines of equal TBA concentration (μg/L) in groundwater; dashed where inferred



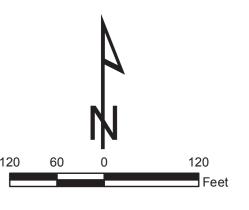
Estimated extent of measurable light nonaqueous phase liquid (LNAPL, free product) on groundwater; dashed where inferred

<u>Notes</u>

1. Fuel storage tanks depicted on the figure are historical structures and have been removed from the site.

Survey Notes

- 1. Base map prepared from data provided by Fluor Daniel GTI, Dulin & Boynton, Geomatrix, and Parsons.
- 2. Except as noted below, well locations surveyed by Dulin & Boynton.
- 3. Locations of wells HL-3, and HL-4 based on field measurements by Fluor Daniel GTI and Woodward-Clyde.
- 4. Locations of wells BW-1 through BW-9 surveyed by Geomatrix based on reference to other wells surveyed by Dulin & Boynton.
- 5. The location of well GWR-1R is approximated based on the former location of the well that it replaced (GWR-1).



TERTIARY BUTYL ALCOHOL IN GROUNDWATER April 2017

DFSP NORWALK Norwalk, California

Date: 7/2017

Tronvant, Gamerin

ch2m:

By: Chris Schaffer

Figure 8

Appendix A
Semiannual Event Field Forms
(CD ROM Only)

	NICIAN	i:(Ben	5		DATE:	Ч,	17.17		_	CLIEN	T ICM	Eρ	
1	Well ID	Well Size (in.)			Thickness of le Immiscible .) Liquid (ft.)	Last Events SPH Thickness	Depth to water (ft.) 2Q15	Depth to water (ft.) 4Q15	Depth to water (ft.) 2Q16	Depth to water (ft. 4Q16			Survey Point: TOB or	Tim
1	EXP-1	4		214			57.81	59.22		61.31	60.47	129,09	4	090
1	EXP-2	4					58.53	60.23		61.88	61.39			091
E	EXP-3	4					56.91	58.43		60.52	59.52			095
E	EXP-4	4					58.43	60.00		62.71	1 /	11590		090
-1	EXP-5	4					51.71	53.27		55.40	54.26	113.71		082
	GMW-1	4	-41	able	to lu(ale -	31.19	31.89	36.16	35.80		borte	1	-
	GMW-10	4				1.55	34.99	32.96	34.47	35.10	31.15	-	4	
	3MW-11	4					04.00	32.30	34.47	33.10	30.29	41.68		1251
0	GMW-13	-4					30.39	31.16		33.20		49,57		1350
G	GMW-14 R	4					30.39	31.10		33.20	35.32		+	103
1	NIVV-2 PJ	400 400									33.32	33723		-
6	BING BING	NW-21_	eda i							ASS. 2017	20 47	61.32	-	
	MW-23	4		31.41	1.49				39.73	37.70	34,47	61170		1154
G	6MW-24	4		35.09	0.55		36.64	36.10	36.35	36.15	33.40			1231
	MW-25		- 25	1/2 (A)	A A		31.94	32.80	38.83	39.31	35.64			1/54
G	MW-26	4					Ext. Pump	35.44	38.99	38.70	35:23	53./1	+	1150
G	WYET	4			10A		35.19	35.38	34.56	35.12	31.90	4828	\perp	1121
G	MW-28	4		1 1127 1	en para and a		31.18	31.73			24	14.5		
-	MW-29	4					31.23	32.00	35.66	35.81	3210	49.14		1150
_	MW-3	4		31.74	2.06	0.25	32.62	31.27	36.15		33,80		\perp	1135
00000		4		unab		10 (4H	31.40	32.12	-wel	1501	1 ed-	_		-
	MW-30	6		35.16	037		32.70	32.92	36.22	36.30	32.576	NEW BUILDING		1236
-	MW-36	4				0.40	Ext. Pump	33.55		35.05	3296	51,69		114
GN	MVV-37	4					33.51	34.11		35.10	33 68	53.48	25.0	095)
G۸	MW-38	4					31.59	32.33		34.10	31.83	52.99		1000
GŅ	MW-39	4					31.04	31.87				50.53	1	027
GN	MW-4 R	4			•						36.15	55:18		1033
GN	MW-8	4					30.43	31.13		33.47				0930

SEE RELEASE REPORTING PROCEDURE REMINDER IN SOW Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

ΓΕCHNICIAN:	Bens.	DATE: 4.17.17	CLIENT KMEP
I LCI II II CII II II			

	Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)		Last Events SPH Thickness	Depth to water (ft.) 2Q15	Depth to water (ft.) 4Q15	Depth to water (ft.) 2Q16	Depth to water (ft.) 4Q16	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Time
P	GMW-9	5				0.24	Ext. Pump	34,61	36.10	38.02	3332	^	1	
- 1	GMW-O-1	4					28.02	28.98	30.66	31.20	19.51	4920		1150
1	GMW-O-10	4					30.52	31.17	32.65	33.13	31.47	50.07		1400
	GMW-0-11	4		29.46	0.16		Ext. Pump	33.08	33.39	300	30.11	-		1466
	GMW-0-12	4		28.70	4.20	2.30	33.35	34.65	32.40	34.20	32.90	_		1410
	GMW-0-14 *	4					30.32	30.98	32.62	34.08	3415	50.10		1500
2	GMW-O-15	4		29.52	0.13	0.08	Ext. Pump	31.91		31.00	29.65			_
,	GMW-O-16	4					29.69	30.41		32.00	30.49	48.81		110
	GMW-O-17	4					28.96	29.95		31.10	30.20	46.00		1225
•	GMW-O-18	4		31.80	0.07		28.53	30.90			2977	31.83		_
	GMW-O-19	4					28.41	30.63		32.20	30.94			110
	GMW-O-2	4					28.34	29.07	30.44	31.30	3000	48.99		1210
r	GMW-O-20	4					Ext. Pump	31.36	32.54	33.12	29.70	_		
	GMW-0-21 1	4					30.15	31.43	33.20	33.45	30.48	43,17		1505
P	GMW-O-23	4					Ext. Pump	32.82	34.43	34.90	30.88	_		_
,	GMW-O-24	4					30.23	30.95		32.39	28.60	45/2	/	445
	GMW-O-3	4					28.21	28.94	30.60	31.45	29.40	47.90		1213
	GMW-O-4	4					27.79	28.57	30.55	30.90	28.90	4930		1217
	GMW-O-5	4					28.31	29.09	30.98	31.43	29.23	49.10		1220
	GMW-O-6	4					26.10	27.50		29.00	28.60	49.90		1300
	GMW-O-7	4					26.09	26.63		28.10	28.40	49.92		1300
	GMW-O-8	4					26.39	27.53		29.51	29.20	49.42		1140
	GMW-O-9	4					29.79	30.33	31.88	33.03	3125	49.91		1330
	GMW-SF-7	4					31.30	32.03		33.72	31.47	4323		1009
	GMW-SF-8	4					32.59	33.28		35.01	32.39	43.6		095
	GWR-1 R	4									33.77	52.60		1140
	GWR-3	6				0.05	37.25	35.98	38.60	39.20		50.t		120

SEE RELEASE REPORTING PROCEDURE REMINDER IN SOW Blaine Tech Services Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

rechnician: Real Date: 4.17.17 CLIENT CLIENT CLIENT CHIEF

Well ID	Well Size (in.)		Thickness of Immiscible Liquid (ft.)	Last Events SPH Thickness	Depth to water (ft.) 2Q15	Depth to water (ft.) 4Q15	Depth to water (ft.) 2Q16	Depth to water (ft.) 4Q16	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOP or TOC	Time
HL-2	4				33.37	34.08		35.17	34.45	39,10	Ĺ	1102
HL-3	4				33.43	34.15	36.84	37.22	34:06	41.08		0947
MW-12	4				32.39			35.84	3297	51.78		1005
MW-15 Q	4	V-1							3441	55.73		1047
MW-18 (MID)	4				36.29	36.99	40.70	40.93	37.50	65.04		1159
MW-19 (MID)	4				37.61	38.26		40.60	3862	61.81		0940
MW-20 (MID)	4				35.94	37.73		38.22	37/30	5635		0920
MW-21 (MID)	4				34.08	34.77		37.83	34.74	61.97		0950
MW-6	4				33.79	34.47		35.13	34.93	52.04		0925
MW-7	4				34.70	35.36		32.90	35,26	53,95		0943
MW-8	4				31.86	32.69		34.20	3221	51.88		1021
MW-9	4				33.24	34.05		33.56	31.80	51:67		0941
MW-O-1	4				30.39	8.37	DRY	DRY	Dry	29.84		1415
MW-0-2	6	30.85	0.06	0.08	30.94	32.39	35.49	34.30	30.91	_		1457
MW-SF-1	6				34.89	36.35	40.40	39.20	35.75	41.43		0817
MW-SF-10	4				Dry	DRY	DRY	DŖY	Diy	2960		0829
MW-SF-11	4				Ext. Pump	37.42	39.56	40.05	35,91	4381		1221
MW-SF-12	4				Ext. Pump	36.78	39.03	39.45	35.12	43.93		1148
MW-SF-13	4				32.44	35.16	34.72	34.20	30.40	39.23		1275
MW-SF-14	4				Ext. Pump	35.25	36.21	DRY	35.40	35,71		0917
MW-SF-15	4				36.63	37.90	39.70	39.56	1 300	44.06		0906
MW-SF-16	4				Ext. Pump	34.56	39.60	39.35	35.20	3967		0320
MW-SF-2	4				Ext. Pump	36.32	39.27	39.60		42.48		0913
MW-SF-3	4				34.52	35.18	39.43	39.40	35/5	I		- "
MW-SF-4	4				37.70	38.12	40.80	41.05		41.99		0834
MW-SF-5	6				36.05	36.82	DRY	DRY	1	37.65		0931
MW-SF-6	6				33.23	34.28	38.10	38.45	34.03	1	J	0918

L'ant

TECHNICIAN: Ben S. DATE: 4.17.17 CLIENT /CMFP

	Well ID	Well Size (in.)		Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Last Events SPH Thickness	Depth to water (ft.) 2Q15	Depth to water (ft.) 4Q15	Depth to water (ft.) 2Q16	Depth to water (ft.) 4Q16	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or	Time
	MW-SF-9	4	- L	reil b	rened	_	36.69	31.44	34.14	unuble	to acres	,-	1	,
	PW-1	4					Dry	DRY		DRY	Di-/	28.16		1324.
	PW-2	4					Dry	DRY		DRY	Dist	25.86		1318
1	PW-3	4					30.62	31.08		33.23	31.60	50.02		1009
100	PZ-10	3					30.72	31.42	DRY	DRY	Dry .	2832	-	0840
	PZ-2	4					30.48	31.18	34.72	34.67	3 1:13	48.83		0955
	PZ-5	4					29.66	30.50		31.00	30'07	37.75		BSL
	VEW-1	4					Dry	DRY		DRY	Diy	12.34		0910
	VEW-2	4					Dry	DRY		DRY	Dry	26.47		0825
9	WCW-1	4					29.08	29.90		31.50		53.10		1/25
	WCW-10	4					29.27	30.00		31.81	32-13	55,20		1030
	WCW-11	4					31.19	32.02		33.31	33,65	59.90		0930
	WCW-12	4				(2)(1)	32.62	33.32		39.60	35,00	6020		0935
	WCW-13	4					34.10	34.75		36.03	36.83	60.53		0905
	WCW-14	4				72 11111	35.09	35.71		36.70	37.40	58.60		0840
	WCW-2	4					32.84	32.52		33.60	33,62	52.40		0922
	WCW-3	4					32.40	33.38		34.35	34.70	50.61		0915
	WCW-4	4					34.52	35.10		36.10	36.61	50.54		0830
	WCW-5	4					29.93	30.77		32.20	31.21	50.22		1108
	WCW-6	- 4					32.08	32.82		34.00	33,51	51.05		10.00
	WCW-7	4					33.22	34.05		34.22	. 9267	33,55%		1100
1	WCW-8	4					34.05	34.78		35.70	36.00	51.51		0835
	WCW-9	4					33.92	34.91		35.29	35110	57.03	U	1050

The State of the S	And the second s		The state of the s					The state of the s		
Project #	: 170417	BN1		Client:			KMEP			
Sampler:		Alukum ista		Start Date	:	84-19-1	7			
Well I.D.	1000			Well Dian	neter: 2	3 4) 6 8			
Total We		115,90)	Depth to V	Vater:	Pre: 61,2	Post:	61,43		
Depth to	Free Produ		And the survey of the state of	Thickness						
Referenc	ed to:	P OC	Grade	Flow Cell Type: YSI 556						
Purge Meth Sampling M		2" Grundf Dedigajed		Peristaltic Pump New Tubing Bladder Pump Other						
Start Purge	Time: 09	107	Flow Rate: _	Some full	4	_Pump Dep	th:			
Time	Temp.	pН	Cond. (mS/cm or µDcm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or 10)	Depth to water		
0910	2015	7135	1334	5	1121	97,2	1500	61,45		
0913	2015	7133	1335	3	1,30	91,1	3000	61,43		
0916	2016	7133	1337	3	1126	85,4	4500	61.43		
0919	2016	7,33	1334	4	1,25	8416	6000	61,43		
0922	20,6	7132	1340	3	1,73	83.1	7500	61,43		
				*						
3										
No.										
yydan Tallagaa										
Did well	dewater?	Yes (₩		Amount	actually e	vacuated: 7	1,5		
Sampling	Time:	0924			Sampling	Date: c	4-19-17			
Sample I.	D.: EXP	-4		Laboratory: Alpha Analytical						
Analyzed	for:	TPHg TI	PHfp VOC's	C's MTBE Other: See C.O.C						
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	e I.D.:	NAME OF THE OWNER O			

	California Company	THE RESERVE TO THE PERSON	STATE OF STA							
Project #:	170417	-BN (300000	Client: KMEP						
Sampler:	,		9700	Start Date	: 04.	19-17				
Well I.D.	: EXP-S	<u> </u>		Well Dian			6 8	_		
		113,21	10.224	Depth to V	Water:	Pre: 54	ece Post:	54.26		
Depth to	Free Produ	ıct:	a to the second second	Thickness	of Free Pr	roduct (fe	Contraction (
Reference		P(V)	Grade	Flow Cell	Flow Cell Type: YSI 556					
Purge Metho Sampling M		2" Grundfo		Peristaltic Pump New Tubing Bladder Pump Other						
Start Purge	Time: 0 82	0	Flow Rate: 5	oour lui	9	Pump Dep	th: <u>95</u>			
Time	Temp.	pН	Cond. (mS/cm or µDm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or 슚	Depth to water		
6823	4,4	7,44	928	012	1:13	47,3	1500	54,26		
0826	21,5	7,42	928	0.5	1.07	41.7	<i>300</i> 0	54.25		
6829	416	7,37	927	0,4	0,98	33,3	4500	54,26		
6832	21,6	7135	927	014	0,95	30,9	6000	54,26		
0835	21,7	7,34	925	015	0.92	29,3	7500	S4, Z6		
		1.								
				317						
1970 1970										
Did well	dewater?	Yes	(Amount	actually e	evacuated: 7,	5		
Sampling	Time:	0837		2000	Sampling	g Date:	04-19-17			
Sample I.	D.: <i>EX</i>	P-5	3100		Laborato		Alpha Analytical			
Analyzed			PHfp VOC'	s MTBE		Other: 5	ee C.O.C	* ****		
Equipmen	nt Blank I.	D.:	@ Time		Duplicate			=		

Project #:	YOT1:			Client:			KMEP				
Sampler:	DF	-51:27		Start Date:	4/19	3/17	10,000				
Well I.D.	: WCW	-2		Well Diam		3 4	6 8				
Total We		52.33		Depth to V	Vater:	Pre: 32	.92 Post:	34.13			
	Free Produ	_		Thickness							
Reference		PVC	Grade	Flow Cell			YSI 556				
Purge Metho Sampling M		2" Grundfo			Peristaltic Pump New Tubing Bladder Pump Other						
Start Purge	Time: 081	L	Flow Rate: _	300 mu/m	in	Pump Dept	th: 40′				
Time	77 99										
0814	20.9	756	2174	38	1.70	-260.3	900	33.99			
0817	21.7	7.50	2378	32	1.53	-2699	1800	39.07			
0870	21.7	2525	24	1.11	-288.8	2700	34.10				
0813	21.9	7.48	2585	22	1.09	-283.4	3600	34.13			
0326	21.9	7.44	2599	21	1.06	-281.6	4500	34.13			
VA 70-											
							200000000000000000000000000000000000000	1.			
							6				
	- 1.4-20		A								
						100 mm					
Did well	dewater?	Yes	(No)		Amount	actually e	vacuated: 45	50 one			
Sampling	Time: 08			Observed BASIN	Sampling	Date: 4	1816				
Sample I.	4444	2.m.2		Laboratory: Alpha Analytical							
Analyzed	***		PHfp VOC'	C's MTBE Other: & COC							
Equipmen	nt Blank I.	D.:	@ Time	Duplicate I.D.:							

Project #:	1704			Client:			KMEP	377 377 384		
Sampler:	DF			Start Date:	4/16	3/17				
	: WCW	.03		Well Diam	eter: 2	3 (4	68_	_		
Total We	ll Depth:	50.50	,	Depth to V	Vater:	Pre: 3u	1-74 Post:	34.76		
Depth to	Free Produ	ıct:		Thickness	of Free Pr	oduct (fe	et):			
Reference	ed to:	(PVC)	Grade	Flow Cell	Туре:	SPREED STREET	YSI 556			
Purge Metho Sampling M	ethod:	2" Grundfo Dedicated	Dubing		Peristaltic Pump New Tubing Other					
Start Purge	Time: 094	1	Flow Rate: _	300 ml	lain	Pump Dept	th: 42'	_		
Temp. Temp. (mS/cm or Turbidity D.O. ORP Water Removed (mS/cm) (NTUs) (mg/L) (mV) (gals. or mL) Depth to water										
0850	221	7.60	२२०%	12	1.57	-229.3	900	34.75		
0853	22.8	7.44		1.08	-248.6	1800	34.76			
0856	23.3	7.40								
0859	73.7	7.35	2248	Ý	0-48	-263.3	3600	34.76		
0902	23.8	7.33	2263	3	0.46	-268.8	. 4500	34.76		
0905	73.8	7.32	2264	3	0.43	-269-9	540 D	34.76		
						2010				
Did well	dewater?	Yes	No		Amount a	ectually e	vacuated: 51	100m		
Sampling	Time: 0°	707			Sampling	Date:	4/18/17	3340		
Sample I.	D.: W	CW-3			Laborator		Alpha Analytical			
Analyzed		TPHg T	**************************************	C's MTBE Other: Sec GOL						
Equipmer	nt Blank I.	D.:	@ Time		Duplicate I.D.:					

Project #:	1704	-BN/		Client: KMEP						
Sampler:	DF			Start Date:	4/1	8/17				
Well I.D.:	WCW.	4		Well Diam	neter: 2	3 4	6 8	_		
Total Wel	1 Depth:	50.54		Depth to V	Vater:	Pre: 31	e.72 Post:	37.14		
Depth to I	Free Produ	ict:		Thickness	of Free Pr	oduct (fe	et):			
Reference	ed to:	(RVG	Grade	Flow Cell Type: YSI 556						
Purge Metho Sampling Me	ethod:	2" Grundfo Dedicated	Tubing	200	Peristaltic Pump New Tubing Other Pump Depth: 42'					
Start Purge	Time: 093	1		3007	reja. N	Pump Dept	.n:			
Temp. (mS/cm or Turbidity D.O. ORP Water Removed (mV) (mS/cm) (NTUs) (mg/L) (mV) (gals. orm) Depth to water										
०१५०	23-1	7.69	3 295	57	2.22	-201.7	900	36.95		
0943	278	7.61	378b	51	2.03	-2198	1800	36.89		
0946	1 1 1 2 2				7.00	-2299	2700	37.04		
० १५५	24.2	7.51	3250	41	1.75	-2369	3600	37.08		
0952	24.2	7.49	7455	40	1.69	-238.1	YSOD	37.12		
0955	24.4	7.48	3245	36	1.61	-247.3	5400	37.12		
0458	24.3	749	3249	37	1.58	-253.6	6300	37.14		
		i								
Did well	dewater?	Yes	No		Amount	actually e	vacuated: 6	30 Boll		
Sampling Time: 6000 Sampling Date: 4/18/17										
Sample I.		CW-4		Laboratory: Alpha Analytical						
Analyzed		TPHg T	PHfp VOC	C's MTBE Other: SEE COC						
Equipmen	nt Blank I.	D.:	@ Time	Duplicate I.D.:						

Project #:	170417	-BNI		Client: KMEP							
Sampler:				Start Date:	04-	19-17					
	: WCW-5	-	720-95-100	Well Diam) 6 8	_			
Total We		50,22		Depth to V	Vater:	Pre: 31	(2) Post:	31,53			
Depth to	Free Produ	(1)	Ü S	Thickness	of Free Pi	oduct (fe					
Reference	ed to:	P(V)	Grade	Flow Cell	Туре:		YSI 556				
Purge Metho Sampling M Start Purge	ethod:	2" Grundfo Dedicated	Tubing	200	Peristaltic Pump Bladder Pump New Tubing Other Out / Mu Pump Depth: 42						
Start Turge	1 mic		Cond.	war jav	1		III				
Time	Temp. (mS/cm or Turbidity D.O. ORP Water Removed										
1005	24,6	7,22	2536	17	0,88	117,1	900	31,43			
1008					6.88	109,2	1600	31,47			
1011				14	0,81	103,7	2700	31,49			
1014	24,6	7,19	2541	15	6,80	102,5	3600	31,51			
1617	24,6	7,18	2540	15	0,79	100,9	4500	31,53			
Article Control				2000							
					Par Maria	12/4/17/2/18					
			3 (100)				-2000				
Did well o	dewater?	actually e	evacuated: 4,	5							
Sampling	Time:	1018	Sampling	Date:	04-19-17						
Sample I.l	D.: ωcω	.5			Laboratory: Alpha Analytical						
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE		Other:	See C.O.C				
Equipmen	t Blank I.l	D.:	@ Time	**************************************	Duplicate I.D.:						

Project #:	170417	L-BNI		Client: KMEP					
Sampler:				Start Date:	6	4-19-13	7		
Well I.D.	: WCW	-6		Well Diam	neter: 2	3 4	68	_	
Total We		51,0	S	Depth to V	Vater:	Pre: 33	Si Post:	34,00	
Depth to	Free Produ			Thickness	of Free Pi				
Reference	ed to:	PØG	Grade	Flow Cell	Туре:		YSI 556		
Purge Metho Sampling M Start Purge	ethod:	2" Grundfo Dedicated	Tubing	300 mc /mv	Peristaltic Pump Bladder Pump New Tubing Other Omc /mm Pump Depth: 40				
Time	Temp.	pН	Cond. (mS/cm or µ\$70m)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. orm)	Depth to water	
1154	24,4	6,99	2894	39	0,54	-68,8	900	53,96	
1157	23,8	7,03	2842	35	0148	-81,5	1800	33,99	
1200					0140	-83,4	2700	34100	
1203	23,9	7104	2888	19	0142	-84,3	3600	34,00	
1706	23,9	7,05	2887	19	0:44	- 85,1	4500	34100	
			30. 2000.31	meth.		100000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Did well	dewater?	Yes (R)		Amount	actually e	vacuated: 4	5 4	
Sampling	Time:	1208	(Sampling	Date:	04-19-17		
Sample I.	D.: wa	w-6			Laborato	ry:	Alpha Analytical	1	
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE		Other:	See C.O.	٥	
Equipmen	t Blank I.l	D.:	@ Time	54.54,144.	Duplicate I.D.:				

		2011	LOW WIL	THE INCH !	CIOICITIC	, 1011111	OII DE I	
Project #	: 170417	BNI		Client:	- Dikesa o	2014.400	KMEP	Million
Sampler:	NV			Start Date	: 04-1	19-17	- CONTRACTOR OF THE CONTRACTOR	
Well I.D.	: ωςω	1-7	5-64 CH (C) 5-6 CH (C) 5-7	Well Dian	neter: 2,	3 4) 6 8	_
Total We	ll Depth:	33,3	55	Depth to V	Water:	Pre: 38	Post:	33,53
Depth to	Free Prod	uct:	Hark Colden alexa, Companyor Colden	Thickness	of Free P			
Referenc	ed to:	PO	Grade	Flow Cell	Type:	,	YSI 556	,
Purge Meth Sampling M Start Purge		2" Grund Dedicated	l Tubing	come/min	Peristaltic A New Tabin		Bladder Pump Other_ th: 45	
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water
			well	15	Dra			34,280
								3412
		·	Dropped	Bailer	to	can Ciri	ч	34(2)
			1-1-1-1					
0A 2015 A 20			No.	Somo le	take	11		
	2000			Ü				
144911						in the state of th	75	
	122312							
Did well	dewater?	Yes	No		Amount	actually e	vacuated:	
Sampling	Time:	5000			Sampling	g Date:	04-19-17	
Sample I.	D.: ωα	w-7			Laborato	ry:	Alpha Analytical	
Analyzed			PHfp VOC's	s MTBE		Other:	Le c.o.c	
Equipmen	nt Blank 1.	D.:	@ Time	1000	Duplicate	e I.D.:/		
Blaine T	ech Serv	ices, In	c. 1680 R	ogers Ave	e., San Jo	ose, CA	95112 (408)	573-0555

				T			111000 211,01	17777		
Project #:	170417	-BNI	3.7019	Client: KMEP						
Sampler:	N	,		Start Date:	: 0	4-19-17				
Well I.D.	: WCW-	.4		Well Diam	neter: 2	3 4	6 8			
Total We	ll Depth:	51,51		Depth to V	Vater:	Pre: 36	Post:	36,47		
Depth to	Free Produ	ıct:	200	Thickness						
Reference	ed to:	MVQ	Grade	Flow Cell Type: YSI 556						
Purge Metho Sampling M	ethod:	2" Grundfo Dedicated	Tubing		Peristaltic Pump New Tubing Bladder Pump Other					
Start Purge	Γime: <u>(6</u>	40		300 MC /M14	[Pump Dep	th: 45			
Time	Temp.	рН	Cond. (mS/cm or µ\$(om)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or 📆)	Depth to water		
1043	23:8	7112	27 70	48	0117	-85,2	900	36,44		
1046	24,1	7.11	2771	46	0118	36,46				
1049	24,2	7:11	2773	47	0120	-93,8	2700	36.47		
1052	2412	7111	2772	46	0,22	0,22 -95.0 3600				
1055	2413	7112	2774	45	0,21	-9713	4500	36147		
	***							do tobio		
300										
Did well	dewater?	Yes	No.		Amount	actually e	evacuated: 4	15 L		
Sampling	Time:	1057			Sampling	g Date:	04-19-17			
Sample I.	D.: ω	cw-8		600 × 25	Laborato	ry:	Alpha Analytica	1		
Analyzed		TPHg T	PHfp VOC'	C's MTBE Other: See C.O.C						
Equipmen	nt Blank I.	D.:	@ Time	Duplicate I.D.:						

Project #	: 170417	-BNI		Client: KMEP						
Sampler:				Start Date	: 04-19	9-17				
Well I.D.	: wcw-	12		Well Dian			6	8	_	
Total We		49.85	60.20	Depth to V	Water:	Pre: 34	1.88	Post:	35.06	
Depth to	Free Produ	ıct:		Thickness	of Free Pr					
Reference	ed to:	PVC	Grade	Flow Cell	Type:		YSI 5	56	310	
Purge Methors Sampling M Start Purge	ethod:	2" Grundb Dedicated	Tubing	come Iniu	Peristaltic Pump Bladder Pump New Tubing Other Pump Depth: 40					
Time Cord. (mS/cm or Turbidity D.O. ORP Water Removed (mS/cm) (NTUs) (mg/L) (mV) (gals. or m) Depth to water										
1239	23 (7	7.35	2166	7 1000	0110	-89,7	9.	00	35,28	
1242	24.5	7133	2169	71000	0107	-95:4	180	x 0	35,32	
1245	24,5	7133	2173	71000	6:10	-100:1	270	0	35.35	
1248	25,9	7 133	2173	71000	0112	-103,2	366	96	35136	
1251	23.8	7,32	2172	71000	oill	-104,7	450	0	35, 36	
1254	23,7	7,32	2172	71000	011(-10711	540	0	35:36	
				E.			ii			
Did well dewater? Yes Amount actually								ed: 5	9 L	
Sampling Time: 1256 Sampling Date: 04-19-17										
Sample I.D.: WCW · 12 Laboratory							Alpha A	nalytical		
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE	775000 11 14	Other:	See	C.O.	C	
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	e I.D.:	98m			

		Manager and the search							
Project #: 1704 BN 1				Client:	t: KMEP				
Sampler: F				Start Date: 4/18/17					
Well I.D.: WCW-13				Well Diameter: 2 3 (4 6 8					
Total Well Depth: 60.53				Depth to Water: Pre: 36.49 Post: 36.64					
Depth to Free Product:				Thickness of Free Product (feet):					
Reference	ed to:	evg	Grade	Flow Cell Type: YSI 556					
Purge Method: 2" Grund 6 Sampling Method: Dedicated 1 Start Purge Time: 10 15			Dubing	300	Peristaltic P New Tubing	g	Bladder Pump Other_ th: 50		
Time	Temp.	рН	Cond. (mS/cm or	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mb)	Depth to water	
1018	23.6	7.85	20 88	45	1.73	-1983	900	36.59	
1021	23-7	7.71	1995	31	1.69	-1754	1800	36-63	
1021	23.7	7.19	1980	30	1.62	-171.2	2700	36.63	
1027	23.8	7.67	1976	28	1.59	-169.1	3600	36-64	
[030	238	7.65	1971	27	1.55	-1609	4500	36.64	
			*****	1370					
3100	110					######################################			
		1000	400						
	<u> </u>						24000		
Did well dewater? Yes No				Amount actually evacuated: 4500					
Sampling Time: 1032				Sampling Date: 4/18/17					
Sample I.D.: WCW 13					Laboratory: Alpha Analytical				
Analyzed			PHfp VOC'	s MTBE Other: STELLO					
Equipment Blank I.D.:					Duplicate I.D.:				

			The state of the s						
Project #: 170417 - BN				Client:	KMEP				
Sampler: W				Start Date: 04-19-17					
Well I.D.: ωςω-14				Well Dian	700	3 4	6 8		
To AWAID d				Depth to Water: Pre: 37,40 Post: 37,51					
Depth to Free Product:				Thickness of Free Product (feet):					
Reference		PVD	Grade	Flow Cell Type: YSI 556					
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tubing				/C 10	Peristaltic Pump Bladder Pump New Tubing Other Pump Depth: 43				
Time	Temp.	pН	Cond. (mS/cm or µS(Cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or M)	Depth to water	
1342	23,3	7,46	1890	58	1182	1001	900	37,46	
1345	23:3	7,32	1886	27	1,68	99.6	1900	37,49	
1348	3,6	7,29	1888	18	1163	97,8	2700	37,51	
1351	23,5	7,28	-1888	17	1195	96,9	3600	37,51	
1354	23,4	7128	1884	18	1143	96.5	4500	37,51	
1357	23,4	7,28	1884	18	1142	96,2	5400	37 : 51	
	300	20011012		7,141					
Did well dewater? Yes				Amount actually evacuated: 5,4 L					
Sampling Time: 1358					Sampling Date: 09-19-17				
Sample I.D.: wcw-14					Laboratory: Alpha Analytical				
Analyzed for: TPHg TPHfp VOC's MTBE					Other: See C.O.C				
Equipment Blank I.D.: 62-14 @ 14/7				17	Duplicate I.D.:				

							37. 10. 34.114.114	W_4====================================	
Project #: 170417.B~1				Client: KMEP					
Sampler: В∼				Start Date: 4,19.17					
Well I.D.:	: p	nw 6		Well Diam	eter: 2	3 4	6 8		
Total We	All and the same	52.0	4	Depth to Water: Pre: 34,93 Post: 34,98					
Depth to	Free Produ	ıct:		Thickness of Free Product (feet):					
Referenced to: PVD Grade				Flow Cell Type: YSI 556					
Purge Method: 2" Grund Sampling Method: Dedicate		2" Grundfo Dedicated	Tubing	Peristaltic Pump New Tubing 300 my Pump D			Bladder Pump Other pth: 47'		
Time	Temp.	pН	Cond. (mS/cm or µS(cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed	Depth to water	
0733	21.69	7.31	2956	27	1,75	. 78.7	900	34.98	
0736	22:23	7.53	3118	22	1,49	-86.8	1,800	34.98	
0739	22.32	7.58	3192	14	1.78	-97.1	2,700	34.98	
0742	2234	7.5}	3194	10	125	.98.6	3,600	34.98	
0745	2338	7.50	3516	8	1,05	.99.7	4,500	34.98	
0748	23.40	7.50	3550	7	1.03	-100.4	5,400	34.98	
0751	23.41	7.50	3223	7	0.99	-100.8	6.300	34.98	
							AMARY Set 1915		
					4				
Did well	dewater?	Yes	No)		Amount actually evacuated: 6,300 mc				
Sampling	Time:		A44	Sampling Date: 4,14,17					
Sample I.	D.: ML	٧. 6			Laboratory: Alpha Analytical				
Analyzed	for:	TPHg T	PHfp VOC	s MTBE	Other: See C.O.C				
Equipmen	nt Blank I.	D.:	@ Time		Duplicate I.D.:				

Project #	1704	17.13~1		Client:	Client: KMEP					
Sampler:		B~		Start Date:	: 41	9:17				
Well I.D.	:	MW.7		Well Diam	7-1-12-21-2-3-2-6-10	3 4	7 6 8 _	_		
Total We	ll Depth:	53,95	- >	Depth to V	Depth to Water: Pre: 35/26 Post: 35/34					
Depth to	Free Produ	uct:		Thickness	of Free Pr	roduct (fe				
Reference	ed to:	P/C)	Grade	Flow Cell	Type:	XXXXXX	YSI 556			
Purge Metho Sampling M Start Purge	lethod:	2" Grundfo Dedicated	Pubing	300 00/m	Peristaltic I New Tubin	g	Bladder Pump Other_ th: 49 '			
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or m)	Depth to water		
0814	21.73	7.41	3147	55	270	-82.6	900	35:31		
0817	22.79	7.36	3154	31	1.07	-72/	1,800	3 5 33		
0820	22.83	7,33	3164	12	0.90	.70.2	2,700	35.34		
0813	2286	7.30	3165	10	0.83	-721	3.600	35,34		
0826	22.87	7.29	3161	11	0.82	-731	4.500	35,34		
9589	2289	7.28	3/57	10	0.80	-75.6	5,400	35.34		
		e e								
Did well o	lewater?	Yes (N)		Amount a	actually e	vacuated: 5, 9	HOU ML		
Sampling	Time: (0830			Sampling					
Sample I.l	D.: MI	W.7	*		Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg TF	PHfp VOC's	s MTBE						
Equipmen	t Blank I.I	D.:	@ Time	-	Duplicate I.D.:					

							~~~~			
Project #	: 170	9417B	~/	Client:			KMEP			
Sampler:		Br		Start Date	: 4,2	1.17		<u> </u>		
Well I.D	.: PL	~3		Well Dian	Well Diameter: 2 3 (4) 6 8					
Total We	ell Depth:	50.0	12	Depth to V	Depth to Water: Pre: 3/.60 Post: 31.65					
Depth to	Free Prod			Thickness	of Free P					
Referenc	ed to:	ive	Grade	Flow Cell	Type:	277862	YSI 556	1000		
Purge Meth Sampling M	lethod:	2" Grundt Dedicated	Tubing		Peristaltic Pump  New Tubing  Other					
Start Purge	Time:/	012	Flow Rate: _	300 ml/m	<i>i</i> 1	Pump Dep	th: <u>45</u>			
Time	Temp.	рН	Cond. (mS/cm or µ8/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water		
1015	22-82	7.40	2455	837	1.58	-77:3	900	31.65		
1018	22.78	7.36	253/	499	1.43	-75.5	1,800	31.65		
1021	22.84	7.34	2577	134	1.89	-88-1	2,700	31-65		
1024	22.87	7.33	2594	117	1.95	-83.8	3 600	31.65		
1017	22.84	7.35	2620	84	1.50	-89,5	4,500	31.65		
1030	23.83	736	2625	72	1.36	-93/	5.400	31.65		
1033	23.82	7.37	2670	70	1.35	-951	6.300	31.65		
1036	23.87	7.37	2676	69	1.33	-94.9	7.200	31.65		
				*************						
Did well	Did well dewater? Yes No Amount actually evacuated: 7.2 L									
Sampling Time: (0) Sampling Date: 4.21,17										
Sample I.	D.: PL	J-3			Laboratory: Alpha Analytical					
Analyzed	for:	TPHg TI	PHfp VOC's	MTBE	MTBE Other: See C.O. C					
Equipmen	nt Blank I.]	D.:	@ Time		Duplicate I.D.:					

	-									
Project #:	1700	(17.B~1		Client: KMEP						
Sampler:	200-	Br		Start Date:	i	1,19,17				
Well I.D.	: Mr	1.19Cm	(0)	Well Diam	neter: 2	3 4	68_			
Total We		61.8	1	Depth to V	Depth to Water: Pre: 38.62 Post: 38.68					
Depth to	Free Produ	ıct:		Thickness	of Free Pr	roduct (fe	eet):	WA		
Reference	ed to:	PCC	Grade	Flow Cell	Туре:		YSI 556	- water		
Purge Metho Sampling M Start Purge	ethod:	2" Grundfo Dedickted	Tubing	300 ^m l	Peristaltic I New Tubin	g	Bladder Pump Other_ th: <u>57</u>			
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or pnL)	Depth to water		
0922	5543	7:19	2438	8	1.60	-63.3	900	38-67		
७५२५	22-21	7.18	2456	7	1.38	-62.7	1,800	38.68		
0418	22.42	7:18	2467	6	1.10	-63.1	2,700	38-68		
0931	22.47	7.20	2455	4	0.96	-63.9	3.600	38.68		
0934	22:48	7.20	2413	4	v.87	-632	4,500	38.68		
0937	22.54	701	2407	4	0.76	-63.4	5.400	38.68		
0940	11.53	7,22	2406	4	0:75	-63.6	6300	3868		
				7						
			<u></u>							
Did well	dewater?	Yes	10		Amount	actually e	evacuated: 6.	300		
Sampling			Sampling	g Date:	4.19.17					
Sample I.	D.: M	~19(r	110)		Laborato	ory:	Alpha Analytical	S 1945 (1949)		
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE		Other:	See C.O.C			
Equipmen	nt Blank I.	D.:	@ Time		Duplicate	e I.D.:	6/4/2			

Project #	: 1704	17.13-1		Client:						
Sampler:				Start Date	: 4,19	17				
Well I.D.	: mu	~21 (n	(טיי	Well Dian		3 (4	) 6 8 _	vitorios - irvito - i		
Total We	ll Depth:	61.97		Depth to V	Depth to Water: Pre: 34,74 Post: 34,77					
Depth to	Free Produ	act:		Thickness	of Free P	roduct (fe	eet):	Hoodord.		
Reference	ed to:	PVC	Grade	Flow Cell		7.00	YSI 556			
Purge Meth Sampling M	ethod:	2" Grundf Dedicated	Tubing	Zan Mclan	Peristaltic New Tubin	ng	Bladder Pump Other_ th: 57'			
Start Purge	1 ime: [00	<u>-</u>		JOU MA		_ Pump Dep	th:	_		
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Remoyed (gals. or mL)	Depth to water		
1005	22.65	8.01	2247	7	0.84	-71.2	900	34.77		
1008	23.71	7.71	2148	7	0.75	-609	1,800	34.77		
1011	23.24	7.68	2246	6	0.73	-55.4	2,700	34,77		
1014	23.26	7.59	2230	5	0.70	-55,6	3,600	34,77		
1017	13.26	7.57	2228	5	0.70	-59.8	4,500	34.77		
1020	23.26	7.54	2221	5	0.69	60.5	5.400	34.77		
Did well o	lewater?	Yes	(No.)	7.0	Amount	actually e	vacuated: 5/	400		
Sampling	Time:	1021			Sampling	g Date: (	1,19,17			
Sample I.	D.: M	~21(r	n(1))		Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE						
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	e I.D.: 1)	34,41			

Project #	: १७५१	7-BN	7 (	Client:	NO. 44		KMEP			
Sampler:	DF		erika sami ya	Start Date:	: 4/	20/17				
Well I.D.	: GMW	-0-2	£7.	Well Diam	neter: 2	3 4	) 6 8	_		
Total We	ell Depth:	49.28	9 48.99	Depth to V	Depth to Water: Pre: 30   Post: 30, 28					
Depth to	Free Produ	uct:		Thickness	Thickness of Free Product (feet):					
Reference	ed to:	(PVC)	Grade	Flow Cell	Type:		YSI 556			
Purge Metho Sampling M	fethod:	2" Grundfo Dedicated			Peristaltic Pump  New Tubing  Other					
Start Purge	Time: 081	45	Flow Rate: _	500mL	/M.~	_Pump Dept	th: 44			
Time	Temp.	рН	Cond. (mS/cm or	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or fhL)	Depth to water		
0843	2(.3	7.01	2533	10	1.18	-38.7	1500	30.25		
0846	21.5	7.00	2544	6	0.97	-442	3000	30.27		
0849	2(.7	7.00	2547	5	0.86	-48.6	4500	30.58		
0852	21.7	7.00	2543	5	0.83	-51.9	6000	30.58		
0855	21:7	7.00	2549	Ч	0.81	-53.4	7500	30.28		
	•									
•										
4				-			4:			
Did well o	dewater?	Yes (	No		Amount a	ictually e	vacuated: 7.	5L		
Sampling	Time: 0	857			Sampling	Date:	4/20/17			
Sample I.I	D.: GM	m - 0'-	2		Laborator	ry:	Alpha Analytical			
Analyzed	for:	TPHg TF	PHfp VOC's	s MTBE		Other: §	EECOL			
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	I.D.:				

								el se e	
Project #	: 17041	1.871	1	Client: KMEP					
Sampler:				Start Date	: 4/201	$\cap$			
Well I.D.	:GMW-	0-3	1 0 B ( 4 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 ( ) 0 (	Well Dian	neter: 2	3 4	6 8		
Total We	ll Depth:	47.90	ACCUPATION OF THE PROPERTY OF	Depth to Water: Pre: 29:40 Post: 47 90					
Depth to	Free Prod	uct:		Thickness	of Free Pi	oduct (fe	eet):		
Reference	ed to:	FV2	Grade	Flow Cell	Type:		YSI 556		
Purge Metho Sampling M	lethod:	2" Grundf Dedicate	Jubing	5n - 1	Peristaltic F	g	Bladder Pump Other		
Start Purge	Time: 092	T		500mlm	(170	Pump Dep	th: 40		
Time	Temp.	рН	Cond. (mS/cm or	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or nL)	Depth to water	
0923	72.3	7.09	2693	10	0:00	-100-3	1500	29.51	
0976	22.4	7.04	2762	6	0.75	-1095	3000	29.53	
0929	27-4	7.00	2758	6	0.70	-1114	4500	29.53	
0932	22.6	7:00	2804	5	0.67	-114.6	6000	29.53	
0935	22.(	6.99	2828	5 .	0.64	-1161	7500	29.55	
- CONTRACTOR	C								
								* ***	
Did well o	lewater?	Yes (	No	III W. Aurorata	Amount a	ctually e	vacuated: 75	00	
Sampling	Sampling Time: 0937 Sampling Date: 4/20/17								
Sample I.I	D.: GM	w-0-3	3		Laborator	y: .	Alpha Analytical		
Analyzed	for:	TPHg TF	Hfp VOC's	MTBE		Other:	see coc	,	
Equipmen	t Blank I.l	D.:	@ Time	Duplicate I.D.:					

			All at a december of the second	The state of the s					
Project #:	noyi	J.BN 1		Client: KMEP					
Sampler:	DF.	***	ì	Start Date:	: 4/2	0117			
Well I.D.	: GMW-	0.4		Well Diam	neter: 2	3 4	6 8		
	ll Depth:			Depth to Water: Pre: 28.90 Post: 29.07					
2-3-3-10-11-11-1-1-1-1-1-1-1-1-1-1-1-1-1-	Free Produ		No.	Thickness	of Free Pi	roduct (fe	et):		
Reference	ed to:	(VC)	Grade	Flow Cell	Туре:		YSI 556		
Purge Metho Sampling M	othod	2" Grundfe Dedicated	Tubing		Peristaltic Pump  New Tubing  Pump Depth: 44				
Start Purge	Time: 102	<u> </u>	Flow Rate: _	500 m/m	nu	Pump Dep	th: 44		
Time	Temp.	рН	Cond. (mS/cm or (µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or(nL))	Depth to water	
620	22.4	7.14	3968	12	1.81	753.7	1500	78.98	
1033	22.5	7.23	41.75	10	1.23	-59.4	3000	28.99	
1036	22.3	7-21	4162	00	[.00	-63.8	4500	29-02	
1039	27.3	7:17	4153	8	0.91	-68.8	4000	29.02	
1042	72-4	7.13	4169	7	0.88	-73.9	2500	29.02	
1045	27-16	7:11	4166	7	086	-78-2	9000	24.07	
2000		•							
* * * * * * * * * * * * * * * * * * *	₩iz								
				1000000					
				MIN 20					
Did well	dewater?	Yes (	No.		Amount a	actually e	vacuated: 9	000	
Sampling	Sampling Time: 1047 Sampling Date: 4/20117								
Sample I.	D.: Com	.0-4			Laborato	ry:	Alpha Analytical		
Analyzed for: TPHg TPHfp VOC's MTBE Other. See Coc							90		
Equipmen	t Blank I.	D.:	@ Time	**************************************	Duplicate	e I.D.:			

Contract Con									
Project #	17041	7. BK	l	Client:	2.40081		KMEP		
Sampler:	DF			Start Date:	4/20	117			
Well I.D.	: GMW-	0.5		Well Diam	neter: 2	3 4	) 6 8	_	
Total We	ll Depth:	Ц8.	49.10	Depth to V	Depth to Water: Pre: 29.25 Post: 29.29				
Depth to	Free Produ	ıct:		Thickness	of Free Pr	oduct (fe	et):		
Reference	ed to:	(PVC)	Grade	Flow Cell	Type:		YSI 556		
Purge Metho Sampling M	ethod:	2" Grundfo	Tybing		Peristaltic P	g	Bladder Pump Other_		
Start Purge	Time: 121	3	Flow Rate: _	500 M	u/m m	Pump Dept	th: 44		
Time	Temp.	рН	Cond. (mS/cm or aS/em)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed	Depth to water	
1218	21.9	7.00	1589	10	1.5	-48.9	1500	29.29	
1221	22.4	7.09	1580	7	1.02	-59.3	3000	29-29	
1224	27.4	7:11	1573	b	0.67	-81.2	4500	29-29	
1227	22.6	7.13	1569	6	0.62	-88-8	6000	29.29	
1230	22.7	7.13	1555	5	0.59	-93.6	7500	29.29	
				٠					
	A			=				1 2 11 11 11 11 11 11 11 11 11 11 11 11	
				Saver III					
							W 40 (2.7 (1.9))		
Did well o	Did well dewater? Yes No Amount actually evacuated: 7500								
Sampling	Time: 1	232			Sampling	Date: 4	1/20/17		
Sample I.l	D.: GPULL	N- 0 -	5		Laborator	y:	Alpha Analytical		
Analyzed	7		'Hfp VOC's	s MTBE		Other: S	ce co.c	_	
Equipmen	t Blank I.l	D.:	@ Time		Duplicate	I.D.:			

Auto-	and the second second									
Project #	: ।७५१७	BNI		Client:			KMEP			
Sampler:	DP			Start Date:	: Ч	1/20/1	7			
Well I.D.	:6MW-0	)-9		Well Diam	neter: 2	3 4	> 6 8			
Total We	ll Depth:	49.99	3	Depth to V	Depth to Water: Pre: 31.16 Post: \$1.24					
Depth to	Free Produ	uct:		Thickness	of Free Pr	roduct (fe	eet):	- Accessed		
Reference	ed to:	Eve	Grade	Flow Cell	Type:		YSI 556	W8113		
Purge Metho Sampling M Start Purge	lethod:	2" Grundf Dedicatef	Tubing	500 m	Peristaltic F New Tubin	g	Bladder Pump Other_ th: 45 '			
Time	Temp.	рН	Cond. (mS/cm or µ8/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or 161)	Depth to water		
1359	21.9	7.07	1579	17	1.27	-64.7	1500	31.17		
1402	22.2	7.00	1636	8	1.1 (	-53.2	3000	31.24		
1405	22.4	6.95	1648	5	1.09	-41.5	11500	31.14		
1408	22.4	6.93	1666	5	1.07	-38.0	6000	31.24		
1411	22.5	691	1669	Ч	1.05	-32.2	7500	31.24		
			Ś			2				
	47 - Colon (1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 - 1944 -									
			7312012012				and the second s			
Did well o	dewater?	Yes (	No)		Amount a	actually e	vacuated: 7	50006		
Sampling	Time:	1413	>		Sampling	; Date:	4/20/17			
Sample I.l	D.: GMV	J.0.9			Laborato	ry:	Alpha Analytical			
				s MTBE		Other:	JEC 28	30		
Equipmen	t Blank I.l	D.: 68.6	) @ Time	1435	Duplicate	e I.D.:				

		LUWI	TOW WI	TITI MOM	UNING	DAIA	SHEEL	
Project #	: 1701	417·B	N 1	Client:			KMEP	
Sampler:		2		Start Date:	: 4/	21/11	7	
Well I.D.	: GMW	.0.10	ļ	Well Dian	neter: 2	3 4	) 6 8 _	
Total We	ll Depth:	50.0	7	Depth to V	Vater:	Pre: 3	1.35 Post:	31.48
Depth to	Free Prod	uct:		Thickness	of Free Pr	oduct (fe	et):	•
Reference	ed to:	(vc)	Grade	Flow Cell	Type:		YSI 556	
Purge Metho Sampling M		2" Grundf Dedicated			Peristaltic F New Tubing	- T.	Bladder Pump Other_	
Start Purge	Time: 11 4	5	Flow Rate: _	500 ml/m	u'n	Pump Dep	th: 45 '	
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. of mL)	Depth to water
1148	24.0	7.15	2975	20	0.79	-69.7	(300)	31.45
1151	24.2	7.10	3432	17	0.61	-85.3	3000	31.46
1154	24.2	7.02	3300	16	0.53	-92.9	4500	31.48
1157	24-4	695	3275	13	0.43	-111.1	6000	31.48
1200	24-4	6.92	3228	12	0.39	-113.9	7500	36.48
1203	24.3	6.91	3215	12	0.3]	-118.6	9000	31-48
Did well o	dewater?	Yes	No		Amount a	actually e	vacuated: 9,	OL
Sampling	Time:	1205			Sampling	Date:	4/21/07	
Sample I.	D.: Gr	w,0	10		Laborator	y:	Alpha Analytical	
Analyzed	Analyzed for: TPHg TPHfp VOC's MTBE Other: See CO.C							
Equipmen	t Blank I.	D.:	@ Time		Duplicate	I.D.:		

							·			
Project #:	17041	1-BN1		Client:	*****		KMEP			
Sampler:	DF			Start Date:	4/20/1	7 .				
Well I.D.:	: GMW .	0.1		Well Diam	eter: 2	3 4	6 8			
Total We	ll Depth:	49.2	0	Depth to W	Depth to Water: Pre: 29.43 Post: 29.57					
Depth to	Free Produ	ict:		Thickness	Thickness of Free Product (feet):					
Reference		(VC)	Grade	Flow Cell	Туре:		YSI 556			
Purge Metho Sampling M Start Purge		2" Grundfo Dedicate	Tubing		Peristaltic P New Tubing	g	Bladder Pump Other_ h:_ ŲŲ '			
Time	Temp.	pН	Cond. (mS/cm or (mS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water		
1302	22-6	6.90	3105	7	1.78	-69.6	1500	29-50		
1305	228	6.85	3084	6	7.60	-75.3	3000	29.51		
1303	22.8	6.82	3071	6	1.40	-78.8	4500	29-57		
1311	22.9	6.81	3067	Ч	1.27	-81.9	6000	29.57		
1314	229	6.81	3059	4	1.25	-84.1	7500	29.57		
1317	22-9	6.79	3055	Ч	1.21	-86.3	9000	29.57		
1320	22.9	6.78	3052	Ч	1,20	-85:5	10,500	2951		
			1000							
Did well	dewater?	Yes	(No)	•	Amount	actually e	vacuated: to	0,500 m		
Sampling	Time: 13	,22			Sampling	g Date:	4/20/17	r.		
Sample I.	D.: GMW	-0-1	- 1000 - 1000		Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg T	PHfp VOC	's MTBE	- 1 m(II)	Other: 5	ec 20.0			
Equipmen	nt Blank I.	D.:	@ Time		Duplicate	e I.D.:				

12000	The second secon			-22 112 0 1 13			OZZZZZ Z			
Project #	:17041	7. BM	(	Client: KMEP						
Sampler:	DX	31	33716330	Start Date	: 4/2	1/17				
Well I.D.	: GMW	-0.24		Well Dian	neter: 2	3 4	) 6 8 _	_		
Total We	ll Depth:	45.	14	Depth to Water: Pre: 30.88 Post: 31.10						
Depth to	Free Produ	uct:		Thickness	Thickness of Free Product (feet):					
Reference	ed to:	(PVC)	Grade	Flow Cell Type: YSI 556						
Purge Metho Sampling M		2" Grundf Dedicated	Tubing	ilbba	Peristaltic Pump New Tubing Other  Pump Depth: 40					
Start Purge	Time: 01	r		400-	T	Pump Dep	th: 140			
Time	Temp.	рН	Cond. (mS/cm or uS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water		
0908	19.9	7.13	1865	25	0.99	-47.2	1200	30.99		
ભા	20-5	7.09	1900	19	0-88	-46.0	2400	₹ 31.08		
1190	21.0	7.05	1914	12	0.8	-41.3	3600	31.10		
0917	21.2	7.01	1923	12	0.78	-38.2	4800	31.10		
0920	21.5	6.99	1936	11	0.75	-35.6	6000	3(,10		
8903										
				11 23 34 14						
Did well d	lewater?	Yes (	No)		Amount a	ctually e	vacuated:	6000		
Sampling	Time: 0	922			Sampling	Date: L	1117117			
Sample I.I	D.: GMW	.0.29		3	Laborator	y:	Alpha Analytical			
Analyzed	for:	TPHg TP	Hfp VOC's	MTBE	5000 5000	Other:	Sae Cor C			
Equipmen	t Blank I.I	D.:	@ Time	110000000	Duplicate		up -3			

Project #	:(70417	-BN 1		Client:	nt: KMEP				
Sampler:	# &	F .		Start Date	: 4/21	117		10.11.20.11	
Well I.D.	: GM	w.o.i-	)	Well Dian	neter: 2	3 4	6 8		
Total We	ell Depth:	39-6	46.00	Depth to V	Depth to Water: Pre: 30.03 Post: 30.(3				
Depth to	Free Prod	uct:		Thickness	of Free Pi	roduct (fe	7,110-110-1		
Reference	ed to:	(PVC)	Grade	Flow Cell	Type:		YSI 556		
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tabing Start Purge Time: 105   Flow Rate:				500 pm	Peristaltic F	9	Bladder Pump Other_		
Start I tilge	1 mie. 103	1		, , , , , , , , , , , , , , , , , , ,	T	rump Depi	m: <u>24</u>	<u> </u>	
Time	Temp.	pН	Cond. (mS/cm or (uS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or(mil)	Depth to water	
1054	25.3	7.09	2121	27	2.13	-863	1500	30.09	
LOST	23,7	7.06	2329	23	1.17	-60.4	3000	30-11	
lioo	23.8	7.02	2456	21	0.95	-57-1	4500	30.1 (	
Moz	23.9	7.02	2469	20	0.92	-52.6	6000	30-11	
1106	23.91	7.02	2478	20	0.90	-48.8	7500	30-13	
	4								
								7 100 000 11	
Did well o	dewater?	Yes (	(O)		Amount a	ictually e	vacuated: 75	500	
Sampling	Time: ((	08			Sampling	Date: 년	121/17		
Sample I.I	D.: Gru	1.0.1	7	3	Laborator	y:	Alpha Analytical		
Analyzed			PHfp VOC's	s MTBE	3,004	Other: 5	ec C.O.C		
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	02:75			

Project #	: 17041	7BW-1		Client:			KMEP		
Sampler:	W			Start Date:	: 24-18	·17			
Well I.D.		-13		Well Diam	neter: 2	3 🐴	6 8	_	
Total We		49.57	2	Depth to V	Depth to Water: Pre: 30,92 Post: 31,28				
Depth to	Free Produ		**************************************	Thickness		1-21 WESSE			
Reference	ed to:	Eve	Grade	Flow Cell	Type:		YSI 556		
Purge Method: 2" Gruddos Pump Sampling Method: Dedicated Tubing Start Purge Time: 6941 Flow Rate:				300mm /	Peristaltic F New Tubing	g	Bladder Pump Other_		
Start I tilge	I IIII.	1	Cond.	1	1		un		
Time	Temp.	рН	(mS/cm or μS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or n)	Depth to water	
0844	21.9	7.35	609	76	0,75	59,4	1500	31,24	
0847	22,3	7147	534	149	0,46	46.1	3000	31,26	
0850	22,2	7.49	519	110	0,43	44,7	4500	31,27	
0853	2211	7,49	503	103	0,40	40,2	6000	31,27	
0856	2213	7,50	501	82	0146	35,8	6500	31,28	
0889	2214	7.50	497	80	0,38	34,0	8000	31,28	
0902	22,4	7,50	495	79	0,37	33,4	9500	31,28	
			A CONTRACTOR CONTRACTO						
Did well	dewater?	Yes	<b>6</b> 9		Amount a	actually e	vacuated:	254	
Sampling	Time:	690	03		Sampling	Date:	04-18-17		
Sample I.	Sample I.D.: GAW-13				Laborator	ry:	Alpha Analytical		
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE		Other:	See C.0.1	Post: 31.28  556  ladder Pump Other  45  er Removed als. or (11)  Depth to water  31.24  3000  31.24  3000  31.27  500  31.27  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28  500  31.28	
Equipmen	nt Blank I.	D.:	@ Time		Duplicate	e I.D.:		8	

				E		tali. Odk de				
Project #:	17041	1.13~1	La Maria Anta	Client:			KMEP			
Sampler:	74	B~		Start Date:	4.18.17	1				
Well I.D.	: 60	nw.37		Well Diam	eter: 2	3 4	68	-		
Total We	ll Depth:	53.48	3	Depth to W	Depth to Water: Pre: 33. 68 Post: 33. 75					
Depth to	Free Produ	ict:		Thickness of Free Product (feet):						
Reference	ed to:	r(vc/	Grade	Flow Cell	Туре:		YSI 556			
Purge Metho Sampling M Start Purge	othod:	2" Grunde Dedicated	Tuhing		Peristaltic F New Tubin	g				
Time	Temp.	рН	Cond. (mS/cm or µS/0m)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml))	Depth to water		
0813	21.91	6.94	1135	36	1,60	-117.2	900	33.74		
0816	2236	7.08	1053	30	1.05	-124.7	1,800	33.75		
0819	22.54	7.12	1067	24	0.81	-123.8	2,700	33.75		
0832	21:70	7.13	1071	22	0.78	-148.9	3. 600	33.75		
0835	22.73	7.14	1071	50	0.77	-147.2	4,500	33.75		
0838	22.74	7.16	1074.	21	0.75	-145,0	5,400	33.75		
				E*						
								1		
Did well	dewater?	Yes	(10)		Amount	D.O. ORP (mg/L) (mV) Water Remoyed (gals. or ml) Depth to water  1, 60 -117.L 900 33.75  1.05 -129.7 1,800 33.75  0.81 -123.8 2,700 33.75  0.78 -148.9 3,600 33.75  0.77 -147.1 4,500 33.75				
Sampling	Time:	0839			Sampling	g Date:	4.18.17			
Sample I.D.: 6mw37					Laborato	ory:	Alpha Analytical			
Analyzed	l for:	TPHg T	PHfp VOC	's MTBE		Other:	See C.O.	C		
Equipme	nt Blank I.	D.:	@ Time	11201 11	Duplicat	e I.D.:		Vater Remoyed (gals. or ph) Depth to water 900 33.79 1,800 33.75 2,700 33.75 3,600 33.75 3,75 5,400 33.75 cuated: 5,400 1/8.17 pha Analytical		

								250
Project #:	17041	781-1		Client:			KMEP	
Sampler:	M			Start Date:	04-	18-17		
Well I.D.:	GHW-	38		Well Diam	eter: 2	3 4	6 8	
Total Wel	ll Depth:			Depth to V	Vater:	Pre: 31,	Post:	32,08
Depth to	Free Produ	ıct:		Thickness	of Free Pr	oduct (fe	et):	
Reference		<b>€</b>	Grade	Flow Cell	Type:		YSI 556	
Purge Method: 2" Grundles Pump Sampling Method: Dedicated Tubing Start Purge Time: 6925 Flow Rate:				600 was 1.	Peristaltic P New Tubing	3	Bladder Pump Other_	
Start Furge	i iiie	10-	Cond.	5-11-10		T		
Time	Temp.	рН	(mS/cm or μ\$/om)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or	Depth to water
0928	22,4	7,44	866	io	2,65	85,3	1500	32,02
0931	22.6	7,43	867	12	2,73	83.6	3000	32,05
0934	22,7	7,42	806	11	2,92	81,7	4500	32,07
0937	21,6	7,41	406	10	2,41	81,3	6000	32.08
0940	Uil	7,41	805	10	2,40	8112	7500	<b>3</b> 2.08
							<u> </u>	
							<del> </del>	200
Did well	dewater?	Yes	<u>(</u> M)		Amount	actually e	vacuated:7,5	L
Sampling	···	0942		No. of the second second	Sampling	g Date:	04-18-17	2015
Sample I.		4w-38	•	3 35 W	Laborato		Alpha Analytica	l
Analyzed			PHfp VOC	's MTBE		Other:	See C.O.	C
	nt Blank I.		@ Time		Duplicate			

Project #	170417	-E <b>B)</b> [		Client:		33102	KMEP			
Sampler:	2			Start Date:	04-1	8.17				
Well I.D.		39		Well Diam	neter: 2	3 4	) 6 8			
Total We		50,53		Depth to V	Depth to Water: Pre: 31,57 Post: 31,65					
	Free Produ	4000	2 ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	Thickness of Free Product (feet):						
Reference		<b></b>	Grade	Flow Cell			YSI 556			
Purge Method: 2" Grundios Pump Sampling Method: Dedicated Tubing			•	Peristaltic Pump New Tubing Other Pump Depth: 45,5						
Start Purge	Time:	96	Flow Rate: _	300 mc/1	414	Pump Dep	th: <u>45,5</u>			
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mb)	Depth to water		
1009	4.5	7.50	830	14	2171	98,5	900	31,63		
1012	21,6	7,43	835	10	2,47	97,0	1860	31,64		
1015	21.9	7140	837	8	1097	95,7	2700	31,64		
1018	22.0	7138	842	8	1,87	92,9	3600	31.65		
1021	22,1	7,38	જપપ	7	1,85	91,0	4500	31.65		
1024	22,1	7,37	845	8	1,84	89,1	6000	31.65		
								416-4		
			HARACTER STATE	-33510						
W 11										
Did well	dewater?	Yes	<b>(</b> 10)		Amount a	actually e	evacuated: 6.	0 L		
Sampling	Time:	1625		Will Service Ville	Sampling	Date:	04-18-17			
Sample I.	D.: Gal	W-39			Laborato	ry:	Alpha Analytical			
Analyzed	0//-	2000	PHfp VOC'	s MTBE		Other:	See C.O.	C		
Equipmen	nt Blank I.	D.:	@ Time		Duplicate					

Project #	: i7041	7.B-1		Client:			KMEP	
Sampler:		B~		Start Date	: 4.18.1	7		
Well I.D.	: (7	mw sf	٦.	Well Dian		3 4	9 6 8	
Total We	ll Depth:	43.2	3	Depth to V	Water:	Pre: 3	1,47 Post:	31.53
Depth to	Free Produ	ıct:		Thickness	of Free P	roduct (fe	et):	
Reference	ed to:	PVC	Grade	Flow Cell	Type:		YSI 556	
Purge Method: 2" Grandfos Pump Sampling Method: Dedicated Tubing Start Purge Time: (1844) Flow Rate:			211194	New Tubin	g	Other		
Start Purge	1 ime: 08	7.1	r	300 M/A	· · · · · · · · · · · · · · · · · · ·	Pump Dep	th:	
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml-)	Depth to water
0852	19,56	6.97	841	11	1.79	·7510	900	31.52
0855	19.67	6.83	735	10	1.13	-65,2	1,800	31.53
0858	19.94	6.81	734	8	0.85	.59,7	2,700	31.53
0901	20.04	6.83	738	6	0.84	-60.3	3.600	31.53
0904	20.06	6.83	738	6	0.85	-61.7	4,500	31.53
0907	20.09	6.80	737	5	0.84	- 59.9	5,400	31.53
		8						
Did well o	dewater?	Yes /	N)		te: 4.18.17    Ameter: 2 3 4 6 8   Water: Pre: 31, 47 Post: 31.53     Ses of Free Product (feet):     Il Type: YSI 556     Peristaltic Pump   Bladder Pump   Other     New Tubing   Other     Pump Depth: 38     D.O. ORP   Water Removed   (gals. or mb)   Depth to water     1.79   75.00   31.52     1.13   -65.2   1.800   31.53     0.89   -60.8   3.600   31.53     0.89   -60.8   3.600   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53     0.85   -61.7   4.500   31.53			
Sampling	Sampling Time: U908				Sampling	Date:	4.18.17	7
Sample I.	D.: G	MWS	F.7	12	Laborato	ry:	Alpha Analytical	
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE		Other: 5	Pae Coc	
Equipmen	t Blank I.l	D.:	@ Time		0.84 -603 3.600 31.53  0.85 -61.7 4.500 31.53  0.84 -59.9 5.400 31.53  Amount actually evacuated: 5.400 mc  Sampling Date: 4.18.17  Laboratory: Alpha Analytical  E Other: See C.O.C.			

	1944	20112	20 11 112				~~~~			
Project #:	17041	TIBM	SUDDO LINE FASE (FINE	Client:			KMEP			
Sampler:		Bu	36	Start Date:	: 4.1	8:17	1000			
Well I.D.	: Gm	W. SF. 8	}	Well Diam	10,95 - 1,100 - 107	3 4	68_	_		
Total We	ll Depth:	43, 6	6	Depth to V	Depth to Water: Pre: 32-39 Post: 32-48					
Depth to	Free Produ	ict:		Thickness	of Free P	roduct (fe	1			
Reference	ed to:	PXC	Grade	Flow Cell	Type:		YSI 556	2000		
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tubing Start Purge Time: 0918 Flow Rate:				300 ~1	New Tubin	g	Bladder Pump Other_ th: 39			
Cond.  Temp. (mS/cm or Turbidity D.O. ORP Water Removed (mS/cm) (NTUs) (mg/L) (mV) (gals. or nL) Depth to water										
0921	22.65	6.94	683	431	1,55	.441	900	32,4 6		
0924	22.96	6.94	688	247	1.06	-44.6	1,800	32.48		
0927	23.04	6.97	689	200	0.84	-40.6	2.700	32.48		
0930	23.06	7.00	687	43	0.78	-34.2	3.600	32.48		
0933	23.08	6.45	686	39	0.77	-21.4	4,500	32.48		
0436	23.10	6.97	686	37	0.74	25,4	5,400	32.48		
0939	23.11	649	684	3 6	0.73	-247	6.300	32.48		
			)							
Did well o	lewater?	Yes (	No/		Amount a	## Pre: 32.39 Post: 32.48  ## Pre: 32.39 Post: 32.48  ## Free Product (feet):  ## Pre: 32.39 Post: 32.48  ## Free Product (feet):  ## Pump Bladder Pump Other  ## Pump Depth: 39  ## D.O. ORP (mg/L) (mV) (gals. or ph) ## Depth to water  ## So 32.48  ## 2.78 -34.1 3.600 32.48  ## 2.78 -34.1 3.600 32.48  ## 2.79 32.48  ## 2.79 32.48  ## 2.79 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.79 4.5.40 32.48  ## 2.70 5.70 32.48  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ## 2.70 6.30 00  ##				
Sampling Time: 0940					Sampling	g Date:	4.18.17			
Sample I.D.: GMW5F8					Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE		Other: 5	Feet):  YSI 556  Bladder Pump Other  epth: 39  Water Removed (gals. or m) Depth to water  1 900 32,48  2,700 32,48  2,700 32,48  4,500 32,48  5,400 32,48  6,300 32,48  6,300 32,48  4,18,17  Alpha Analytical			
Equipmen	Equipment Blank I.D.:				New Tubing   Pump Depth: 39     D.O.					

	200	20112							
Project #:	17041	7.18~1		Client:			KMEP	- Construction of the Cons	
Sampler:	Br			Start Date:		4:18:17	20 X X X X X X X X X X X X X X X X X X X		
Well I.D.:	: M	w.8		Well Diam		3 /4	) 6 8	-	
Total We		51.88		Depth to V	Depth to Water: Pre: 32.21 Post: 32.28				
Depth to	Free Produ	ıct:		Thickness	of Free P	roduct (fe	et):		
Reference	ed to:	PVC,	Grade	Flow Cell	Flow Cell Type: YSI 556				
Purge Metho Sampling M Start Purge	ethod:	2" Grundf Dedicated		300 -1	Peristaltic I New Tubin	g	Bladder Pump Other_ th:47'		
Time	Femp.	pН	Cond. (mS/cm or µ\$/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or/ml)	Depth to water	
0955	21.86	7.31	1136	17	1.16	.703	900	3228	
0958	2234	7.25	1089	4	1.04	-73,5	1,800	32.28	
loul	2236	7.25	1083	3	0.93	-74.1	2.700	32.28	
1004	22.44	7.24	1086	3	0.74	-70.1	3,600	32.28	
1007	22.47	7.28	1090	3	0.75	-68.7	4,500	32.18	
1010	22:47	7.28	1091	3	0.75	-69.1	5,400	32.28	
		•							
							3		
Did well	Did well dewater? Yes No Amount actually evacuated: 5,400 mL								
Sampling	Sampling Time: 1011 Sampling Date: 4,18,17								
Sample I.D.: MW-8					Laborato	ory:	Alpha Analytical		
Analyzed	for:	TPHg T	PHfp VOC	's MTBE		Other:	See C.O.	C	
Equipment Blank I.D.: @ Duplication    Burner    Burner						e I.D.:			

Project #:	170417	-BNI		Client:			KMEP	6 8			
Sampler:	NV			Start Date:		4-18-1	7				
Well I.D.:	GM	w-0-19	1	Well Diam	neter: 2	3 4	) 6 8				
Total Well	Depth:	46,10		Depth to Water: Pre: 30,94 Post: 31,22							
Depth to F	ree Produ	ict:		Thickness of Free Product (feet):							
Reference	d to:	POO	Grade	Flow Cell	Flow Cell Type: YSI 556						
Purge Method Sampling Me Start Purge T	ethod:	2" Grundfo Dedicated	Dubing	500 m /m	Peristaltic P New Tubing	g					
Temp. Cond. (mS/cm or Turbidity D.O. ORP Water Removed											
Time	(Cor °F)	pН	μS(Cm)	(NTUs)	(mg/L)	(mV)	(gals. or ml)	Depth to water			
1047	22,5	6,97	2008	11	oils	-127.9	1500	3118			
1050	22.5	6,97	2009	6	0134	-149,1	3000	31,20			
1053	22,7	4.97	2010	3	6(23	-156.0	4500	31,21			
1056	22.8	4.97	2069.	3	0118	- 160,7	6000	31,21			
1059	22,9	6,97	1009	3	0117	- 163,4	7500	31,22			
1102	22.9	6.98	2008	3	0118	- 164,5	9000	31,22			
Did well o	dewater?	Yes	<b>6</b>		Amount	actually e	Other				
Sampling Time: 1104					Sampling	g Date:	09-18-17				
Sample I.l		1.0.19			Laborato	ory:	Alpha Analytica	1			
Analyzed			PHfp VOC	s MTBE	V003	Other:	See C.O.	c			
Equipmen		D.:	@ Time	11	Duplicat	e I.D.:					

Project #:	170	41718-1		Client:	meter: 2 3 Ø 6 8 Water: Pre: 3 0 4 9 Post: 30,55				
Sampler:		Br		Start Date:	: 4.18	3.17			
Well I.D.	: Gm	1w.0-16	1	Well Dian			6 8		
Total We	ll Depth:	48.82		Depth to V	Vater:	Pre: 3 0	.49 Post:	30.55	
	Free Produ			Thickness	of Free Pi	oduct (fe	eet):		
Reference	ed to:	ŕν¢	Grade	Flow Cell	Туре:		YSI 556		
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tubing Start Purge Time: 1020 Flow Rate:			300 mc/min	New Tubing	g	Other_	(		
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mu)	Depth to water	
1032	23.46	7.85	1845	8	1.93	-115,6	900	30.52	
1035	23.72	8:10	1900	4	1.79	-107.3	1,800	30,55	
1038	24.01	7.63	1912	4	0.65	-86.7	2.700	30-55	
1941	24.09	7.58	1919	4	0.96	-78.4	3 600	30.55	
1044	74113	7.55	1944	4	098	- 63.7	4,500	30.55	
1047	24.14	7.55	1946	4	0.99	-59,8	5,400	30.55	
1050	24.16	7.54	1944	4	0.97	-59.3	6.300	30.55	
				¥7					
							C_0000000		
Did well	dewater?	Yes	N)	56764-5	D.O. ORP (mg/L) (mV) (gals. or ful) Depth to water [1.93				
Sampling Time: 1051					Sampling	Date:	4.18.17		
Sample I.	Sample I.D.: &MW0.16				Laborato	ry:	Alpha Analytical		
Analyzed for: TPHg TPHfp VOC's MTBE Other: Sea C.6.C									
Equipmen	t Blank I.l	D.:	@ Time		Duplicate	i.D.:			

		20 11 2				- Providence				
Project #:	170417/13	~)		Client:			KMEP			
Sampler:	ſ	3~		Start Date:	4.1	18:17	<u> </u>			
Well I.D.:	ML	112		Well Diam	eter: 2	3 4	968_	A CONTRACTOR OF THE		
Total We	ll Depth:	51,78		Depth to V	Depth to Water: Pre: 32.97 Post: 33.03					
Depth to	Free Produ	ict:	2000	Thickness	of Free Pr	roduct (fe	et):			
Reference	ed to:	PVC)	Grade	Flow Cell	Туре:		YSI 556	Sinik ilesuve ile		
Purge Method: 2" Grundifes Pump Sampling Method: Dedicated Tubing Start Purge Time: 1145 Flow Rate:				300 MY	te: 4./8/17  ameter: 2 3 4 6 8  b Water: Pre: 32.97 Post: 33 03  ss of Free Product (feet):  cll Type: YSI 556  Peristaltic Pump New Tubing Other  y D.O. ORP (my/L) (mV) (gals. or m/J) Depth to water  2.73 -/.9 900 33 02  b .86 -/4.8 /.800 33.03  b .85 -21.0 2.700 33.03  b .85 -21.0 2.700 33.03  c .83 -343 4.500 33.03  c .81 -359 5.400 33.03  c .81 -359 5.400 33.03  Amount actually evacuated: 6,300 m2  Sampling Date: 4./7.17  Laboratory: Alpha Analytical					
Start Purge										
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)				Depth to water		
1148	25.00	7.31	1148	12	2.73	-1.9		33 02		
1151	235)	7.53	799	10	0.86	-14.8	1,800	33.03		
1154	23.53	7.41	793	9	0.85	-21.0	2.700	33.03		
1157	23.50	7.38	784	6	0.73	-31.9	3.600	33.03		
1200	2351	7,22	816	5	0.83	-34.3	4,500	33.03		
1203	23,52	7.19	816	4	0.81	-359	5,400	# 33.03		
1206	23.49	7.17	819	4	0.82	-37.6	6300	33.03		
	_									
		20200								
Did well	dewater?	Yes	<b>K</b> 9		(mg/L) (mV) (gals. or mD) Depth to water  2.73 -1.9 900 33 02  0.86 -14.8 1.800 33.03  0.85 -21.0 2.700 33.03  0.87 -31.9 3.600 33.03  0.83 -34.3 4.500 33.03  0.81 -359 5.400 33.03  0.82 37.6 6.300 33.03  Amount actually evacuated: 6,300 mC  Sampling Date: 4.17.17  Laboratory: Alpha Analytical					
Sampling Time: 1207					Sampling	g Date:	4.17.17			
Sample I.D.: MW12					Laborato	ory:	Alpha Analytical			
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE		Other:	See C.O. (	,		
Equipmer	Equipment Blank I.D.:				Duplicate	e I.D.:				

Project #:	170417	-BN1		Client: KMEP						
Sampler:	N	V		Start Date:	. 04-	18-17				
Well I.D.	: HL-2	_		Well Dian	neter: 2	3 4	4 6 8 _			
Total We	ll Depth:	39.16		Depth to V	Vater:	Pre: 34	1.45 Post	: 34.51		
Depth to	Free Produ			Thickness	Thickness of Free Product (feet):					
Reference	ed to:	P	Grade	Flow Cell	Туре:	100	YSI 556			
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tubing Start Purge Time: 1214 Flow Rate:			300 mc /m	Peristaltic I New Tubin	g	Bladder Pum Other	5.			
	T		Cond.		I		1			
Time	Temp.	pН	(mS/cm or µTom)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or nD)	Depth to water		
1217	23,5	6.82	3453	95	0,82	-87.8	900	34,50		
1220	23,12	4,72	3435	148	0136	-89,5	1800	34.50		
1223	23,4	6,67	3405	126	0,29	-8813	2700	34.51		
1226	235	6165	3398	120	6,25	- 87,6	3600	34,51		
1229	23,5	6.63	33 91	119	0,25	-85.6	4500	34,51		
				25731						
	1	388								
			200	4500						
Did well	dewater?	Yes	160		Amount	actually	evacuated: 4	1.5 L		
Sampling	Time:	1230		***************************************	Sampling	g Date:	04-18-17			
Sample I.	D.: "Ж	L-Z			Laborato	ry:	Alpha Analytica	al		
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE		Other:	See C.O.	C		
Equipmen	nt Blank I.	D.:	@ Time		Duplicate	e I.D.:	4.000			

LOW FLOW WELL MONITO	RING DATA SHEET
LOW FLOW WELL MONITO	KMEP
ject #: 17041713~   Start Date:	4.1811
BN I Diamet	er: 2 3 (2)
FMW 26	ater:
otal Well Depth: 48.18 Depth to war	of Free Product (feet):  YSI 556
Product: Flow Cell 7	Type: YST 350  Bladder Pump
1 to: PNG Gian	Peristaltic Pump Other
Referenced Pump	New Tubing
Purge Method: Sampling Method: Dedicated Tubing Flow Rate:	
Start Purge Time Cond.	ORP Water Roman Depth to water
(mS/cm or Turbidity	(mg/L) 9/2/2 }/./
(C)or°F) pH HISTORY	0.78 173.8 1 200 31.99
22.38 1.76 (012 59	0.81 +36.41 170
140 2204 774 9095	11.82 -66.9 21.00
100 100 100 100	1070 1739 3,600 3
139 220 790 4169 47	19 -79.9 4.500 31-11
1237 2210 785 4202 34	5.400 31.11
1240 200 7 08 4212 33	6.300 31.91
1743 25.82 11.03 112.08 35	0.69 -83.1 6.300
1246 22.84 7.86 4208 33	
	Ily evacuated: 6300m
	aunt actually eval
11 Januarer? Yes No	Sampling Date: 9,1811
Did well dewater	Laboratory: Alpha Analytical
Sampling 1	Other Sag C.D.
	MIBE
Analyzed for: TPHg 11111P @ Time	Duplicate 1.D CA 95112 (408) 573-0555
Equipment Blank I.D.: Time	Duplicate I.D.: ogers Ave., San Jose, CA 95112 (408) 573-0555

Equipment Blank I.D.: Time Squipment Blank I.D.:

Project #:	170417	- BNI		Client:	nt: KMEP				
Sampler:	1/0	,	A CONTRACTOR	Start Date:	04-18-	17			
Well I.D.:							6 8		
Total Wel	112	41,08		Depth to V	Vater:	Pre: 34,	06 Post:	34,11	
	Free Produ		311 3111		Thickness of Free Product (feet):				
Reference		P(0)	Grade	Flow Cell			YSI 556		
Purge Metho Sampling M	hod: 2" Grundlos Pump Method: Dedicated Tubing			Peristaltic I New Tubin	Peristaltic Pump B New Tubing				
Start Purge	Гіте: <u>124</u>	8		500 ML/U	1111	Pump Dept	h: 37		
Time	Temp.	рН	Cond. (mS/cm or µS(2n)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (ml))	Depth to water	
1251	23.4	7.04	1167	13	0.14	-86.9	1500	34.09	
1254	23,4	6.98	1177	ll	0121	- 99.8	3000	34,10	
1257	23:6	6,98	1189	io	0:16	-105.8	4500	34,11	
1300	23,6	6.98	1192	10	0,14	-108,0	6000	34.1)	
1303	23 (7	6187	1194	9	0113	-11013	7500	34,11	
Did well	dewater?	Yes	<u> </u>		Amount	actually e	evacuated: 7	15	
Sampling	g Time:	1365	1		Samplin	g Date: 6	24-18-17		
Sample I				20 Vii	Laborate	ory:	Alpha Analytica	1	
Analyzed	112		PHfp VOC	c's MTBE		Other:	See C.O.	e	
	nt Blank I		@ Time	495 mil 198 317.	Duplica	te I.D.:			

Project #:	, 7:04	1713~1		Client:			KMEP			
Sampler:	- ; ; ;	3~		Start Date:	4.18.1	7				
Well I.D.:	: (-1	JR.12		Well Diam	Well Diameter: 2 3 ( 6 8					
Total Wel		52,	3997	Depth to V	Depth to Water: Pre: 33.77 Post: 33.86					
	Free Produ				Thickness of Free Product (feet):					
Reference	<del></del>	PVC	Grade	Flow Cell			YSI 556			
Targe Memori						Bladder Pump Other_ th:47				
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water		
1304	24.05	7.40	3266	489	1,68	-62.5	900	33.84		
1307	23.84	7.37	3276	533	1.18	-60.6	1,800	33.86		
1314	23.81	7.31	3277	299	1,05	-58.2	2,700	33.86		
1313	2388	7.29	3208	86	1,09	- 60.7	3,600	33.86		
1316	24.01	7.29	3098	53	0.92	- 59.9	4.500	33.86		
1319	24.05	7.30	3104	49	0.88	-59.7	5,400	33.86		
1322	24.07	7,32	3106	48	0.87	-61.2	6.300	3386		
1)25	24.09	7.32	3109	49	0.86	-63.4	7,200	33.86		
Did well	dewater?	Yes	No	<del> </del>	Amount	actually e	vacuated: 7.	200		
Sampling	Time:	132	6		Sampling Date: 4/8/17					
Sample I.	D.: (51	~ R.1R			Laborato	ry:	Alpha Analytical			
Analyzed			PHfp VOC	's MTBE		Other:	See C.O.	C		
Equipmer	nt Blank I.	D.:	@ Time		Duplicate		) u p. 1	- VILLERIT - 176-1		

		į	7				
LOW FLOW WE	ELL MONITO	RING DA	TA SHE	ET			
LOW FLOW WE	Client:		KM	EP			
oject #: 170417 - BN1	Start Date:	04-18	-17				
impler:			4	6 8			
Vell I.D.: GMW-8		711 Post: 20.82					
otal Well Depth: 44.96	Depth to Wat						
Penth to Free Product:	Flow Cell Ty	ype:	Y	SI 556			
Referenced to:		Peristaltic Pum	np )	Bladder Pump Other			
Purge Method: 2" Grundfos Pump Dedicated Tubing  The Purge Method: 2" Grundfos Pump Dedicated Tubing	te: <u>360 ML</u>	New Tubing	ump Depth				
Cond (mS/cn	d. n or Turbidity	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (17))	Depth to water		
Time (Oor °F) pH µOr			44.8	960	30,79		
16.7 800 409		0163	45,5	1600	30.81		
10 11 7 55 401	1	0,51	40,1	2700	30,82		
109 199 39	A 71000	0145		3600	30,82		
7.92 36	7 71000	0,45	38,7	4560	30.82		
1351 1175	9 71000	0141	33:0				
1354 1919 7190			-				
			-				
			-				
					u s L		
- 11 dewater? Yes		Amou	nt actuall	y evacuated:	-110		
Did well dewater:		Sampl	ing Date	: 04-18-17	utical		
Sampling Time: 1356		Labor	atory:	Alpha Anal			
Sample I.D.: GAW &	Ifp VOC's MTB	BE	Othe	r: see C.	0.0		
Analyzed for: TPHg TPH	@	Dupl	icate I.D	.:	408) 573-05		

Equipment Blank I.D.: Duplicate I.D.:

Blaine Tech Services, Inc. 1680 Rogers Ave., San Jose, CA 95112 (408) 573-0555

P. Company of the Com											
Project #:	1704	17-13~1		Client:	Client: KMEP						
Sampler:	B	~		Start Date	: 4,17	77					
Well I.D.:	6-m	14.1	11101103	Well Dian	Well Diameter: 2 3 4 6 8						
Total Wel	l Depth:	_	-	Depth to V	Depth to Water: Pre: - Post:						
Depth to I	Free Prod	uct:		Thickness	Thickness of Free Product (feet):						
Reference	ed to:	PVC	Grade	Flow Cell	Type:		YSI 556				
Purge Metho Sampling Mo	od: ethod:	2" Grundfo Dedicated	Tubing		Peristaltic Pump Bladder Pur New Tybing Othe						
Start Funge	mic	1				T unip Dep	).ii				
Time	Temp. (°C or °F)	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water			
	- unaste to lucate										
							O SHEETWEEN				
			300								
	. 777			100000			31100				
			/A14111	310-39883-	2 (340)						
			(3) (3)				OR MICHIGA				
			. must								
						A17 ( p. 1773 - 1774)					
	- 1		1/								
D: 411 a	- Well		icu-		Amount	notuolly 4	evacuated:	J			
Did well d		Yes	No	,	72.0000		evacuateu.	3180			
Sampling	Time:		_/_		Sampling	g Date:	10.000				
Sample I.I	D.:	_/		7	Laborato	ry:	Alpha Analytical				
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE	22.2	Other:					
Equipmen	t Blank I.	D.:	@ Time		Duplicate	e I.D.:					

LOW F	LOW WELL	LMONIT	MINGE	1/	MED		
oject#: 17041718~1	C	lient:			MEP		
ampler: B~	St	tart Date:	4.1	7.17			
	V	Vell Diamet	er: 2	<u>/3/4</u>	6 8		
otal Well Depth: 28,32		epth to Wa	ter: P	re: 0,-	Post:		
	The second secon	hickness of		duct (fee	t):		
epth to Free Product:		Flow Cell Type: YSI 556					
Method: 2" Grund	Ifos Pump d Tubing Flow Rate:	Peristaltic Pump  New Tubing  Bladder Pump  Other					
Temp.  (°C or °F) pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water	
- weil w	as day	1 ~ 0	sample	Fale	P1-		
						+	
			-				
			1. 1.				
		Sumples	Amount	actually	evacuated:		
Did well dewater? Yes	No	-/	Samplir				
Sampling Time:		/	/		Alpha Analyti	ical	
Sample I.D.:			Laborat		111/211		
Analyzed for: TPH	g TPHfp VO @	OC's MABE Other:  Duplicate I.D.:					
Equipment Blank I.D.:	Tim	e ·	Duplica	lose C	A 95112 (40	8) 573-055	

ORING D	ATA SE	IEE I						
Client: KMEP								
Start Date: 4,18,17								
Well Diameter: 2 3 (4) 6 8								
ater: Pi	re: 36	15 Post:	3610					
f Free Prod			til					
ype:		YSI 556						
New Tubing		Bladder Pump Other_ :50						
D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to wate					
1.99	-68.7	900	3618					
		1,800	36-20					
1.17	78.6	2,700	3620					
1.04	- 80.6	3.600	36.10					
1.20	- 813	4,500	3620					
1.16	-811	5,400	36.20					
1. 17	-831	6,300	3620					
	-84.2	7.200	36.20					
		. 1. 7	200 =					
Sampling	Date:							
Laborato	ry:							
Sample I.D.: GMW40 Laboratory.  Analyzed for: TPHg TPHfp VOC's MTBE Other: See C.O. C								
	4.18.17 ter: 2 ater: Profession of Free Procession of President Publing Peristaltic Pum New Tubing P.  1.99 1.17 1.09 1.16 1.17 1.15  Amount a Sampling	Y	ter: 2 3 (4) 6 8					

Project #:		- BN		Client:			KMEP			
Sampler:	W			Start Date:	O4-18	17				
	GMW-14			Well Diam			6 8			
Total Well		55,25	,	Depth to W	Depth to Water: Pre: 35.32 Post: 35.37					
	ree Produ				hickness of Free Product (feet):					
Reference		P(PC)	Grade	Flow Cell	Гуре:		YSI 556			
Purge Metho	od:	2" Grundfo	Tubing		Peristaltic P New Tubing	g				
Start Purge T	Time: <u>142</u>	.7	Flow Rate: _	500 mc /m	1	Tump Bep				
Time	Temp.	pН	Cond. (mS/cm or µ\$79m)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or MC)	Depth to water		
	2416	7,13	1183	4	0,17	-73,7	1500	35,36		
1430	2412	7,09	1180	3	0123	-8015	3000	35,37		
1433	24.1	7110	1187	3	0119	-83,5	4500	35,37		
	24,2	7109	1185	3	(400)					
1439	2412	7109	1183	3	0118	- 88,8	7500	35.37		
1990	7110									
	1.5		- 117							
Did well	dewater?	Yes	(N)		Amoun	t actually	evacuated: 7	5		
Samplin		144	3		Samplin	ng Date:	04-18-17			
Sample		4w-14R		ž.	Laborat	tory:	Alpha Analytic	al		
Analyze			TPHfp VO	C's MTBE		Other:	see co	.c		
	ent Blank	I.D.: EB	. 2 @ 10 Tin	157	Duplica	ate I.D.:				

	20									
Project #:	1704	1713~1		Client:			KMEP			
Sampler:		Br		Start Date:	4.19	17				
Well I.D.	: ^	1W15R		Well Diam		3 (4)	6 8 _			
Total We	ll Depth:	55.28	2	Depth to V	Depth to Water: Pre: 34,41 Post: 34,45					
-	Free Produ		<b>)</b>	Thickness of Free Product (feet):						
Reference		PNO	Grade	Flow Cell			YSI 556	<del># (6577-7) ?</del>		
Purge Method: 2" Grandfos Pump Sampling Method: Dedicated Tubing				300 ^{al} m	Peristaltic Pump Bladder Pump  New Tubing Other  Pump Depth: 50'					
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mD)	Depth to water		
1(21	22.87	7.57	1808	>1000	2.46	-51.2	900	34.45		
1124	23.73	7.59	1418	>1000	1.50	-56.3	1,800	34.45		
1127	23.79	7.56	1428	71000	0.71	-67.8	2,700	34.45		
1130	23.75	7.58	1431	71000	0.69	-72,4	3.600	34.45		
(133	23.79	7.58	1430	21000	0.69	-74.4	4,500	34.45		
136	24.82	7.58	1430	>1000	0.66	-76.9	5,400	34.45		
	100				300-3					
		12 (31 - 52					2001			
9.00		pikoto:			2070		3102.00			
Did well	dewater?	Yes	No)		Amount	actually e	evacuated:	51400m(		
Sampling	Time: [1]	37			Sampling	g Date:	4.19.17			
Sample I.		1W15R			Laborato	ory:	Alpha Analytica	ıl		
Analyzed		TPHg T		s MTBE		Other: 9	Sec C.O.	C		
Equipmer	nt Blank I.	D.:	@ Time		Duplicat	e I.D.:				

Project #:	: 17041	7,8~1		Client:			KMEP			
Sampler:		B~		Start Date	: 41	9,17				
Well I.D.	: /	nw.9		Well Dian	Well Diameter: 2 3 4 6 8					
Total We	ll Depth:	51.6	7	Depth to V	Depth to Water: Pre: 3/, 80 Post: 3/, 90					
Depth to	Free Produ			Thickness of Free Product (feet):						
Reference		P/C/	Grade	Flow Cell	Type:		YSI 556			
Purge Metho Sampling M Start Purge	ethod:	2" Grundle Dedicated	Tubing	300 00/	Peristaltic I New Tubin	g	Bladder Pump Other th: 47'			
Time	Temp.	pН	Cond. (mS/cm or µ\$/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to water		
1150	24.08	7.42	1791	28	1.07	-91.7	900	31.88		
1153	24.53	7.78	1791	24	137	-92.7	1.800	31.90		
1156	24.62	7.76	1792	20	1.59	-93.1	2.700	31.90		
1159	24.67	7.73	1776	18	1.54	-93.8	3.600	31.90		
1202	24.65	7.72	1762	14	1.45	-96.0	4,500	31.90		
1105	24.65	7.70	1707	10	1,47	-99.9	5,400	31.90		
1208	24.68	7.71	1706	9	1.50	-101.8	6300	31.90		
1211	24.67	7,70	1709	9	1,49	-103.1	7.200	31.90		
						10-11-5-10				
Did well	dewater?	Yes	No		Amount	actually e	evacuated: 7.2	DMODE		
Sampling	Time: /2	212	7707	20311102	Sampling	g Date:	4.19.17			
Sample I.	D.: M	w.9			Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg T	PHfp VOC'	s MTBE		Other:	See C.O.	C		
Equipmen	nt Blank I.	D.:	@ Time		Duplicate	e I.D.: <i>D</i> -	up is Dup.	4		

		20112	2011 111	TER INTOIN	T O I CITY	DIXIIX				
Project #	: 1704	17.Br		Client:		-2.2078	KMEP			
Sampler:				Start Date	: 4/7	-117				
Well I.D.	: P:	2.5	VALUE (1)	Well Dian	Well Diameter: 2 3 4 6 8					
Total We	ll Depth:	37.	75	Depth to V	Depth to Water: Pre: 30.33 Post: 30.53					
Depth to	Free Prod	uct:		Thickness	of Free Pr					
Referenc	ed to:	PVC	Grade	Flow Cell	Type:		YSI 556			
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tubing				7,000	Peristaltic Pump New Tubing Other					
Start Purge	1 IIIIe: 086	<u> </u>	Flow Rate: _	300.	T	Pump Dep	th: <u>\$ \$</u>			
Time	Temp.	рН	Cond. (mS/cm or uS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or (nL))	Depth to water		
0812	21.6	670	2395	191	0.97	-124.1	900	30-49		
0815	21.6	6.73	2382	15	0.69	-129.4	G081	30.51		
0818	7[.7	6.72	2377	10	0.61	-1284	2700	30.52		
1280	21.7	6.70	380	7	0.55	- 132.4	3660	30.52		
0824	21.8	6.70	2384	ì	0.58	- 135.7	4500	30.52		
0827	21.8	6.70	2388	6	0.56	-139.6	5400	30.53		
						+				
				S HOROSTAG						
Did well d	lewater?	Yes (	(B)	2	Amount a	ctually e	vacuated: 5	400 m		
Sampling	Time:	0829	- Personal local		Sampling	Date: 4	1/21/67			
Sample I.I	D.: PZ5			2	Laborator	y:	Alpha Analytical			
Analyzed	for:	TPHg TP	Hfp VOC's	MTBE		Other:	See C.O	. C		
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	I.D.:				

Project #:					47212 11		KMEP	
Sampler:		BM		Start Date:	4.19	.17		277
Well I.D.:	: FM	1W36		Well Diam	eter: 2	3 (4	) 6 8	<del>-</del>
Total We	ll Depth:	51,	69	Depth to V	Vater:	Pre: 32.	96 Post:	33.02
Depth to	Free Produ	ict:		Thickness of Free Product (feet):				
Reference	ed to:	P/ve	Grade	Flow Cell Type: YSI 556				
Purge Metho Sampling M Start Purge	ethod:	2" Grundfos Pump Dedicated Tubing Peristaltic Pump New Tubing Other Pump Depth: 47						
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or ml)	Depth to water
1234	24.85	7.62	1861	71000	1.07	-121.1	900	33.01
1237	24,87	7.57	1931	947	0.62	-1582	1,800	33.02
1240	24,85	7,55	1997	413	0.54	-161,9	2,700	33.02
1243	24,87	7.54	2004	281	0.50	-164.3	3,600	33.02
1246	24.85	7.54	1999	123	0.53	-167.1	4,500	33. <b>02</b>
1249	24.83	7.53	1997	118	0.53	-167.2	5,400	33.02
1252	24.86	7.53	1995	115	0.53	-168.3	6,300	3302
Did well	dewater?	Yes	(N)	200	Amount	actually e	vacuated: <i>[</i>	1,300mc
Sampling Time: 1253				084	Sampling	g Date:	4.19.17	- 1014
Sample I.	D.: 6-1	n w 3 b			Laborato	ry:	Alpha Analytical	
Analyzed	Analyzed for: TPHg TPHfp VOC					Other:	See C. B.	C
Equipmer	nt Blank I.	D.:	@ Time		Duplicate	e I.D.:		

		LOWE	LOW WE	LL IIIOIII	I OILLI	DIXII				
Project #:	17041	7.8~1	1747	Client:	KMEP					
Sampler:	B	~	200	Start Date:	4.17.1	7				
Well I.D.	: 6m	W'0'15	2200	Well Diam	eter: 2	3 4	) 6 8			
Total We	ll Depth:	_		Depth to V	Depth to Water: Pre: 29.65 Post:					
Depth to	Free Produ	ict: 29,	52	Thickness	of Free Pr	oduct (fe	et): <i>O·/3</i>			
Reference	ed to:	PX(C)	Grade	Flow Cell Type: YSI 556						
Purge Metho Sampling M		2" Grundfo Dedicated	/		Peristaltic P		Bladder Pump Other_			
Start Purge	Гіте:		Flow Rate: _		Pump Depth:					
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water		
	-0.13	1 5/1	detect	ed 4/ i	les face	plubes				
			346							
		3400.	17/11/2	17 - 18 - 18 - 18 - 18 - 18 - 18 - 18 -						
						(M) 7 - 1 100 T.		1957		
± '			MSEC. 335							
	1977						2000	233,500,0178		
	12020		,	1 1						
		No	Sami	es take						
Did well	dewater?	Yes	No		Amount	actually e	evacuated:			
Sampling	Time:			/_	Sampling	Date:	140			
Sample I.D.:					Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg T	Pufp VOC	's MTBE		Other:				
Equipmer	nt Blank I.	D.: /	@ Time		Duplicate	e I.D.:				

								- 7.97		
Project #:	17041	7.3~1		Client:			KME	P		
Sampler:	200			Start Date:	: Y,	17.17				
Well I.D.:	: Gmi	~0.18		Well Dian	neter: 2	3 4	) 6	8		
Total We	ll Depth:	_		Depth to Water: Pre: 3/,83 Post: —						
Depth to	Free Produ	act: 3/	1,80	Thickness	Thickness of Free Product (feet): 10.03					
Reference		PVC	Grade	Flow Cell	Flow Cell Type: YSI 556					
Purge Metho Sampling M	ethod:	2" Grundfe Dedicated	Tubing	~	Peristaltic Pump  New Tubing  Pump Depth:					
	-		Cond.			Γ				
Time	Temp.	pН	(mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)		Removed . or mL)	Depth to water	
	- v	ell	had o	1.031	017-			-11.0w27		
		- dere	73.10-27	1 Inter		01051-				
								391140		
			1000					×31310		
							35,850			
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
									A Section	
			1737							
			~0	samle	fall	0				
Did well	dewater?	Yes	No		Amount a		evacua	ted:		
Sampling	Sampling Time:				Sampling	g Date:				
	Sample I.D.:				Laborato	ry:	Alpha	Analytical		
Analyzed	1 2.1	TPHg T	PHIP VOC'	s MTBE	BE Other:					
Equipmen	nt Blank I.	D.:	@ Time		Duplicate	e I.D.:				

Project #:	Project #: 17 0417. B~1				KMEP					
Sampler:		Br	33.00	Start Date:	: 4	1.19.17				
Well I.D.	•	6mw2	8	Well Diam	neter: 2	3 4	) 6 8 _			
Total We	ll Depth:	49,	14	Depth to V	Depth to Water: Pre: 32 / 0 Post: 32 / 8					
Depth to	Free Produ	ıct:		Thickness of Free Product (feet):						
Reference	ed to:	rye	Grade	Flow Cell	Type:		YSI 556			
Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump Sampling Method: Dedicated Tubing New Tubing Other										
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or role)	Depth to water		
1353	24.15	7.94	3/23	24	781	-1981	900	32.17		
1356	24.57	7.96	3184	20	0.76	-199.7	1,800	32.18		
1359	24.61	7.97	3188	15	0.74	-199.8	2,700	32.18		
1402	24.63	7.96	3193	14	0.71	- 200.1	3.600	32.18		
1405	24.65	7.96	3199	12	0.71	-199.2	4.500	32.18		
1408	24.68	7.95	3 204	12	0.69	-198.6	5,400	32.18		
				***************************************			-			
				143771777101						
				3.44 3.44						
Did well o	dewater?	Yes	(i)		Amount a	actually e	vacuated: 5, 4	100 mc		
Sampling	Time: 14	109			Sampling		4.19.17			
Sample I.l	D.: 6 m	1 1 28			Laborato	ry:	Alpha Analytical			
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE	11-22-300	Other:	See C.O.	C		
Equipmen	t Blank I.I	D.: FB4	@ I C	135	Duplicate	i.D.:				

	1		***			
Project #: [7041713~]	Client:	KMEP				
Sampler: BN	Start Date:	4.7	1.17.		essent.	
Well I.D.: 6mw.9	Well Diam		3 /4	/ 6 8	_	
Total Well Depth: 33.31	Depth to W	ater:	Pre: 33,			
Depth to Free Product:	Thickness	of Free Pr	oduct (fe	et):		
Referenced to: PVO Grade	Flow Cell	Flow Cell Type: YSI 556				
Purge Method: 2" Grundfos Pump Sampling Method: Dedicated Tubing		Peristaltic Pump  New Tubing  Bladder Pump  Other Fx, put			Exiport	
Start Purge Time: Flow Rate:			Pump Dept	h: PUILSANDI	<u>c</u>	
Temp. Cond. (mS/cm o μS/cm)	r Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water	
1130 30.76 7.70 3232	37	1,70	-123.6		_	
- Sample taken	·Lon	men. 7	old			
- Sample taken	request					
		61				
				-		
		+W				
0.1.5				A A A A A A A A A A A A A A A A A A A		
- PUILS and	/// <u> </u>		- 17			
Did well dewater? Yes No			<del>-</del>	vacuated:		
Sampling Time: //3 U		Sampling	Date:	1.21.17		
Sample I.D.: 6 m kg 9		Laborato	ry:	Alpha Analytical	10	
Analyzed for: TPHg TPHfp VO	C's MTBE	Other: See C.O.C				
Equipment Blank I.D.:		Duplicate	e I.D.:			

					100000000000000000000000000000000000000			
Project #: 170417-B~1 Client: KMEP								
Sampler:		B~		Start Date	: 420.	17		
Well I.D.	: r	1618(1	m10)	Well Dian		3 4	/ 6 8	
Total We		65.0		Depth to V	Water:	Pre: 37	7,50 Post:	37.55
Depth to	Free Produ	ıct:		Thickness	of Free Pi	roduct (fe	eet):	377. 197.
Reference	ed to:	PVO	Grade	Flow Cell	Type:		YSI 556	
Purge Method: 2" Grundos Pump Peristaltic Pump Bladder Pump Sampling Method: Dedicated Tubing New Tubing Other  Start Purge Time: 1806 Flow Rate: 300 Min Pump Depth: 60'								
Time	Temp.	рН	Cond. (mS/cm or/ µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or pul.)	Depth to water
0809	21.69	7.38	1607	11	2.67	-44.8	900	37.52
0812	2349	7.35	1865	8	1.69	96.9	1,800	37.55
0815	23.45	7.34	1861	6	1,77	-105.7	2,700	37.55
6180	23.51	7.17	1855	3	2.00	-110.7	3.600	37.55
0821	23.52	7.14	1850	3	1.96	-109.5	4,500	37.55
0824	23,48	7.16	1845	3	1,92	-109.1	5,400	37,55
				-218.21				
Did well	dewater?	Yes	(b)		Amount a	actually e	vacuated: 5	400 mc
Sampling	Time: C	1825			Sampling		4.20-17	
Sample I.D.: $m \sim 18 (m_{1D})$					Laborato	ry:	Alpha Analytical	
Analyzed for: TPHg TPHfp VOC's M						Other:	See C.O.	C
Equipmen	t Blank I.l	D.:	@ Time		Duplicate	e I.D.:		

photo:								
Project #	: 17041	7,3~1		Client:	ent: KMEP			
Sampler:		BL		Start Date	: 4.70	17		
Well I.D.	: P2	.2		Well Dian		3 (4)	7 6 8	
Total We	ll Depth:	48.8	33	Depth to V	Vater:	Pre: 3	1.13 Post:	3(,20
Depth to	Free Produ	act:		Thickness	of Free Pr	roduct (fe	eet):	
Reference	ed to:	PVC)	Grade	Flow Cell	Type:	170000000000000000000000000000000000000	YSI 556	
	Purge Time: 2" Grundfos Pump Peristaltic Pump Bladder Pump New Tubing Other Pump Depth: 433							
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water
0841	22.96	2369	2369	73	2:10	-98.5	900	31.20
0844	23.29	6.82	2419	30	0.99	-95.8	1,800	31.20
0847	23.31	6.80	2394	21	0.92	-93.2	2,700	31-20
0850	5 413 53'21	6.78	2352	14	0.89	-9516	3,600	31.20
0853	23.53	6.71	2353	13	0.89	96.4	4,500	31.20
0856	1354	6.77	2350	13	0.88	-987	5,400	31,20
			78.6 19			# 11 B		
								282
Did well o	lewater?	Yes	(No)		Amount a	actually e	vacuated: 5	(400mC
Sampling	Time: ()	857			Sampling	Date:	4.70.17	
Sample I.I	D.: P	2.2			Laborator	ry:	Alpha Analytical	4.
Analyzed	Analyzed for: TPHg TPHfp VOC's				31900	Other:	See C.	0.C
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	I.D.: (	) up. 6	

Project #:	17041	7,8~1		Client:			KMEP	
Sampler:		Br	•	Start Date:	:	4.2011	7	
Well I.D.	:	mw2	5	Well Dian	neter: 2	3 A	) 6 8 _	
Total We	ll Depth:	\$3.	11	Depth to V	Vater:	Pre: 35	Post.	: 35,27
Depth to	Free Produ	ıct:	)	Thickness	of Free Pi	roduct (fe	et):	
Reference	ed to:	eve/	Grade	Flow Cell	Type:		YSI 556	
Purge Metho Sampling M Start Purge	ethod:	2" Grundf Dedicated	<b>Tubing</b>	300 milmin	Peristaltic I New Tubin	g	Bladder Pump Other	
Time	Temp.	pН	Cond. (mS or (us)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water
0913	25,02	7,54	2504	71000	0.63	-2829	900	35.27
0916	24.97	7.53	2500	71000	0.63	-289.8	1.800	35,27
0919	25/19	7,55	2491	3.74	0.62	-3141	2.700	35,27
0922	2520	7.51	2485	203	0.62	-3269	3.600	3527
0925	15:19	7.37	2472	156	0.60	-334.9	4,500	35,27
8590	25119	7.35	2470	136	0.57	-33514	5,400	35.27
0931	25:17	7.34	2464	130	0.57	-335,7	6.300	35127
0934	Szisa	7.33	2468	127	0,56	-336.1	7,200	35,27
					1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			
			_					
Did well o	dewater?	Yes	(No)		Amount a	actually e	vacuated: 7,2	OU MC
Sampling Time: 0935 Sampling Date: 4,20,17								
Sample I,	D.: 6m	w 25			Laborato	ry:	Alpha Analytical	l
Analyzed	for:	TPHg T	PHfp VOC's	s MTBE	722	Other:	See C.O	.C
Equipmen	nt Blank I.l	D.:	@ Time		Duplicate	e I.D.:		

		LO III	2011 112	EL MACH	LLORENTIC	· DIXIII !			
Project #	: 170417	13~1		Client:			KMEP		
Sampler:		BN		Start Date	: 4	1.20.17	1	30.0	
Well I.D.	: M	W.SF.		Well Dian	neter: 2	3 (4)	) 6 8 _	_	
Total We	ll Depth:	41.43		Depth to V	Water:	Pre: 35	5:75 Post:	35,79	
Depth to	Free Produ	uct:	~	Thickness	of Free P	roduct (fe		1	
Referenc	ed to:	fvg	Grade	Flow Cell Type: YSI 556					
Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump Sampling Method: Dedicated Tubing New Tubing Other  Start Purge Time: 0951 Flow Rate: 300 "   Pump Depth: 1991   Pump Depth									
Start Purge	Time: 013		_	) UU MIZ		_ Pump Dep	tn:		
Time	Temp.	рН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mi)	Depth to water	
0954	26.98	7.64	2429	36	0.56	-254.4	900	35.78	
0957	27.03	7.57	2433	17	0.54	-246.4	1,800	35.79	
1000	27.17	7.51	2436	10	0.52	-240.8	2.700	35.79	
1003	27.22	7.49	2442	8	0.50	-241.7	3.600	35,79	
1006	27.22	7.47	2446	7	0.49	- 242.8	4,500	35.79	
1009	27.24	7.46	2445	7	0.48	242.5	5,400	35.79	
							230,000		
			-				AVE		
Did well	dewater?	Yes	(10)		Amount	actually e	vacuated: 5, 9	100 m	
Sampling	Time:	1010			Sampling	g Date:	4.20-17		
Sample I.	D.: M	~:5F·1			Laborato	ry:	Alpha Analytical		
Analyzed	for:	TPHg T	PHfp VOC's	s MTBE		Other: 5	ee C.O.	C	
Equipmen	nt Blank I.	D.:	@ Time	28-1-11-1	Duplicate				

Project #	17041	7.8~1		Client:	Client: KMEP					
Sampler:	13	3~		Start Date	: 4,	17.17	10 = 2 · 2			
Well I.D.	: FML	v-30		Well Dian		3 / 4	6 8			
Total We	ll Depth:	~		Depth to \	Depth to Water: Pre: 32.53 Post: —					
Depth to	Free Prod	uct: 32	16		of Free Pi	STATE OF THE PARTY		7		
Reference		PVG	Grade	Flow Cell	Type:	- 24 1999 - 24 17 2	YSI 556			
Purge Metho Sampling M	ethod:	2" Grundfo Dedicated	Tubing		Peristaltic P	g		Other_		
Start Purge	Time:	_	Flow Rate: _			Pump Dep	th:			
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Rem (gals. or i		Depth to water	
	-0,37	1 501	+ delec	trul ~1	ner fai	Pio	5r~			
							1777.0000.000			
			23							
				34410(112)						
				W = 200						
	~ ~	0'Sam	les la	lun-						
Did well			No		Amount a	actually e	vacuated	:		
Sampling	Time:			200	Sampling	Date:				
Sample I.	D.:	/			Laborator	ry:	Alpha Ana	lytical		
Analyzed	for:	TPHg TI	PHfp VOC's	s MTPE	emmorii	Other:	- M15-211	- Triban	9	
Eauipmen	t Blank I.	D.:	@ Time		Duplicate	I.D.:				

		LOTT	LOW WI		OMIN	JUAIA	SHEET		
Project #	: 1704	1713~1		Client:			KMEP	•	
Sampler:		B~	The state of the s	Start Date:	: 4.2	20.17		7	
Well I.D.	: n	16.56	4	Well Diam		3 /4	768_		
Total We	ll Depth:	41.9	9	Depth to V	Vater:	Pre: 3	6.67 Post:	36.71	
Depth to	Free Produ	uct:		Thickness	Thickness of Free Product (feet):				
Reference	ed to:	eye	Grade	Flow Cell	Туре:	HOOM WISSENIA OF THE STATE OF T	YSI 556	1000000	
Purge Methors Sampling Months Start Purge	ethod:	2" Grundf Dedicated とい	/ 1	300/	Peristaltic Pump Bladder Pump New Tubing Other Pump Depth: 70'				
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water	
1013	25.44	7.44	1398	337	1,35	-207.1	900	36.70	
1026	25.88	7.44	2415	286	0.87	2/7.5	1,800	36-71	
1029	25,94	7.45	2430	249	0.60	-260.4	2,700	36.71	
1032	25,96	7.46	2431	212	0.58	-2643	3.600	36.71	
1035	26.03	7,47	2418	152	0.47	-286-1	4,500	3671	
1038	26.05	7.47	2410	150	0.47	-290.0	5,400	3671	
1041	26.05	7,47	2411	147	0.48	-2873	6,300	36.71	
a n Carania Al Alla de la companya d				San					
						PERFORMANCE DE LA CONTRACTOR DE LA CONTR			
Did well d	lewater?	Yes (	N2	14	Amount a	actually e	vacuated: 6	300	
Sampling	Sampling Time: 1042 Sampling Date: 4.20.17								
	D.: MV				Laborato	ry:	Alpha Analytical		
Analyzed		esperantial per	PHfp VOC's	s MTBE		Other: \( \int \)	ae C.O.	C	
Equipment Blank I.D.: @ Duplicate I.D.:									

		LOW	LOW WE	LLL MON	TORING	DAIA	SHEET	ACTOR CONTRACTOR CONTR		
Project #	: 17041	7.13~1		Client:	3 to	6.	KMEP			
Sampler:	Br	J		Start Date	: 4201	7				
Well I.D.	.: Mu	~'JF13		Well Dian		3 4	6 8 _	)		
Total We	ell Depth:	3 9.23		Depth to V	Depth to Water: Pre: 30.40 Post: 30.40					
Depth to	Free Prod	uct:		Thickness of Free Product (feet):						
Referenc	ed to:	(evs)	Grade	Flow Cell	Type:		YSI 556			
Purge Meth Sampling M	lethod:	2" Grundf Dedicated	Tubing		Peristaltic I New Tubin	g	Bladder Pump Other			
Start Purge	Time: [27	1	Flow Rate: _	300 Mg/	1	Pump Dep	th: 35'			
Time	Temp.	pН	Cond. (mS or (LS)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Remoyed (gals. or mil)	Depth to water		
1230	26.19	7.52	2232	71000	1.56	-205,3	900	30.48		
(133	26.69	7.49	2620	784	1.30	-234.1	1,800	30,50		
(236	27.05	7.43	2704	419	1,57	.239.6	2,700	30.50		
(239	27.07	7.44	2697	47	1.65	-2424	3,600	30-50		
1742	27.08	7.45	2696	12	1.26	- 254.9	4,500	30,50		
1245	27.04	7,44	2693	- [[	1.72	-256.3	5,400	30.50		
1248	27.03	7.43	2690	1(	1:20	-257.5	6.300	30.50		
					T.					
33								**		
Did well o	dewater?	Yes	16)		Amount a	ctually e	vacuated: 6,3	DDML		
Sampling	Time: 17	149			Sampling		4.20.17			
Sample I.l	D.: Mi	~5F.13			Laborator	y:	Alpha Analytical			
Analyzed	for:	TPHg TI	PHfp VOC's	MTBE		Other:	ee C.O. (			
Equipment Blank I.D.:  Duplicate I.D.:										

		The DISTRICT HATE STATE					and the second second		
Project #	: 170417,	B~1		Client:			KME	P	
Sampler:				Start Date	: 4,17	7.17			1
Well I.D.	: 6-Mh	v.23		Well Dian		,	ĵ 6	8	<u> </u>
Total We	ll Depth:			Depth to \	Water:	Pre: 33			
Depth to	Free Prod	uct: 3 l	91	Thickness	of Free Pi	roduct (fe	eet):	1.49	
Reference		p(c)	Grade	Flow Cell			YSI 5		
Purge Methor Sampling M	lethod:	2" Grundf Dedicated	Tubing		Peristaltic F New Tubing	g		dder Pump Other_	
Start Purge	Time:		Flow Rate: _						
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)		Removed s. or mL)	Depth to water
	- 1.4	G'	SpH de	reched	-links	GIR PIO	500		
				8					
								ANNUAL CONTRACTOR	
						14			
		NU	Sami	r) taken	<u> </u>		L		
Did well	dewater?	Yes	No		Amount a	actually e	vacua	ted:	7
Sampling	Time:			/	Sampling	Date:			
Sample I.	D.:				Laborator	ry:	Alpha .	Analytical	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Analyzed	for:	TPHg T	PHfp VOC's	MTBE		Other:			
Equipmen	t Blank I.	D.:	@ Time		Duplicate	I.D.:			

Project #	Project #: 17091713 Client: KMEP											
Sampler:	P E	BM		Start Date	:	4.20.17						
Well I.D.	.: MI	~.5F.6	)	Well Dian		3 4	7 6 8 _					
Total We	ell Depth:	41.2.	3	Depth to V	Water:	Pre: 3	(,0') Post:	34.07				
Depth to	Free Prod	uct:		Thickness	of Free P	roduct (fe						
Referenc	ed to:	#vg	Grade	Flow Cell	Туре:		YSI 556					
Purge Meth Sampling M Start Purge	lethod:	2" Grufnafi Dedicated	Tubing	300 ml	Peristaltic l New Tubin	g	Bladder Pump Other_ th:					
Time	Temp.	рḤ	Cond (ms or us)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or nL)	Depth to water				
1319	26.12	7.86	3012	71000	1.27	-220,7	900	34.07				
1322	26.42	7.42	3072	833	0.81	-223.2	1,800	34.07				
1325	26.46	7.32	3053	249	0.73	-220,4	2,700	34.07				
1358	26.41	7.30	3002	37	0.68	-217.5	3,600	34.07				
1331	26.43	7,20	2946	12	0.67	-2/6.3	4,500	34.07				
1334	26.46	7.16	2913	7	0.68	-214,1	5,400	34.07				
1337	26.50	7.14	2914	6	0.67	-215.8	6.300	34.07				
1340	26.48	7.13	2916	6	0.67	-213.6	7.200	34,07				
Did well o	lewater?	Yes	No.		Amount a	actually e	vacuated: 7.7	OUML				
Sampling	Time: /	341			Sampling	Date:	4.20.17					
Sample I.l	D.: Ms	~ 5 F. 6		3	Laborato	ry:	Alpha Analytical					
Analyzed	for:	TPHg TI	PHfp VOC's	MTBE		Other:	See C.O	. C				
Equipmen	t Blank I.I	D.:	@ Time		Duplicate	i.D.:						

	- 1511.04.17-4-17-7-17-7-1										
Project #											
Sampler:		B~		Start Date	: 4.7	0.17					
Well I.D.	.: <i>ρ</i>	1~ SF1	15	Well Dian	neter: 2	3 4	) 6 8 _				
Total We	ll Depth:	44.0	6	Depth to V	Water:	Pre: 35	39 Post:	:35.43			
Depth to	Free Prod	uct:		Thickness	of Free P	roduct (fe		•			
Referenc	ed to:	PVC	Grade	Flow Cell	Type:		YSI 556				
Purge Meth Sampling M Start Purge	lethod:	2" Grundf Dedicated	Tubing	}00 mym;	Peristaltic I New Tubin	g	Bladder Pump Other th: 39'				
Time	Temp.	pН	Cond. (mS or (18))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Remoyed (gals. or mD)	Depth to water			
Turbuity D.O. OKI Water Remoyed											
1400	28.18	6.80	2854	10	0.76	-246.6	1.800	35.43			
(40)	18.19	6.79	2848	8	0.72	-2432	2,700	35.43			
1406	28.31	6.78	2831	5	0.63	-2480	3,600	35,43			
1409	28.34	6.78	2828	4	0.62	-249.1	4.500	35,43			
1412	28.34	6.77	2825	4	0.59	-247.6	5,400	35,43			
ē .							100 100 100				
-											
							- COR				
Did well d	ewater?	Yes	(1 ₀ )		Amount a	ctually ev	vacuated: 5, 9	100 m			
Sampling	Time: 1	413			Sampling		4.20.17				
Sample I.I	D.: M1	~5F1	5		Laborator	y: ,	Alpha Analytical				
Analyzed	for:	ГРНg ТР	Hfp VOC's	MTBE		Other: (	See C.O.	C			
Equipment	Blank I.D	).: EB.5	@ 145 Time	0	Duplicate						

							~~~~			
Project #	11251:	1-BN1		Client:			KMEP			
Sampler:	DF	*	3477404	Start Date	: 4/2	[1]				
Sampler:										
Total We	ll Depth:	50.1	O	Depth to V	Water:	Pre: 3	. \ Post:	31.72		
Depth to	Free Prod	uct:	53300	Thickness	of Free Pr	roduct (fe				
Reference	ed to:	(PVC)	Grade	Flow Cell	Type:		YSI 556			
Sampling M	ethod:	Dedicated	Tubing	300 mil	New Tubin	g	Other_			
Time	_	* 1102(112)	Cond. (mS/cm or	Turbidity	D.O.	ORP	Water Removed	Depth to water		
0959	25.3	7.17	2536	18	1.32	-150.9	60 PS	31.19		
1002	22.4	7.20	2585	9	0.6	-155.8	1800	31.21		
1005	22.4	7.21	25914	80	0.35	-159.3	2700	31.21		
1008	22.5	7.23	2607	7	0.35	-167-1	3600	31.22		
1011	22.5	7.23	2611	00	0-33	-120.5	4500	31.22		
							1			
				**********			110070			
Did well d	ewater?	Yes (No		Amount a	ctually ev	vacuated:			
Sampling '	Time: [0[3		1100-1100-11	Sampling	Date:	4/21/17			
Sample I.I	mple I.D.: GMW. Alpha Analytical									
Analyzed f	alyzed for: TPHg TPHfp VOC's MTBE Other: SEE COC									
Equipment	Blank I.I	D.:	@ Time		Duplicate					

Project #:	17041	17.8~1	22412.004	Client: KMEP							
Sampler:	В~	/		Start Date	: 4,	21.17					
Well I.D.	: br	4 W. 020		Well Dian			6	8			
Total We	ll Depth:	79.7	70	Depth to V	Water:	Pre:	-	Post:			
Depth to	Free Produ			Thickness	of Free P	roduct (fe	eet):				
Reference	ed to:	P(c)	Grade	Flow Cell	Type:		YSI 5	56			
Purge Metho Sampling M		2" Grundf Dedicated	1.000 pages 10.000		Peristaltic I New Tubin		Blad	lder Pump Other_	Fxipoic		
Start Purge	Time:		Flow Rate: _								
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	The state of the s	Removed or mL)	Depth to water		
1150	27.32	7.50	2706	49	0.95	-130.5	,	_			
						4.					
_	Sample	, (collect	ed 4	mm	Ma	n:40	14			
	per	clien	ts	ed t	c+						
		2									
						20					
								- Sawa			
	1,						*		<u> </u>		
Did well	dewater?	Yes	% 0)		Amount	actually e	evacuat	ted:			
Sampling	Time:	1150		****	Sampling	g Date:	4.	21.17			
Sample I.	D.:	GMW	.0.10	Laboratory: Alpha Analytical							
Analyzed	for:	TPHg T	PHfp VOC'	's MTBE Other: See C.O.C					. C		
Equipmer	nt Blank I.	D.:	@ Time	Dunlicata I D :							

Project #:	nol	17. DF	1. 5	Client:		380001	KMEP		
Sampler:				Start Date:	: 4/21	17			
Well I.D.	: Com	1.0.2	1	Well Diam		-	(6) 8 _		
	ll Depth: (Depth to V	Vater:	Pre: 30) · 5	30.71	
	Free Produ	V -		Thickness	of Free Pr	oduct (fe	et):		
Reference		(vc)	Grade	Flow Cell			YSI 556		
Purge Metho Sampling M		2" Grundfo Dedicated	/	\$00	Peristaltic P New Tubing	3	Bladder Pump Other_		
Start Turge	1 mie. 12- 1		Cond.		1	T unip Dop		 	
Time	Temp.	pН	(mS/cm or uS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mb)	Depth to water	
1302	24.5	6:39	1569	27	1.24	-1009	1500	30-69	
1305	25%	6.45	1467	22	0.75	-1463	3000	30-71	
1308	2517	6.48	1414	19	0.50	-148-3	4500	70.71	
1311	75%	6.46	1321	18	0.46	~ 125.3	6000	30.71	
1314	28.8	6.47	1329	18	0.47	-153.9	7500	. 3071	
				Strin ate					
	-								
	1					****	A.149		
Did well	dewater?	Yes (No)		Amount a	actually e	vacuated: 7	500	
Sampling	Time: \	31le			Sampling	Date:	4/21/17		
	D.: GM	- Nicolai	21	534-3 34-311-342-	Laborato	ry:	Alpha Analytical		
Analyzed				OC's MTBE Other: See C.O. C					
	nt Blank I.	D.: 60-	@ Time	of D	Duplicate				

12-1115		Carallel San Caral						C				
Project #	: 17041	7.8~1		Client:			KMEP					
Sampler:		34		Start Date	: 4	(1717						
Well I.D.	: m~	Z		Well Dian		3 4	/2					
Total We	ll Depth:	-		Depth to V	Water:	Pre: 31	0.91 Post:	:				
Depth to	Free Prod	uct: 30.5	85	Thickness	of Free Pr	roduct (fe	eet): 0.06					
Reference		PYC	Grade	Flow Cell			YSI 556	100000000000000000000000000000000000000				
Purge Methor Sampling M	od: (ethod:	2" Grundfi Dedicated	/		Peristaltic F New Tubin		Bladder Pump					
Start Purge	Time:		Flow Rate: _	Pump Depth:								
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water				
	-0.0	6' 50	H del	retrel -	linke fa	e probe						
								-//				
			www.comcode.com/cod/action/cod									
	AND A SECTION OF				100000000							
							· · · · · · · · · · · · · · · · · · ·	1.00				
		- 1	10 Samp	les fa	hen-		And the same of th					
Did well o	dewater?	Yes	No		Amount a	actually e	vacuated:					
Sampling	Time:	918-0		_/_	Sampling	Date:						
Sample I.	D.:				Laborator	ry:	Alpha Analytical					
Analyzed	for:	TPHg TI	PHfp VOC's	s муве		Other:	200 LOS (MAN) 20					
Equipmen	t Blank I.l	D.:	@ Time		Duplicate	I.D.:						

		The second secon		Contract States States				
Project #	: 17041	17,13~1		Client:			KMEP	
Sampler:	β~	ı		Start Date	: 4	1,17,17		53053
Well I.D.	: (-124	₩23 (6-MW.0-23	Well Dian	neter: 2	3 4	9 6 8 _	
Total We	ll Depth:			Depth to V	Water:	Pre: }0	.88 Post	t: —
Depth to	Free Produ	uct:		Thickness	of Free Pi	roduct (fe	eet):	
Reference	ed to:	PVC/	Grade	Flow Cell	Type:		YSI 556	
Purge Methors Sampling M		2" Grundf Dedicated	7.		Peristaltic F New Tubing		Bladder Pum Othe	P Fxx Poje
Start Purge	Time:		Flow Rate: _			Pump Dep	th:	
Time	Temp.	pН	Cond. (mS/cm or µS/om)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to water
1140	27.42	7,58	2888	117	1.32	-1483	_	_
_	Samp	le	collec	tad	from	in	in feld	
	Pas	clie	230	seno				
				7				
				and the second second				
							186	
					2530-24111-15-151-2			***************************************
- Jest	1000000	_	Pour	ample				
Did well	dewater?	Yes	100	p,c	Amount a	actually e	vacuated: _	
Sampling	Time:	1140			Sampling	Date:	4.21.17	
Sample I.	D.: /r	mw23			Laborato	ry:	Alpha Analytica	ıl
Analyzed	for:	TPHg T	PHfp VOC's	s MTBE		Other:	see CC).C
Equipmen	nt Blank I.	D.:	@ Time	11.5; - 98-51.	Duplicate	e I.D.:		

		LOTT	2011 112	EE MOTH	TOILLIO	DIXXXX	DILLI					
Project #:	Project #: [70417.8~] Client: KMEP											
				Start Date:	4,17	7,17						
Well I.D.	: Gm	W.0:	12	Well Diam	eter: 2	3 /4	9 6 8	_				
Total We	ll Depth:	-		Depth to V	Vater:	Pre: 32	.90 Post:	_				
Depth to	Free Produ	uct: 28'	70	1			eet): 4,20					
Reference		PV	Grade	Flow Cell Type: YSI 556								
Purge Metho Sampling M	od: ethod:	2" Grundi Dedicated			Peristaltic P New Tubing	-	Bladder Pump Other_					
Start Purge	Гіте:		Flow Rate: _	S10011155551115511	(Pump Dep	th:	<u> </u>				
Temp. Cond. Turbidity D.O. ORP Water Removed ("C or "F") pH (mS or μS) (NTUs) (mg/L) (mV) (gals. or mL) Depth to water												
Time (°C or °F) pH (mS or μS) (NTUs) (mg/L) (mV) (gals. or mL) Depth to water - 4.20' Spl+ Clete(ted link; fale prose-												
							,					
								1939-2011-019-019-019-019-019-019-019-019-019-				
				2000								
				· /	S							
		- N	59 m	les ta	Ken-							
Did well o	lewater?	Yes	No		Amount a	ectually e	evacuated:					
Sampling	Time:				Sampling	Date:						
Sample I.l	D.:				Laborator	ry:	Alpha Analytical					
Analyzed	Analyzed for: TPHg TPHfp VOC's MTBE Other:											
Equipmen	t Blank I.l	D.:	@ Time		Duplicate	I.D.:						

Project #:	1704	(17.13~1		Client: KMEP								
Sampler:		R~		Start Date	: 4.17	.17						
Well I.D.	: M~	•		Well Dian			4 6	8				
Total We		~		Depth to V	Water:	Pre:	_	Post:	_			
Depth to	Free Prod	uct:		Thickness	of Free Pr	roduct (f	feet):					
Reference	ed to:	PVC	Grade	Flow Cell	Type:		YSI 5	56	TOTAL TOTAL			
Purge Metho Sampling M	ethod:	2" Grundf Dedicated	Tubing		Peristaltic P New Tubing	g		dder Pump Other_				
Start Purge	1 ime:	T	Flow Rate: _	<u> </u>	T							
Time	Temp. (°C or °F)	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)		Removed . or mL)	Depth to water			
	- 41	5/e 1	v Gless	well.	bullied	_						
			, c									
				200				8.47				
					2-45520-2-0000							
						20031100000000						
		- N	U Sam	Dles 1	aken							
Did well o	dewater?	Yes	No		Amount a	ectually	evacua	ted:				
Sampling	Time:				Sampling	Date:						
Sample I.J	D.:		and the same of th		Laborator	ry:	Alpha A	Analytical	100.00			
Analyzed	for:	TPHg TI	PHfp VOC's	s MTBE		Other:						
Equipmen	t Blank I.	D.:	@ Time	Duplicate I.D.:								

CA THE STATE OF THE STATE OF											
Project #:	17041	7.13~1		Client: KMEP							
Sampler:	B~			Start Date	: '	1117.17					
Well I.D.:	Mw.	SF-14		Well Dian		3 (4)	6	8			
Total Well			1	Depth to V	Water:	Pre: 3	5,40	Post:	-		
Depth to F	ree Produ	ıct:		Thickness	of Free Pr	roduct (fe	eet):				
Reference	d to:	PVC	Grade	Flow Cell	Type:		YSI 55	6			
Purge Method Sampling Me		2" Grundfo Dedicated			Peristaltic P	g	/	Pump Other_			
Start Purge T	ime:		Flow Rate: _								
Time	Temp.	pН	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Re		Depth to water		
_	InsF	1420	to po	196 01	Samo	100					
				H 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
	102.5										
	,	- ~0	Samples	taken-							
Did well de	ewater?		No		Amount a	actually e	vacuate	d:			
Sampling 7	Γime:				Sampling	Date:					
Sample I.D).:		A THE SECOND	/	Laborator	ry:	Alpha An	nalytical			
Analyzed f	or:	TPHg TI	PHfp VOC's	s МРВЕ		Other:	0.5_11155				
Equipment	Blank I.J	D.:	@ Time	/	Duplicate	i.D.:		5-10-50			

BLAI	AINE 1680 ROGERS AV						95112-1105	- L COMPOST AMALTSIS TO DETECT						TECT	_	LAB	Alpha Analy	tical COC_	of	
TECH SER		31:	C.			PH	FAX (40 ONE (40	98) 573-7771 98) 573-0555		8260B)							Billing Information: Kinder Morgan 1100 Town and Coun			
CHAIN OF CUS	TODY	Y							\dashv	A 8;				15. 17. 18. 18. 18. 18. 18. 18. 18.			Orange CA 95112	,		
CLIENT	k	 (inde	er Morga	 an					15M)	(EPA							Kinder Morgan Norwa Report to:	alk		
SITE	355.0		Norwa						A 801	Oxygenates			5				Dan Jablonski CH2MHILL			
		Control of the	6 Norwa		d. No	rwal	k		(EPA	geng							1000 Wilshire Blvd 2 Los Angeles, CA 900	1st floor 17		
					,				TPHd	XX										¥
				MATRIX		1	CONTA	INERS	I	৹১										
SAMPLE I.D.	D	ATE	TIME	AQ= Water	#	Pres	ervation	Туре	TPHg	VOC's							ADDU INCODMATION			
TB-1	411	8117	0700		2		CL	VOA	X	V							ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
6-mw37			0339	AQ	6		V	1	X	Y						7			1	
GM43FIT			0903	AQ	6				X	X						\dashv				
6-MW35-8			0940	Aa	6				K	Y						\top	77 IF 3 10 HILLS			
mw.8			1011	Aa	6	1			X	Y						+				
-mw.0.16			1051	Aa	6				X	V						+				
wen'z			8289	Aa	6				x	V						\neg	1 10 10 10 10 10 10 10 10 10 10 10 10 10			
WCW13			1037	AQ	6				k.	X						\top				
wcw.4			1000	AQ	6				×	χ						\neg				
wins		<u>'</u>	0907	AQ	U		•		7	Å						\top				
		ATE 1.17		SAMPLIN PERFOR		Y		Ben	5	te	ren	s	-			N	RESULTS NEEDED IO LATER THAN	Standard		
RELEASED BY				بدواندو والمعاول المعاول المعادر يبن				Here term			TIME	10	00	RECE	IVED BY	, ,	1	Otanuaru	DATE	TIME
RELEASED BY						->,	*				TIME	00	O	RECE	IVED BY		lcole		10ATE	TIME.
RELEASED BY) N	ca	-	-				TIME			RECE	IVED BY	~			4 (6 / DATE	7 (65)
SHIPPED VIA				2					<u> </u>		17			COOL	ER#				2.0	
		-																		

BLAI	NIE	-		SAN	JOSE (1680 ROGE	RS AVENUE 95112-1105		CON	DUCT ANALYS	IS TO DE	ETECT	LAB	Alpha Analyti	ical COC_	of 5
TECH SER).	OAN	0002,	FAX (4	08) 573-7771 08) 573-0555		8260B)				Billing Information: Kinder Morgan 1100 Town and Coun			
CHAIN OF CUST	TODY								100000				Orange CA 95112	,		
			7/2 = = = 11/9/10g					5M)	(EPA				Kinder Morgan Norwa	alk		
CLIENT	Kir	ide	r Morga	ın				801					Report to: Dan Jablonski			
SITE	DF	SP	Norwa	lk				PA 8	Oxygenates				CH2MHILL 1000 Wilshire Blvd 2	1st floor		
	15	306	Norwa	lk Blvc	l, Nor	walk		巴	gen				Los Angeles, CA 900			
						-		TPHd	ÖX							
				MATRIX		CONT	AINERS I		∞					1	f 1	
SAMPLE I.D.	DAT	E	TIME	AQ= Water	#	Preservation	Type	TPHg,	VOC's				ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE#
MW-12	4118		12.07	Aq	č	Hic	UDA	X	У				TIBBE IN CHWATIO	GIATOS	CONDITION	LAB SAMPLE #
6mw 26	L		1247	AQ	6	L	3.									
FPX (RP)		1172														
EXP3	4.18	17	0940	AQ	6	HCL	UUA	7	Y							
GWR.1R			1326	AQ	6			X	Υ Y							-
PUP-1			_	AQ	6			K	7							
5MW.4R			1419	AU	6			X	Ϋ́							
_EB1	1		1445	AQ	6	V	U	Y	X							
	<u> </u>															
SAMPLING COMPLETED	DAT 4118		TIME	SAMPLII PERFOR		Y [Ben -	Ste	ven	1			RESULTS NEEDED NO LATER THAN	Standard		
RELEASED BY		1								TIME 600	REC	CEIVED B	Vicole		4/18/	7 1600
RELEASED BY				No	00				H1-90	TIME 600	REC	CEIVED B			DATE 18 1	7 1630
RELEASED BY	/	2	7	n	~	~				1700	REC	CEIVED B			DATE	TIME
SHIPPED VIA										TIME SENT	cod	OLER#		7-54-11-11-1		
															No.	

BLAI	NE		SAN	JOSE	1680 ROGER CALIFORNIA	S AVENUE		CON	DUCT	ANALY	'SIS T	O DE	TECT	100000	LAB	Alpha Analyt	ical COC 2	of 3
TECH SERV		5 .	0	0002,	FAX (40) PHONE (40)	8) 573-7771		8260B)							Billing Information: Kinder Morgan 1100 Town and Countr			
CHAIN OF CUS	TODY			-	-		=					3			Orange CA 95112			
CLIENT	Vinda	n Manua					8015M)	(EPA							Kinder Morgan Norwal Report to:	k		
SITE		r Morga			70-200-000		B 1660.0	tes							Dan Jablonski CH2MHILL			
		Norwa					EPA	ena							1000 Wilshire Blvd 21 Los Angeles, CA 9001			41
-	15306	8 Norwa	ılk Blvc	d, No	walk		d (El	Oxygenates							Loo / Migales, O/ 300			
	1		MATRIX	г	CONTA	INERS	TPHd	1000				11						
			WATKIA				100	8									1 1	
SAMPLE I.D.	DATE	TIME	AQ= Water	#	Preservation	Туре	TPHg,	VOC's							ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE#
64W13	04-18-17	0903	AQ	6	HOV	Voa's	X	X								11		
GMW-38	04-18-17	0992	AQ	6	HCL	Voz's	X	X										
GHW.39	04-18-17	1025	AQ	6	HCL	Voeis	X	X										<u> </u>
5MW-0-19	04-18-17	1104	AQ	6	HCL	Vozis	X	X										
HL-Z	04-18-17	1230	AQ	6	HCL	V025	X	X										
HL-3	84-18-17	1305	AQ	6	HCL	V62'S	X	X										
GMW-8	04-18-17	1356	AQ.	6	HEL	1/02/5	X	X										
GHW-142	04-18-17	1443	AQ	6	HCL	16019	X	X										
EB-Z	04-18-17	1457	AQ	6	HCL	V02'5	X	X										
SAMPLING COMPLETED RELEASED BY	DATE 04-18-17-	TIME 1500	SAMPLII PERFOR	NG RMED B	Ý Na	ethen	Vei								RESULTS NEEDED NO LATER THAN	Standard		
	1			Village age enter					TIME	550		RECE	IVED BY	Y	NICOK		DATE 4/18/1	TIME
RELEASED BY	_	A	1), co1.	e					TIME	100		REGE	IVED BY	1	is 4	>	DATE 4 /18-/	7 1830
RELEASED BY	u	ive		7						00) I	RECE	IVED BY	Y			DATE	TIME
SHIPPED VIA		oute sk							TIME	SENT		COOL	ER#					

3LAI	NI	E		SAN	JOSE	1680 ROGEI CALIFORNIA	RS AVENUE		CON	IDUCT AN	ALYSI	S TO DE	TECT		_AB	Alpha Analyt	rical COC 1	of ?
ECH SER			C.	-7.111	0001,	FAX (40	98) 573-7771 98) 573-0555		8260B)						Billing Information: Kinder Morgan 1100 Town and Countr		<u></u>	
AIN OF CUST	TODY								V						Orange CA 95112			
JENT	K	inde	r Morga	an				8015M)	(EP,						Kinder Morgan Norwal Report to:	lk		
ΓE			Norwa						Oxygenates						Dan Jablonski CH2MHILL			
			3 Norwa	7.2	4 No	nuolle		(EPA	ens						1000 Wilshire Blvd 21 Los Angeles, CA 9001	st floor 7		
	- 1	0000	JIVOIVV	aik Dive	J, 140	IWaik) p	xyg								*	
	Π			MATRIX		CONTA	AINERS	, ТРН	∞									*
MPLE I.D.	DA	ATE	TIME	AQ= Water	#	Preservation	Туре	TPHg,	VOC's						ADD'L INFORMATION	STATUS	CONDITION	
TBI	4.10	2:17	0700	AQ	2	HCL	UDA	376	X					Ť	ISSE IN ONWATION	31A103	CONDITION	LAB SAMPLE #
14.6	1		0.752	AQ	6	1	ì	X	X			_		1				
14.7			0830	AQ	6			x	Y					+				
wizo(nin)			0357	AQ	6			X	X		+	_		\dashv			-	
W19(MID)			1430	Aa	6			X	X			+		+			-	
SXP2			0875	AQ	6			X	X		-						-	
M.SICWID)			1021	AQ	6			X	K			-		+			-	
2. Anc			-	AQ	6			Y	X			+-					+	
12-15R			1137	Au	6			×	1		+	+						
DUP-4	- 6	1		Aa	6	-	1	7	×					+			-	
MPLETED		TE 19.17	TIME	SAMPLII PERFOR		BY	Ben			'eni				F	RESULTS NEEDED NO LATER THAN	Standard		
LEASED BY	/	1								TIME	00	RECE	IVED BY	/	Vicole	otandara	DATE 4/19/	TIME / SOO
LEASED BY				Nic	ole					TIME		RECE	IVED BY	,			DATE	TIME
LEASED BY		***************************************		. ,, С	<u> </u>					TIME		RECE	IVED BY	,	W		DATE	TIME
IPPED VIA										TIME SEI	NT	COOL	ER#					<u> </u>
		-																

3LAI	NE		SAN	JOSE.	1680 ROGER CALIFORNIA	S AVENUE		CON	IDUCT	ANALY	'SIS T	O DET	ECT	LAB	Alpha Analyt	ical COC 2	- of 3
ECH SER		C.		,	FAX (40 PHONE (40	8) 573-7771		8260B)				-M-west		Billing Information: Kinder Morgan 1100 Town and Count			
HAIN OF CUS	TODY							PA 8						Orange CA 95112	1401170		
JENT	Kinde	er Morga	 an			1	8015M)	쁘						Kinder Morgan Norwa Report to:	lk		
TE		Norwa						Oxygenates						Dan Jablonski CH2MHILL			
		3 Norwa		d. No	rwalk		(EPA	gen						1000 Wilshire Blvd 21 Los Angeles, CA 9001	1st floor 17		*:
				.,	· · · · · · · · · · · · · · · · · · ·		TPHd) XX									
			MATRIX		CONTA	INERS	라	8									
MPLE I.D.	DATE	TIME	AQ= Water	#	Preservation	Type	TPHg,	VOC's						ADD'L INFORMATION	OTATUO.		
nw.9	4.19.17	1212	Au	6	14CL	UOD	7	Y					*****	ADD L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
-ML36		1253	Aa	6	HIL	T.	x	V								 	e - non en
mw18		1409	AQ	6	HIL		x	Y									
EB3	5	1435	Aa	6	11(K	Y								 	
245 1 1 2 M 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1																	
						•											
MPLING DMPLETED	DATE 4.19.1	TIME	SAMPLII PERFOR		Y Be	n S	teu	cas				- 4101/2		RESULTS NEEDED NO LATER THAN	Standard		
ELEASED BY	M		_						TIME	600	,	RECE	IVED BY	Nicole		DATE 4/19/	17 1600
ELEASED BY	4			Nic	50/10				TIME			RECE	IVED BY			DATE	TIME
LEASED BY	The second	- Colonia - Colo		VIC	- W	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			TIME			RECE	IVED BY		9 - 9 9 9 1 - 1993	DATE	TIME
IIPPED VIA	1000000								TIME	SENT		COOL	ER#			110 - 110 - 100 - 1	
		-															

BLA	INE		SAN	JOSE	, CALIFORNIA	RS AVENUE 95112-1105	_	CO	NDUCT	ANAL	YSIS T	O DETEC	CT CT	TLAB	Alpha Apaly	rtical COC_	3.3
FECH SEF	RVICES, 11	NC.			FAX (4	08) 573-7771 08) 573-0555		8260B)						Billing Information: Kinder Morgan 1100 Town and Coun		rical COC_	<u></u>
:HAIN OF CU	STODY						1							Orange CA 95112	iyka.		
LIENT	Kinde	er Morg	an				8015M)	(EPA						Kinder Morgan Norwa	lk		
ITE		P Norwa					8	tes						Report to: Dan Jablonski			
		6 Norwa		d. No	rwalk		(EPA	Oxygenates				8		CH2MHILL 1000 Wilshire Blvd 2: Los Angeles, CA 900	st floor		
					want		무)xyg						and ingeles, on 900			
			MATRIX		CONTA	AINERS	TPHd	∞									
AMPLE I.D.	DATE	TIME	AQ= Water	#	Preservation	Туре	TPHg,	VOC's						4550			
XP-5	04-19-17	0537	19	6	HCV	Voe's	X	X					+	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
EXP-4	54-19-17	6924	Aa	6	HCL	Vaels	X	X			+		-			-	
DCW-5	54-19-17	1018	AQ	6	HCL	Voa's	X	X				_	+			-	
KW.8	09-19-17	1057	AQ	6	HCL	Va215	X	X		7	_		+-			-	
20W-C	04-19-17	1208	10	6	HCL	Voe's	X	X				_	+-			-	
icw-12	04-19-17	1256	AQ	6	HCL	1625	X	V		1			+				
KW-14	04-19-17	1358	AQ	6	HCL	160'5	X	X				_	+-			-	
B-4	04-19-17	1417	AQ	6	HCV	Vo215	X	X				+	1				
-																	
MPLING MPLETED LEASED BY	DATE 69-19-17		SAMPLIN PERFORI		Y Notice	Val							<u> </u>	RESULTS NEEDED NO LATER THAN	Standard		
LEASED BY	A STATE OF THE PARTY OF THE PAR		/						TIME	1600		CEIVED		Nicolo		DATE 4/19/1	7 /600
-EASED BY		N	icole					1	TIME		RE	CEIVED	BY			DATE	TIME
					•			T	TIME		RE	CEIVED	BY			DATE	TIME
PPED VIA									TIME SI	ENT	CC	OLER#					
	-																

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gr ³
LAB SAMPLE #
TUSE
17 TIME SO
TIME
TIME
10
7

3LAI	NE		SAN	JOSE,	1680 ROGER CALIFORNIA	8S AVENUE 95112-1105			DUCT	ANAL	YSIS	TO DE	TECT		LAB	Alpha Analyti	ical coc_2	$\frac{1}{2}$ of $\frac{1}{2}$
ECH SERV		C .			FAX (40) PHONE (40)	8) 573-7771		8260B)						25-35-759	Billing Information: Kinder Morgan 1100 Town and Countr			
AIN OF CUST	ODY						_								Orange CA 95112			
IENT	Kinde	r Morga	an				8015M)	(EPA				100			Kinder Morgan Norwal Report to:	k		
E		Norwa					I I MIGHT	ates							Dan Jablonski CH2MHILL			
		3 Norwa		d, No	rwalk		(EPA	Oxygenates	Ec.						1000 Wilshire Blvd 21 Los Angeles, CA 9001	st floor 7		
			MATRIX		CONTA	INERS	g, TPHd	∞							9	ı	1 1	ħ
MPLE I.D.	DATE	TIME	AQ= Water	#	Preservation	Туре	TPHg,	VOC's							ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE#
Exb.1	42017	1135	AQ	6	HILL	UOA	r	X							14			
W.5F.15		1413	AQ	6			X	X										
11935	V	1450	AQ	6		<u>U</u>	7	X.										
			-	<u> </u>			-											
				-														
	2:																	
MPLING MPLETED Y	 DATE ,'20:17	TIME	SAMPLI PERFO		BY [3en 5	Steu	le n	\s			1			RESULTS NEEDED NO LATER THAN	Standard		
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LEASED BY		~		•					TIME	160	00	RECE	EIVED	BY	701001		DATE	TIME
LEASED BY			Name of the second		1/	,,,		*****	TIME		1	RECE	EIVED E	BY.			DATE	TIME
IPPED VIA	area coro								TIME	SENT	-	COO	LER#					
														201107				

BLAI	NI			SAN	IOSE	1680 ROGEI CALIFORNIA	RS AVENUE		CO	NDUCT	ANAL	YSIS T	TO DE	TECT	LAB	Alpha Analy	tical COC	3 of 3
TECH SER			c.	OAN	1005E,	FAX (40	95112-1105 (8) 573-7771 (8) 573-0555		8260B)						Billing Information: Kinder Morgan 1100 Town and Countr		<u></u>	
CHAIN OF CUST	TODY	e la cine						1=							Orange CA 95112			
CLIENT	K	inde	r Morga				-	8015M)	(EPA						Kinder Morgan Norwall Report to:	k		
SITE	82		Norwa		-			88	tes						Dan Jablonski CH2MHILL			
			Norwa		4 No	nuolle		(EPA	Oxygenates						1000 Wilshire Blvd 21s Los Angeles, CA 9001			
	- 1	3000	NOIWA	IIK DIVE	u, 140	IWaik		무	xyg									
				MATRIX		CONTA	INERS	3, TPHd	0 % S								f 1	
SAMPLE I.D.	DA		TIME	AQ= Water	#	Preservation	Туре	TPHg,	VOC						ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
GMW-0.2	4/24	Pion		AQ	6	Her	ACU	X	0									DIO OPINI EE #
GMW-03			0937	AQ	6	HCV	AOC	R	×									
GMW . 0:4			1047	AR	le	Hu	400	×	X									100
5mw.0.5			1232	AQ	6	Hol	VOA	2	2									
Gm. 0.7 Gm. 0.7			1322	AR	6	Her	JOA ,	X	2									
GMW-0.9 EB-6			1413	AQ	6	Her	VOA	2	X									
E3-6			1435	AQ	6	HU	VOA 0	2	~									
													-					
SAMPLING COMPLETED	DA U	TE	TIME	SAMPLIN PERFOR	IG MED B	Y D. Fol	2718								RESULTS NEEDED NO LATER THAN			
RELEASED BY	(C)									TIME i <	35	-	RECEI	VED BY	NO EXTENTIAN	Standard	DATE	TIME
ELEASED BY										TIME	12	■ F	RECEI	VED BY			DATE	TIME
ELEASED BY										TIME		F	RECEI	/ED BY			DATE	TIME
HIPPED VIA										TIME S	SENT	10	COOLE	R#	T .			

BLAINE	SAN JOS	1680 ROGE E, CALIFORNIA	RS AVENUE 95112-1105		CO	IDUCT ANAL	YSIS T	O DE	TECT	LAB	Alpha Anal	ytical COC_	1.2
TECH SERVICES, INC.		FAX (40	08) 573-7771 08) 573-0555		8260B)		-13			Billing Information: Kinder Morgan 1100 Town and Count		yılcar COC_	0f
CHAIN OF CUSTODY				1_	A 8					Orange CA 95112	uyra.		
CLIENT				8015M)	(EPA			1		Kindor Marsas M			TO Comment
Kinder Morg				301						Kinder Morgan Norwa Report to:	ilk		
DFSP Norw				ă X	ate					Dan Jablonski CH2MHILL			
15306 Norw	valk Blvd, N	orwalk		(EPA	Oxygenates				s =	1000 Wilshire Blvd 21 Los Angeles, CA 9001	st floor	·	
	MATRIX	CONTA	INERS	TPHd	& Oxy								
MDI 5 I B	AQ= Water			TPHg,	VOC's								
DATE TIME		Preservation		上						ADD'L INFORMATION	STATUS	CONDITION	
2	AQ 6	1400	NOA	x	7						OTATOO	CONDITION	
1-M1-113:22	AQ 6			Y	V								
10	1			X	4							7	
MW020 1150	AQ 6			x	X			+					
MPO-18 P					7		_	+	+	-			
EB.7 1300	AQ 6			Y	4		+	+	+			-	
								+					
					-	\dashv							nation —
MPLING DATE TIME MPLETED 14.17.7	SAMPLING												
EASED BY	PERFORMED E	3Y	Ben.	St	eve	15				RESULTS NEEDED NO LATER THAN	Standard		
LEASED BY									ED BY		3414	DATE	TIME
EASED BY					1	IME	RE	CEIV	ED BY			DATE	TIME
PPED VIA			1992		Ī	IME	RE	CEIVI	ED BY			DATE	TIME
anama ana					T	IME SENT	Ico	OLEF	2 #	T		□	

BLAI	NE		;	SAN	JOSE,	1680 ROGE	ERS AVENUE A 95112-110		CON	DUCT ANAL	YSIS	TO DE	TECT	LAB	Alpha Analyt	ical COC_	2_of2_
TECH SERV	Ri SWALKON III	c.				FAX (4	108) 573-777 108) 573-055	1	8260B)					Billing Information: Kinder Morgan 1100 Town and Country	rRd.		
CHAIN OF CUST	ODY							1=	A 8					Orange CA 95112			
CLIENT	Kinda	er Morga	an.					8015M)	(EPA					Kinder Morgan Norwalk Report to:		•	
SITE		Norwa							tes					Dan Jablonski CH2MHILL			
		6 Norwa		Olya	l No.	nuolle		(EPA	Oxygenates					1000 Wilshire Blvd 21s Los Angeles, CA 90017	t floor		
	1550	O MOIWE	aik i	DIVO	i, NOI	rwaik		- p	xyg								
			MAT	TRIX		CONT	AINERS	TPR	8								
			_ ا	Water				TPHg,	VOC's				2				
SAMPLE I.D.	DATE	TIME	A			Preservatio HCL								ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
		1316	10	Q	6	FILL	UOA	4									
GMW 0.17		1205	-		4			2									
GMW.0.14		1(08	-	-	6			100	/								
		1013			4		\bot	2	1					W			
GWM.0.51		0922			6			d	1	-)	
PZ.5		0329			4			~									
Dup-3		_			6			D.	1						,		
DNP.7			1	/	10				12								
EB+7		1340	1	NQ	6		11	X	d					1			
TB-1		0700	A	Q	2	N	115	×	0								
SAMPLING COMPLETED	DATE 4	TIME 7 15 10		MPLIN RFOR		Y DF	スペンと	- (_					RESULTS NEEDED NO LATER THAN	Standard		
RELEASED BY	0									153°		RECE	IVED BY		otandara	DATE	TIME
RELEASED BY	/	//								TIME		RECE	IVED BY	4		DATE	TIME
RELEASED BY				8330 000						TIME		RECE	IVED BY		*	DATE	TIME
SHIPPED VIA										TIME SENT		COOL	ER#				



Title:

7.3 Monitoring and Remediation Well Protection

Revised:

January 1, 2012

Attachment 7.3-1 Well Inspection Checklist

WELL INSPECTION CHECKLIST

Site - City, County, State

WELL NAME	AS- BUILT TOTAL DEPTH (TD)	ACCESS UNOBSTRUCTED? (Y/N)	WELL EASILY VISIBLE? (Y/N)	VAULT, WELL, OR CASING CLEARLY LABELED? (Y/N)	WELL, VAULT, PAD, OR CASING FREE OF VISIBLE DAMAGE, SCOUR, OR SETTLING? (Y/N)	WELL SECURED PROPERLY WITH WATER-TIGHT WELL CAP AND LOCK? (Y/N)	WELL VAULT DRY AND FREE OF DEBRIS? (X/N)	TD CONSISTENT WITH AS-BUILT TD? (Y/N)	COMMENTS
EXP-1		AST	7	4	y	My N	J	1	
END. 7		Ag	y	2	N	Z	y	y	
MWG MWZOC Gum-B MW-19/min		4	4	9	ay	N	1	dy	
MW 200	(und)	5	1	9	-1	1	2	Z	
Guw-8		y	9	9	11	N	g	7	A1991 - 77012 1, 7010 -
MW 19/min	<u> </u>	9	1	1	- G	N	9	4	
,,		y	4	7	1	N	7	7	- 100 TO - 1
82-2 MW-12		y	9	9	7	N,	9	- U	
MW-12		9	7	9	1	N	9	7	
GMW-4R		7	4	1//	/V	N	W		ne voult
Enw-14R		y	10	N	\sim	N	N	1	
GMW-15PR		y	4	N	N	N_{μ}	N	1	2/2 holes stripped
TUNW-0-14		y	A	7	4/1	N	4	1	1/2 taps knowen
Gur-0-19		1	1	2	(). 1	/0	7	00)	
6MN-34 MW-1860	-	4	9	9	.00	N	(1)	7	ne lock
mw-1800	100	49	3	1	Je s	"	aj	The state of the s	no lock
5MW-25		7	4	1/2	1	N	1	Jes .	no lock
2010 - 12		7	9	1	-7		1	1	in wix
	- 1/6				•				

Date	
Performed:	
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Performed



Title:

7.3 Monitoring and Remediation Well Protection January 1, 2012

Revised: January 1,

Attachment 7.3-1 Well Inspection Checklist

WELL INSPECTION CHECKLIST

Site - City, County, State

WELL NAME	AS- BUILT TOTAL DEPTH (TD)	ACCESS UNOBSTRUCTED? (X/N)	WELL EASILY VISIBLE? (Y/N)	VAULT, WELL, OR CASING CLEARLY LABELED? (Y/N)	WELL, VAULT, PAD, OR CASING FREE OF VISIBLE DAMAGE, SCOUR, OR SETTLING? (Y/N)	WELL SECURED PROPERLY WITH WATER-TIGHT WELL CAP AND LOCK? (Y/N)	WELL VAULT DRY AND FREE OF DEBRIS? (Y/N)	TD CONSISTENT WITH AS-BUILT TD? (Y/N)	COMMENTS
The second Control of State St							SC 100 ST 200 ST	no contribution and a second second	
								All of the option of the optio	
-									

Performed	Date	
by:	Performed:	



Title:

7.3 Monitoring and Remediation Well Protection

Revised:

January 1, 2012

Attachment 7.3-1 Well Inspection Checklist

WELL INSPECTION CHECKLIST

Site - City, County, State

					Site - C	ity, Count	ty, State) 	A WAY OF THE WAY OF THE PROPERTY OF THE PROPER
WELL NAME	AS- BUILT TOTAL DEPTH	ACCESS UNOBSTRUCTED? (Y/N)	WELL EASILY VISIBLE? (Y/N)	VAULT, WELL, OR CASING CLEARLY LABELED? (X/N)	WELL, VAULT, PAD, OR CASING FREE OF VISIBLE DAMAGE, SCOUR, OR SETTLING? (Y/N)	WELL SECURED PROPERLY WITH WATER-TIGHT WELL CAP AND LOCK? (Y/N)	WELL VAULT DRY AND FREE OF DEBRIS? (Y/N)	TD CONSISTENT WITH AS-BUILT TD? (V/N)	COMMENTS
34	(TD)	W .		- \ .		7	V	EUROSE SCHEMENDEN	Nulock
WM-26-1		14	1	1.	1	~	Y		NUIVER
MW SF16		++	+	7	7		Y		~vloile
REMIL		+ 1	Y	1	V	~	14		Notock
MWSFIU MWSFILL		+ 4	1	V	V	N	Y		NOLILI NO TOCK
02.40	-	13	Ty	1/4	4	~	1	-	wellsim love in apien
PZ-10 MWSF-15 MWSF-2		1	1	1	1	N	+4	1	NUTOUR
MW-SF'L			Y	Y	1		17		NO Cap IND 10(k
MUSE &		Y	Y	14	- Y	~	17		NUIVIL
V E ~ 1		1	X	++	1 X	12	1		Notack
MW-3 F-14		- 	Y	+-4	+	~	Vis		NOIOCIL
MUSF 5		+;	(Y	+ Y	1 1	N	4		Noteck
mug	9	+;	1	H Y	TYV	~	14		Notock
Exp.3		+	-	1	· v	~	- Y		Noteck
Gmw37	3	+		1	Y	Y	'y		
mwsen	,			Y	<u> </u>	1 Y	Y		Nolock
(-mw3	i	y	Y	Y	1	~	+ 4		
(-mw))	1	VY	1	4	+ 7	1		no Lid, Standpipe
HLIL			YY	Y	+ 3	N	1		Apron body domased
[mw2]	6		YY	N	1	·	2.5	1	
GMWI	9		YY	+ 4	+ 7.	1	Y		
huss	12		11	41	1				Date 4.17.7

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by:	BUA Y	

Date	11	296
Performed:	4.17.17	
Lemon		



Title:

7.3 Monitoring and Remediation Well Protection

Revised: January 1, 2012

Attachment 7.3-1 Well Inspection Checklist

WELL INSPECTION CHECKLIST

Site - City, County, State

Technological and the second and					Site -	City, Cou	inty, Sta	ite	
WELL NAME	AS- BUILT TOTAL DEPTH (TD)	ACCESS UNOBSTRUCTED? (Y/N)	WELL EASILY VISIBLE? (Y/N)	VAULT, WELL, OR CASING CLEARLY LABELED? (Y/N)	WELL, VAULT, PAD, OR CASING FREE OF VISIBLE DAMAGE, SCOUR, OR SETTLING? (Y/N)	WELL SECURED PROPERLY WITH WATER-TIGHT WELL CAP AND LOCK? (Y/N)	WELL VAULT DRY AND FREE OF DEBRIS? (X/N)	TD CONSISTENT WITH AS-BUILT	COMMENTS
NW-8		Y	7	Y	Y	7	Y	~	
WEW-4		Y	4	7	7	Ý	7	7	
WCW-14		Y	4	4	У	7	4	5	
Wcw-13		Y	7	4	-1	-r	7	4	
Wcw-3		7	Y	У	4	~	1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
かいして		Y	Y	Y	~	1	А.	4	
11-10) CM		4	4	-/	-1	- (~	1	
WCW-12		7	Y	7	7	>'	Ý	7	
wew-5		>	4	Y	y	*	7	~	
WCW-9		4	Y	Y	Y	Y	4	V	
Wcw-7		Y	4	4	Y	4	7	t	
wcw-1		Ý	7	7	Y	4	5	-19	
grus-1		Y	4	17	4	4	'>	4	
4440-0-6		7	7	Y	4	4	¥	Y	-2/2 Tabs Broken
Gmw-0-8		7	7	7	7	4	4	4	The say Broken
nw-0-2		4	Y	4	Y	7	Y	V	
9MW-0-3		γ	Y	7	7	4	Y	4	
1MW-0-7		7	7	4	Y	Ý	Y	Ý	
9mw-0-4		7	7	4	Y	4	Ý	7	
nw-0-5		Y	7	Y	<u>'</u> Y	Y	4	4	
9mw-0+7 9mw-0-20		4	Y	Ä	4	4	Y	4	
JMW-2-20		Y	4	4	9	Y	4	4	-vault/no Bolh
		7	Y	~/	Y	4	8	Y	-vault / no Boits
1	Performed by:	/		4				Date Performed:	4/17/17

Highlighting indicates revisions made as of the date on this procedure.

Page 7 of 8



7.3 Monitoring and Remediation Well Protection

Revised:

January 1, 2012

Attachment 7.3-1 **Well Inspection Checklist**

WELL INSPECTION CHECKLIST

Site - City, County, State

WELL NAME	AS- BUILT TOTAL DEPTH (TD)	ACCESS UNOBSTRUCTED? (Y/N)	WELL EASILY VISIBLE? (Y/N)	VAULT, WELL, OR CASING CLEARLY LABELED? (Y/N)	WELL, VAULT, PAD, OR CASING FREE OF VISIBLE DAMAGE, SCOUR, OR SETTLING? (Y/N)	WELL SECURED PROPERLY WITH WATER-TIGHT WELL CAP AND LOCK? (Y/N)	WELL VAULT DRY AND FREE OF DEBRIS? (Y/N)	TD CONSISTENT WITH AS-BUILT TD? (Y/N)	COMMENTS
4 nw-0-14		Y	7	Ч	Y	Y	Y	Y	-2/2 7265 Broken
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	And Salah	2000		¥	-1957		-	+16 +25-7	
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Performed by:	On	764	Date Performed:	4/11/17

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAM	ME CMEP	Noiwa	1 k	PROJECT NU	MBER 704/7/	3~/	
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:		INITIALS
22 P	104/01410	4.18.17 0730	1400	7.09 4.967	7.03 4.80 10.00	21.648	B~
J	2	7	3900MJ 2375mm 100.001,00	3911-3-	390001 237.500	21.899	B
AZIZZP	10 4101420	4,19,17	10.00 00.00	7.12 4.3 6 9.73	7.00 4.00 10.00	2213 %	Bn
		ك	3 800 M 237.5 m 100.09.	3926M) 2393m— 100.04	2375 1275	22.71%	B.
1×1021	18A101420	4.20.17 0.710	7.00	7.10	7.00	22,042	ره
			3900M 237.500	3977	39 0040 17.5.7 6 100.04.	21.984	R
						· ·	
			·				

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAM	ME KEUS C	Norwalk	+	PROJECT NUMBER 170417 - BNI				
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	ТЕМР.	INITIALS	
V51 816 Slus	16M101745	04-18-17 07-10	9H 71014 20006 3700 ORG 9H 711014	7,01 10,0 9,01 101.0% 3907 098	V		NU	
4	+	04-19-17	GH 7/10; 9 DO 100% 3900 OCS	7102 10101 3189 po10090 3910 029	V		W	
						energy of the second		
-								
			manue e no			,		