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United Technologies

10 December 2019

Mr. Wayne Praskins
Remedial Project Manager
United States Environmental Protection Agency, Region IX
75 Hawthorne St. SFD-7-3
San Francisco, CA 94105

SUBJ: 2019 Monitoring Well Installation and Sampling Report
Rockets, Fireworks, and Flares Superfund Site
San Bernardino County, California

Dear Mr. Praskins:

In accordance with the Administrative Settlement Agreement and Order on Consent between the USEPA and Goodrich Corporation (Respondent) for Operable Units 2 and 3 of the Locust Avenue Superfund Site (now the Rockets, Fireworks and Flares Superfund Site), the 2019 Monitoring Well Installation and Sampling Report is enclosed.

Pease contact me at (561) 651-4147 if you have any questions or comments in this regard.

Sincerely,

D. A. Bilder, Jr.
Remediation Project Manager

Enclosure: Monitoring Well Sampling Report

C: James, J. – EnSafe
McNeely, A. – UTC
Platt, D. – UTC
Towell, D. – CH2M HILL

2019 MONITORING WELL INSTALLATION AND SAMPLING REPORT

ROCKETS, FIREWORKS, AND FLARES SUPERFUND SITE
OPERABLE UNIT 2
SAN BERNARDINO COUNTY, CALIFORNIA

EnSafe Project Number:
0888825064

Prepared for:

United Technologies

United Technologies Corporation
United Technologies Building
Hartford, Connecticut 06101

December 9, 2019

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Concord, California 94520
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LIST OF ACRONYMS

µg/L	micrograms per liter
1,2-DCA	1,2-dichloroethane
MCL	maximum contaminant level
MP	multi-port
OU	Operable Unit
PVC	polyvinyl chloride
RCB	Rialto-Colton Basin
Site	Rockets, Fireworks, and Flares Superfund Site
TCE	trichloroethylene
U.S. EPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
VOC	volatile organic compound

EXECUTIVE SUMMARY

This 2019 Monitoring Well Installation and Sampling Report documents groundwater investigation activities associated with the Operable Unit 2 (mid-basin groundwater; OU-2) of the Rockets, Fireworks, and Flares Superfund Site (Site) in San Bernardino County, California. OU-2 addresses contaminated groundwater at the Site downgradient or southeast of the area addressed by Operable Unit 1 (OU-1). The report includes a description of the installation and development of two new monitoring well clusters (designated as PW-18 and PW-19, each with three wells) and the collection of groundwater elevation measurements and groundwater samples from 114 locations (32 conventional monitoring wells located in 9 clusters and 15 multiport wells with 82 sampling ports), and submittal and analysis of the samples for volatile organic compounds (VOCs) by Eurofins, Calscience (California Certification Number: 2944) for VOCs via U.S Environmental Protection Agency (U.S. EPA) Method SW846 8260B and perchlorate via U.S. EPA Method SW6850. The groundwater investigation was conducted to further define the lateral and vertical nature and extent of contaminants of concern in groundwater at OU-2.

A review of groundwater elevation measurements indicates that groundwater generally flows from the northwest to the southeast within OU-2, approximately parallel to the Rialto-Colton and San Jacinto Faults. At the southeast portion of OU-2 near CPW-17, the apparent groundwater flow direction shifts from northwest-southeast to north-south. Groundwater elevations appear to have declined over the project area by approximately one to five feet since the 2018 sampling event, except in the deeper intervals of wells CPW-16, CPW-17, PW-9, PW-13, and PW-14, where elevations decreased between 5 to 11 feet. In contrast, groundwater elevations in wells PW-9A, EPA-MP8D and -E, and 1S/5W13B -2S and -3S appear to have risen by approximately two feet.

Perchlorate was reported at concentrations exceeding the California maximum contaminant level (MCL) in samples from 19 of the 24 well clusters sampled in 2019. The perchlorate results were generally consistent with recent annual sampling events, except for an increase in concentration in well PW-11B where the concentration increased from 74 µg/L to 140 µg/L as part of a trend of increasing concentrations over the past three years. Based on the analytical results of the March and June/July 2019 groundwater sampling events, it appears that the southern extent of the Site-related perchlorate MCL exceedances are delineated to the west by wells EPA-MP5, EPA-MP8, 1S/5W-13B, and PW-18. To the east and southeast, the extent of the Site-related perchlorate MCL exceedances are generally delineated by wells EPA-MP3, EPA-MP7, 1S/4W-8E, CPW-17, and PW-17. To the south, well PW-19 has reported concentrations of perchlorate exceeding the MCL in the two uppermost intervals.

The results of recent stable isotope sampling and evaluation (EnSafe 2019) regarding the origin of perchlorate near the southern end of the plume indicated that synthetic perchlorate was identified in wells PW-15B (62%), PW-16A (17%), PW-16B (73%), and PW-19B (50%). On this basis, wells PW-15B, PW-16A, and PW-16B appear to contain synthetic perchlorate above the MCL, while PW-19B at the southernmost portion of the plume appears to have synthetic perchlorate concentrations below the MCL. The approximate extent of total and synthetic perchlorate in groundwater at concentrations above the MCL is presented in Figure 5.

Volatile organic compounds that were reported at concentrations exceeding the MCLs during the June and July 2019 sampling events included benzene and chloroform in one well (PW-17, 817' interval), and trichloroethene in one well (PW-9, 824' interval).

Annual groundwater monitoring will continue through completion of the Remedial Investigation/Feasibility Study.

1.0 INTRODUCTION

EnSafe Inc. has prepared this Monitoring Well Installation and Sampling Report to document groundwater investigation activities associated with Operable Unit 2 (mid-basin groundwater; OU-2) of the Rockets, Fireworks, and Flares Superfund Site (Site) in San Bernardino County, California, conducted from December 2018 through July 2019. OU-2 addresses contaminated groundwater at the Site downgradient or southeast of the area addressed by Operable Unit 1 (OU-1), as shown on Figure 1.

OU-1 addresses the groundwater contamination within the Target Area of the Site and extends from the 160-acre source area (160-Acre Area) approximately 1.5 miles to the southeast. The 160-Acre Area is square-shaped and bounded by West Casa Grande Drive on the north, Locust Avenue on the east, Alder Avenue on the west, and an extension of Summit Avenue on the south. The upgradient boundary of the Target Area in the Intermediate Aquifer is near well CMW-3, the northernmost monitoring well on the 160-Acre Area where the level of groundwater contamination consistently exceeds maximum contaminant levels (MCLs). The downgradient boundary of the Target Area has been defined as the location where the Intermediate Aquifer is no longer present as a distinct water-bearing unit, approximately 1.5 miles to the southeast in the vicinity of the Interstate 210 freeway.

As part of the activities described in this report, EnSafe installed and developed six wells in two well clusters and collected groundwater samples for laboratory analysis from 32 conventional monitoring wells contained in 9 well clusters and 15 multi-port (MP) monitoring wells. Groundwater elevation measurements were also collected during the sampling program.

This report documents the results of the 2019 annual groundwater sampling and analyses. The results of the groundwater investigation support ongoing evaluation of environmental conditions and guide additional remedial investigation activities.

2.0 BACKGROUND INFORMATION

2.1 Hydrogeologic Setting

The Site is located in the Rialto-Colton Basin (RCB), which is located in western San Bernardino County, and extends across the cities of Rialto, Fontana, and San Bernardino. The following discussion of regional and local hydrogeology is based on three studies of the RCB: "Structural Model of the San Bernardino Basin, California, from Analysis of Gravity, Aeromagnetic, and Seismicity Data." *Journal of Geophysical Research. vol. 109, B04404, doi: 10.1029/2003JB002544* (Anderson et al. 2004), "Geohydrology and Water Chemistry in the Rialto Colton Basin, San Bernardino County, California." *Water-Resources Investigation Report 97-4012* (United States Geologic Survey [USGS] 1997), and *Numerical Simulation of Ground-Water Flow and Assessment of the Effects of Artificial Recharge in the Rialto-Colton Basin, San Bernardino County, California* (USGS 2001), as well as reports prepared for recent investigations to determine the nature and extent of groundwater contamination.

The RCB was chosen for storage of imported water because of the known capacity for additional groundwater storage and the availability of imported water. Because the movement and mixing of imported water was of interest, the San Bernardino Valley Municipal Water District entered into a cooperative program with the USGS in 1991 to study the geohydrology and water chemistry in the RCB. Consequently, much information is available from published studies and the large number of groundwater monitoring and municipal wells regarding the stratigraphy and structure of the basin, and the occurrence and movement of groundwater. Figure 1 shows the Site and many of the water supply and monitoring wells in the RCB along with those monitoring wells referenced in this report.

Regional Hydrogeology

The RCB is an elongated northwest-southeast trending alluvial basin located southwest of the San Bernardino Mountains (Figure 2). The basin extends approximately 10 miles in a northwest-southeast direction and ranges in width from 3.5 miles in the northwest to 1.5 miles in the southeast. The deepest portion of the basin is the northeastern area between the San Jacinto Fault Zone and a parallel-unnamed fault; the total sediment thickness in this area ranges between 0.5 and 1 miles. The remainder of the RCB is approximately 500 to 1,000 feet thick.

Stratigraphy

The unconsolidated alluvial material that fills the RCB consists of sand, gravel, and boulders interbedded with lenticular deposits of silt and clay. The unconsolidated alluvium is underlain by partly consolidated continental deposits formed as lenticular bodies consisting of somewhat compacted gravel, sand, silt, and clay. These continental deposits outcrop in the Badlands, a series

of hills which form the southeastern boundary of the basin, and outcrop at the base of the San Gabriel Mountains, which form the northeastern boundary of the basin. The consolidated continental deposits consist primarily of clay that contains lenses of compacted, cemented sand. These deposits underlie the partly consolidated alluvial deposits. River-channel deposits underlie the present channels of Warm Creek and the Santa Ana River in the southeastern part of the basin. These deposits consist of coarse sand and gravel interbedded with lower permeability deposits of medium to fine sand and clay. The thickness of the river-channel deposits ranges from about 150 feet to about 200 feet. The alluvial and consolidated continental deposits are underlain by the basement complex consisting of metamorphic and igneous rocks, which outcrop out in the San Gabriel Mountains.

Groundwater Occurrence

The groundwater system in the RCB is divided into the following four water-bearing units:

- River-channel deposits
- Upper, middle, and lower water-bearing units

The river-channel deposits consist of coarse sand and gravel interbedded with lower permeability deposits of medium to fine sand and clay. The thickness of the river-channel deposits ranges from about 150 feet to about 200 feet in the southern portion of the RCB.

The upper water-bearing unit is present throughout the RCB. The unit consists of alluvial fan deposits that grade into older river-channel deposits near the Santa Ana River and Warm Creek. The upper water-bearing unit underlies the river-channel deposits and is the uppermost unit throughout the rest of the basin. The alluvial fan deposits consist of coarse sand and gravel, cobbles, and boulders. In some areas, the upper water-bearing unit contains clay lenses. The upper water-bearing unit ranges in thickness from about 120 feet to about 300 feet. It is unsaturated throughout most of the basin except for the southeast portion near the Santa Ana River and Warm Creek. The unit is highly permeable and freely allows infiltration to the underlying units.

The middle water-bearing unit is present throughout the basin and primarily consists of coarse-to medium-grained sand and interbedded fine sand and clay. The deposits of the middle water-bearing unit are finer in the southeastern portion of the basin. The clay beds are more extensive in the northwestern part of the basin near the Rialto-Colton Fault. The middle water-bearing unit ranges in thickness from about 240 feet to about 600 feet and is the thickest in the northwestern portion of the basin, south of the Barrier J fault. The extensive lower water-bearing unit consists mainly of

interbedded sand and clay. The thickness of this unit ranges from about 100 feet in the southeastern part of the basin to about 400 feet in other parts of the basin. Consolidated deposits with a very low permeability underlie the lower water-bearing unit and form an aquitard as the lower boundary of the groundwater system.

Some or all of these water-bearing units contain more than one stratigraphic unit. A review of lithologic logs indicates that subsurface materials are largely heterogeneous alluvium and consist of varying thicknesses of interbedded gravel, sand, silt, and clay. In the RCB, the water-bearing units are generally unconfined to partly confined and are in hydraulic connection with one another. However, in the key area of interest for this Site (at and downgradient of the 160-Acre Area), there is an aquitard present locally that limits direct hydraulic communication into the deeper aquifers.

In the local area around the 160-Acre Area, the Upper Aquifer is currently dry. The Intermediate Aquifer (also known as the B Aquifer), first encountered at a depth of approximately 400 to 450 feet below ground surface, is approximately 100 feet thick beneath the 160-Acre Area and thins to the southeast. The Intermediate Aquifer is variably saturated and perched on top of a laterally extensive aquitard (termed the BC Aquitard) that separates the Intermediate Aquifer from the deeper Regional Aquifer (also known as the C Aquifer). As observed during installation of the "PW" series monitoring wells at and around the 160-Acre Area, the Intermediate or B Aquifer is comprised of a number of thin water-bearing units separated by thin aquitards and dry intervals. Beneath the 160-Acre Area, potentiometric head differences between the Intermediate Aquifer and Regional Aquifer are as great as 150 feet, resulting in a downward hydraulic gradient between the two aquifers, albeit separated by the extensive BC Aquitard.

Based on geophysical logs and groundwater elevation data collected as part of characterization of conditions in the vicinity of the Rialto-3 well (GeoLogic Associates 2005), it appears that the BC Aquitard thins or is absent to the southeast, at a point just upgradient of monitoring well M-3. Based on groundwater elevation data, the Intermediate and Regional Aquifers are indistinguishable downgradient of well M-3 and have effectively merged. Downgradient of the 160-Acre Area, it appears that the extent of the BC Aquitard to the southeast ends between EPA MP well MP-4 and the Rialto-2 well.

A review of data from geophysical logs, observation of lithologic conditions and groundwater elevation data collected during installation and sampling of new groundwater monitoring wells over the past five years has also confirmed groundwater conditions observed in other areas of the RCB.

Groundwater Movement and Recharge

Groundwater generally moves from east to west in the river-channel deposits and upper water-bearing unit in the southeast part of the basin, and from northwest to southeast in the middle and lower water-bearing units. Groundwater flow in the RCB is strongly influenced by the presence of several faults that act as partial barriers to groundwater flow. The San Jacinto and Rialto-Colton Faults comprise the northeastern and southwestern boundaries of the basin, respectively. Barrier J and the unnamed fault affect groundwater movement in the interior of the basin. Barrier J effectively impedes groundwater movement in most of the older alluvium, but not in the overlying younger alluvium (USGS 1997). Water levels in wells located north of Barrier J are not affected by production well pumping stresses on the groundwater system south of Barrier J, indicating that these two parts of the groundwater system are not well connected.

Barrier E forms the northwestern portion of the northeastern boundary of the RCB. An unnamed northwest-trending fault is present in the northeast portion of the RCB. The unnamed fault has a significant effect on groundwater flow and acts as a barrier that essentially creates a separate sub-basin to the northeast of the unnamed fault within the RCB. Groundwater chemistry and elevation are substantially different on either side (east and west) of the unnamed fault.

Barrier H is another northwest-trending barrier located west of the Rialto-Colton Airport and south of the Mid-Valley Sanitary Landfill. Barrier H extends from the intersection of Baseline Road to the Rialto-Colton Fault. Barrier H may be associated with the Rialto-Colton Fault and likely obstructs groundwater flow.

In addition, a study by Anderson (2004) identified an additional north-south trending fault (the Q fault) located near the southern border of the study area. Further assessment of the Q fault (Paulinski, Scott 2012) suggests that this fault may act as a partial barrier to groundwater flow and that the direction of groundwater flow may change from northwest to southeast on the northwest side of the fault to northeast to southwest on the southeast side of the fault. Recent potentiometric surface data appear to support this change in flow direction.

Sources of recharge to the groundwater system are: 1) underflow/subsurface inflow, 2) seepage loss from the Santa Ana River and Warm Creek, and 3) infiltration of rainfall and irrigation return flow. The primary component of discharge from the groundwater system is pumping of production wells by water purveyors. Other components of discharge may include: 1) underflow across the Rialto-Colton Fault (south of the Colton 24 well) to the Chino Basin, and 2) seepage to the Santa Ana

River and Warm Creek during wet years when the water levels in the upper water-bearing unit and the river-channel deposits rise above the base of the streambed.

Long-term water levels in production wells reflect recharge cycles. Historical measurements indicate that groundwater elevations in the RCB have varied significantly in response to extended periods of drought and municipal and agricultural pumping. Extended drought conditions in the region and operation of new municipal supply wells in the basin have resulted in pronounced reductions in groundwater levels within the RCB, with levels declining steadily from 2001 to 2019. Over this period, water levels in RCB index wells have declined about 80 feet.

The RCB yield has not been formally determined in any legal documents. However, USGS studies (USGS 1997 and USGS 2001) suggest that from the early 1950s through late 1990s the RCB yielded, on average, no more than about 9,000 to 10,000 acre-feet per year. Recent pumping in the portion of the RCB upgradient (northwest) of Colton Avenue has approached 18,000 acre-feet per year.

3.0 WELL INSTALLATION

3.1 Rationale for Well Installation Locations

In concurrence with the U.S. EPA, new nested monitoring wells were installed approximately 1,700 feet west-northwest of PW-15 and 1,400 feet southeast of well PW-16. The locations selected for drilling and installation of the two new groundwater monitoring wells (PW-18 and PW-19) were chosen to provide additional delineation and characterization of the downgradient extent (to the south and southwest) of the perchlorate plume (Figure 3). The locations of PW-18 and PW-19 were chosen to characterize the southern edge of the plume based on data from 1S/5W-13B, CPW-17, PW-15, PW-16, and PW-17. The new well installation and development activities are described below.

3.2 Groundwater Monitoring Well Installation

Groundwater monitoring well installation activities were performed in accordance with the approved *Remedial Investigation/Feasibility Study Work Plan* (EnSafe 2013) and *Addendum No. 6 to RI/FS Work Plan* (EnSafe 2018). Well installation permits were obtained from the County of San Bernardino (County) Department of Flood Control and Public Health. An encroachment permit was obtained from the County of San Bernardino Department of Public Works to install PW-19 in an unincorporated portion of the County. Well PW-18 was installed within the confines of the Randall Basin on the intersection of North Meridian Avenue and West Randall Avenue on December 17, 2018. PW-19 was installed within an unincorporated area of San Bernardino County on North Cypress Avenue between West Stevenson Street and Orange Street on January 18, 2018.

Prior to commencing drilling activities, Underground Service Alert of Southern California (DigAlert) was notified a minimum of 48 hours prior to commencing field activities at the site to identify any public utilities that may have conflicted with the proposed boring and well locations for PW-18 and PW-19. A private utility locator was also retained to identify and mark utilities around the proposed borehole locations. Each location was cleared using an air knife to 15 feet bgs to further ensure no conflicts with subsurface utilities. Following utility clearance, a 14-inch diameter, 30-foot-long permanent steel conductor casing was advanced in a 20-inch borehole at each location for borehole stability.

3.3 Well Construction

Wells PW-18 and PW-19 were drilled using mud-rotary techniques and constructed with flush-mount surface completions. The soil cuttings were logged every 10 feet by grab samples collected from the mud shaker. Lithology was recorded on boring logs by an EnSafe geologist using the Unified Soil Classification System. Upon completion to total depth, each borehole was logged using downhole geophysical tools. Downhole geophysical logging included natural gamma, electric (spontaneous

potential/short and long normal resistivity), sonic, and caliper logs. The geophysical logs (included in Appendix A), along with the field lithology logs were used to determine the water bearing zones with the highest transmissivity for screen placement. Although the two logs were used in conjunction, the geophysical logs provided a greater influence than the field boring logs in determining the well design. Prior to determining screen intervals, recommendations for placement were communicated to U.S. EPA, and final screen intervals were approved by U.S. EPA. Lithology and well construction logs are provided in Appendix B.

Wells PW-18 and PW-19 were constructed of two-inch-diameter, schedule 80 polyvinyl chloride (PVC) casing with 0.010-inch slotted well screens. PVC stabilizers centralizers were placed above and below each screened interval and on every 50 feet of blank casing. Well annulus materials were placed through a tremie pipe. Well annulus materials consisted of No. 3 sand approximately 10 feet above to 10 feet below screens (30 feet), at least 3 feet of No. 1/20 transition sand above the No. 3 sand, and a 1:1 mix of No. 3 sand and dry bentonite chips between zones as seals. Cement grout (consisting of 95% portland cement and 5% bentonite powder) was used as the seal from near surface to the first transition sand layer. Screened interval details are presented in Table 1 and the well construction logs are provided in Appendix B.

Once the cement grout was brought to within approximately 10 feet bgs, the grout was allowed to cure for at least 12 hours. After curing, grout was brought up to near surface and allowed to cure again for 12 hours. A traffic-rated, 18-inch diameter well box was constructed at each well location to complete the well construction.

3.4 Well Development

Well development was performed with a combination of airlifting, surging, and bailing. Drilling mud settled at the bottom of the boreholes was removed by airlifting. Bailing was performed only to capture any residual material that settled at the bottom of the well after other phases of development. A water quality meter was calibrated daily and used to monitor turbidity and other water parameters during development. Each zone was developed until parameters were stable and turbidity measured 10 nephelometric turbidity units or less, or until water was visually clear of drilling mud/sediment. The well development logs are provided in Appendix C.

3.5 Surveying

The two new wells were surveyed by a Professional Land Surveyor (CalVada Surveying, Inc., of Corona, California). The ground surface elevation, top of casing elevation, and horizontal location of each well was surveyed and tied to established benchmarks. A copy of the surveyor's report is

provided in Appendix D. The locations of PW-18 and PW-19 are shown in Figure 3 along with existing well locations.

3.6 Investigation Derived Waste

Both liquid and solid investigation-derived waste was generated during drilling and well development, temporarily stored on-site, and disposed of at approved waste facilities, as described below. Soil was profiled as non-hazardous waste and was disposed at the Kettleman Hills Facility in Kettleman City, California. Development water was profiled as non-hazardous waste and was disposed at the Kettleman Hills Facility. Both of these facilities are permitted disposal facilities with valid U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Act Off Site Rule approvals.

3.6.1 Soil Cuttings and Drilling Mud

Soil cuttings and drilling fluids generated during installation of the monitoring wells were contained in roll-off bins. Once waste profiles were generated and accepted by the licensed offsite waste facilities, soil was transported to the waste facilities in the roll-off bins and drilling mud was vacuumed out of the bins for transportation to the waste facility.

3.6.2 Well Development Purge Water

Groundwater purged during development of the monitoring wells was temporarily stored in frac tanks at each well location. Once waste profiles were generated and accepted by the licensed offsite waste facility, the water was vacuumed out of the frac tanks for transportation to the waste facility.

4.0 GROUNDWATER ELEVATION MEASUREMENT AND SAMPLING

In March and June/July 2019, groundwater elevation measurements and samples were collected from the following OU-2 wells (shown in Figure 3):

1S/4W-8E*	1S/5W-3A*	1S/5W-11F*	1S/5W-13B*	EPA-MP2
EPA-MP3	EPA-MP5	EPA-MP6	EPA-MP7	EPA-MP8
PW-9	PW-10	PW-11	PW-12	PW-13
PW-14	PW-15*	PW-16*	PW-17*	PW-18*
PW-19*	CPW-16	CPW-17	EPA-MP1	

** — Indicates a well cluster*

4.1 Groundwater Elevation Measurements

Monitoring wells within the OU-2 monitoring network include conventional monitoring wells and MP monitoring wells featuring several isolated sampling ports. Groundwater elevation measurements for conventional wells were determined by measuring the depth to water within the well casing from a reference elevation using a conventional water level meter. Groundwater elevation, or total hydraulic head, within these wells was determined by taking the difference between the reference elevation and measured depth to water.

Groundwater elevation measurements for MP wells were determined for each sampling port within the well using pressure data specific for each interval. Using the Westbay sampling and profiling tool, water pressure measurements were collected from outside the well casing at the desired sampling location. The height of the water column above the sampling port depth can be calculated by determining the pressure difference between the outer well casing pressure and atmospheric pressure. Subtracting the water column height from the sampling location depth gives an interval-specific groundwater elevation. Well screen interval and measuring point elevations are presented in Table 1.

4.2 Groundwater Sampling

4.2.1 Conventional Well Sample Collection

Thirty-two conventional monitoring wells located in nine well clusters (shown in Figure 3) were sampled using the HydraSleeve sampling method in June and July 2019:

- USGS wells 1S/4W-8E1S, 1S/4W-8E2S, 1S/4W-8E3S, and 1S/4W-8E4S
- USGS wells 1S/5W-3A5S, 1S/5W-3A6S, and 1S/5W-3A7S
- USGS wells 1S/5W-11F1S, 1S/5W-11F3S, and 1S/5W-11F4S

- USGS wells 1S/5W-13B2S, 1S/5W-13B3S, 1S/5W-13B4S, and 1S/5W-13B5S
- PW-15 A, B, C, and D
- PW-16 A, B, C, and D
- PW-17 A, B, C, and D
- PW-18 A, B, and C
- PW-19 A, B, and C

Standard Operating Procedures for conducting HydraSleeve sampling are presented in Appendix E.

4.2.2 MP Well Sample Collection

The remaining fifteen OU-2 monitoring wells are MP wells and groundwater samples were collected from each discrete screened interval for the well using the Westbay sampling tool. Employing standard operating and quality control procedures, the Westbay sampling tool was lowered to the desired screened interval and activated at the surface to sit against and open the sampling port. Once the sampling vessel had filled, the port was closed and the sampling tool was brought to the surface. The sampling tool used during these events contained four, 250-milliliter, stainless steel cylinders. The contents of these cylinders were then used to measure groundwater parameters and fill the necessary sample containers to be sent to the analytical laboratory. Standard Operating Procedures for conducting MP well sampling are presented in Appendix E.

Field parameters, including temperature, conductivity, pH, and turbidity, were measured from the first sample collected from each sampling interval. These parameters were recorded on Field Data Log Sheets, which are presented as Appendix F. Subsequent samples were collected from the same interval and sent to the laboratory for volatile organic compound (VOC) and perchlorate analyses. For samples to be analyzed for VOCs, laboratory-supplied Volatile Organic Analysis vials were filled by allowing water to flow through a small-aperture valve located at the bottom of one of the 250-milliliter sampling cylinders. The flow rate between the sampling cylinder and the vial was adjusted to mimic low-flow groundwater sampling, thus decreasing volatilization to the atmosphere. Perchlorate sampling containers were then filled in a similar manner.

Groundwater samples were collected from each interval until all required sampling containers were filled, and this procedure was repeated for each screened interval in each well. Samples were labeled, placed in a cooler, and chilled to less than 6 degrees Celsius immediately after collection and during shipment to the laboratory. All samples were picked up from the sampling area by the laboratory's courier and delivered to the analytical laboratory for analyses. All sampling and analyses were

performed in accordance with the approved *Remedial Investigation/Feasibility Study Work Plan* (EnSafe 2013).

4.3 Laboratory Analytical Methods

Groundwater samples, field duplicates, equipment blanks, and trip blanks collected in the March and June/July 2019 sampling events were analyzed by Eurofins, Calscience (California Certification Number: 2944) for VOCs via United States Environmental Protection Agency (U.S. EPA) Method 8260B and perchlorate via U.S. EPA Method SW6850. Previous groundwater sampling activities used U.S. EPA Method E314 for laboratory analysis of perchlorate samples. Laboratory analytical reports including chain-of-custody forms are included in Appendix G.

5.0 GROUNDWATER ELEVATIONS MEASUREMENTS AND SAMPLING RESULTS

5.1 Groundwater Elevation Measurement Results

Groundwater elevation measurements collected during the June/July 2019 sampling event are included in Table 2. Groundwater elevations appear to have declined over the project area by approximately one to five feet since the 2018 sampling event, except in the deeper intervals of wells CPW-16, CPW-17, PW-9, PW-13, and PW-14, where elevations decreased between 5 to 11 feet. In contrast, groundwater elevations in wells PW-9A, EPA-MP8D and -E, and 1S/5W13B -2S and -3S) appear to have risen by approximately two feet. A potentiometric surface map was created for the June/July 2019 gauging event and is included as Figure 4. Groundwater generally flows from the northwest to the southeast within OU-2, moving approximately parallel to the Rialto-Colton and San Jacinto Faults. At the southeast portion of OU-2 near CPW-17, groundwater flow direction appears to shift from northwest-southeast to south. Groundwater gradients within OU-2 are variable, with an average gradient of approximately 0.007 (feet vertical per foot horizontal) over much of the area and 0.005 near the southern area of the plume.

5.2 Groundwater Sampling Results

The analytical results for the 2019 groundwater sampling events are presented in Figure 5 and Table 3.

March 2019

Samples from recently installed monitoring wells PW-18 and PW-19 were also collected in March 2019. Samples from well PW-18 did not contain concentrations of perchlorate above the California MCL of 6 micrograms per liter (µg/L). Two samples from well PW-19 (793' and 751' intervals) showed concentrations of perchlorate above the MCL (23 µg/L and 10 µg/L, respectively).

Other VOCs that were detected during the March 2019 sampling event and their maximum concentrations included:

- benzene — 0.95 µg/L (PW-19, 689' interval), and
- chloroform — 0.64 µg/L (PW-18, 846' interval).

June and July 2019

Samples from the program monitoring wells were obtained in June and July 2019. Samples from 19 of the 24 well clusters included in the June/July 2019 sampling event showed concentrations of perchlorate above the California MCL of 6 µg/L, including:

- EPA-MP1 (767' and 863' intervals) – 21 µg/L and 21 µg/L, respectively
- EPA-MP2 (864' interval) – 7 µg/L
- EPA-MP3 (909' interval) – 13 µg/L
- EPA-MP6 (714 and 922' intervals) – 6.9 µg/L and 30 µg/L
- EPA-MP7 (872' interval) – 7.3 µg/L
- PW-9 (744' and 824' intervals) – 250 µg/L and 230 µg/L, respectively
- PW-10 (814' and 914' intervals) – 450 µg/L and 10 µg/L, respectively
- PW-11 (776' and 871' intervals) – 140 µg/L and 11 µg/L, respectively
- PW-12 (852' interval) – 7 µg/L
- PW-13 (815' interval) – 7.2 µg/L
- PW-14 (750' and 810' intervals) – 66 µg/L and 19 µg/L, respectively
- PW-15 (790' and 824' intervals) – 60 µg/L and 14 µg/L, respectively
- PW-16 (772' and 810' intervals) – 35 µg/L and 37 µg/L, respectively
- PW-17 (771' and 817' intervals) – 8.4 µg/L and 7.6 µg/L, respectively
- PW-18 (846' interval) – 6.7 µg/L
- PW-19 (793' interval) – 9.8 µg/L
- 1S/5W-11F4S (934' interval) – 6.5 µg/L
- 1S/5W-3A6S (858' interval) – 92 µg/L
- CPW-16 (767', 806', and 889' intervals) – 81 µg/L, 65 µg/L, and 19 µg/L, respectively

The perchlorate results were generally consistent with recent annual sampling events, except for an increase in concentration in well PW-11B where the concentration increased from 74 µg/L to 140 µg/L as part of a trend of increasing concentrations over the past three years

VOCs that were detected during the June/July 2019 sampling event and their maximum concentrations include:

- Benzene – 9.9 µg/L (PW-17, 817' interval)
- Chloroform – 87 µg/L (PW-17, 817' interval)
- Isopropanol – 440 J µg/L (1S/5W-13B4S, 740' interval)
- Tetrachloroethene (PCE) – 1.3 µg/L (MP5, 783' and 877' intervals)
- Toluene - 1.6 J µg/L (PW-15, 720' intervals)
- Trichloroethene (TCE) – 13 µg/L (PW-9, 824' interval)

The maximum benzene, chloroform and TCE concentrations exceed the California MCLs of 1 µg/L, 80 µg/L, and 5 µg/L, respectively.

6.0 CONCLUSIONS AND RECOMMENDATIONS

A review of groundwater elevation measurements indicates that groundwater generally flows from the northwest to the southeast within OU-2, approximately parallel to the Rialto-Colton and San Jacinto Faults. At the southeast portion of OU-2 near CPW-17, the apparent groundwater flow direction shifts from northwest-southeast to north-south. Groundwater elevations appear to have declined over the project area by approximately one to five feet since the 2018 sampling event, except in the deeper intervals of wells CPW-16, CPW-17, PW-9, PW-13, and PW-14, where elevations decreased between 5 to 11 feet. In contrast, groundwater elevations in wells PW-9A, EPA-MP8D and -E, and 1S/5W13B -2S and -3S appear to have risen by approximately two feet.

Perchlorate was reported at concentrations exceeding the California maximum contaminant level (MCL) in samples from 19 of the 24 well clusters sampled in 2019. The perchlorate results were generally consistent with recent annual sampling events, except for an increase in concentration in well PW-11B where the concentration increased from 74 µg/L to 140 µg/L as part of a trend of increasing concentrations over the past three years. Based on the analytical results of the March and June/July 2019 groundwater sampling events, it appears that the southern extent of the Site-related perchlorate MCL exceedances are delineated to the west by wells EPA-MP5, EPA-MP8, 1S/5W-13B, and PW-18. To the east and southeast, the extent of the Site-related perchlorate MCL exceedances are generally delineated by wells EPA-MP3, EPA-MP7, 1S/4W-8E, CPW-17, and PW-17. To the south, well PW-19 has reported concentrations of perchlorate exceeding the MCL in the two uppermost intervals.

The results of recent stable isotope sampling and evaluation (EnSafe 2019) regarding the origin of perchlorate near the southern end of the plume indicated that synthetic perchlorate was identified in wells PW-15B (62%), PW-16A (17%), PW-16B (73%), and PW-19B (50%). On this basis, wells PW-15B, PW-16A, and PW-16B appear to contain synthetic perchlorate above the MCL, while PW-19B at the southernmost portion of the plume appears to have synthetic perchlorate concentrations below the MCL. The approximate extent of total and synthetic perchlorate in groundwater at concentrations above the MCL is presented in Figure 5.

Volatile organic compounds that were reported at concentrations exceeding the MCLs during the June and July 2019 sampling events included benzene and chloroform in one well (PW-17, 817’ interval), and trichloroethene in one well (PW-9, 824’ interval).

Annual groundwater monitoring will continue through completion of the Remedial Investigation/Feasibility Study.

7.0 REFERENCES

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Figures

N

160-Acre Parcel

Approximate Location of OU-3

Approximate Location of OU-1

Approximate Location of OU-2

Approximate Extent of Study Area in Figures 3, 4, and 5

Approximate Boudary Between OU-1 and OU-2

San Jacinto Fault

Barrier E

Barrier J

Barrier H

Unnamed Fault

Rialto-Colton Fault

O Fault

HIGHLAND AVE

BASELINE RD

San Bernardino

Rialto

Fontana

Colton

WVWD-23 WVWD-24 WVWD-21 F-32A(32) F-34A(08) F-36A(13) F-29A(04) F-28A(03) F-41A(25) F-40A(24) 1N6W24F01S WVWD-54 F-15A PW-1 CMW CMW-04 CMW-05 CMW-02 PW-2 PW-01 PW-4 PW-3 WVWD-ROEMER WTP INFL F-1 F-11 N-4 N-2 F-4 N-5 N-19R F-8 F-19 F-10 N-3 N-1 F-30 F-24 F-7 N-8-2-8 N-6 F-31 N-7-4 N-6-4 N-6-2 F-23 F-20 N-16 N-12 FF-16 F-14 N-20 N-9-2 F-38A(38) F-21 F-18 F-13B N-9N-9-4 N-10-2 N-10 N-11 F-22 F-13A(37) N-13 M-5 M-3 M-6 M-1 F-27 F-25 N-17 M-1 N-14 F-24A F-26A F-28 M-4 F-32 N-18 M-2 F-31A(31) F-29 F-10B F-49A N-15 F-10C(22) F-18A(34) 1S6W01N01S F-44C 1S6W01N03S F-44B 1S6W01N02S F-02A F-07A F-30A(30) F-04A F-25A F-37A(17) F-22A F-03A(16) F-39A(21) F-35A(11) F-17B(39) F-17A(20) F-17C FU-14 F-07 F-23A F-21A(18) 1S5W20P01S WVWD-37 WVWD-20 F-10C(22) SANDHILL SURFACE RIALTO-CITY WELL-01 WVWD-01 WVWD-02 WVWD-22A WVWD-34 F-01 WVWD-04 WVWD-05 WVWD-05A WVWD-35 1N5W27B01S RIALTO-01 EMW-05A EMW-05B EMW-05C EMW-04A EMW-04B EMW-04C WVWD-22 PW-8 EMW-03A EMW-03B EMW-03C EPA-MP4 RIALTO-02 MW09A MW09B PW-5 PW-6 PW-7 EMW-01A EMW-01B EPA-MP3 RIALTO-03 RIALTO-04 1S/5W-3A WVWD-33 WVWD WTP WVWD-10 RIALTO-05 RIALTO-06 PW-9 WVWD-11 PW-10 EPA-MP6 EPA-MP5 EPA-MP2 EPA-MP7 RIALTO-07 PW-12 PW-11 1S/5W-11F EPA-MP1 EPA-MP8 RIALTO-CHINO-01 CPW-16 WVWD-17 WVWD-16 PW-13 PW-14 RIALTO-CHINO-02 CPW-17 1S/5W-13B COLTON-17 COLTON-15 PATTERSON/E-70d PW-15 PW-18 HEW-10 PW-16 PW-17 PW-19 COLTON-24 WVWD-28 WVWD-42 RIALTO-CITY WELL-03 WVWD-07 WVWD-08 WVWD-36 RIALTO-CITY WELL-05 RIALTO-CITY WELL-04 RIALTO-CITY WELL-06 WVWD-13 WVWD-15 WVWD-30 RIALTO-CITY WELL-04A COLTON-18 COLTON-19 COLTON-13 COLTON-08 1S/4W-8E COLTON-E2 01S04W08J COLTON-26 COLTON-05 COLTON-06B 1S4W09N01S COLTON-12 COLTON-S.Walnut COLTON-23 COLTON-KATZ COLTON-22 WVWD-18A WVWD-18 WVWD-27 WVWD-39 WVWD-29 WVWD-26 WVWD-25 WVWD-40 1S5W36D01S

LEGEND

- 160-ACRE PARCEL PLUME MW DOWNGRADIENT
- CITY OF COLTON PRODUCTION WELL
- CITY OF RIALTO PRODUCTION WELL
- PROPOSED EXTRACTION WELL
- OTHER - INACTIVE
- EXISTING MONITORING WELL
- RECENTLY ADDED MONITORING WELL
- SAN BERNARDINAO COUNTY MVSL WELLS
- SAN GABRIEL VALLEY WC - FONTANA
- WEST VALLEY WATER DISTRICT
- FAULT LINES
- ROAD
- CITY LIMITS
- AIRPORT

NOTE:
- MAP ORIGINALLY CREATED BY ITSI GIBANE FOR THE USEPA.

NAD 1983 UTM ZONE 11N

0 0.5 1

Miles

FIGURE 1
SITE MAP
TECHNICAL MEMORANDUM - OU-2 DETAILED EVALUATION OF REMEDIAL ALTERNATIVES
SAN BERNARDINO COUNTY, CALIFORNIA

REQUESTED BY:	DD
DRAWN BY:	NR
DATE:	11/26/2019
PROJECT:	0888823917

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11725'
20'
11715'
T 2 N
T 1 N
T 1 N
T 1 S
T 1 S
T 2 S
34 10'
34 05'
R 6 W | R 5 W
R 5 W | R 4 W
R 4 W | R 3 W
San Gabriel Mts
Cucamonga Fault
San Andreas Fault
San Bernardino Mountains
LYTLE BASIN
RIALTO - COLTON BASIN
CHINO BASIN
BUNKER HILL BASIN
SANTA ANA RIVER BASIN
NORTH RIVERSIDE BASIN
Badlands
Lytle Cr
Cajon Creek
Devil Canyon Creek
Waterman Canyon Creek
Lytle Creek
Warm Cr
City Cr
Santa Ana River
San Timoteo Cr
Barrier J
Barrier E
Barrier H
Rialto-Colton Fault
Linden Ponds
Unnamed
Cactus Basin
Slover Mtn
San Bernardino
Rialto
Colton
3Q1
29H2
29H1
15
215
10
215

EXPLANATION

Unconsolidated deposits – Shaded in Rialto-Colton Basin

Partly consolidated deposits

Consolidated rocks

Fault – Dashed where approximately located, dotted where concealed

Contact

3Q1 **Production well and number** – Used to calculate hydraulic gradient across the Rialto-Colton Basin

Base from U.S. Geological Survey
1:100,000 San Bernardino, 1982

0 5 MILES
0 5 KILOMETERS

Original Map Source: Numerical Simulation of Ground-Water Flow and Assessment of the Effects of Artificial Recharge in the Rialto-Colton Basin, San Bernardino County, California. Water-Resources Investigations Report 00-4243, United States Geological Survey, p. 4.

FIGURE 2
GEOGRAPHIC SETTING
MONITORING WELL SAMPLING REPORT
ROCKETS, FIREWORKS, AND FLARES SUPERFUND SITE
SAN BERNARDINO COUNTY, CA

REQUESTED BY:	GV
DRAWN BY:	MS
DATE:	10/16/2019
PROJECT:	0888825064

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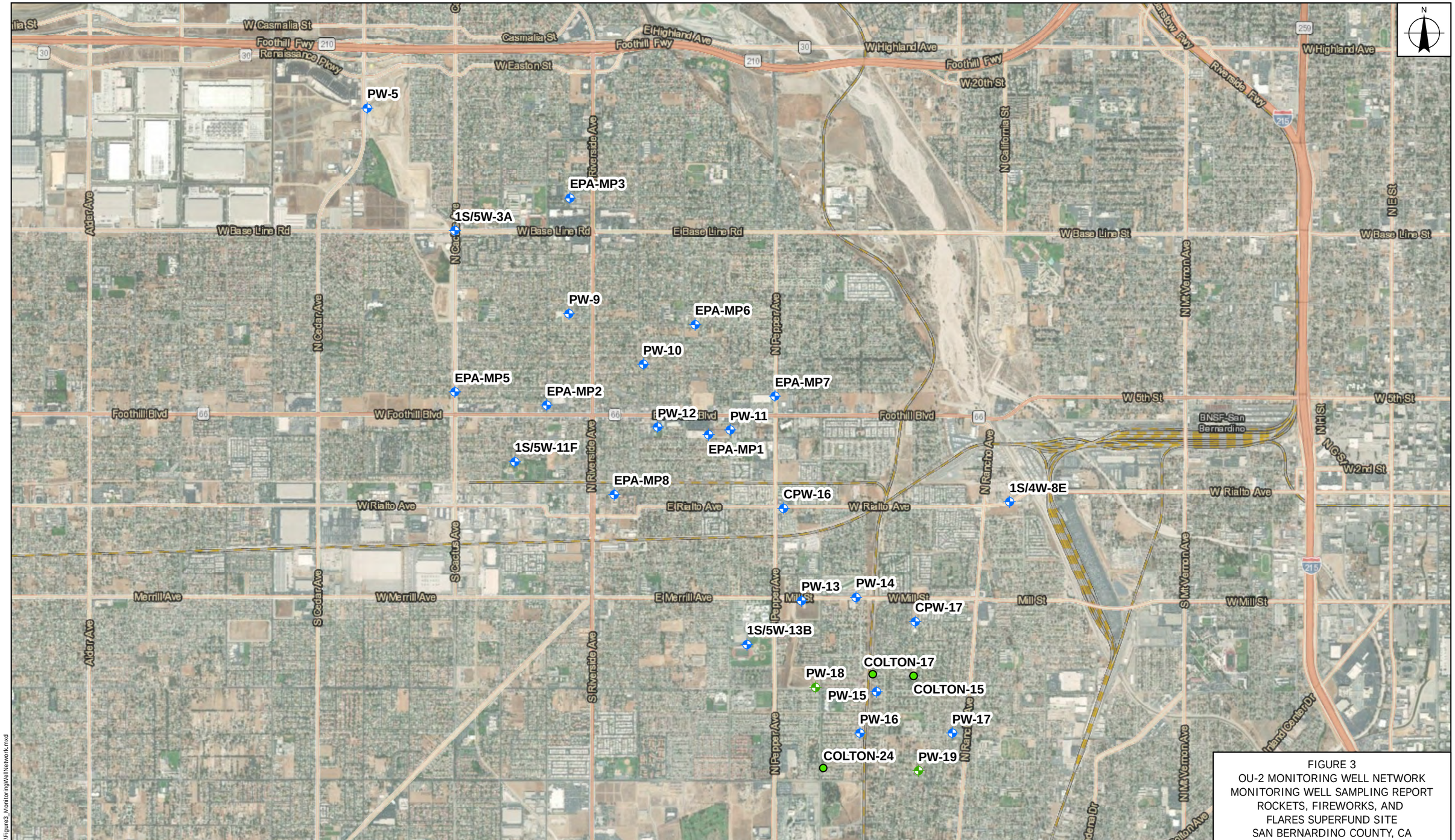

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LEGEND

- CITY OF COLTON PRODUCTION WELL
- EXISTING MONITORING WELL
- RECENTLY ADDED MONITORING WELL

NAD 1983 UTM ZONE 11N

0 0.25 0.5

SCALE IN MILES

FIGURE 3
OU-2 MONITORING WELL NETWORK
MONITORING WELL SAMPLING REPORT
ROCKETS, FIREWORKS, AND
FLARES SUPERFUND SITE
SAN BERNARDINO COUNTY, CA

REQUESTED BY:	DD
DRAWN BY:	NR
DATE:	9/26/2019
PROJECT:	0888822650

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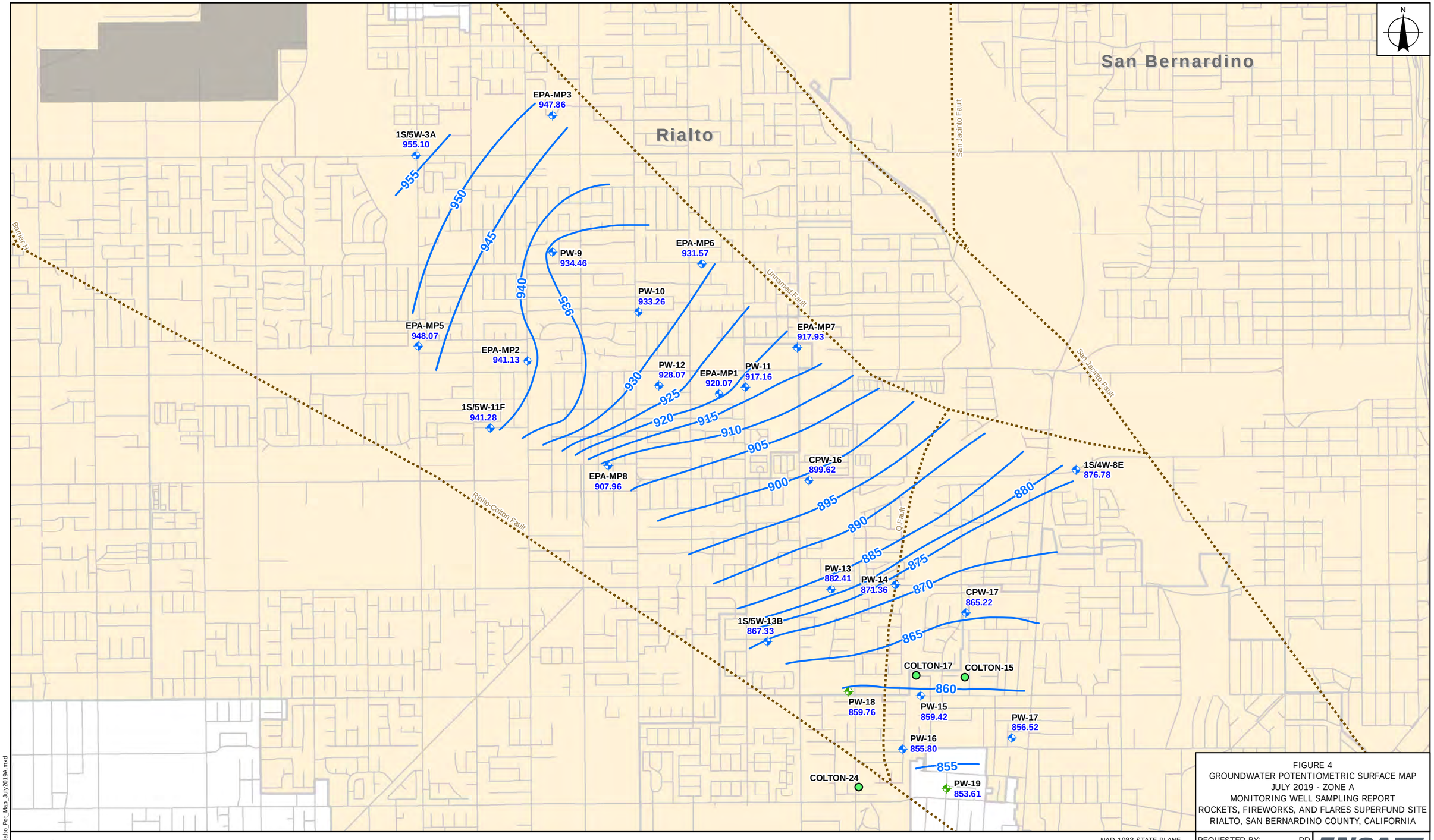
Source: Esri, HERE, Garmin, (c) OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



LEGEND

- EXISTING MONITORING WELL
- RECENTLY ADDED MONITORING WELL
- CITY OF COLTON PRODUCTION WELL
- FAULT LINES
- POTENTIOMETRIC SURFACE CONTOUR
- ROADS
- AIRPORT
- CITY LIMITS

NAD 1983 STATE PLANE CALIFORNIA V FEET

0 1,100 2,200

SCALE IN FEET

FIGURE 4
GROUNDWATER POTENTIOMETRIC SURFACE MAP
JULY 2019 - ZONE A
MONITORING WELL SAMPLING REPORT
ROCKETS, FIREWORKS, AND FLARES SUPERFUND SITE
RIALTO, SAN BERNARDINO COUNTY, CALIFORNIA

REQUESTED BY:	DD
DRAWN BY:	MS
DATE:	11/18/2019
PROJECT:	0888822650

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Source: Basemap layers - arcgisonline.com

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PW-5

EPA-MP3

Interval	Perchlorate
909	13
773	2.4
679	0.95 J
546	ND
466	0.04 J

1S/5W-3A

Interval	Perchlorate
958	1.3
858	92
698	0.1

PW-10

Interval	Perchlorate
914	10
814	450
729	1.3
669	1.5
529	0.91 J

EPA-MP6

Interval	Perchlorate
922	30
828	4.7
714	6.9
617	0.36 J
511	0.16 J

EPA-MP1

Interval	Perchlorate
863	21
767	21
667	1.5
496	0.22 J
431	0.038 J

PW-9

Interval	Perchlorate
894	4.9
824	230
744	250
659	0.13 J
589	0.18 J
499	0.19 J

EPA-MP2

Interval	Perchlorate
924	2.1
864	7
764	0.63 J
658	0.21 J
558	0.24 J
508	0.023 J

PW-12

Interval	Perchlorate
912	3.1
852	7
747	0.19 J
692	0.17 J
522	0.13 J

PW-11

Interval	Perchlorate
871	11
776	140
666	0.19 J
531	0.21 J
476	0.12 J

EPA-MP7

Interval	Perchlorate
872	7.3
797	4.5
727	4
642	0.25 J
527	0.18 J

PW-14

Interval	Perchlorate
875	NS
810	19
750	66
650	0.17 J
570	0.24 J

EPA-MP5

Interval	Perchlorate
933	2.8
877	4.7
783	0.51 J
659	0.18 J
548	0.066 J

CPW-16

Interval	Perchlorate
889	19
806	65
767	81
671	0.39 J
546	0.22 J
466	0.19 J
431	0.14 J

1S/4W-8E

Interval	Perchlorate
800	1.3 J
533	ND
360	ND
140	ND

1S/5W-11F1S

Interval	Perchlorate
934	6.5
822	0.19 J
314	ND

EPA-MP8

Interval	Perchlorate
875	2.6
825	1.4
730	0.22 J
615	4.5
500	0.21 J

PW-13

Interval	Perchlorate
815	7.2
760	4.3
680	0.13 J
630	0.28 J
550	0.25 J

CPW-17

Interval	Perchlorate
895	DRY
825	3.5
725	0.42 J
635	0.15 J
575	0.29 J
527	1.8 J
427	0.3 J

1S/5W-13B

Interval	Perchlorate
890	3.2
740	4.4
620	1.9
485	0.43 J

PW-16

Interval	Perchlorate
810	37
772	35
703	0.18 J
674	0.14 J

PW-17

Interval	Perchlorate
817	7.6
771	8.4
702	0.11 J
671	0.043 J

PW-18

March 2019

Interval	Perchlorate
846	4.8
781	4
713	1.5

June 2019

Interval	Perchlorate
846	6.7
781	3.6
713	1.5

PW-15

Interval	Perchlorate
824	14
790	60
720	0.17 J
636	0.23 J

PW-19

March 2019

Interval	Perchlorate
793	23
751	10
689	2.8

July 2019

Interval	Perchlorate
793	9.8
751	2.2
689	0.24 J

COLTON-17

COLTON-15

COLTON-24

N

LEGEND

- EXISTING MONITORING WELL
- CITY OF COLTON PRODUCTION WELL
- APPROXIMATE EXTENT OF SYNTHETIC PERCHLORATE IN GROUNDWATER ABOVE CALIFORNIA MCL
- APPROXIMATE EXTENT OF PERCHLORATE IN GROUNDWATER ABOVE CALIFORNIA MCL

NOTES:

- µg/l = MICROGRAMS PER LITER
- INTERVAL IN FEET ABOVE MEAN SEA LEVEL (ft amsl)
- PERCHLORATE CONCENTRATION IN MICROGRAMS PER LITER (µg/l)
- J = ESTIMATE VALUE
- RED TEXT INDICATES EXCEEDANCE OF CA MCL
- BOLD TEXT INDICATES ABOVE REPORTING LIMIT
- ND = NOT DETECTED
- NS = NOT SAMPLED

NAD 1983 STATE PLANE CALIFORNIA V FEET

0 1,100 2,200

SCALE IN FEET

FIGURE 5
GROUNDWATER CONCENTRATION SUMMARY MAP
MARCH THROUGH JULY 2019
MONITORING WELL SAMPLING REPORT
ROCKETS, FIREWORKS, AND FLAMES SUPERFUND
RIALTO, SAN BERNARDINO COUNTY, CALIFORNIA

REQUESTED BY:	GV
DRAWN BY:	RK
DATE:	12/4/2019
PROJECT:	0888825064

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Tables

Table 1
Well Screen Interval and Measuring Point Elevations
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Well Interval ID	Well Screen Interval (ft bgs)	Well Screen Interval (ft amsl)	Well Screen Interval Top (ft amsl)	Well Screen Interval Bottom (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
1S/4W-8E	4S	310-330	800-780	800	780	1,110.00	1,110.00
	3S	577-597	533-513	533	513	1,110.00	1,110.00
	2S	750-770	360-340	360	340	1,110.00	1,110.00
	1S	970-990	140-120	140	120	1,110.00	1,110.00
1S/5W-3A	7S	400-420	958-938	958	938	1,358.00	1,358.00
	6S	500-520	858-838	858	838	1,358.00	1,358.00
	5S	660-680	698-678	698	678	1,358.00	1,358.00
1S/5W-11F	4S	310-330	934-914	934	914	1,244.00	1,244.00
	3S	422-442	822-802	822	802	1,244.00	1,244.00
	1S	930-950	314-294	314	294	1,244.00	1,244.00
1S/5W-13B	5S	270-290	890-870	890	870	1,160.00	1,160.00
	4S	420-440	740-720	740	720	1,160.00	1,160.00
	3S	540-560	620-600	620	600	1,160.00	1,160.00
	2S	675-695	485-465	485	465	1,160.00	1,160.00
1N/5W-34D	4S	472-492	985-965	985	965	1,457.00	1,457.00
	3S	590-610	867-847	867	847	1,457.00	1,457.00
	2S	760-780	697-677	697	677	1,457.00	1,457.00
CPW-16	A	292-302	889-879	889	879	1,180.98	1,181.44
	B	375-385	806-796	806	796	1,180.98	1,181.44
	C	414-424	767-757	767	757	1,180.98	1,181.44
	D	510-520	671-661	671	661	1,180.98	1,181.44
	E	635-645	546-536	546	536	1,180.98	1,181.44
	F	715-725	466-456	466	456	1,180.98	1,181.44
	G	750-760	431-421	431	421	1,180.98	1,181.44
CPW-17	A	240-250	895-885	895	885	1,135.08	1,135.98
	B	310-320	825-815	825	815	1,135.08	1,135.98
	C	410-420	725-715	725	715	1,135.08	1,135.98
	D	500-510	635-625	635	625	1,135.08	1,135.98
	E	560-570	575-565	575	565	1,135.08	1,135.98
	F	608-618	527-517	527	517	1,135.08	1,135.98
	G	708-718	427-417	427	417	1,135.08	1,135.98
EPA-MP1	1A	363-373	863-853	863	853	1,226.05	1,226.52
	1B	459-469	767-757	767	757	1,226.05	1,226.52
	1C	559-569	667-657	667	657	1,226.05	1,226.52
	1D	790-740	496-486	496	486	1,226.05	1,226.52
	1E	795-805	431-421	431	421	1,226.05	1,226.52
EPA-MP2	2A	346-356	924-914	924	914	1,269.99	1,270.57
	2B	406-416	864-854	864	854	1,269.99	1,270.57
	2C	506-516	764-754	764	754	1,269.99	1,270.57
	2D	612-622	658-648	658	648	1,269.99	1,270.57
	2E	712-722	558-548	558	548	1,269.99	1,270.57
	2F	762-772	508-498	508	498	1,269.99	1,270.57
EPA-MP3	3A	454-464	909-899	909	899	1,363.10	1,363.73
	3B	590-600	773-763	773	763	1,363.10	1,363.73
	3C	684-694	679-669	679	669	1,363.10	1,363.73
	3D	811-827	546-536	546	536	1,363.10	1,363.73
	3E	897-907	466-456	466	456	1,363.10	1,363.73
EPA-MP4	4A	411-421	1047-1037	1047	1037	1,457.82	1,458.00
	4B	505-515	953-943	953	943	1,457.82	1,458.00
	4C	585-595	873-863	873	863	1,457.82	1,458.00
	4D	639-649	819-809	819	809	1,457.82	1,458.00
	4E	752-762	706-696	706	696	1,457.82	1,458.00
EPA-MP5	5A	352-362	933-923	933	923	1,285.16	1,284.96
	5B	408-418	877-867	877	867	1,285.16	1,284.96
	5C	502-512	783-773	783	773	1,285.16	1,284.96
	5D	626-636	659-649	659	649	1,285.16	1,284.96
	5E	737-747	548-538	548	538	1,285.16	1,284.96

Table 1
Well Screen Interval and Measuring Point Elevations
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Well Interval ID	Well Screen Interval (ft bgs)	Well Screen Interval (ft amsl)	Well Screen Interval Top (ft amsl)	Well Screen Interval Bottom (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP6	6A	351-361	922-912	922	912	1,273.41	1,273.66
	6B	445-455	828-818	828	818	1,273.41	1,273.66
	6C	569-579	714-704	714	704	1,273.41	1,273.66
	6D	656-666	617-607	617	607	1,273.41	1,273.66
	6E	762-772	511-501	511	501	1,273.41	1,273.66
EPA-MP7	7A	355-365	872-862	872	862	1,226.61	1,227.52
	7B	430-440	797-787	797	787	1,226.61	1,227.52
	7C	500-510	727-717	727	717	1,226.61	1,227.52
	7D	585-595	642-632	642	632	1,226.61	1,227.52
	7E	700-710	527-517	527	517	1,226.61	1,227.52
EPA-MP8	8A	345-355	875-865	875	865	1,219.97	1,221.08
	8B	395-405	825-815	825	815	1,219.97	1,221.08
	8C	490-500	730-720	730	720	1,219.97	1,221.08
	8D	605-615	615-605	615	605	1,219.97	1,221.08
	8E	720-730	500-490	500	490	1,219.97	1,221.08
EPA-MW9	9A	520-540	929-909	929	909	1,448.73	1,449.03
	9B	715-735	734-714	734	714	1,448.73	1,449.03
PW-1	PW-1	440-480	1264-1224	1264	1224	1,704.48	NA
PW-2	PW-2	455-495	1184-1144	1184	1144	1,639.36	NA
	PW-2A	622-642	1018-998	1018	998	1,639.58	NA
PW-3	PW-3	456-496	1156-1116	1156	1116	1,611.81	NA
	PW-3A	606-626	1006-986	1006	986	1,611.81	NA
PW-4	PW-4	470-510	1157-1117	1157	1117	1,626.56	NA
	PW-4A	638-648	989-979	989	979	1,626.56	NA
PW-5	A	465-475	959-949	959	949	1,423.64	1,424.69
	B	510-520	914-904	914	904	1,423.64	1,424.69
	C	555-565	869-859	869	859	1,423.64	1,424.69
	D	615-625	809-799	809	799	1,423.64	1,424.69
	E	670-680	754-744	754	744	1,423.64	1,424.69
PW-6	A	440-450	969-959	969	959	1,409.16	1,410.26
	B	475-485	934-924	934	924	1,409.16	1,410.26
	C	520-530	889-879	889	879	1,409.16	1,410.26
	D	600-610	809-799	809	799	1,409.16	1,410.26
	E	655-665	754-744	754	744	1,409.16	1,410.26
PW-7	A	430-440	971-961	971	961	1,401.15	1,401.50
	B	495-505	906-896	906	896	1,401.15	1,401.50
	C	565-575	836-826	836	826	1,401.15	1,401.50
	D	635-645	766-756	766	756	1,401.15	1,401.50
	E	685-695	716-706	716	706	1,401.15	1,401.50
	F	750-760	651-641	651	641	1,401.15	1,401.50
	G	815-825	586-576	586	576	1,401.15	1,401.50
PW-8	A	440-445	1075-1070	1075	1070	1,515.42	1,516.30
	B	545-555	970-960	970	960	1,515.42	1,516.30
	C	645-655	870-860	870	860	1,515.42	1,516.30
	D	720-730	795-785	795	785	1,515.42	1,516.30
	E	770-780	745-735	745	735	1,515.42	1,516.30
PW-9	A	350-360	954-944	954	944	1,304.16	1,304.70
	B	410-420	894-884	894	884	1,304.16	1,304.70
	C	480-490	824-814	824	814	1,304.16	1,304.70
	D	560-570	744-734	744	734	1,304.16	1,304.70
	E	645-655	659-649	659	649	1,304.16	1,304.70
	F	715-725	589-579	589	579	1,304.16	1,304.70
	G	805-815	499-489	499	489	1,304.16	1,304.70
PW-10	A	355-365	914-904	914	904	1,268.85	1,270.00
	B	455-465	814-804	814	804	1,268.85	1,270.00
	C	540-550	729-719	729	719	1,268.85	1,270.00
	D	600-610	669-659	669	659	1,268.85	1,270.00
	E	740-750	529-519	529	519	1,268.85	1,270.00

Table 1
Well Screen Interval and Measuring Point Elevations
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Well Interval ID	Well Screen Interval (ft bgs)	Well Screen Interval (ft amsl)	Well Screen Interval Top (ft amsl)	Well Screen Interval Bottom (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-11	A	350-360	871-861	871	861	1,221.23	1,222.33
	B	445-455	776-766	776	766	1,221.23	1,222.33
	C	555-565	666-656	666	656	1,221.23	1,222.33
	D	690-700	531-521	531	521	1,221.23	1,222.33
	E	745-755	476-466	476	466	1,221.23	1,222.33
PW-12	A	330-340	912-902	912	902	1,241.89	1,242.01
	B	390-400	852-842	852	842	1,241.89	1,242.01
	C	495-505	747-737	747	737	1,241.89	1,242.01
	D	550-560	692-682	692	682	1,241.89	1,242.01
	E	720-730	522-512	522	512	1,241.89	1,242.01
PW-13	A	335-345	815-805	815	805	1,150.11	1,150.51
	B	390-400	760-750	760	750	1,150.11	1,150.51
	C	470-480	680-670	680	670	1,150.11	1,150.51
	D	520-530	630-620	630	620	1,150.11	1,150.51
	E	600-610	550-540	550	540	1,150.11	1,150.51
PW-14	A	295-305	875-865	875	865	1,169.78	1,170.16
	B	360-370	810-800	810	800	1,169.78	1,170.16
	C	420-430	750-740	750	740	1,169.78	1,170.16
	D	520-530	650-640	650	640	1,169.78	1,170.16
	E	600-610	570-560	570	560	1,169.78	1,170.16
PW-15	A	276-286	824-804	824	804	1,090.30	1,090.84
	B	310-320	790-770	790	770	1,090.30	1,090.84
	C	370-380	720-710	720	710	1,090.30	1,090.84
	D	454-464	636-626	636	626	1,090.30	1,090.84
PW-16	A	298-308	810-800	810	800	1,108.40	1,108.82
	B	336-346	772-762	772	762	1,108.33	1,108.82
	C	405-415	703-693	703	693	1,108.36	1,108.82
	D	434-444	674-664	674	664	1,108.28	1,108.82
PW-17	A	256-266	817-807	817	807	1,072.52	1,072.83
	B	302-312	771-761	771	761	1,072.52	1,072.83
	C	370-380	702-692	702	692	1,072.48	1,072.83
	D	402-412	671-661	671	661	1,072.53	1,072.83
PW-18	A	275-285	841-831	841	831	1,115.81	1,116.07
	B	330-340	786-776	786	776	1,115.81	1,116.07
	C	398-408	718-708	718	708	1,115.81	1,116.07
Pw-19	A	262-272	798-788	798	788	1,059.28	1,059.89
	B	304-314	756-746	756	746	1,059.28	1,059.89
	C	366-376	694-684	694	684	1,059.28	1,059.89
Colton-24	--	534-634	561-461	561	461	1,095.00	1,095.00

Notes:
ft bgs = Feet below ground surface
ft amsl = Feet above mean sea level

Table 2
2019 Groundwater Elevation Measurements
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
1S/4W-8E	8/12/2014	1S	970-990	225.46	884.54	1,110.00	1,110.00
	8/3/2015	1S	970-990	226.43	883.57	1,110.00	1,110.00
	7/27/2016	1S	970-990	227.62	882.38	1,110.00	1,110.00
	7/23/2017	1S	970-990	227.08	882.92	1,110.00	1,110.00
	7/19/2018	1S	970-990	229.96	880.04	1,110.00	1,110.00
	6/27/2019	1S	970-990	230.86	879.14	1,110.00	1,110.00
	8/12/2014	2S	750-770	225.79	884.21	1,110.00	1,110.00
	8/3/2015	2S	750-770	226.83	883.17	1,110.00	1,110.00
	7/27/2016	2S	750-770	227.96	882.04	1,110.00	1,110.00
	7/24/2017	2S	750-770	228.16	881.84	1,110.00	1,110.00
	7/16/2018	2S	750-770	230.23	879.77	1,110.00	1,110.00
	6/27/2019	2S	750-770	231.23	878.77	1,110.00	1,110.00
	8/12/2014	3S	577-597	226.13	883.87	1,110.00	1,110.00
	8/3/2015	3S	577-597	227.21	882.79	1,110.00	1,110.00
	7/27/2016	3S	577-597	228.29	881.71	1,110.00	1,110.00
	7/24/2017	3S	577-597	228.38	881.62	1,110.00	1,110.00
	7/16/2018	3S	577-598	230.52	879.48	1,110.00	1,110.00
	6/27/2019	3S	577-597	231.19	878.81	1,110.00	1,110.00
	8/12/2014	4S	310-330	229.00	881.00	1,110.00	1,110.00
	8/3/2015	4S	310-330	229.88	880.12	1,110.00	1,110.00
	7/27/2016	4S	310-330	230.93	879.07	1,110.00	1,110.00
	7/24/2017	4S	310-330	230.81	879.19	1,110.00	1,110.00
	7/16/2018	4S	310-331	232.82	877.18	1,110.00	1,110.00
	6/27/2019	4S	310-330	233.22	876.78	1,110.00	1,110.00
1S/5W-3A	8/12/2014	5S	660-680	398.33	959.67	1,358.00	1,358.00
	8/5/2015	5S	660-680	398.06	959.94	1,358.00	1,358.00
	7/28/2016	5S	660-680	396.70	961.30	1,358.00	1,358.00
	7/24/2017	5S	660-680	397.25	960.75	1,358.00	1,358.00
	7/13/2018	5S	660-681	401.71	956.29	1,358.00	1,358.00
	6/27/2019	5S	660-680	403.09	954.91	1,358.00	1,358.00
	8/12/2014	6S	500-520	398.51	959.49	1,358.00	1,358.00
	8/5/2015	6S	500-520	398.36	959.64	1,358.00	1,358.00
	7/28/2016	6S	500-520	396.60	961.40	1,358.00	1,358.00
	7/25/2017	6S	500-520	397.12	960.88	1,358.00	1,358.00
	7/13/2018	6S	500-521	401.52	956.48	1,358.00	1,358.00
	6/27/2019	6S	500-520	402.90	955.10	1,358.00	1,358.00
	8/12/2014	7S	400-420	398.58	959.42	1,358.00	1,358.00
	8/5/2015	7S	400-420	398.45	959.55	1,358.00	1,358.00
	7/29/2016	7S	400-420	396.44	961.56	1,358.00	1,358.00
	7/25/2017	7S	400-420	397.04	960.96	1,358.00	1,358.00
	7/13/2018	7S	400-420	401.42	956.58	1,358.00	1,358.00
	6/27/2019	7S	400-420	402.84	955.16	1,358.00	1,358.00

Table 2
2019 Groundwater Elevation Measurements
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
1S/5W-11F	8/12/2014	1S	930-950	310.11	933.89	1,244.00	1,244.00
	8/3/2015	1S	930-950	317.82	926.18	1,244.00	1,244.00
	7/28/2016	1S	930-950	314.68	929.32	1,244.00	1,244.00
	7/24/2017	1S	930-950	315.34	928.66	1,244.00	1,244.00
	7/13/2018	1S	930-950	319.36	924.64	1,244.00	1,244.00
	6/27/2019	1S	930-950	321.66	922.34	1,244.00	1,244.00
	8/12/2014	3S	422-442	295.01	948.99	1,244.00	1,244.00
	8/3/2015	3S	422-442	294.49	949.51	1,244.00	1,244.00
	7/28/2016	3S	422-442	294.70	949.30	1,244.00	1,244.00
	7/24/2017	3S	422-442	296.27	947.73	1,244.00	1,244.00
	7/13/2018	3S	422-442	299.92	944.08	1,244.00	1,244.00
	6/27/2019	3S	422-442	302.72	941.28	1,244.00	1,244.00
	8/12/2014	4S	310-330	295.18	948.82	1,244.00	1,244.00
	8/3/2015	4S	310-330	294.63	949.37	1,244.00	1,244.00
	7/28/2016	4S	310-330	294.80	949.20	1,244.00	1,244.00
	7/24/2017	4S	310-330	296.42	947.58	1,244.00	1,244.00
	7/13/2018	4S	310-330	299.80	944.20	1,244.00	1,244.00
	6/27/2019	4S	310-330	302.89	941.11	1,244.00	1,244.00
1S/5W-13B	8/12/2014	2S	675-695	272.77	887.23	1,160.00	1,160.00
	8/3/2015	2S	675-695	271.95	888.05	1,160.00	1,160.00
	7/27/2016	2S	675-695	272.01	887.99	1,160.00	1,160.00
	7/25/2017	2S	675-695	281.56	878.44	1,160.00	1,160.00
	7/13/2018	2S	675-695	287.18	872.82	1,160.00	1,160.00
	6/27/2019	2S	675-695	285.43	874.57	1,160.00	1,160.00
	8/12/2014	3S	540-560	285.16	874.84	1,160.00	1,160.00
	8/3/2015	3S	540-560	284.49	875.51	1,160.00	1,160.00
	7/27/2016	3S	540-560	285.01	874.99	1,160.00	1,160.00
	7/25/2017	3S	540-560	289.47	870.53	1,160.00	1,160.00
	7/13/2018	3S	540-560	294.81	865.19	1,160.00	1,160.00
	6/27/2019	3S	540-560	294.48	865.52	1,160.00	1,160.00
	8/12/2014	4S	420-440	284.04	875.96	1,160.00	1,160.00
	8/3/2015	4S	420-440	283.80	876.20	1,160.00	1,160.00
	7/27/2016	4S	420-440	283.99	876.01	1,160.00	1,160.00
	7/25/2017	4S	420-440	286.01	873.99	1,160.00	1,160.00
	7/13/2018	4S	420-440	292.18	867.82	1,160.00	1,160.00
	6/27/2019	4S	420-440	292.67	867.33	1,160.00	1,160.00
	8/12/2014	5S	270-290	275.66	884.34	1,160.00	1,160.00
	11/19/2014	5S	270-290	275.42	884.58	1,160.00	1,160.00
	8/3/2015	5S	270-290	275.53	884.47	1,160.00	1,160.00
	7/27/2016	5S	270-290	275.59	884.41	1,160.00	1,160.00
	7/25/2017	5S	270-290	277.21	882.79	1,160.00	1,160.00
	7/13/2018	5S	270-290	285.10	874.90	1,160.00	1,160.00
	6/27/2019	5S	270-290	286.07	873.93	1,160.00	1,160.00

Table 2
2019 Groundwater Elevation Measurements
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
CPW-16	8/21/2014	A	292-302	271.61	909.37	1,180.98	1,181.44
	11/19/2014	A	292-302	271.88	909.10	1,180.98	1,181.44
	7/30/2015	A	292-302	271.61	909.37	1,180.98	1,181.44
	7/13/2016	A	292-302	271.31	909.67	1,180.98	1,181.44
	7/14/2017	A	292-302	273.59	907.39	1,180.98	1,181.44
	7/11/2018	A	292-302	277.75	903.23	1,180.98	1,181.44
	7/12/2019	A	292-302	280.40	900.58	1,180.98	1,181.44
	8/21/2014	B	375-385	272.41	908.57	1,180.98	1,181.44
	11/19/2014	B	375-385	272.59	908.39	1,180.98	1,181.44
	7/30/2015	B	375-385	272.41	908.57	1,180.98	1,181.44
	7/13/2016	B	375-385	272.29	908.69	1,180.98	1,181.44
	7/14/2017	B	375-385	274.53	906.45	1,180.98	1,181.44
	7/11/2018	B	375-385	278.81	902.17	1,180.98	1,181.44
	7/12/2019	B	375-385	281.36	899.62	1,180.98	1,181.44
	8/21/2014	C	414-424	273.11	907.87	1,180.98	1,181.44
	11/19/2014	C	414-424	273.16	907.82	1,180.98	1,181.44
	7/30/2015	C	414-424	273.00	907.98	1,180.98	1,181.44
	7/13/2016	C	414-424	272.79	908.19	1,180.98	1,181.44
	7/14/2017	C	414-424	275.10	905.88	1,180.98	1,181.44
	7/11/2018	C	414-424	279.22	901.76	1,180.98	1,181.44
	7/12/2019	C	414-424	286.63	894.35	1,180.98	1,181.44
	8/21/2014	D	510-520	273.88	907.10	1,180.98	1,181.44
	11/19/2014	D	510-520	273.86	907.12	1,180.98	1,181.44
	7/30/2015	D	510-520	273.65	907.33	1,180.98	1,181.44
	7/13/2016	D	510-520	275.46	905.52	1,180.98	1,181.44
	7/14/2017	D	510-520	275.73	905.25	1,180.98	1,181.44
	7/11/2018	D	510-520	280.05	900.93	1,180.98	1,181.44
	7/12/2019	D	510-520	282.72	898.26	1,180.98	1,181.44
	8/21/2014	E	635-645	274.19	906.79	1,180.98	1,181.44
	11/19/2014	E	635-645	273.70	907.28	1,180.98	1,181.44
	7/30/2015	E	635-645	273.42	907.56	1,180.98	1,181.44
	7/13/2016	E	635-645	271.53	909.45	1,180.98	1,181.44
	7/14/2017	E	635-645	274.09	906.89	1,180.98	1,181.44
	7/11/2018	E	635-645	278.50	902.48	1,180.98	1,181.44
	7/12/2019	E	635-645	282.95	898.03	1,180.98	1,181.44
	8/21/2014	F	715-725	276.97	904.01	1,180.98	1,181.44
	11/19/2014	F	715-725	276.19	904.79	1,180.98	1,181.44
	7/30/2015	F	715-725	275.84	905.14	1,180.98	1,181.44
	7/13/2016	F	715-725	272.43	908.55	1,180.98	1,181.44
	7/14/2017	F	715-725	275.24	905.74	1,180.98	1,181.44
	7/11/2018	F	715-725	279.91	901.07	1,180.98	1,181.44
	7/12/2019	F	715-725	285.76	895.22	1,180.98	1,181.44
	8/21/2014	G	750-760	276.49	904.49	1,180.98	1,181.44
	11/19/2014	G	750-760	275.64	905.34	1,180.98	1,181.44
	7/30/2015	G	750-760	275.36	905.62	1,180.98	1,181.44
	7/13/2016	G	750-760	272.11	908.87	1,180.98	1,181.44
	7/14/2017	G	750-760	274.83	906.15	1,180.98	1,181.44
	7/11/2018	G	750-760	279.55	901.43	1,180.98	1,181.44
	7/12/2019	G	750-760	285.28	895.70	1,180.98	1,181.44

Table 2
2019 Groundwater Elevation Measurements
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
CPW-17	8/13/2014	A	240-250	242.82	892.26	1,135.08	1,135.98
	8/4/2015	A	240-250	242.65	892.43	1,135.08	1,135.98
	7/13/2016	A	240-250	242.45	892.63	1,135.08	1,135.98
	7/17/2017	A	240-250	242.70	892.38	1,135.08	1,135.98
	7/10/2018	A	240-250	242.73	892.35	1,135.08	1,135.98
	7/10/2019	A	240-250	242.63	892.45	1,135.08	1,135.98
	8/13/2014	B	310-320	262.11	872.97	1,135.08	1,135.98
	8/4/2015	B	310-320	262.64	872.44	1,135.08	1,135.98
	7/13/2016	B	310-320	263.42	871.66	1,135.08	1,135.98
	7/17/2017	B	310-320	265.06	870.02	1,135.08	1,135.98
	7/10/2018	B	310-320	268.47	866.61	1,135.08	1,135.98
	7/10/2019	B	310-320	269.86	865.22	1,135.08	1,135.98
	8/13/2014	C	410-420	261.61	873.47	1,135.08	1,135.98
	8/4/2015	C	410-420	262.15	872.93	1,135.08	1,135.98
	7/13/2016	C	410-420	262.84	872.24	1,135.08	1,135.98
	7/17/2017	C	410-420	264.50	870.58	1,135.08	1,135.98
	7/10/2018	C	410-420	267.99	867.09	1,135.08	1,135.98
	7/10/2019	C	410-420	269.32	865.76	1,135.08	1,135.98
	8/13/2014	D	500-510	259.73	875.35	1,135.08	1,135.98
	8/4/2015	D	500-510	259.38	875.70	1,135.08	1,135.98
	7/13/2016	D	500-510	259.70	875.38	1,135.08	1,135.98
	7/17/2017	D	500-510	261.76	873.32	1,135.08	1,135.98
	7/10/2018	D	500-510	265.56	869.52	1,135.08	1,135.98
	7/10/2019	D	500-510	267.43	867.65	1,135.08	1,135.98
	8/13/2014	E	560-570	259.93	875.15	1,135.08	1,135.98
	8/4/2015	E	560-570	259.51	875.57	1,135.08	1,135.98
	7/13/2016	E	560-570	259.93	875.15	1,135.08	1,135.98
	7/17/2017	E	560-570	261.98	873.10	1,135.08	1,135.98
	7/10/2018	E	560-570	265.72	869.36	1,135.08	1,135.98
	7/10/2019	E	560-570	267.66	867.42	1,135.08	1,135.98
	8/13/2014	F	608-618	263.48	871.60	1,135.08	1,135.98
	8/4/2015	F	608-618	262.14	872.94	1,135.08	1,135.98
	7/13/2016	F	608-618	261.27	873.81	1,135.08	1,135.98
	7/17/2017	F	608-618	263.55	871.53	1,135.08	1,135.98
	7/10/2018	F	608-618	268.59	866.49	1,135.08	1,135.98
	7/10/2019	F	608-618	271.39	863.69	1,135.08	1,135.98
	8/13/2014	G	708-718	256.83	878.25	1,135.08	1,135.98
	8/4/2015	G	708-718	254.89	880.19	1,135.08	1,135.98
	7/13/2016	G	708-718	248.25	886.83	1,135.08	1,135.98
	7/17/2017	G	708-718	251.57	883.51	1,135.08	1,135.98
	7/10/2018	G	708-718	255.45	879.63	1,135.08	1,135.98
	7/10/2019	G	708-718	264.35	870.73	1,135.08	1,135.98

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP1	8/11/2014	A	363-373	297.23	928.82	1,226.05	1,226.52
	7/20/2015	A	363-373	296.33	929.72	1,226.05	1,226.52
	10/5/2016	A	363-373	297.41	928.64	1,226.05	1,226.52
	7/11/2017	A	363-373	298.91	927.14	1,226.05	1,226.52
	7/9/2018	A	363-373	303.02	923.03	1,226.05	1,226.52
	7/8/2019	A	363-373	305.79	920.26	1,226.05	1,226.52
	8/11/2014	B	459-469	297.51	928.54	1,226.05	1,226.52
	7/20/2015	B	459-469	296.54	929.51	1,226.05	1,226.52
	10/5/2016	B	459-469	297.76	928.29	1,226.05	1,226.52
	7/11/2017	B	459-469	299.24	926.81	1,226.05	1,226.52
	7/9/2018	B	459-469	303.40	922.65	1,226.05	1,226.52
	7/8/2019	B	459-469	305.98	920.07	1,226.05	1,226.52
	8/11/2014	C	559-569	297.69	928.36	1,226.05	1,226.52
	7/20/2015	C	559-569	296.26	929.79	1,226.05	1,226.52
	10/5/2016	C	559-569	297.71	928.34	1,226.05	1,226.52
	7/11/2017	C	559-569	299.03	927.02	1,226.05	1,226.52
	7/9/2018	C	559-569	303.43	922.62	1,226.05	1,226.52
	7/8/2019	C	559-569	305.99	920.06	1,226.05	1,226.52
	8/11/2014	D	790-740	299.18	926.87	1,226.05	1,226.52
	7/20/2015	D	790-740	297.02	929.03	1,226.05	1,226.52
	10/5/2016	D	790-740	298.28	927.77	1,226.05	1,226.52
	7/11/2017	D	790-740	299.30	926.75	1,226.05	1,226.52
	7/9/2018	D	790-740	304.26	921.79	1,226.05	1,226.52
	7/8/2019	D	790-740	307.21	918.84	1,226.05	1,226.52
	8/11/2014	E	795-805	289.97	936.08	1,226.05	1,226.52
	7/20/2015	E	795-805	288.84	937.21	1,226.05	1,226.52
	10/5/2016	E	795-805	289.97	936.08	1,226.05	1,226.52
	7/11/2017	E	795-805	291.44	934.61	1,226.05	1,226.52
	7/9/2018	E	795-805	295.51	930.54	1,226.05	1,226.52
	7/8/2019	E	795-805	298.66	927.39	1,226.05	1,226.52

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP2	8/19/2014	A	346-356	320.24	949.75	1,269.99	1,270.57
	7/21/2015	A	346-356	319.09	950.90	1,269.99	1,270.57
	7/21/2016	A	346-356	319.78	950.21	1,269.99	1,270.57
	7/20/2017	A	346-356	322.02	947.97	1,269.99	1,270.57
	7/12/2018	A	346-356	325.20	944.79	1,269.99	1,270.57
	7/16/2019	A	346-356	328.61	941.38	1,269.99	1,270.57
	8/19/2014	B	406-416	320.33	949.66	1,269.99	1,270.57
	7/21/2015	B	406-416	319.20	950.79	1,269.99	1,270.57
	7/21/2016	B	406-416	320.10	949.89	1,269.99	1,270.57
	7/20/2017	B	406-416	322.24	947.75	1,269.99	1,270.57
	7/12/2018	B	406-416	325.39	944.60	1,269.99	1,270.57
	7/16/2019	B	406-416	328.86	941.13	1,269.99	1,270.57
	8/19/2014	C	506-516	320.64	949.35	1,269.99	1,270.57
	7/21/2015	C	506-516	319.42	950.57	1,269.99	1,270.57
	7/21/2016	C	506-516	320.53	949.46	1,269.99	1,270.57
	7/20/2017	C	506-516	322.67	947.32	1,269.99	1,270.57
	7/12/2018	C	506-516	325.81	944.18	1,269.99	1,270.57
	7/16/2019	C	506-516	329.32	940.67	1,269.99	1,270.57
	8/18/2014	D	612-622	321.15	948.84	1,269.99	1,270.57
	7/21/2015	D	612-622	319.51	950.48	1,269.99	1,270.57
	7/21/2016	D	612-622	320.32	949.67	1,269.99	1,270.57
	7/20/2017	D	612-622	322.33	947.66	1,269.99	1,270.57
	7/12/2018	D	612-622	325.71	944.28	1,269.99	1,270.57
	7/16/2019	D	612-622	330.19	939.80	1,269.99	1,270.57
	8/18/2014	E	712-722	321.39	948.60	1,269.99	1,270.57
	7/21/2015	E	712-722	319.76	950.23	1,269.99	1,270.57
	7/21/2016	E	712-722	320.43	949.56	1,269.99	1,270.57
	7/20/2017	E	712-722	322.50	947.49	1,269.99	1,270.57
	7/12/2018	E	712-722	325.85	944.14	1,269.99	1,270.57
	7/16/2019	E	712-722	330.35	939.64	1,269.99	1,270.57
	8/18/2014	F	762-772	305.78	964.21	1,269.99	1,270.57
	7/21/2015	F	762-772	307.58	962.41	1,269.99	1,270.57
	7/21/2016	F	762-772	309.38	960.61	1,269.99	1,270.57
	7/20/2017	F	762-772	311.78	958.21	1,269.99	1,270.57
	7/12/2018	F	762-772	314.63	955.36	1,269.99	1,270.57
	7/16/2019	F	762-772	317.13	952.86	1,269.99	1,270.57

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP3	8/22/2014	A	454-464	406.62	956.48	1,363.10	1,363.73
	7/27/2015	A	454-464	405.67	957.43	1,363.10	1,363.73
	7/20/2016	A	454-464	405.90	957.20	1,363.10	1,363.73
	7/12/2017	A	454-464	408.05	955.05	1,363.10	1,363.73
	7/18/2018	A	454-464	411.49	951.61	1,363.10	1,363.73
	7/9/2019	A	454-464	415.13	947.97	1,363.10	1,363.73
	8/22/2014	B	590-600	406.86	956.24	1,363.10	1,363.73
	7/27/2015	B	590-600	405.85	957.25	1,363.10	1,363.73
	7/20/2016	B	590-600	406.17	956.93	1,363.10	1,363.73
	7/12/2017	B	590-600	408.34	954.76	1,363.10	1,363.73
	7/18/2018	B	590-600	411.80	951.30	1,363.10	1,363.73
	7/9/2019	B	590-600	415.24	947.86	1,363.10	1,363.73
	8/22/2014	C	684-694	407.28	955.82	1,363.10	1,363.73
	7/27/2015	C	684-694	406.08	957.02	1,363.10	1,363.73
	7/20/2016	C	684-694	406.49	956.61	1,363.10	1,363.73
	7/12/2017	C	684-694	410.55	952.55	1,363.10	1,363.73
	7/18/2018	C	684-694	413.93	949.17	1,363.10	1,363.73
	7/9/2019	C	684-694	415.56	947.54	1,363.10	1,363.73
	8/22/2014	D	811-827	408.24	954.86	1,363.10	1,363.73
	7/27/2015	D	811-827	406.70	956.40	1,363.10	1,363.73
	7/20/2016	D	811-827	407.09	956.01	1,363.10	1,363.73
	7/12/2017	D	811-827	408.94	954.16	1,363.10	1,363.73
	7/18/2018	D	811-827	412.20	950.90	1,363.10	1,363.73
	7/9/2019	D	811-827	415.63	947.47	1,363.10	1,363.73
	8/22/2014	E	897-907	408.58	954.52	1,363.10	1,363.73
	7/27/2015	E	897-907	407.19	955.91	1,363.10	1,363.73
	7/20/2016	E	897-907	407.33	955.77	1,363.10	1,363.73
	7/12/2017	E	897-907	409.15	953.95	1,363.10	1,363.73
	7/18/2018	E	897-907	412.36	950.74	1,363.10	1,363.73
	7/9/2019	E	897-907	415.89	947.21	1,363.10	1,363.73

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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP5	8/19/2014	A	352-362	329.13	956.03	1,285.16	1,284.96
	7/31/2015	A	352-362	328.95	956.21	1,285.16	1,284.96
	7/12/2016	A	352-362	328.30	956.86	1,285.16	1,284.96
	7/18/2017	A	352-362	330.40	954.76	1,285.16	1,284.96
	7/12/2018	A	352-362	333.59	951.57	1,285.16	1,284.96
	7/17/2019	A	352-362	336.81	948.35	1,285.16	1,284.96
	8/19/2014	B	408-418	329.22	955.94	1,285.16	1,284.96
	7/31/2015	B	408-418	329.02	956.14	1,285.16	1,284.96
	7/12/2016	B	408-418	328.42	956.74	1,285.16	1,284.96
	7/18/2017	B	408-418	330.49	954.67	1,285.16	1,284.96
	7/12/2018	B	408-418	333.76	951.40	1,285.16	1,284.96
	7/17/2019	B	408-418	336.91	948.25	1,285.16	1,284.96
	8/19/2014	C	502-512	329.43	955.73	1,285.16	1,284.96
	7/31/2015	C	502-512	329.18	955.98	1,285.16	1,284.96
	7/12/2016	C	502-512	328.72	956.44	1,285.16	1,284.96
	7/18/2017	C	502-512	330.86	954.30	1,285.16	1,284.96
	7/12/2018	C	502-512	334.04	951.12	1,285.16	1,284.96
	7/17/2019	C	502-512	337.09	948.07	1,285.16	1,284.96
	8/19/2014	D	626-636	331.01	954.15	1,285.16	1,284.96
	7/31/2015	D	626-636	330.21	954.95	1,285.16	1,284.96
	7/12/2016	D	626-636	329.56	955.60	1,285.16	1,284.96
	7/18/2017	D	626-636	331.73	953.43	1,285.16	1,284.96
	7/12/2018	D	626-636	334.47	950.69	1,285.16	1,284.96
	7/17/2019	D	626-636	338.14	947.02	1,285.16	1,284.96
	8/19/2014	E	737-747	331.66	953.50	1,285.16	1,284.96
	7/31/2015	E	737-747	330.55	954.61	1,285.16	1,284.96
	7/12/2016	E	737-747	329.98	955.18	1,285.16	1,284.96
	7/18/2017	E	737-747	332.81	952.35	1,285.16	1,284.96
	7/12/2018	E	737-747	334.90	950.26	1,285.16	1,284.96
	7/17/2019	E	737-747	338.51	946.65	1,285.16	1,284.96

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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP6	8/22/2014	A	351-361	332.71	940.70	1,273.41	1,273.66
	7/27/2015	A	351-361	331.56	941.85	1,273.41	1,273.66
	7/20/2016	A	351-361	332.07	941.34	1,273.41	1,273.66
	7/13/2017	A	351-361	334.81	938.60	1,273.41	1,273.66
	7/17/2018	A	351-361	338.05	935.36	1,273.41	1,273.66
	7/11/2019	A	351-361	341.46	931.95	1,273.41	1,273.66
	8/22/2014	B	445-455	332.91	940.50	1,273.41	1,273.66
	7/27/2015	B	445-455	331.74	941.67	1,273.41	1,273.66
	7/20/2016	B	445-455	332.40	941.01	1,273.41	1,273.66
	7/13/2017	B	445-455	335.08	938.33	1,273.41	1,273.66
	7/17/2018	B	445-455	338.30	935.11	1,273.41	1,273.66
	7/11/2019	B	445-455	341.84	931.57	1,273.41	1,273.66
	8/22/2014	C	569-579	333.40	940.01	1,273.41	1,273.66
	7/27/2015	C	569-579	332.08	941.33	1,273.41	1,273.66
	7/20/2016	C	569-579	333.12	940.29	1,273.41	1,273.66
	7/13/2017	C	569-579	335.56	937.85	1,273.41	1,273.66
	7/17/2018	C	569-579	338.71	934.70	1,273.41	1,273.66
	7/11/2019	C	569-579	342.30	931.11	1,273.41	1,273.66
	8/22/2014	D	656-666	333.76	939.65	1,273.41	1,273.66
	7/27/2015	D	656-666	332.31	941.10	1,273.41	1,273.66
	7/20/2016	D	656-666	333.18	940.23	1,273.41	1,273.66
	7/13/2017	D	656-666	335.70	937.71	1,273.41	1,273.66
	7/17/2018	D	656-666	338.90	934.51	1,273.41	1,273.66
	7/11/2019	D	656-666	342.48	930.93	1,273.41	1,273.66
	8/22/2014	E	762-772	334.03	939.38	1,273.41	1,273.66
	7/27/2015	E	762-772	331.05	942.36	1,273.41	1,273.66
	7/18/2016	E	762-772	314.11	959.30	1,273.41	1,273.66
	7/13/2017	E	762-772	334.78	938.63	1,273.41	1,273.66
	7/17/2018	E	762-772	337.72	935.69	1,273.41	1,273.66
	7/11/2019	E	762-772	341.47	931.94	1,273.41	1,273.66

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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP7	8/20/2014	A	355-365	297.85	928.76	1,226.61	1,227.52
	7/30/2015	A	355-365	297.20	929.41	1,226.61	1,227.52
	7/21/2016	A	355-365	297.53	929.08	1,226.61	1,227.52
	7/19/2017	A	355-365	300.22	926.39	1,226.61	1,227.52
	7/16/2018	A	355-365	303.81	922.80	1,226.61	1,227.52
	7/15/2019	A	355-365	307.26	919.35	1,226.61	1,227.52
	8/20/2014	B	430-440	299.22	927.39	1,226.61	1,227.52
	7/30/2015	B	430-440	298.62	927.99	1,226.61	1,227.52
	7/21/2016	B	430-440	299.03	927.58	1,226.61	1,227.52
	7/19/2017	B	430-440	301.73	924.88	1,226.61	1,227.52
	7/16/2018	B	430-440	305.39	921.22	1,226.61	1,227.52
	7/15/2019	B	430-440	308.68	917.93	1,226.61	1,227.52
	8/20/2014	C	500-510	302.38	924.23	1,226.61	1,227.52
	7/30/2015	C	500-510	301.71	924.90	1,226.61	1,227.52
	7/21/2016	C	500-510	302.27	924.34	1,226.61	1,227.52
	7/19/2017	C	500-510	304.92	921.69	1,226.61	1,227.52
	7/16/2018	C	500-510	308.64	917.97	1,226.61	1,227.52
	7/15/2019	C	500-510	311.91	914.70	1,226.61	1,227.52
	8/20/2014	D	585-595	299.90	926.71	1,226.61	1,227.52
	7/30/2015	D	585-595	299.00	927.61	1,226.61	1,227.52
	7/21/2016	D	585-595	299.49	927.12	1,226.61	1,227.52
	7/19/2017	D	585-595	302.25	924.36	1,226.61	1,227.52
	7/16/2018	D	585-595	305.91	920.70	1,226.61	1,227.52
	7/15/2019	D	585-595	308.90	917.71	1,226.61	1,227.52
	8/20/2014	E	700-710	297.55	929.06	1,226.61	1,227.52
	7/30/2015	E	700-710	296.49	930.12	1,226.61	1,227.52
	7/21/2016	E	700-710	296.79	929.82	1,226.61	1,227.52
	7/19/2017	E	700-710	299.58	927.03	1,226.61	1,227.52
	7/16/2018	E	700-710	303.16	923.45	1,226.61	1,227.52
	7/15/2019	E	700-710	306.83	919.78	1,226.61	1,227.52

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
EPA-MP8	8/13/2014	A	345-355	299.71	920.26	1,219.97	1,221.08
	7/21/2015	A	345-355	300.19	919.78	1,219.97	1,221.08
	7/14/2016	A	345-355	300.51	919.46	1,219.97	1,221.08
	7/19/2017	A	345-355	302.68	917.29	1,219.97	1,221.08
	7/13/2018	A	345-355	308.94	911.03	1,219.97	1,221.08
	7/17/2019	A	345-355	311.98	907.99	1,219.97	1,221.08
	8/13/2014	B	395-405	299.69	920.28	1,219.97	1,221.08
	7/21/2015	B	395-405	300.13	919.84	1,219.97	1,221.08
	7/14/2016	B	395-405	300.61	919.36	1,219.97	1,221.08
	7/19/2017	B	395-405	302.71	917.26	1,219.97	1,221.08
	7/13/2018	B	395-405	309.05	910.92	1,219.97	1,221.08
	7/17/2019	B	395-405	312.01	907.96	1,219.97	1,221.08
	8/13/2014	C	490-500	299.83	920.14	1,219.97	1,221.08
	7/21/2015	C	490-500	300.13	919.84	1,219.97	1,221.08
	7/14/2016	C	490-500	300.82	919.15	1,219.97	1,221.08
	7/19/2017	C	490-500	302.99	916.98	1,219.97	1,221.08
	7/13/2018	C	490-500	309.36	910.61	1,219.97	1,221.08
	7/17/2019	C	490-500	312.26	907.71	1,219.97	1,221.08
	8/11/2014	D	605-615	305.38	914.59	1,219.97	1,221.08
	7/21/2015	D	605-615	305.18	914.79	1,219.97	1,221.08
	7/14/2016	D	605-615	304.92	915.05	1,219.97	1,221.08
	7/19/2017	D	605-615	307.16	912.81	1,219.97	1,221.08
	7/13/2018	D	605-615	319.91	900.06	1,219.97	1,221.08
	7/17/2019	D	605-615	317.54	902.43	1,219.97	1,221.08
	8/11/2014	E	720-730	305.43	914.54	1,219.97	1,221.08
	7/21/2015	E	720-730	305.15	914.82	1,219.97	1,221.08
	7/14/2016	E	720-730	304.87	915.10	1,219.97	1,221.08
	7/19/2017	E	720-730	307.06	912.91	1,219.97	1,221.08
	7/13/2018	E	720-730	319.39	900.58	1,219.97	1,221.08
	7/17/2019	E	720-730	317.51	902.46	1,219.97	1,221.08

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-9	8/21/2014	A	350-360	351.54	952.62	1,304.16	1,304.70
	8/4/2015	A	350-360	351.63	952.53	1,304.16	1,304.70
	7/19/2016	A	350-360	352.92	951.24	1,304.16	1,304.70
	7/13/2017	A	350-360	351.75	952.41	1,304.16	1,304.70
	7/18/2018	A	350-360	351.45	952.71	1,304.16	1,304.70
	7/11/2019	A	350-360	351.28	952.88	1,304.16	1,304.70
	8/21/2014	B	410-420	359.19	944.97	1,304.16	1,304.70
	8/4/2015	B	410-420	355.43	948.73	1,304.16	1,304.70
	7/19/2016	B	410-420	359.29	944.87	1,304.16	1,304.70
	7/13/2017	B	410-420	360.62	943.54	1,304.16	1,304.70
	7/18/2018	B	410-420	361.18	942.98	1,304.16	1,304.70
	7/11/2019	B	410-420	366.25	937.91	1,304.16	1,304.70
	8/21/2014	C	480-490	362.87	941.29	1,304.16	1,304.70
	8/4/2015	C	480-490	355.58	948.58	1,304.16	1,304.70
	7/19/2016	C	480-490	362.98	941.18	1,304.16	1,304.70
	7/13/2017	C	480-490	364.41	939.75	1,304.16	1,304.70
	7/18/2018	C	480-490	361.22	942.94	1,304.16	1,304.70
	7/11/2019	C	480-490	369.70	934.46	1,304.16	1,304.70
	8/20/2014	D	560-570	364.38	939.78	1,304.16	1,304.70
	8/4/2015	D	560-570	355.75	948.41	1,304.16	1,304.70
	7/19/2016	D	560-570	364.59	939.57	1,304.16	1,304.70
	7/13/2017	D	560-570	366.71	937.45	1,304.16	1,304.70
	7/18/2018	D	560-570	361.48	942.68	1,304.16	1,304.70
	7/11/2019	D	560-570	371.81	932.35	1,304.16	1,304.70
	8/20/2014	E	645-655	365.85	938.31	1,304.16	1,304.70
	8/4/2015	E	645-655	357.16	947.00	1,304.16	1,304.70
	7/19/2016	E	645-655	366.55	937.61	1,304.16	1,304.70
	7/13/2017	E	645-655	368.07	936.09	1,304.16	1,304.70
	7/18/2018	E	645-655	362.75	941.41	1,304.16	1,304.70
	7/11/2019	E	645-655	373.56	930.60	1,304.16	1,304.70
	8/20/2014	F	715-725	366.94	937.22	1,304.16	1,304.70
	8/4/2015	F	715-725	357.90	946.26	1,304.16	1,304.70
	7/19/2016	F	715-725	367.57	936.59	1,304.16	1,304.70
	7/13/2017	F	715-725	368.86	935.30	1,304.16	1,304.70
	7/18/2018	F	715-725	363.41	940.75	1,304.16	1,304.70
	7/11/2019	F	715-725	374.72	929.44	1,304.16	1,304.70
	8/20/2014	G	805-815	368.06	936.10	1,304.16	1,304.70
	8/4/2015	G	805-815	358.39	945.77	1,304.16	1,304.70
	7/19/2016	G	805-815	368.17	935.99	1,304.16	1,304.70
	7/13/2017	G	805-815	369.58	934.58	1,304.16	1,304.70
	7/18/2018	G	805-815	363.96	940.20	1,304.16	1,304.70
	7/11/2019	G	805-815	375.51	928.65	1,304.16	1,304.70

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-10	6/10/2014	A	355-365	325.40	943.45	1,268.85	1,270.00
	8/14/2014	A	355-365	326.53	942.32	1,268.85	1,270.00
	7/22/2015	A	355-365	325.08	943.77	1,268.85	1,270.00
	7/18/2016	A	355-365	325.86	942.99	1,268.85	1,270.00
	7/18/2017	A	355-365	328.72	940.13	1,268.85	1,270.00
	7/13/2018	A	355-365	331.89	936.96	1,268.85	1,270.00
	7/16/2019	A	355-365	335.14	933.71	1,268.85	1,270.00
	6/10/2014	B	455-465	325.69	943.16	1,268.85	1,270.00
	8/14/2014	B	455-465	326.80	942.05	1,268.85	1,270.00
	7/22/2015	B	455-465	325.05	943.80	1,268.85	1,270.00
	7/18/2016	B	455-465	326.06	942.79	1,268.85	1,270.00
	7/18/2017	B	455-465	328.99	939.86	1,268.85	1,270.00
	7/13/2018	B	455-465	332.19	936.66	1,268.85	1,270.00
	7/16/2019	B	455-465	335.59	933.26	1,268.85	1,270.00
	6/10/2014	C	540-550	326.26	942.59	1,268.85	1,270.00
	8/14/2014	C	540-550	327.13	941.72	1,268.85	1,270.00
	7/22/2015	C	540-550	325.43	943.42	1,268.85	1,270.00
	7/18/2016	C	540-550	326.23	942.62	1,268.85	1,270.00
	7/18/2017	C	540-550	329.33	939.52	1,268.85	1,270.00
	7/13/2018	C	540-550	332.40	936.45	1,268.85	1,270.00
	7/16/2019	C	540-550	335.76	933.09	1,268.85	1,270.00
	6/10/2014	D	600-610	326.44	942.41	1,268.85	1,270.00
	8/14/2014	D	600-610	327.34	941.51	1,268.85	1,270.00
	7/22/2015	D	600-610	325.47	943.38	1,268.85	1,270.00
	7/18/2016	D	600-610	326.44	942.41	1,268.85	1,270.00
	7/18/2017	D	600-610	329.53	939.32	1,268.85	1,270.00
	7/13/2018	D	600-610	332.49	936.36	1,268.85	1,270.00
	7/16/2019	D	600-610	335.94	932.91	1,268.85	1,270.00
	6/10/2014	E	740-750	327.05	941.80	1,268.85	1,270.00
	8/14/2014	E	740-750	327.97	940.88	1,268.85	1,270.00
	7/22/2015	E	740-750	325.73	943.12	1,268.85	1,270.00
	7/18/2016	E	740-750	326.72	942.13	1,268.85	1,270.00
	7/18/2017	E	740-750	329.93	938.92	1,268.85	1,270.00
	7/13/2018	E	740-750	332.80	936.05	1,268.85	1,270.00
	7/16/2019	E	740-750	336.39	932.46	1,268.85	1,270.00

Table 2
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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-11	6/9/2014	A	350-360	294.54	926.69	1,221.23	1,222.33
	8/18/2014	A	350-360	295.12	926.11	1,221.23	1,222.33
	7/29/2015	A	350-360	294.56	926.67	1,221.23	1,222.33
	7/11/2016	A	350-360	294.24	926.99	1,221.23	1,222.33
	7/11/2017	A	350-360	296.94	924.29	1,221.23	1,222.33
	7/17/2018	A	350-360	300.82	920.41	1,221.23	1,222.33
	7/8/2019	A	350-360	304.07	917.16	1,221.23	1,222.33
	6/9/2014	B	445-455	294.68	926.55	1,221.23	1,222.33
	8/18/2014	B	445-455	295.18	926.05	1,221.23	1,222.33
	7/29/2015	B	445-455	294.65	926.58	1,221.23	1,222.33
	7/11/2016	B	445-455	294.38	926.85	1,221.23	1,222.33
	7/11/2017	B	445-455	297.19	924.04	1,221.23	1,222.33
	7/17/2018	B	445-455	301.13	920.10	1,221.23	1,222.33
	7/8/2019	B	445-455	304.16	917.07	1,221.23	1,222.33
	6/9/2014	C	555-565	294.45	926.78	1,221.23	1,222.33
	8/18/2014	C	555-565	294.93	926.30	1,221.23	1,222.33
	7/29/2015	C	555-565	294.22	927.01	1,221.23	1,222.33
	7/11/2016	C	555-565	294.03	927.20	1,221.23	1,222.33
	7/11/2017	C	555-565	296.64	924.59	1,221.23	1,222.33
	7/17/2018	C	555-565	300.71	920.52	1,221.23	1,222.33
	7/8/2019	C	555-565	303.84	917.39	1,221.23	1,222.33
	6/9/2014	D	690-700	295.04	926.19	1,221.23	1,222.33
	8/18/2014	D	690-700	295.83	925.40	1,221.23	1,222.33
	7/29/2015	D	690-700	294.56	926.67	1,221.23	1,222.33
	7/11/2016	D	690-700	294.14	927.09	1,221.23	1,222.33
	7/11/2017	D	690-700	296.61	924.62	1,221.23	1,222.33
	7/17/2018	D	690-700	300.93	920.30	1,221.23	1,222.33
	7/8/2019	D	690-700	304.52	916.71	1,221.23	1,222.33
	6/9/2014	E	745-755	295.30	925.93	1,221.23	1,222.33
	8/18/2014	E	745-755	296.13	925.10	1,221.23	1,222.33
	7/29/2015	E	745-755	294.91	926.32	1,221.23	1,222.33
	7/11/2016	E	745-755	294.28	926.95	1,221.23	1,222.33
	7/11/2017	E	745-755	296.80	924.43	1,221.23	1,222.33
	7/17/2018	E	745-755	301.05	920.18	1,221.23	1,222.33
	7/8/2019	E	745-755	304.85	916.38	1,221.23	1,222.33

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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-12	6/9/2014	A	330-340	303.95	937.94	1,241.89	1,242.01
	8/14/2014	A	330-340	305.01	936.88	1,241.89	1,242.01
	7/29/2015	A	330-340	304.02	937.87	1,241.89	1,242.01
	7/18/2016	A	330-340	304.12	937.77	1,241.89	1,242.01
	7/12/2017	A	330-340	306.79	935.10	1,241.89	1,242.01
	7/9/2018	A	330-340	310.92	930.97	1,241.89	1,242.01
	7/9/2019	A	330-340	313.64	928.25	1,241.89	1,242.01
	6/9/2014	B	390-400	304.09	937.80	1,241.89	1,242.01
	8/14/2014	B	390-400	305.13	936.76	1,241.89	1,242.01
	7/29/2015	B	390-400	304.20	937.69	1,241.89	1,242.01
	7/18/2016	B	390-400	304.27	937.62	1,241.89	1,242.01
	7/12/2017	B	390-400	307.09	934.80	1,241.89	1,242.01
	7/9/2018	B	390-400	311.14	930.75	1,241.89	1,242.01
	7/9/2019	B	390-400	313.82	928.07	1,241.89	1,242.01
	6/9/2014	C	495-505	304.35	937.54	1,241.89	1,242.01
	8/14/2014	C	495-505	305.20	936.69	1,241.89	1,242.01
	7/29/2015	C	495-505	304.05	937.84	1,241.89	1,242.01
	7/18/2016	C	495-505	304.49	937.40	1,241.89	1,242.01
	7/12/2017	C	495-505	306.98	934.91	1,241.89	1,242.01
	7/9/2018	C	495-505	311.27	930.62	1,241.89	1,242.01
	7/9/2019	C	495-505	313.79	928.10	1,241.89	1,242.01
	6/9/2014	D	550-560	304.26	937.63	1,241.89	1,242.01
	8/14/2014	D	550-560	305.09	936.80	1,241.89	1,242.01
	7/29/2015	D	550-560	303.94	937.95	1,241.89	1,242.01
	7/14/2016	D	550-560	304.35	937.54	1,241.89	1,242.01
	7/12/2017	D	550-560	306.91	934.98	1,241.89	1,242.01
	7/9/2018	D	550-560	311.28	930.61	1,241.89	1,242.01
	7/9/2019	D	550-560	313.60	928.29	1,241.89	1,242.01
	6/9/2014	E	720-730	304.30	937.59	1,241.89	1,242.01
	8/14/2014	E	720-730	305.36	936.53	1,241.89	1,242.01
	7/29/2015	E	720-730	303.84	938.05	1,241.89	1,242.01
	7/14/2016	E	720-730	304.28	937.61	1,241.89	1,242.01
	7/12/2017	E	720-730	306.66	935.23	1,241.89	1,242.01
	7/9/2018	E	720-730	311.23	930.66	1,241.89	1,242.01
	7/9/2019	E	720-730	313.35	928.54	1,241.89	1,242.01

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Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-13	11/20/2014	A	335-345	259.44	890.67	1,150.11	1,150.51
	7/31/2015	A	335-345	259.16	890.95	1,150.11	1,150.51
	7/12/2016	A	335-345	259.14	890.97	1,150.11	1,150.51
	7/14/2017	A	335-345	261.19	888.92	1,150.11	1,150.51
	7/10/2018	A	335-345	265.70	884.41	1,150.11	1,150.51
	7/12/2019	A	335-345	267.70	882.41	1,150.11	1,150.51
	11/20/2014	B	390-400	259.51	890.60	1,150.11	1,150.51
	7/31/2015	B	390-400	259.37	890.74	1,150.11	1,150.51
	7/12/2016	B	390-400	259.26	890.85	1,150.11	1,150.51
	7/14/2017	B	390-400	261.40	888.71	1,150.11	1,150.51
	7/10/2018	B	390-400	265.69	884.42	1,150.11	1,150.51
	7/12/2019	B	390-400	267.74	882.37	1,150.11	1,150.51
	11/20/2014	C	470-480	259.64	890.47	1,150.11	1,150.51
	7/31/2015	C	470-480	259.46	890.65	1,150.11	1,150.51
	7/12/2016	C	470-480	259.27	890.84	1,150.11	1,150.51
	7/14/2017	C	470-480	261.42	888.69	1,150.11	1,150.51
	7/10/2018	C	470-480	265.80	884.31	1,150.11	1,150.51
	7/12/2019	C	470-480	267.88	882.23	1,150.11	1,150.51
	11/20/2014	D	520-530	259.69	890.42	1,150.11	1,150.51
	7/31/2015	D	520-530	259.62	890.49	1,150.11	1,150.51
	7/12/2016	D	520-530	259.39	890.72	1,150.11	1,150.51
	7/14/2017	D	520-530	261.54	888.57	1,150.11	1,150.51
	7/10/2018	D	520-530	265.86	884.25	1,150.11	1,150.51
	7/12/2019	D	520-530	268.00	882.11	1,150.11	1,150.51
	11/20/2014	E	600-610	255.83	894.28	1,150.11	1,150.51
	7/31/2015	E	600-610	254.22	895.89	1,150.11	1,150.51
	7/12/2016	E	600-610	249.56	900.55	1,150.11	1,150.51
	7/14/2017	E	600-610	252.70	897.41	1,150.11	1,150.51
	7/10/2018	E	600-610	256.89	893.22	1,150.11	1,150.51
	7/12/2019	E	600-610	264.92	885.19	1,150.11	1,150.51

Table 2
2019 Groundwater Elevation Measurements
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-14	11/19/2014	A	295-305	293.52	876.26	1,169.78	1,170.16
	7/24/2015	A	295-305	293.15	876.63	1,169.78	1,170.16
	7/11/2016	A	295-305	293.89	875.89	1,169.78	1,170.16
	8/10/2017	A	295-305	296.10	873.68	1,169.78	1,170.16
	7/16/2018	A	295-305	296.37	873.41	1,169.78	1,170.16
	7/18/2019	A	295-305	296.58	873.20	1,169.78	1,170.16
	11/19/2014	B	360-370	291.13	878.65	1,169.78	1,170.16
	7/24/2015	B	360-370	290.62	879.16	1,169.78	1,170.16
	7/11/2016	B	360-370	291.13	878.65	1,169.78	1,170.16
	8/10/2017	B	360-370	293.00	876.78	1,169.78	1,170.16
	7/16/2018	B	360-370	297.01	872.77	1,169.78	1,170.16
	7/18/2019	B	360-370	298.42	871.36	1,169.78	1,170.16
	11/19/2014	C	420-430	287.02	882.76	1,169.78	1,170.16
	7/24/2015	C	420-430	286.60	883.18	1,169.78	1,170.16
	7/11/2016	C	420-430	286.63	883.15	1,169.78	1,170.16
	8/10/2017	C	420-430	289.09	880.69	1,169.78	1,170.16
	7/16/2018	C	420-430	292.67	877.11	1,169.78	1,170.16
	7/18/2019	C	420-430	294.63	875.15	1,169.78	1,170.16
	11/19/2014	D	520-530	286.87	882.91	1,169.78	1,170.16
	7/24/2015	D	520-530	286.46	883.32	1,169.78	1,170.16
	7/11/2016	D	520-530	286.64	883.14	1,169.78	1,170.16
	8/10/2017	D	520-530	288.92	880.86	1,169.78	1,170.16
	7/16/2018	D	520-530	292.70	877.08	1,169.78	1,170.16
	7/18/2019	D	520-530	294.69	875.09	1,169.78	1,170.16
	11/19/2014	E	600-610	278.88	890.90	1,169.78	1,170.16
	7/24/2015	E	600-610	278.28	891.50	1,169.78	1,170.16
	7/11/2016	E	600-610	272.10	897.68	1,169.78	1,170.16
	8/10/2017	E	600-610	274.80	894.98	1,169.78	1,170.16
	7/16/2018	E	600-610	279.65	890.13	1,169.78	1,170.16
	7/18/2019	E	600-610	287.69	882.09	1,169.78	1,170.16
PW-15	7/24/2017	A	276-286	226.52	863.78	1,090.30	1,090.84
	7/16/2018	A	276-286	229.86	860.44	1,090.30	1,090.84
	6/27/2019	A	276-286	230.88	859.42	1,090.30	1,090.84
	7/24/2017	B	310-320	226.50	863.80	1,090.30	1,090.84
	7/16/2018	B	310-320	229.81	860.49	1,090.30	1,090.84
	6/27/2019	B	310-320	230.90	859.40	1,090.30	1,090.84
	7/24/2017	C	370-380	224.83	865.47	1,090.30	1,090.84
	7/16/2018	C	370-380	228.41	861.89	1,090.30	1,090.84
	6/27/2019	C	370-380	230.04	860.26	1,090.30	1,090.84
	7/24/2017	D	454-464	224.53	865.77	1,090.30	1,090.84
	7/16/2018	D	454-464	228.20	862.10	1,090.30	1,090.84
	6/27/2019	D	454-464	230.00	860.30	1,090.30	1,090.84
PW-16	7/24/2017	A	298-308	250.93	857.47	1,108.40	1,108.82
	2/23/2018	A	298-308	251.27	857.13	1,108.40	1,108.82
	7/16/2018	A	298-308	252.20	856.20	1,108.40	1,108.82
	6/28/2019	A	298-308	252.60	855.80	1,108.40	1,108.82
	7/24/2017	B	336-346	250.82	857.51	1,108.33	1,108.82
	2/23/2018	B	336-346	251.27	857.06	1,108.33	1,108.82
	7/16/2018	B	336-346	252.09	856.24	1,108.33	1,108.82
	6/28/2019	B	336-346	252.55	855.78	1,108.33	1,108.82
	7/24/2017	C	405-415	250.34	858.02	1,108.36	1,108.82
	2/23/2018	C	405-415	251.27	857.09	1,108.36	1,108.82
	7/19/2018	C	405-415	251.56	856.80	1,108.36	1,108.82
	6/28/2019	C	405-415	251.94	856.42	1,108.36	1,108.82
	7/24/2017	D	434-444	250.30	857.98	1,108.28	1,108.82
	2/23/2018	D	434-444	251.27	857.01	1,108.28	1,108.82
	7/16/2018	D	434-444	251.35	856.93	1,108.28	1,108.82
	6/28/2019	D	434-444	251.90	856.38	1,108.28	1,108.82

Table 2
2019 Groundwater Elevation Measurements
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Wells	Date	Screen Designation	Well Screen Interval (ft bgs)	Depth to Water (ft bmp)	Water Elev. (ft amsl)	Measuring Point Elevation (ft amsl)	Approximate Ground Surface Elevation (ft amsl)
PW-17	7/24/2017	A	256-266	214.41	858.11	1,072.52	1,072.83
	2/23/2018	A	256-266	215.10	857.42	1,072.52	1,072.83
	7/16/2018	A	256-266	215.75	856.77	1,072.52	1,072.83
	6/28/2019	A	256-266	216.00	856.52	1,072.52	1,072.83
	7/24/2017	B	302-312	214.45	858.07	1,072.52	1,072.83
	2/23/2018	B	302-312	215.10	857.42	1,072.52	1,072.83
	7/16/2018	B	302-312	215.78	856.74	1,072.52	1,072.83
	6/28/2019	B	302-312	215.97	856.55	1,072.52	1,072.83
	7/24/2017	C	370-380	214.40	858.08	1,072.48	1,072.83
	2/23/2018	C	370-380	215.10	857.38	1,072.48	1,072.83
	7/16/2018	C	370-380	215.72	856.76	1,072.48	1,072.83
	6/28/2019	C	370-380	215.90	856.58	1,072.48	1,072.83
	7/24/2017	D	402-412	214.44	858.09	1,072.53	1,072.83
	2/23/2018	D	402-412	215.10	857.43	1,072.53	1,072.83
	7/16/2018	D	402-412	215.79	856.74	1,072.53	1,072.83
	6/28/2019	D	402-412	216.00	856.53	1,072.53	1,072.83
PW-18	3/25/2019	A	275-285	254.7	861.11	1,115.81	1,116.07
	6/28/2019	A	275-285	256.05	859.76	1,115.81	1,116.07
	3/25/2019	B	330-314	253.93	861.88	1,115.81	1,116.07
	6/28/2019	B	330-314	255.46	860.35	1,115.81	1,116.07
	6/28/2019	C	398-408	251.36	864.45	1,115.81	1,116.07
PW-19	3/25/2019	A	262-272	205.52	853.76	1,059.28	1,059.89
	6/28/2019	A	262-272	205.67	853.61	1,059.28	1,059.89
	3/25/2019	B	304-314	205.62	853.66	1,059.28	1,059.89
	6/28/2019	B	304-314	205.71	853.57	1,059.28	1,059.89
	6/28/2019	C	366-376	205.65	853.63	1,059.28	1,059.89

Notes:

ft bgs feet below ground surface
ft bmp feet below measuring point
ft amsl feet above mean sea level

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
1S/4W-8E4S	320	800	6/13/2013	Sample	**1.7**	NA	–	–	–	**0.38 J**	–	–	–	–	–	–	–	–	–	–
	320	800	8/15/2014	Sample	–	NA	–	–	–	**0.32 J**	–	–	–	–	–	–	–	–	–	–
	320	800	8/5/2015	Sample **	**1.7**	NA	**0.3 J**	–	–	–	–	–	–	–	–	–	–	–	–	–
	320	800	7/27/2016	Sample	**3.3**	NA	–	–	–	–	–	–	**29 J**	–	–	–	–	–	–	–
	320	800	7/26/2017	Sample	**1.1**	NA	–	–	–	–	–	–	**-**	–	–	–	–	–	–	–
	320	800	7/16/2018	Sample	NA	**1.3 J**	–	–	–	–	–	–	–	–	–	**6.6**	–	–	–	–
	320	800	6/27/2019	Sample	NA	**1.3**	–	–	–	–	–	–	–	–	–	**0.15 J**	–	–	–	–
	320	800	6/27/2019	Duplicate	NA	**1.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1S/4W-8E3S	587	533	6/13/2013	Sample	–	NA	**2.9 a**	–	–	**0.44 J**	–	–	–	–	–	–	–	–	–	–
	587	533	8/15/2014	Sample	–	NA	**0.98 J a**	–	–	–	–	–	–	–	–	–	–	–	–	–
	587	533	8/3/2015	Sample *	NA	NA	**0.27 J**	–	–	–	–	–	–	–	–	–	–	–	–	–
	587	533	8/5/2015	Sample **	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	587	533	7/27/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	587	533	7/26/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	587	533	7/16/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	**4.6**	–	–	–	–
	587	533	6/27/2019	Sample	NA	–	–	–	–	–	–	–	–	–	–	**0.19 J**	–	–	–	–
1S/4W-8E2S	760	360	6/13/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.28 J**	–	–	–	–
	760	360	6/13/2013	Duplicate	–	NA	–	–	–	**0.51 J**	–	–	–	–	–	–	–	–	–	–
	760	360	8/15/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.37 J**	–	–	–	–
	760	360	8/6/2015	Sample *	–	NA	**1.1 a**	–	–	–	–	–	–	–	–	–	–	–	–	–
	760	360	7/27/2016	Sample	–	NA	**0.58 J a**	–	–	–	–	–	–	–	–	–	–	–	–	–
	760	360	7/26/2017	Sample	–	--	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	760	360	7/26/2017	Duplicate	**5.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	760	360	7/16/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	**1.5 J**	–	–	–	–
	760	360	7/16/2018	Duplicate	NA	–	–	–	–	–	–	–	–	–	–	**7.5 J**	–	–	–	–
	760	360	6/27/2019	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1S/4W-8E1S	980	140	6/13/2013	Sample	–	NA	**0.2 J**	–	–	**0.42 J**	–	–	–	–	–	–	–	–	–	–
	980	140	8/15/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.34 J**	–	–	–	–
	980	140	8/15/2014	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	**0.32 J**	–	–	–	–
	980	140	8/5/2015	Sample **	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	980	140	7/27/2016	Sample	**1.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	980	140	7/27/2016	Duplicate	**2.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	980	140	7/26/2017	Sample	–	--	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	980	140	7/19/2018	Sample	NA	--	–	–	–	–	–	–	–	–	–	**7.8**	–	–	–	–
	980	140	7/19/2018	Duplicate	NA	NA	–	–	–	–	–	–	–	–	–	**7.9**	–	–	–	–
	980	140	6/27/2019	Sample	NA	–	–	–	–	–	–	–	–	–	–	**0.22 J**	–	–	–	–
1S/5W-11F4S	320	934	6/13/2013	Sample	–	NA	**2 a**	–	–	**0.44 J**	–	–	–	–	–	–	–	–	–	–
	320	934	8/15/2014	Sample	–	NA	–	–	**0.3 J**	–	–	–	–	–	**0.5 J**	–	–	–	–	–
	320	934	8/4/2015	Sample *	NA	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	320	934	8/5/2015	Sample **	**1.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	320	934	7/28/2016	Sample	**2.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	320	934	7/27/2017	Sample	**2.9**	NA	–	–	–	–	–	–	–	–	**0.65 J**	–	–	–	–	–
	320	934	7/13/2018	Sample	NA	**4.6**	–	–	–	–	–	–	–	–	**0.51 J**	**0.62 J**	–	–	–	–
	320	934	6/27/2019	Sample	NA	**6.5 a**	–	–	–	–	–	–	**470 J**	–	**1.1**	–	**0.24 J**	–	–	–
	320	934	6/27/2019	Duplicate	NA	**6.5 a**	–	–	–	–	–	–	–	–	**1.2**	–	–	–	–	–
1S/5W-11F3S	432	822	6/13/2013	Sample	–	NA	**0.48 J**	–	–	**0.59 J**	–	–	–	–	–	–	–	–	–	–
	432	822	8/15/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	432	822	8/5/2015	Sample **	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	432	822	7/28/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	432	822	7/26/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	432	822	7/13/2018	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	**1 J**	–	–	–	–
	432	822	6/27/2019	Sample	NA	**0.19 J**	–	–	–	–	–	–	**200 J**	–	–	–	–	–	–	–
1S/5W-11F1S	940	314	6/13/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	940	314	8/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.48 J**	–	–	–	–
	940	314	8/6/2015	Sample *	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	940	314	7/28/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	940	314	7/26/2017	Sample	–	--	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	940	314	7/13/2018	Sample	NA	**0.050 J**	–	–	–	–	–	–	–	–	–	**5.0**	–	–	–	–
	940	314	6/27/2019	Sample	NA	–	–	–	–	–	–	–	–	–	–	**0.92 J**	–	–	–	–
1S/5W-13B5S	280	890	6/13/2013	Sample	**1.2**	NA	–	–	–	**0.47 J**	–	–	–	–	–	–	–	–	–	–
	280	890	8/15/2014	Sample	**38.3 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	280	890	11/20/2014	Sample	**45.1 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	280	890	8/5/2015	Sample *	**1.2**	NA	**0.35 J**	–	–	–	–	–	–	–	**0.52 J**	–	–	–	–	–
	280	890	8/5/2015	Duplicate	**1.1**	NA	**0.33 J**	–	–	–	–	–	–	–	**0.63 J**	–	–	–	–	–
	280	890	7/27/2016	Sample	**2**	NA	–	–	–	–	–	–	**29.5 J**	–	**2.5**	–	–	–	–	–
	280	890	7/27/2017	Sample	**1.1 J**	NA	–	–	–	–	–	–	**-**	–	–	–	–	–	–	–
	280	890	7/13/2018	Sample	NA	**3.2**	–	–	–	–	–	–	–	–	**2**	**1.9**	–	–	–	–
	280	890	7/13/2018	Sample	NA	**3.2**	–	–	–	–	–	–	–	–	**2**	**1.9**	–	–	–	–
	280	890	6/27/2019	Sample	NA	**3.2**	–	–	–	–	–	–	–	–	**0.7 J**	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
1S/5W-13B4S	430	740	6/13/2013	Sample	**3.6**	NA	**0.24 J**	–	–	**0.55 J**	–	–	–	–	–	–	–	–	–	–
	430	740	8/15/2014	Sample	**3.4**	NA	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	430	740	9/18/2014	Sample	**1.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	430	740	8/5/2015	Sample **	**3.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	430	740	7/27/2016	Sample	**4.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	430	740	7/27/2017	Sample	NA	**4.1**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	430	740	7/13/2018	Sample	NA	**4.0**	–	–	–	–	–	–	–	–	–	**3.6**	–	–	–	–
	430	740	7/13/2018	Duplicate	NA	**4.0**	–	–	–	–	–	–	–	–	–	**3.5**	–	–	–	–
	430	740	7/13/2018	Duplicate	NA	**4.0**	–	–	–	–	–	–	–	–	–	**3.5**	–	–	–	–
	430	740	6/27/2019	Sample	–	**4.4**	–	–	–	–	–	–	**440 J**	–	–	–	–	–	–	–
1S/5W-13B3S	550	620	6/13/2013	Sample	**1.8**	NA	**2.8 a**	–	–	–	–	–	–	–	**0.62 J**	–	–	–	–	–
	550	620	8/15/2014	Sample	–	NA	–	–	–	–	–	–	**69.3 J**	–	**0.95 J**	–	–	–	–	–
	550	620	8/6/2015	Sample **	**4.3**	NA	–	–	–	–	–	–	–	–	**0.44 J**	–	–	–	–	–
	550	620	7/27/2016	Sample	**2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	550	620	7/27/2016	Duplicate	**1.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	550	620	7/27/2017	Sample	**5.2**	NA	–	–	–	–	–	–	–	–	**0.4 J**	–	–	–	–	–
	550	620	7/13/2018	Sample	NA	**1.8**	–	–	–	–	–	–	–	–	**0.55 J**	**0.75 J**	–	–	–	–
	550	620	6/27/2019	Sample	NA	**1.9**	–	–	–	–	–	–	–	–	**0.44 J**	–	–	–	–	–
1S/5W-13B2S	685	485	6/13/2013	Sample	–	NA	–	**0.41 J**	–	**0.57 J**	–	–	–	–	–	–	–	–	–	–
	685	485	8/5/2015	Sample **	**1.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	685	485	7/27/2016	Sample	**0.89 J**	NA	–	–	–	–	–	–	-	–	–	–	–	–	–	–
	685	485	7/27/2017	Sample	–	NA	–	–	–	–	–	–	-	–	–	–	–	–	–	–
	685	485	7/27/2017	Duplicate	–	NA	–	–	–	–	–	–	-	–	–	–	–	–	–	–
	685	485	7/13/2018	Sample	NA	**0.46 J**	–	–	–	–	–	–	–	–	–	**0.54 J**	–	–	–	–
	685	485	6/27/2019	Sample	NA	**0.43 J**	–	–	–	–	–	–	**150 J**	–	–	–	–	–	–	–
1S/5W-3A7S	410	958	6/13/2013	Sample	**1.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	410	958	8/15/2014	Sample	**2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	410	958	8/5/2015	Sample **	**1.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	410	958	7/28/2016	Sample	**3.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	410	958	7/27/2017	Sample	**2.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	410	958	7/13/2018	Sample	NA	**2.2**	–	–	–	–	–	–	–	–	–	**2.9**	–	–	–	–
	410	958	6/27/2019	Sample	NA	**1.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1S/5W-3A6S	510	858	6/13/2013	Sample	**126 a**	NA	**2.3 a**	–	–	**0.32 J**	–	–	–	–	–	–	**6.9 a**	–	–	–
	510	858	8/15/2014	Sample	**205 a**	NA	–	–	–	**0.36 J**	–	–	–	–	–	–	**13.2 a**	–	–	–
	510	858	8/4/2015	Sample *	NA	NA	–	–	–	–	–	–	–	–	–	–	**15.0 a**	–	–	–
	510	858	8/5/2015	Sample **	**250 a**	NA	–	–	–	–	–	–	–	–	–	–	**14.0 a**	–	–	–
	510	858	7/28/2016	Sample	**248 a**	NA	–	–	–	–	–	–	–	–	–	–	**17.6 a**	–	–	–
	510	858	7/28/2017	Sample	**160 a**	NA	–	–	–	–	–	–	–	–	–	–	**13.0 a**	–	–	–
	510	858	7/13/2018	Sample	NA	**110 a**	–	–	–	–	–	–	–	–	–	**2.2**	**6.8 a**	–	–	–
	510	858	6/27/2019	Sample	NA	**92 a**	–	–	–	–	–	–	–	–	–	–	**4.4**	–	–	–
1S/5W-3A5S	670	698	6/13/2013	Sample	–	NA	–	–	–	**0.53 J**	–	–	–	–	–	–	–	–	–	–
	670	698	8/5/2015	Sample **	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	670	698	7/28/2016	Sample	**1.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	670	698	7/27/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	670	698	7/12/2018	Sample	NA	**0.12 J**	–	–	–	–	–	–	–	–	–	**3.9 J**	–	–	–	–
	670	698	6/27/2019	Sample	NA	**0.1 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-16A	295	889	5/21/2013	Sample	**19.4 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	5/21/2013	Duplicate	**19.6 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	8/21/2014	Sample	**17.4 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	7/30/2015	Sample	**2.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	7/14/2016	Sample	**19.9 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	7/14/2016	Duplicate	**18.7 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	7/14/2017	Sample	**21 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	7/11/2018	Sample	NA	**21 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	295	889	7/12/2019	Sample	–	**19 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-16B	378	806	5/21/2013	Sample	**78.3 a**	NA	–	–	–	**0.37 J**	–	–	–	–	–	–	**1.5**	–	–	–
	378	806	8/21/2014	Sample	**104 a**	NA	–	–	–	–	–	–	–	–	–	–	**1.8**	–	–	–
	378	806	7/30/2015	Sample	**86.2 a**	NA	–	–	–	–	–	–	–	–	–	–	**2.0**	–	–	–
	378	806	7/14/2016	Sample	**87.8 a**	NA	–	–	–	–	–	–	–	–	–	–	**1.8**	–	–	–
	378	806	7/14/2017	Sample	**100 J a**	NA	–	–	–	–	–	–	–	–	–	–	**1.7**	–	–	–
	378	806	7/11/2018	Sample	NA	**96 a**	–	–	–	–	–	–	–	–	–	–	**1.7**	–	–	–
	378	806	7/12/2019	Sample	NA	**65 a**	–	–	–	–	–	–	–	–	–	–	**1.8**	–	–	–
CPW-16C	417	767	5/21/2013	Sample	**165 a**	NA	–	–	–	–	–	–	–	–	–	–	**3.4**	–	–	–
	417	767	8/21/2014	Sample	**119 a**	NA	–	–	–	–	–	–	**8.1 J**	–	–	–	**2.1**	–	–	–
	417	767	8/21/2014	Duplicate	**116 a**	NA	–	–	–	–	–	–	–	–	–	–	**1.9**	–	–	–
	417	767	7/30/2015	Sample	**149 a**	NA	–	–	–	–	–	–	–	–	–	–	**3.6**	–	–	–
	417	767	7/14/2016	Sample	**134 a**	NA	–	–	–	–	–	–	–	–	–	–	**2.6**	–	–	–
	417	767	7/14/2017	Sample	**150 a**	NA	–	–	–	–	–	–	–	–	–	–	**2.9**	–	–	–
	417	767	7/11/2018	Sample	NA	**130 a**	–	–	–	–	–	–	–	–	–	–	**2.9**	–	–	–
	417	767	7/12/2019	Sample	NA	**81 a**	–	–	–	–	–	–	–	–	–	–	**2.8**	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L)	SW6850 Perchlorate (µg/L)	1,2-Dichloroethane (µg/L)	Benzene (µg/L)	Chloroform (µg/L)	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L)	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L)	Toluene (µg/L)	Trichloroethene (µg/L)	Trichlorofluoro-methane (µg/L)	o-Xylene (µg/L)	m,p-Xylene (µg/L)
				CA MCL(a)	6	6	0.5	1	80			6			5	150	5	150		1,750
CPW-16D	513	671	5/21/2013	Sample	–	NA	–	–	–	**0.32 J**	–	–	–	–	–	–	–	–	–	–
	513	671	8/21/2014	Sample	**1**	NA	–	–	–	–	–	–	**12.3 J**	–	–	–	–	–	–	–
	513	671	7/30/2015	Sample	**1.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	513	671	7/14/2016	Sample	**0.77 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	513	671	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	513	671	7/11/2018	Sample	NA	**0.32 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	513	671	7/11/2018	Duplicate	NA	**0.31 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	513	671	7/12/2019	Sample	NA	**0.39 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-16E	638	546	5/21/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	638	546	8/21/2014	Sample	–	NA	–	–	–	–	–	–	**13.3 J**	–	–	–	–	–	–	–
	638	546	7/30/2015	Sample	**1.0**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	638	546	7/30/2015	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	638	546	7/13/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	638	546	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	638	546	7/11/2018	Sample	NA	**0.26 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	638	546	7/12/2019	Sample	NA	**0.22 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-16F	718	466	5/21/2013	Sample	–	NA	–	–	–	**0.44 J**	–	–	–	–	–	–	–	–	–	–
	718	466	8/21/2014	Sample	**0.75 J**	NA	–	–	–	–	–	–	**16.8 J**	–	–	–	–	–	–	–
	718	466	7/30/2015	Sample	**0.97 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	466	7/13/2016	Sample	**1.3**	NA	–	–	–	–	–	.	–	–	–	–	–	–	–	–
	718	466	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	466	7/11/2018	Sample	NA	**0.24 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	466	7/12/2019	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-16G	753	431	5/21/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	8/21/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	7/30/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	7/13/2016	Sample	**1.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	7/11/2018	Sample	NA	**0.21 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	7/12/2019	Sample	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	753	431	7/12/2019	Duplicate	NA	**0.14 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-17A	240	895	5/28/2013	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	240	895	8/13/2014	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	240	895	8/4/2015	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	240	895	7/13/2016	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	240	895	7/17/2017	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	240	895	7/10/2018	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
	240	895	7/10/2019	Sample	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
CPW-17B	313	825	5/28/2013	Sample	**4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	8/13/2014	Sample	**3.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	8/4/2015	Sample	**3.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	8/4/2015	Duplicate	**3.0**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	7/13/2016	Sample	**2.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	7/17/2017	Sample	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	7/10/2018	Sample	NA	**3.2**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	313	825	7/10/2019	Sample	NA	**3.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-17C	413	725	5/28/2013	Sample	–	NA	–	–	–	**0.39 J**	–	–	–	–	–	–	–	–	–	–
	413	725	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	413	725	8/4/2015	Sample	**1.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	413	725	7/13/2016	Sample	**1.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	413	725	7/17/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	413	725	7/10/2018	Sample	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	413	725	7/10/2019	Sample	NA	**0.42 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-17D	503	635	5/28/2013	Sample	–	NA	–	–	–	**0.43 J**	–	–	–	–	–	–	–	–	–	–
	503	635	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	635	8/4/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	635	7/13/2016	Sample	**0.83 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	635	7/17/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	635	7/17/2017	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	635	7/10/2018	Sample	NA	**0.11 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	635	7/10/2019	Sample	NA	**0.15 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-17E	563	575	5/28/2013	Sample	–	NA	–	–	–	**0.32 J**	–	–	–	–	–	–	–	–	–	–
	563	575	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	8/13/2014	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	8/4/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	7/13/2016	Sample	**0.94 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	7/17/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	7/10/2018	Sample	NA	**0.31 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	7/10/2018	Duplicate	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	563	575	7/10/2019	Sample	NA	**0.29 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
CPW-17F	612	527	5/28/2013	Sample	–	NA	–	–	–	**0.44 J**	–	–	–	–	–	–	–	–	–	–
	612	527	8/13/2014	Sample	**0.88 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	612	527	8/4/2015	Sample	**1.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	612	527	7/13/2016	Sample	**1.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	612	527	7/17/2017	Sample	**0.71 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	612	527	7/10/2018	Sample	NA	**0.80 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	612	527	7/10/2019	Sample	NA	**1.8 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
CPW-17G	712	427	5/28/2013	Sample	–	NA	–	–	–	**0.38 J**	–	–	–	–	–	–	–	–	–	–
	712	427	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	712	427	8/4/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	712	427	7/13/2016	Sample	**1.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	712	427	7/17/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	712	427	7/10/2018	Sample	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	712	427	7/10/2019	Sample	NA	**0.4 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	712	427	7/10/2019	Duplicate	NA	**0.3 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP1A	366	863	5/20/2013	Sample	**1.2**	NA	–	–	–	**0.34 J**	–	–	**18.1**	–	–	–	–	–	–	–
	366	863	8/11/2014	Sample	**1.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	366	863	7/20/2015	Sample	**4.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	366	863	10/5/2016	Sample	**8.3 a**	NA	–	–	–	–	–	–	**44 J**	–	–	–	–	–	–	–
	366	863	7/11/2017	Sample	**18 a**	NA	–	–	–	–	–	–	**130 J**	–	–	–	–	–	–	–
	366	863	7/9/2018	Sample	NA	**22 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	366	863	7/8/2019	Sample	NA	**21 a**	–	–	–	–	–	–	–	–	–	–	**0.28 J**	–	–	–
EPA-MP1B	462	767	5/20/2013	Sample	**1.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	5/20/2013	Duplicate	**1.4**	NA	–	–	–	**0.33 J**	–	–	–	–	–	–	–	–	–	–
	462	767	8/11/2014	Sample	**1.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	7/20/2015	Sample	**2.4**	NA	–	–	–	–	–	–	**6.4 J**	–	–	–	–	–	–	–
	462	767	10/5/2016	Sample	**8.6 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	10/5/2016	Duplicate	**8.3 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	7/11/2017	Sample	**11 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	7/9/2018	Sample	NA	**11 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	7/9/2018	Sample	NA	**11 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	462	767	7/8/2019	Sample	NA	**21 a**	–	–	–	–	–	–	–	–	–	–	**0.36 J**	–	–	–
EPA-MP1C	562	667	5/20/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	562	667	8/11/2014	Sample	**0.8 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	562	667	7/20/2015	Sample	**1.0**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	562	667	10/5/2016	Sample	**13 J a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	562	667	7/11/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	562	667	7/9/2018	Sample	NA	**1.8**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	562	667	7/8/2019	Sample	NA	**1.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP1D	732	496	5/20/2013	Sample	–	NA	–	–	–	–	–	–	**33.2**	–	–	–	–	–	–	–
	732	496	8/11/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	732	496	7/20/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	732	496	10/5/2016	Sample	**9.4 J a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	732	496	7/11/2017	Sample	–	NA	–	–	–	–	–	–	**190 J**	–	–	–	–	–	–	–
	732	496	7/9/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	732	496	7/8/2019	Sample	NA	**0.22 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP1E	797	431	5/20/2013	Sample	–	NA	–	–	–	**0.38 J**	–	–	–	–	–	–	–	–	–	–
	797	431	8/11/2014	Sample	–	NA	–	–	–	–	–	–	–	–	**0.8 J**	–	**6.4 a**	–	–	–
	797	431	11/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	797	431	7/20/2015	Sample	–	NA	–	–	–	–	–	–	**8.6 J**	–	–	–	–	–	–	–
	797	431	10/5/2016	Sample	**59 J a**	NA	–	–	–	–	–	–	**110 J**	–	–	–	–	–	–	–
	797	431	7/11/2017	Sample	–	NA	–	–	–	–	–	–	**160 J**	–	–	–	–	–	–	–
	797	431	7/9/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	797	431	7/8/2019	Sample	NA	**0.055 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	797	431	7/8/2019	Duplicate	NA	**0.038 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP2A	350	924	5/20/2013	Sample	**2.8**	NA	–	–	–	**0.31 J**	–	–	–	–	–	–	–	–	–	–
	350	924	8/19/2014	Sample	**1.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	350	924	7/21/2015	Sample	**2.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	350	924	7/21/2016	Sample	**3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	350	924	7/20/2017	Sample	**2.1**	NA	–	–	–	–	–	–	**110 J**	–	–	–	–	–	–	–
	350	924	7/12/2018	Sample	NA	**2.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	350	924	7/16/2019	Sample	NA	**2.1**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP2B	410	864	5/20/2013	Sample	**5.7**	NA	–	–	**0.27 J**	**0.45 J**	–	**0.31 J**	**30.7**	–	**2.4**	–	**0.2 J**	**0.47 J**	–	–
	410	864	8/19/2014	Sample	**7.2 a**	NA	–	–	**0.23 J**	–	–	**0.39 J**	–	–	**2.4**	–	–	–	–	–
	410	864	7/21/2015	Sample	**9.2 a**	NA	–	–	–	–	–	**0.26 J**	–	–	**1.2 J**	–	–	–	–	–
	410	864	7/21/2016	Sample	**9.2 a**	NA	–	–	–	–	–	–	–	–	**1**	–	–	–	–	–
	410	864	7/21/2016	Duplicate	**8.5 a**	NA	–	–	–	–	–	–	–	–	**1.1**	–	–	–	–	–
	410	864	7/20/2017	Sample	**8.3 a**	NA	–	–	–	–	–	–	–	–	**0.77 J**	–	–	–	–	–
	410	864	7/12/2018	Sample	NA	**7.9 a**	–	–	–	–	–	–	–	–	**0.55 J**	–	–	–	–	–
	410	864	7/16/2019	Sample	NA	**7 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
EPA-MP2C	510	764	5/20/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	510	764	8/19/2014	Sample	**0.72 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	510	764	7/21/2015	Sample	**1.0**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	510	764	7/21/2016	Sample	**1.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	510	764	7/20/2017	Sample	–	NA	–	–	–	–	–	–	–	–	**0.51**	–	–	–	–	–
	510	764	7/12/2018	Sample	NA	**0.56 J**	–	–	–	–	–	–	–	–	**0.80 J**	–	–	–	–	–
	510	764	7/16/2019	Sample	NA	**0.63 J**	–	–	–	–	–	–	–	–	**1.2**	–	–	–	–	–
EPA-MP2D	614	658	5/20/2013	Sample	**0.83 J**	NA	–	–	–	–	–	–	**26.2**	–	–	–	–	–	–	–
	614	658	8/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	614	658	7/21/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	614	658	7/21/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	614	658	7/20/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	614	658	7/12/2018	Sample	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	614	658	7/16/2019	Sample	NA	**0.21 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP2E	714	558	5/20/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	714	558	8/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	714	558	7/21/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	714	558	7/21/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	714	558	7/20/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	714	558	7/12/2018	Sample	NA	**0.20 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	714	558	7/16/2019	Sample	NA	**0.24 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP2F	764	508	5/20/2013	Sample	–	NA	–	–	–	–	–	–	**11.1**	–	–	–	–	–	–	–
	764	508	8/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	764	508	7/21/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	764	508	7/21/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	764	508	7/20/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	764	508	7/20/2017	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	764	508	7/16/2019	Sample	NA	**0.023 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP3A	457	909	5/28/2013	Sample	**10.8 a**	NA	–	–	–	**0.5 J**	–	–	–	–	–	–	–	–	–	–
	457	909	8/22/2014	Sample	**14.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	457	909	7/27/2015	Sample	**12.4 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	457	909	7/20/2016	Sample	**12.4 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	457	909	7/12/2017	Sample	**11 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	457	909	7/18/2018	Sample	NA	**11 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	457	909	7/9/2019	Sample	NA	**13 a**	–	–	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–
EPA-MP3B	592	773	5/28/2013	Sample	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	8/22/2014	Sample	**2.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	7/27/2015	Sample	**2.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	7/20/2016	Sample	**2.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	7/20/2016	Duplicate	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	7/12/2017	Sample	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	7/18/2018	Sample	NA	**2.7**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	592	773	7/9/2019	Sample	NA	**2.4**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP3C	687	679	5/28/2013	Sample	**2.7**	NA	–	–	–	**0.44 J**	–	–	–	–	–	–	–	–	–	–
	687	679	5/28/2013	Duplicate	**2.4**	NA	–	–	–	**0.61 J**	–	–	–	–	–	–	–	–	–	–
	687	679	8/22/2014	Sample	**2**	NA	–	–	–	**0.5 J**	–	–	–	–	–	–	–	–	–	–
	687	679	7/27/2015	Sample	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	687	679	7/20/2016	Sample	**2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	687	679	7/12/2017	Sample	**1.6 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	687	679	7/18/2018	Sample	NA	**1.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	687	679	7/9/2019	Sample	NA	**0.95 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP3D	814	546	5/28/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	814	546	8/22/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	814	546	7/27/2015	Sample	–	NA	–	–	–	–	–	–	**9.2 J**	–	–	–	–	–	–	–
	814	546	7/20/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	814	546	7/12/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	814	546	7/18/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP3E	899	466	5/28/2013	Sample	–	NA	–	–	–	**0.46 J**	–	–	–	–	–	–	–	–	–	–
	899	466	8/22/2014	Sample	–	NA	–	–	–	**0.56 J**	–	–	–	–	–	–	–	–	–	–
	899	466	7/27/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	899	466	7/20/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	899	466	7/12/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	899	466	7/18/2018	Sample	NA	**0.064 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	899	466	7/9/2019	Sample	NA	**0.04 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP5A	357	933	5/29/2013	Sample	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	933	8/19/2014	Sample	**2.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	933	7/31/2015	Sample	**2.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	933	7/12/2016	Sample	**2.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	933	7/18/2017	Sample	**3.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	933	7/12/2018	Sample	NA	**3.1**	–	–	–	–	–	–	**180 J**	–	–	–	–	–	–	–
	357	933	7/17/2019	Sample	NA	**2.8**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
EPA-MP5B	412	877	5/29/2013	Sample	**5.2**	NA	–	–	–	–	–	**0.35 J**	**25.1**	–	**3**	–	**0.26 J**	–	–	–
	412	877	8/19/2014	Sample	**5.7**	NA	–	–	–	–	–	**0.39 J**	–	–	**2.5**	–	**0.28 J**	–	–	–
	412	877	7/31/2015	Sample	**5.4**	NA	–	–	–	–	–	**0.27 J**	–	–	**2.7**	–	**0.28 J**	–	–	–
	412	877	7/31/2015	Duplicate	**5.4**	NA	–	–	–	–	–	**0.27 J**	–	–	**2.5**	–	**0.23 J**	–	–	–
	412	877	7/12/2016	Sample	**5.1**	NA	–	–	–	–	–	–	–	–	**1.8**	–	–	–	–	–
	412	877	7/18/2017	Sample	**4.9**	NA	–	–	–	–	–	–	–	–	**0.97 J**	–	–	–	–	–
	412	877	7/12/2018	Sample	NA	**5.1**	–	–	–	–	–	–	–	–	**1.3**	–	–	–	–	–
	412	877	7/17/2019	Sample	NA	**4.7**	–	–	–	–	–	–	–	–	**1.3**	–	–	–	–	–
EPA-MP5C	507	783	5/29/2013	Sample	–	NA	–	–	**0.58 J**	–	–	–	**20.5 J**	–	**0.93 J**	–	–	–	–	–
	507	783	5/29/2013	Duplicate	**1.1**	NA	–	–	**0.57**	–	–	–	–	–	**0.86 J**	–	–	–	–	–
	507	783	8/19/2014	Sample	–	NA	–	–	**0.74 J**	–	–	–	–	–	**1.3**	–	–	–	–	–
	507	783	7/31/2015	Sample	**1.2**	NA	–	–	**0.75 J**	–	–	–	–	–	**1.9**	–	–	–	–	–
	507	783	7/12/2016	Sample	**1.1**	NA	–	–	**0.41 J**	–	–	–	–	–	**0.64 J**	–	–	–	–	–
	507	783	7/18/2017	Sample	–	NA	–	–	**0.63**	–	–	–	–	–	**0.83 J**	–	–	–	–	–
	507	783	7/12/2018	Sample	NA	**0.54 J**	–	–	–	–	–	–	–	–	**1.7**	–	–	–	–	–
	507	783	7/17/2019	Sample	NA	**0.51 J**	–	–	**0.43 J**	–	–	–	–	–	**1.3**	–	–	–	–	–
EPA-MP5D	630	659	5/29/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	8/19/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	8/19/2014	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/31/2015	Sample	**1.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/12/2016	Sample	**0.99 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/12/2016	Duplicate	**1.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/18/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/12/2018	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/12/2018	Duplicate	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	630	659	7/17/2019	Sample	NA	**0.18 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP5E	740	548	5/29/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	8/19/2014	Sample	**1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	7/31/2015	Sample	**1.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	7/12/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	7/18/2017	Sample	**0.81**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	7/12/2018	Sample	NA	**0.057 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	7/17/2019	Sample	NA	**0.055 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	740	548	7/17/2019	Duplicate	NA	**0.066 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP6A	355	922	5/22/2013	Sample	**31.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	5/22/2013	Duplicate	**30.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	8/22/2014	Sample	**29.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	7/27/2015	Sample	**30.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	7/20/2016	Sample	**27.7 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	7/13/2017	Sample	**30 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	7/17/2018	Sample	NA	**29 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	7/17/2018	Duplicate	NA	**29 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	922	7/11/2019	Sample	NA	**30 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP6B	449	828	5/22/2013	Sample	**2.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	449	828	8/22/2014	Sample	**3.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	449	828	7/27/2015	Sample	**2.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	449	828	7/20/2016	Sample	**3.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	449	828	7/13/2017	Sample	**4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	449	828	7/17/2018	Sample	NA	**4.4**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	449	828	7/11/2019	Sample	NA	**4.7**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP6C	573	714	5/22/2013	Sample	**2.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	8/22/2014	Sample	**2.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	8/22/2014	Duplicate	**2.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	7/27/2015	Sample	**4.1**	NA	–	–	–	–	–	–	**15.6 J**	–	–	–	–	–	–	–
	573	714	7/27/2015	Duplicate	**3.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	7/20/2016	Sample	**4.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	7/13/2017	Sample	**5.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	7/13/2017	Duplicate	**5.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	7/17/2018	Sample	NA	**6.2 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	573	714	7/11/2019	Sample	NA	**6.9 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP6D	659	617	5/22/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	659	617	8/22/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	659	617	7/27/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	659	617	7/20/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	659	617	7/13/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	659	617	7/17/2018	Sample	NA	**0.27 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	659	617	7/11/2019	Sample	NA	**0.36 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
EPA-MP6E	765	511	5/22/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	765	511	8/22/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	765	511	7/27/2015	Sample	–	NA	–	–	–	–	–	–	**8.8 J**	–	–	–	–	–	–	–
	765	511	7/18/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	765	511	7/13/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	765	511	7/17/2018	Sample	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	765	511	7/11/2019	Sample	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	765	511	7/11/2019	Duplicate	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP7A	357	872	5/22/2013	Sample	**9.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	872	8/20/2014	Sample	**7.9 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	872	7/30/2015	Sample	**7.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	872	7/21/2016	Sample	**6.9 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	872	7/19/2017	Sample	**7.2 a**	NA	–	–	–	–	–	–	**240**	–	–	–	–	–	–	–
	357	872	7/16/2018	Sample	NA	**7.5 J a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	357	872	7/15/2019	Sample	NA	**7.3 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP7B	433	797	5/22/2013	Sample	**6.8 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	433	797	8/20/2014	Sample	**6.1 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	433	797	8/20/2014	Duplicate	**5.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	433	797	7/30/2015	Sample	**5.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	433	797	7/21/2016	Sample	**5.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	433	797	7/19/2017	Sample	**5**	NA	–	–	–	–	–	–	**100 J**	–	–	–	–	–	–	–
	433	797	7/16/2018	Sample	NA	**5 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	433	797	7/15/2019	Sample	NA	**4.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP7C	503	727	5/22/2013	Sample	**2.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	727	8/20/2014	Sample	**1.9**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	503	727	9/17/2014	Sample	**1.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	508	727	7/30/2015	Sample	**2.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	508	727	7/21/2016	Sample	**3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	727	7/19/2017	Sample	**3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	727	7/16/2018	Sample	NA	**3.3 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	503	727	7/15/2019	Sample	NA	**4**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP7D	588	642	5/22/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	588	642	8/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	588	642	7/30/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	588	642	7/21/2016	Sample	**0.95 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	588	642	7/19/2017	Sample	–	NA	–	–	–	–	–	–	**150 J**	–	–	–	–	–	–	–
	588	642	7/16/2018	Sample	NA	**0.20 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	588	642	7/15/2019	Sample	NA	**0.21 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	588	642	7/15/2019	Duplicate	NA	**0.25 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP7E	701	527	5/22/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	701	527	8/20/2014	Sample	–	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	701	527	9/17/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	701	527	7/30/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	701	527	7/21/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	701	527	7/19/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	701	527	7/16/2018	Sample	NA	**0.15 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	701	527	7/15/2019	Sample	NA	**0.18 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP8A	347	875	5/23/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	347	875	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	347	875	7/21/2015	Sample	**0.77 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	347	875	7/14/2016	Sample	**0.88 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	347	875	7/19/2017	Sample	**1 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	347	875	7/19/2017	Duplicate	**1 J**	NA	–	–	–	–	–	–	**130 J**	–	–	–	–	–	–	–
	347	875	7/13/2018	Sample	NA	**2.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	347	875	7/17/2019	Sample	NA	**2.6**	–	–	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–
EPA-MP8B	397	825	5/23/2013	Sample	–	NA	–	–	–	–	–	–	**30.6**	–	–	–	–	–	–	–
	397	825	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/21/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/14/2016	Duplicate	**0.81 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/14/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/19/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/13/2018	Sample	NA	**0.66 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/13/2018	Duplicate	NA	**0.66 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	397	825	7/17/2019	Sample	NA	**1.4**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP8C	492	730	5/23/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	492	730	8/13/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	492	730	7/21/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	492	730	7/14/2016	Sample	**0.87 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	492	730	7/19/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	492	730	7/13/2018	Sample	NA	**0.25 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	492	730	7/17/2019	Sample	NA	**0.22 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
EPA-MP8D	607	615	5/23/2013	Sample	**2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	607	615	8/11/2014	Sample	**1.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	607	615	7/21/2015	Sample	**1.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	607	615	7/14/2016	Sample	**2.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	607	615	7/19/2017	Sample	**4.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	607	615	7/13/2018	Sample	NA	**4.9**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	607	615	7/17/2019	Sample	NA	**4.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
EPA-MP8E	722	500	5/23/2013	Sample	–	NA	–	–	–	–	–	–	**31.5**	–	–	–	–	–	–	–
	722	500	8/11/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	722	500	7/21/2015	Sample	**0.99 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	722	500	7/14/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	722	500	7/19/2017	Sample	–	NA	–	–	–	–	–	–	**190 J**	–	–	–	–	–	–	–
	722	500	7/13/2018	Sample	NA	**0.23 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	722	500	7/17/2019	Sample	NA	**0.21 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-5A	467	959	5/23/2013	Sample	**171 a**	NA	–	–	–	–	–	–	**34.6 J**	–	–	–	–	–	–	–
	467	959	5/23/2013	Duplicate	**170 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.28 J**	–	–	–
PW-5B	512	914	5/23/2013	Sample	**196 a**	NA	–	–	**0.24 J**	–	–	–	**31.5**	–	–	–	**28 a**	–	–	–
PW-5C	557	869	5/23/2013	Sample	**142 a**	NA	–	–	–	–	–	–	–	–	–	–	**15.7 a**	–	–	–
PW-5D	617	809	5/23/2013	Sample	**929 a**	NA	–	–	–	–	–	–	**34.1**	–	–	–	**21.8 a**	–	–	–
PW-5E	672	754	5/23/2013	Sample	**276 a**	NA	–	–	–	–	–	–	–	–	–	–	**3.5**	–	–	–
PW-9A	352	954	5/24/2013	Sample	**13 a**	NA	–	–	–	–	–	–	**17.9**	–	–	–	–	–	–	–
PW-9B	412	894	5/24/2013	Sample	**62.2 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.79 J**	–	–	–
	412	894	8/21/2014	Sample	**2.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	412	894	8/4/2015	Sample	**8.3 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	412	894	7/19/2016	Sample	**1.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	412	894	7/19/2016	Duplicate	**1.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	412	894	7/13/2017	Sample	**4 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	412	894	7/18/2018	Sample	NA	**4.8**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	412	894	7/11/2019	Sample	NA	**4.9**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-9C	482	824	5/24/2013	Sample	**781 a**	NA	–	–	**0.3 J**	–	–	–	**16.3**	–	–	–	**6.7 a**	–	–	–
	482	824	8/21/2014	Sample	**226 a**	NA	–	–	–	**0.33 J**	–	–	–	–	–	–	**4.7**	–	–	–
	482	824	8/4/2015	Sample	**668 a**	NA	–	–	**0.21 J**	–	–	–	–	–	–	–	**14.4 a**	–	–	–
	482	824	7/19/2016	Sample	**555 a**	NA	–	–	–	–	–	–	–	–	–	–	**12.7 a**	–	–	–
	482	824	7/13/2017	Sample	**220 J a**	NA	–	–	–	–	–	–	–	–	–	–	**6.7 a**	–	–	–
	482	824	7/18/2018	Sample	NA	**200 a**	–	–	–	–	–	–	–	–	–	–	**8.8 a**	–	–	–
	482	824	7/11/2019	Sample	NA	**230 a**	–	–	–	–	–	–	–	–	–	–	**13 a**	–	–	–
PW-9D	562	744	5/24/2013	Sample	**1.1**	NA	–	–	–	–	–	–	**15.9**	–	–	–	–	–	–	–
	562	744	8/20/2014	Sample	**37.9 a**	NA	–	–	–	–	–	–	–	–	–	–	**1.2**	–	–	–
	562	744	8/4/2015	Sample	**28.8 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.49 J**	–	–	–
	562	744	7/19/2016	Sample	**29.2 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.76 J**	–	–	–
	562	744	7/13/2017	Sample	**200 a**	NA	–	–	–	–	–	–	–	–	–	–	**4.6**	–	–	–
	562	744	7/18/2018	Sample	NA	**170 a**	–	–	–	–	–	–	–	–	–	–	**3.8**	–	–	–
	562	744	7/18/2018	Duplicate	NA	**180 a**	–	–	–	–	–	–	–	–	–	–	**3.7**	–	–	–
	562	744	7/11/2019	Sample	NA	**250 a**	–	–	–	–	–	–	–	–	–	–	**5.1 a**	–	–	–
PW-9E	648	659	5/24/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	648	659	8/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	648	659	8/4/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	648	659	7/19/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	648	659	7/13/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	648	659	7/18/2018	Sample	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	648	659	7/11/2019	Sample	NA	**0.13 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-9F	718	589	5/24/2013	Sample	**348 a**	NA	–	–	–	–	–	–	–	–	–	–	**3.9**	–	–	–
	718	589	8/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	589	8/4/2015	Sample	**241 a**	NA	–	–	–	–	–	–	–	–	–	–	**3.5**	–	–	–
	718	589	7/19/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	589	7/13/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	589	7/18/2018	Sample	NA	**0.12 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	718	589	7/11/2019	Sample	NA	**0.18 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-9G	808	499	5/24/2013	Sample	**523 a**	NA	–	–	**0.22 J**	–	–	–	–	–	–	–	**6.3 a**	–	–	–
	808	499	8/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	808	499	8/4/2015	Sample	**282 a**	NA	–	–	–	–	–	–	–	–	–	–	**4.8**	–	–	–
	808	499	7/19/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	808	499	7/13/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	808	499	7/18/2018	Sample	NA	**0.22 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	808	499	7/11/2019	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	808	499	7/11/2019	Duplicate	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
PW-10A	360	914	8/6/2013	Sample	**16.8 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	360	914	10/3/2013	Sample	**18.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	360	914	6/10/2014	Sample	**18.1 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.29 J**	–	–	–
	360	914	8/14/2014	Sample	**21.5 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.35 J**	–	–	–
	360	914	7/24/2015	Sample	**17 a**	NA	–	–	–	–	–	–	**6.6 J**	–	–	–	–	–	–	–
	360	914	7/18/2016	Sample	**9.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	360	914	7/18/2017	Sample	**12 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	360	914	7/13/2018	Sample	NA	**13 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	360	914	7/16/2019	Sample	NA	**10 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	360	914	7/16/2019	Duplicate	NA	**9.7a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-10B	460	814	8/6/2013	Sample	**641 a**	NA	–	–	–	–	–	–	–	–	–	–	**13.1 a**	–	–	–
	460	814	10/3/2013	Sample	**725 a**	NA	–	–	–	–	–	–	–	–	–	–	**12.4 J a**	–	–	–
	460	814	10/3/2013	Duplicate	**718 a**	NA	–	–	–	–	–	–	–	–	–	–	**6.4 J a**	–	–	–
	460	814	6/10/2014	Sample	**476 a**	NA	–	–	–	–	–	–	–	–	–	–	**14.8 a**	–	–	–
	460	814	8/14/2014	Sample	**461 a**	NA	–	–	–	–	–	–	–	–	–	–	**21.2 a**	–	–	–
	460	814	7/24/2015	Sample	**386 a**	NA	–	–	–	–	–	–	–	–	–	–	**18.9 a**	–	–	–
	460	814	7/24/2015	Duplicate	**377 a**	NA	–	–	–	–	–	–	–	–	–	–	**18.4 a**	–	–	–
	460	814	7/18/2016	Sample	**339 a**	NA	–	–	–	–	–	–	–	–	–	–	**13.1 a**	–	–	–
	460	814	7/18/2017	Sample	**390 a**	NA	–	–	–	–	–	–	–	–	–	–	**9.3 a**	–	–	–
	460	814	7/13/2018	Sample	NA	**500 a**	–	–	–	–	–	–	–	–	–	–	**9.2 a**	–	–	–
	460	814	7/16/2019	Sample	NA	**450 a**	–	–	–	–	–	–	–	–	–	–	**7.3 a**	–	–	–
PW-10C	545	729	8/5/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	545	729	10/3/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	545	729	6/10/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	545	729	8/14/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	545	729	7/24/2015	Sample	–	NA	–	–	–	–	–	–	**6 J**	–	–	–	–	–	–	–
	545	729	7/18/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	545	729	7/18/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	545	729	7/16/2019	Sample	–	**1.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-10D	605	669	8/5/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	10/3/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	6/10/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	8/14/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	7/24/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	7/18/2016	Sample	**1.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	7/18/2017	Sample	**2.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	7/13/2018	Sample	NA	**3.1**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	669	7/16/2019	Sample	NA	**1.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-10E	745	529	8/5/2013	Sample	**1.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	745	529	10/3/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	745	529	6/10/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	745	529	8/14/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	745	529	7/24/2015	Sample	–	NA	–	–	–	–	–	–	**8.3 J**	–	–	–	–	–	–	–
	745	529	7/18/2016	Sample	**1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	745	529	7/18/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.38 J**	–	–	–	–
	745	529	7/13/2018	Sample	NA	**0.59 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	745	529	7/16/2019	Sample	NA	**0.91 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-11A	355	871	8/6/2013	Sample	**51.4 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.82 J**	–	–	–
	355	871	10/3/2013	Sample	**55.3 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.81 J**	–	–	–
	355	871	6/10/2014	Sample	**29.4 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.6 J**	–	–	–
	355	871	8/18/2014	Sample	**23.4 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.55 J**	–	–	–
	355	871	7/29/2015	Sample	**24.2 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.73 J**	–	–	–
	355	871	7/11/2016	Sample	**22.3 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.54 J**	–	–	–
	355	871	7/11/2017	Sample	**19 a**	NA	–	–	–	–	–	–	**110 J**	–	–	–	**0.37 J**	–	–	–
	355	871	7/17/2018	Sample	NA	**14 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	355	871	7/8/2019	Sample	NA	**11a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-11B	450	776	8/6/2013	Sample	**5.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	450	776	10/3/2013	Sample	**5.8**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	450	776	6/10/2014	Sample	**4.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	450	776	8/18/2014	Sample	**6.4 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	450	776	7/29/2015	Sample	**9.6 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	450	776	7/11/2016	Sample	**18.2 a**	NA	–	–	–	–	–	–	–	–	–	**1.1**	–	–	–	–
	450	776	7/11/2017	Sample	**40 a**	NA	–	–	–	–	–	–	**180 J**	–	–	–	**0.53 J**	–	–	–
	450	776	7/17/2018	Sample	NA	**74 a**	–	–	–	–	–	–	–	–	–	–	**0.84 J**	–	–	–
	450	776	7/8/2019	Sample	NA	**140 a**	–	–	–	–	–	–	–	–	–	–	**2**	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
PW-11C	560	666	8/6/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	8/6/2013	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	10/3/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	6/10/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	8/18/2014	Sample	**0.94 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	7/29/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	7/11/2016	Sample	**0.94 J**	NA	–	–	–	–	–	–	–	–	–	**0.61 J**	–	–	–	–
	560	666	7/11/2017	Sample	–	NA	–	–	–	–	–	–	**120 J**	–	–	–	–	–	–	–
	560	666	7/17/2018	Sample	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	560	666	7/8/2019	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-11D	695	531	8/6/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	10/2/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	10/2/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	6/9/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	8/18/2014	Sample	**0.62 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	8/18/2014	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	7/29/2015	Sample	**1.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	7/29/2015	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	7/11/2016	Sample	**0.83 J**	NA	–	–	–	–	–	–	–	–	–	**0.21 J**	–	–	–	–
	695	531	7/11/2017	Sample	–	NA	–	–	–	–	–	–	**140 J**	–	–	–	–	–	–	–
	695	531	7/17/2018	Sample	NA	**0.18 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	695	531	7/8/2019	Sample	NA	**0.21 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-11E	750	476	8/6/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	750	476	10/2/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	750	476	6/9/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	750	476	8/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	750	476	7/29/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	750	476	7/11/2016	Sample	**0.87 J**	NA	–	–	–	–	–	–	–	–	–	**0.65 J**	–	–	–	–
	750	476	7/11/2017	Sample	–	NA	–	–	–	–	–	–	**160 J**	–	–	–	–	–	–	–
	750	476	7/17/2018	Sample	NA	**0.089 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	750	476	7/8/2019	Sample	NA	**0.12 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-12A	345	912	8/5/2013	Sample	**3.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	8/5/2013	Duplicate	**3**	NA	–	–	–	–	–	–	**9.3 J**	–	–	–	–	–	–	–
	345	912	10/2/2013	Sample	**3.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	6/9/2014	Sample	**2.9 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	6/9/2014	Duplicate	**2.7 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	8/14/2014	Sample	**3.2**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	7/29/2015	Sample	**3.1**	NA	–	–	**0.29 J**	–	–	–	–	–	–	–	–	–	–	–
	345	912	7/18/2016	Sample	**2.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	7/12/2017	Sample	**2.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	7/9/2018	Sample	NA	**3.2**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	345	912	7/9/2019	Sample	NA	**3.1**	–	–	**0.25 J**	–	–	–	–	–	–	–	–	–	–	–
PW-12B	395	852	8/5/2013	Sample	**2.9**	NA	–	–	–	–	–	–	**21.5**	–	–	–	–	–	–	–
	395	852	10/2/2013	Sample	**2.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	6/9/2014	Sample	**2.3 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	8/14/2014	Sample	**3.5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	7/29/2015	Sample	**5.7**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	7/18/2016	Sample	**7.3 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	7/12/2017	Sample	**6.8 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	7/9/2018	Sample	NA	**6.6 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	852	7/9/2019	Sample	NA	**7 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-12C	500	747	8/5/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	10/2/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	6/9/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	8/14/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	7/29/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	7/18/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	7/12/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	7/12/2017	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	7/9/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	500	747	7/9/2019	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-12D	555	692	8/5/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	10/2/2013	Sample	–	NA	–	–	–	–	–	–	**28.5 J**	–	–	–	–	–	–	–
	555	692	6/9/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	8/14/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	7/29/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	7/14/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.66 J**	–	–	–	–
	555	692	7/12/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	7/9/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	7/9/2018	Duplicate	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	555	692	7/9/2019	Sample	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoromethane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
PW-12E	725	522	8/5/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	10/2/2013	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	6/9/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	8/14/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	8/14/2014	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	7/29/2015	Sample	**1.4**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	7/14/2016	Sample	**1**	NA	–	–	–	–	–	–	–	–	–	**1.5**	–	–	–	–
	725	522	7/12/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	7/9/2018	Sample	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	7/9/2019	Sample	NA	**0.13 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	725	522	7/9/2019	Duplicate	NA	**0.15 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-13A	340	815	9/17/2014	Sample	**6.4 a**	NA	–	–	–	–	–	–	**18 J**	–	–	–	**0.2 J**	–	–	–
	340	815	9/17/2014	Duplicate	**6.3 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.22 J**	–	–	–
	340	815	11/20/2014	Sample	**8.6 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	340	815	7/31/2015	Sample	**9.4 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	340	815	10/13/2015	Sample	**9.5 J a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	340	815	7/12/2016	Sample	**8.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	340	815	7/14/2017	Sample	**7 J a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	337	815	7/10/2018	Sample	NA	**6.5 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	337	815	7/10/2019	Sample	NA	**7.2 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-13B	395	760	9/17/2014	Sample	**2.1**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	760	11/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	760	7/31/2015	Sample	**3.9**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	760	10/13/2015	Sample	**5.6**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	760	7/12/2016	Sample	**6.2 a**	NA	–	–	–	–	–	–	**13 J**	–	–	–	–	–	–	–
	395	760	7/14/2017	Sample	**3.3 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	760	7/10/2018	Sample	NA	**4.1**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	395	760	7/10/2019	Sample	NA	**4.3**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-13C	475	680	9/17/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	11/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	7/31/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	7/31/2015	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	10/13/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	7/12/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	7/10/2018	Sample	NA	**0.13 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	475	680	7/10/2019	Sample	NA	**0.13 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-13D	525	630	9/17/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	11/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	7/31/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	10/13/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	7/12/2016	Sample	**1.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	7/10/2018	Sample	NA	**0.23 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	630	7/10/2019	Sample	NA	**0.28 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-13E	615	550	9/17/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	11/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	7/31/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	10/13/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	7/12/2016	Sample	–	NA	–	–	–	–	–	–	**6.7 J**	–	–	–	–	–	–	–
	615	550	7/14/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	7/10/2018	Sample	NA	**0.18 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	7/10/2019	Sample	NA	**0.25 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	615	550	7/10/2019	Duplicate	NA	**0.24 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-14A	300	875	9/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.39 J**	–	–	–	–
	300	875	11/20/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	**0.21 J**	–	–	–	–
	300	875	7/24/2015	Sample	**8.1 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	300	875	10/12/2015	Sample	**9.7 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	300	875	10/12/2015	Duplicate	**10.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	300	875	7/11/2016	Sample	**7 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	300	875	8/10/2017	Sample	**5**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	300	875	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-14B	365	810	9/18/2014	Sample	**15.3 a**	NA	–	–	–	–	–	–	**38.6 J**	–	–	–	–	–	–	–
	365	810	11/20/2014	Sample	**18.2 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	11/20/2014	Duplicate	**18.6 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	7/24/2015	Sample	**16.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	10/12/2015	Sample	**18.6 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	7/11/2016	Sample	**18.5 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	8/10/2017	Sample	**20 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	8/10/2017	Duplicate	**20 a**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	7/16/2018	Sample	NA	**20 J a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	365	810	7/18/2019	Sample	NA	**19 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
PW-14C	425	750	9/18/2014	Sample	**39.4 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.93 J**	–	–	–
	425	750	11/20/2014	Sample	**42 a**	NA	–	–	–	–	–	–	**5.7 J**	–	–	–	**0.68 J**	–	–	–
	425	750	7/24/2015	Sample	**47.5 a**	NA	–	–	–	–	–	–	**6.4 J**	–	–	–	**0.69 J**	–	–	–
	425	750	10/12/2015	Sample	**49.7 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.91 J**	–	–	–
	425	750	7/11/2016	Sample	**45.5 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.62 J**	–	–	–
	425	750	7/11/2016	Duplicate	**42.7 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.49 J**	–	–	–
	425	750	8/10/2017	Sample	**46 a**	NA	–	–	–	–	–	–	–	–	–	–	**0.86 J**	–	–	–
	425	750	7/16/2018	Sample	NA	**58 J a**	–	–	–	–	–	–	–	–	–	–	**1.0**	–	–	–
	425	750	7/18/2019	Sample	NA	**66 a**	–	–	–	–	–	–	–	–	–	–	**1.2**	–	–	–
PW-14D	525	650	9/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	650	11/20/2014	Sample	–	NA	–	–	–	–	–	–	**9.7 J**	–	–	–	–	–	–	–
	525	650	7/24/2015	Sample	**1.2**	NA	–	–	–	–	–	–	**5.2 J**	–	–	–	–	–	–	–
	525	650	10/12/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	650	7/11/2016	Sample	**0.96 J**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	650	8/10/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	650	7/16/2018	Sample	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	650	7/16/2018	Duplicate	NA	**0.19 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	525	650	7/18/2019	Sample	NA	**0.17 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-14E	605	570	9/18/2014	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	570	11/20/2014	Sample	–	NA	–	–	–	–	–	–	**6 J**	–	–	–	–	–	–	–
	605	570	7/24/2015	Sample	–	NA	–	–	–	–	–	–	**6.1 J**	–	–	–	–	–	–	–
	605	570	10/12/2015	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	570	7/11/2016	Sample	**1.3**	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	570	8/10/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	570	7/16/2018	Sample	NA	**0.24 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	570	7/18/2019	Sample	NA	**0.24 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	605	570	7/18/2019	Duplicate	NA	**0.24 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-15A	281	824	12/16/2016	Sample	**23 J a**	**22 a**	–	–	**3.7**	–	–	–	–	–	–	–	–	–	–	–
	281	824	2/3/2017	Sample	**12 a**	**12 a**	–	–	**10 J**	–	–	–	–	–	–	–	–	–	–	–
	281	824	2/3/2017	Duplicate	**11 a**	**11 a**	–	–	**13 J**	**1.9 J**	–	–	–	–	–	–	–	–	–	–
	281	824	5/4/2017	Sample	**17 a**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	281	824	5/4/2017	Duplicate	**17 a**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	281	824	7/24/2017	Sample	**15 a**	NA	–	–	–	–	–	–	**150 J**	–	–	–	–	–	–	–
	281	824	7/16/2018	Sample	NA	**12 J a**	–	–	**3.4**	–	–	–	–	–	–	**4.5**	–	–	–	–
	281	824	6/27/2019	Sample	NA	**14 a**	–	**0.3 J**	**1.7**	–	–	–	–	–	–	**0.27 J**	–	–	–	–
PW-15B	315	790	12/16/2016	Sample	–	**0.65 J**	–	–	**53 J**	–	–	–	–	–	–	–	–	–	–	–
	315	790	12/16/2016	Duplicate	–	**0.28 J**	–	–	**8.8 J**	–	–	–	–	–	–	–	–	–	–	–
	315	790	2/2/2017	Sample	**25 a**	**25 a**	–	–	**6.8**	–	–	–	–	–	–	–	**0.67 J**	–	–	–
	315	790	7/24/2017	Sample	**44 a**	NA	–	–	**0.64 J**	–	–	–	**110 J**	–	–	–	**0.8 J**	–	–	–
	315	790	7/16/2018	Sample	NA	**61**	–	–	–	–	–	–	–	–	–	**0.57 J**	**0.83 J**	–	–	–
	315	790	6/27/2019	Sample	NA	**60 a**	–	**0.16 J**	**0.54 J**	–	–	–	–	–	–	**0.23 J**	**0.94 J**	–	–	–
PW-15C	375	720	12/22/2016	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	375	720	2/2/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	375	720	7/24/2017	Sample	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	375	720	7/16/2018	Sample	NA	**0.30 J**	–	–	**220 a**	–	**0.19 J**	–	–	–	–	**6.0**	–	–	**0.47 J**	**0.75 J**
	375	720	6/27/2019	Sample	NA	**0.17 J**	–	–	**3.2**	–	–	–	–	–	–	**1.6 J**	–	–	–	–
PW-15D	459	636	12/16/2016	Sample	–	**0.19 J**	–	–	**3.7**	–	–	–	–	–	–	–	–	–	–	–
	459	636	2/2/2017	Sample	–	NA	–	–	**1.4**	–	–	–	–	–	–	–	–	–	–	–
	459	636	7/24/2017	Sample	–	NA	–	–	–	–	–	–	**110 J**	–	–	–	–	–	–	–
	459	636	7/24/2017	Duplicate	–	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	459	636	7/16/2018	Sample	NA	**0.24 J**	–	–	**72**	–	–	–	–	–	–	**4.8 J**	–	–	–	–
	459	636	7/1/2019	Sample	NA	**0.23 J**	–	–	**0.27 J**	–	–	–	–	–	–	**0.18 J**	–	–	–	–
	459	636	7/1/2019	Duplicate	NA	**0.27 J**	–	–	**0.44 J**	–	–	–	–	–	–	**0.17 J**	–	–	–	–
PW-16A	298	810	12/20/2017	Sample	NA	**25 a**	–	–	–	–	–	–	**110 J**	–	–	–	–	–	–	–
	298	810	2/26/2018	Sample	NA	**25 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	298	810	7/16/2018	Sample	NA	**27 J a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	298	810	6/28/2019	Sample	NA	**37 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	298	810	6/28/2019	Duplicate	NA	**37 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-16B	336	772	12/20/2017	Sample	NA	**29 a**	–	–		–	–	–	**120 J**	–	–	–	**0.47 J**	–	–	–
	336	772	2/26/2018	Sample	NA	**32 a**	–	–	–	–	–	–	**160 J**	–	–	–	–	–	–	–
	336	772	7/16/2018	Sample	NA	**32 J a**	–	**0.86**	–	–	–	–	–	–	–	**3.6**	–	–	–	–
	336	772	6/28/2019	Sample	NA	**35 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-16C	405	703	12/20/2017	Sample	NA	**0.16 J**	–	–	**0.82 J**	–	–	–	–	–	–	–	–	–	–	–
	405	703	2/26/2018	Sample	NA	**0.17 J**	–	–	–	–	–	–	**120 J**	–	–	–	–	–	–	–
	405	703	7/16/2018	Sample	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	405	703	7/11/2019	Sample	NA	**0.18 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-16D	434	674	12/20/2017	Sample	NA	**0.34 J**	–	–	–	–	–	–	**100 J**	–	–	–	–	–	–	–
	434	674	2/26/2018	Sample	NA	**0.16 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	434	674	2/26/2018	Duplicate	NA	**0.16 J**	–	–	–	–	–	–	**140 J**	–	–	–	–	–	–	–
	434	674	7/16/2018	Sample	NA	**0.092 J**	–	**16 a**	**3.4**	–	–	–	–	**1.5 J**	–	**4.9**	–	–	–	–
	434	674	6/28/2019	Sample	NA	**0.14 J**	–	**1.1 J a**	–	–	–	–	–	–	–	–	–	–	–	–

Table 3
Groundwater Analytical Results Summary
Rockets, Fireworks, and Flares Superfund Site, San Bernardino County, California

Well ID	Depth (bgs)	Elevation (amsl)	Date	Compound / CA MCL(a) / Type	E314 Perchlorate (µg/L) 6	SW6850 Perchlorate (µg/L) 6	1,2-Dichloroethane (µg/L) 0.5	Benzene (µg/L) 1	Chloroform (µg/L) 80	Chloromethane (µg/L)	Ethylbenzene (µg/L)	cis-1,2-Dichloroethene (µg/L) 6	Isopropanol (µg/L)	Methylene Chloride (µg/L)	Tetrachloroethene (µg/L) 5	Toluene (µg/L) 150	Trichloroethene (µg/L) 5	Trichlorofluoro-methane (µg/L) 150	o-Xylene (µg/L)	m,p-Xylene (µg/L) 1,750
PW-17A	256	817	12/20/2017	Sample	NA	**7.8 a**	–	–	**3.4 J**	–	–	–	–	–	–	**0.75 J**	–	–	–	**0.26 J**
	256	817	2/26/2018	Sample	NA	**8 a**	–	–	**0.75 J**	–	–	–	**130 J**	–	–	–	–	–	–	–
	256	817	7/16/2018	Sample	NA	**8.8 J a**	–	**1.1 a**	**130 a**	–	–	–	–	**1.7 J**	–	**7.4**	–	–	–	–
	256	817	6/28/2019	Sample	NA	**7.6 a**	–	**9.9 a**	**87 a**	–	–	–	–	–	–	**0.28 J**	–	–	–	–
PW-17B	302	771	12/20/2017	Sample	NA	**10 a**	–	–	–	–	–	–	**160 J**	–	–	–	–	–	–	–
	302	771	12/20/2017	Duplicate	NA	**10 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	302	771	2/26/2018	Sample	NA	**9.9 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	302	771	7/16/2018	Sample	NA	**8.9 J a**	–	**1.7 a**	–	–	–	–	–	–	–	**2.5**	–	–	–	–
	302	771	6/28/2019	Sample	NA	**8.4 a**	–	–	–	–	–	–	–	–	–	**0.21 J**	–	–	–	–
PW-17C	370	702	12/20/2017	Sample	NA	**0.3 J**	–	–	**0.70 J**	–	–	–	**120 J**	–	–	–	–	–	–	–
	370	702	2/27/2018	Sample	NA	**0.14 J**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	370	702	7/16/2018	Sample	NA	**0.12 J**	–	–	–	–	–	–	–	–	–	**2.8**	–	–	–	–
	370	702	6/28/2019	Sample	NA	**0.11 J**	–	**4.8 a**	–	–	–	–	–	–	–	–	–	–	–	–
PW-17D	402	671	12/20/2017	Sample	NA	**0.37 J**	–	–	**4**	–	–	–	**120 J**	–	–	–	–	–	–	–
	402	671	2/27/2018	Sample	NA	**0.14 J**	–	–	–	–	–	–	**130 J**	–	–	–	–	–	–	–
	402	671	7/16/2018	Sample	NA	**0.043 J**	–	–	**5.9**	–	–	–	–	–	–	**6.4**	–	–	–	–
	402	671	6/28/2019	Sample	NA	**0.043 J**	–	–	**2.3**	–	–	–	–	–	–	**0.3 J**	–	–	–	–
PW-18A	280	846	3/6/2019	Sample	NA	**4.8**	–	**0.28 J**	**0.64 J**	–	–	–	–	–	–	–	–	–	–	–
	280	846	3/6/2019	Duplicate	NA	**4.8**	–	**0.28 J**	**0.56 J**	–	–	–	–	–	–	–	–	–	–	–
	280	846	6/28/2019	Sample	NA	**6.7 a**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-18B	335	781	3/6/2019	Sample	NA	**4**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	335	781	6/28/2019	Sample	NA	**3.6**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-18C	403	713	3/6/2019	Sample	NA	**1.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	403	713	6/28/2019	Sample	NA	**1.5**	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PW-19A	267	793	3/1/2019	Sample	NA	**23 a**	–	**0.38 J**	–	–	–	–	–	–	–	–	–	–	–	–
	267	793	7/1/2019	Sample	NA	**9.8 a**	–	**0.5 J**	–	–	–	–	–	–	–	–	–	–	–	–
PW-19B	309	751	3/1/2019	Sample	NA	**10 a**	–	**0.87 J**	–	–	–	–	–	–	–	–	–	–	–	–
	309	751	7/1/2019	Sample	NA	**2.2**	–	**0.6 J**	–	–	–	–	–	–	–	–	–	–	–	–
PW-19C	371	689	3/1/2019	Sample	NA	**2.8**	–	**0.95 J**	–	–	–	–	–	–	–	–	–	–	–	–
	371	689	7/1/2019	Sample	NA	**0.24 J**	–	**2.9 a**	–	–	–	–	–	–	–	–	–	–	–	–

Notes:
amsl = above mean sea level
bgs = below ground surface
CA MCL - California maximum contaminant level
µg/L = micrograms per liter
J = Estimated value
– = Non-detect
* = Samples were collected with a double check valve bailer.
** = Samples were collected with a HydraSleeve.
NA = Not Analyzed
N = Not sampled due to container breakage.
a = Exceedances of California MCL

Appendix A
Geophysical Logs

CALIPER
BOREHOLE VOLUMES

PACIFIC SURVEYS

Job No. 24814

File No.

Company	ABC LIOVIN DRILLING, INC.
Well	PW-18
Field	COLTON
County	SAN BERNARDINO State CA

Location:

.25 MILES EAST OF N PEPPER AVE & WEST RANDALL AVE
GPS: 34.0853 -117.3490

Sec Twp. Rge.

Other Services:

NONE

					Elevation
Permanent Datum	G.L.		Elevation		
Log Measured From	G.L.	0'	above perm. datum		
Drilling Measured From	G.L.				

Date	12/12/2018
Run Number	ONE
Depth Driller	470'
Depth Logger	470'
Bottom Logged Interval	470'
Top Log Interval	0'
Type Caliper	3 ARM
Type Fluid in Hole	BENTONITE
Density / Viscosity	N/A
Max. Recorded Temp.	N/A
pH/Fluid Loss	N/A
Time Well Ready	11:30 AM
Time Logger on Bottom	12:00 PM
Equipment Number	PS-12
Location	L.A.
Recorded By	ABREAU
Witnessed By	VALENZUELA

Run Number	Borehole Record Bit	From	To	Gravel Feed/Tubing Schecule Size	Type	From	To
ONE	14.75"	20'	470'				

Casing Schedule	Size	Wgt/Ft	Top	Bottom
Surface String				
Production String	"X"	SCH 80	0'	305'
Production String	"X"	SCH 80	0'	360'
Production String	"X"	SCH 80	0'	428'
Production String				

Comments

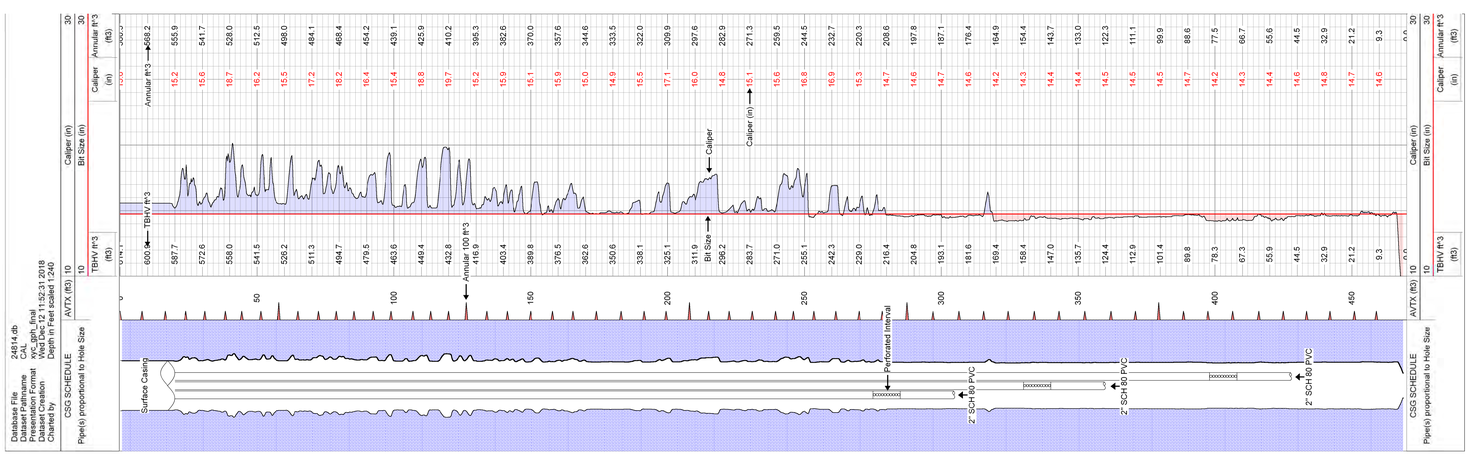
Calibration Report

Database File 24814.db
Dataset Pathname CAL
Dataset Creation Wed Dec 12 11:52:31 2018

XY Caliper Calibration Report

Serial Number/Model: CAL-1 Medium-Composite
Performed: Thursday, December 13 10:12:42 2018

	Ring		X Caliper		Y Caliper	
1:	4	in	443.483	cps	443.483	cps
2:	10	in	739.305	cps	739.305	cps
3:	14	in	1178.13	cps	1178.13	cps
4:	20	in	1617.4	cps	1617.4	cps
5:	26	in	2056.51	cps	2056.51	cps
6:		in		cps		cps
7:		in		cps		cps
8:		in		cps		cps
9:		in		cps		cps
10:		in		cps		cps



Database File 24814.db
Dataset Pathname CAL
Dataset Format Caliper, final
Dataset Creation Wed Dec 12 11:52:31 2018
Charted by Depth in Feet scaled 1:240

Caliper (in)
Bit Size (in)
Annular ft^3
TBHV ft^3
AVTX (ft/s)
CSG SCHEDULE
Pipe(s) proportional to Hole Size

Log Variables

Datasaved C:\Program Data\Warrior\Data\24814.db
Dataset field\well\run1\CAL_vars_

					Top - 305.00 ft														
BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH
in	degF	in	in		degF	ft	in	degF	in	in		degF	ft	in	degF	in	in		degF	ft
14.75	100	4.113	0	0	0	0	14.75	100	3.358	0	0	0	0	14.75	100	2.375	0	0	0	0
					305.00 ft - 360.00 ft														
BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH
in	degF	in	in		degF	ft	in	degF	in	in		degF	ft	in	degF	in	in		degF	ft
14.75	100	3.358	0	0	0	0	14.75	100	2.375	0	0	0	0	14.75	100	0	0	0	0	0
					360.00 ft - 428.00 ft														
BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH
in	degF	in	in		degF	ft	in	degF	in	in		degF	ft	in	degF	in	in		degF	ft
14.75	100	2.375	0	0	0	0	14.75	100	0	0	0	0	0	14.75	100	0	0	0	0	0
					428.00 ft - Bottom														
BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH	BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	SRFTEMP	TDEPTH
in	degF	in	in		degF	ft	in	degF	in	in		degF	ft	in	degF	in	in		degF	ft
14.75	100	0	0	0	0	0														

Variable Description

PERFS - Perforation Flag
SRFTEMP - Surface Temperature
TDEPTH - Total Depth

BOREID - Borehole I.D.
BOTTEMP - Bottom Temperature
CASEOD - Casing O.D.
CASETHCK - Casing Thickness

PACIFIC SURVEYS

ELECTRIC LOG
GAMMA RAY

Job No. 25019
File No.

Company ABC LIOVIN DRILLING, INC.
Well PW-18
Field COLTON
County SAN BERNARDINO State CA

Location:
25 MILES EAST OF N PEPPER AVE & WEST RANDALL AVE
GPS: 34.0653 -117.3460

Other Services:
SONIC/VDL

Sec. Twp. Rge.

		Elevation:	Elevation:
Permanent Datum	G.L.		
Log Measured From	G.L.	0'	K.B. / D.F. / G.L.
Drilling Measured From	G.L.		

Date	*12/7/2018
Run Number	ONE
Depth Driller	470'
Depth Logger	470'
Bottom Logged Interval	470'
Top Log Interval	20'
Casing Driller	16" @ 20'
Casing Logger	20'
Bit Size	10.625"
Type Fluid in Hole	BENTONITE
Density / Viscosity	N/A
pH / Fluid Loss	N/A
Source of Sample	PIT
Rm @ Meas. Temp	5.2 @ 66.6 F
Rmf @ Meas. Temp	4.89 @ 68.6 F
Rmc @ Meas. Temp	N/A
Source of Rmf / Rmc	MEASURE
Rm @ BHT	N/A
Time Circulation Stopped	11:00 AM
Time Logger on Bottom	12:30 PM
Max. Recorded Temperature	N/A
Equipment Number	PS-12
Location	L.A.
Recorded By	ABREAU
Witnessed By	VALENZUELA

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As a result of gathering this information, I (We) represent that I am (we are) not an expert and do not guarantee the accuracy or correctness of any interpretation and we shall not, except to the extent of gross or wilful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments:

Calibration Report

Database File 25019.db
Dataset Pathname ELOG\ELOG
Dataset Creation Fri Dec 07 13:42:33 2018

ELOG Calibration Report

Serial: PS-5
Model: DTQ
Thu May 31 13:28:25 2018
Shop Calibration Performed: Wed Nov 08 10:04:43 2016
After Survey Verification Performed: Wed Nov 09 10:04:43 2016

Shop Calibration

	Readings Zero	Readings Cal		References Zero	References Cal		Results Gain	Results Offset	
Short	0.784	51.434		0.500	50.000	Ohm-m	0.977	-0.266	
Long	3.144	206.323		2.000	200.000	Ohm-m	0.975	-1.084	
IEE			counts						A
VSN			counts						V
VLN			counts						V

Before Survey Verification

	Readings Zero	Readings Cal		References Zero	References Cal		Results Gain	Results Offset	
Short	15.833	0.000		15.833	0.000	Ohm-m	0.913	0.000	
Long	555.866	1.696		555.866	1.696	Ohm-m	0.974	0.513	
IEE			counts						A
VSN			counts						V
VLN			counts						V

After Survey Verification

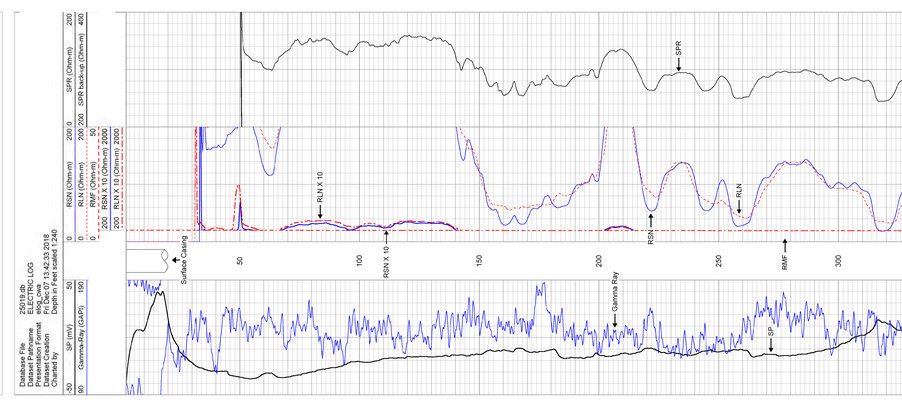
	Readings Zero	Readings Cal		References Zero	References Cal		Results Gain	Results Offset	
Short	15.786	0.000		15.833	0.000	Ohm-m	1.003	0.000	
Long	555.070	1.692		555.866	1.696	Ohm-m	1.000	0.000	
IEE			counts						A
VSN			counts						V
VLN			counts						V

After Survey Verification compared to Before Survey Calibration

	Before	After	Cal	
Short	14.449	15.833	0.000	Ohm-m
Long	541.982	555.866	2.165	Ohm-m

Gamma Ray Calibration Report

Serial Number:	D4
Pod Model:	ELOG
Calibrated:	Thu May 31 13:25:39 2018
Calibrator Value:	162.0 GAPI
Background Reading:	131.7 cps
Calibrator Reading:	352.0 cps
Sensitivity:	0.7129 GAPI/cps



Log Variables

Database:C:\ProgramData\Warrior\Data\25019.db
Dataset fieldwell\run1\ELECTRIC LOG_vars_

Top - Bottom

BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	RM_MEAS_R	RM_MEAS_T
0	0	0	0	0	5.2	68.6
10.625	71.7	0	0			
RMF	RSH	SPSHIFT	SPSHIFT	TDEPTH	TempGrad	
Ohm-m	Ohm-m	mV	ft	ft	DegF/ft	
4.89	20	0	0	470	0.01235	

Variable Description

BOREID Borehole I.D.
BOTTEMP Bottom Hole Temperature
CASEOD Casing Diameter
CASETHCK Casing Thickness
PERFS Perforation Data
RMF Mud Filtrate Resistivity Measured
RM_MEAS_T Mud Temperature Measured

RMF Resistivity of Mud Filtrate
RSH Resistivity of Shale
SPSHIFT SP Shale Offset
SRTEMP Surface Temperature
TDEPTH Total Depth
TempGrad Temperature Gradient

PACIFIC SURVEYS

SONIC VELOCITY VARIABLE DENSITY

Job No. 25019

File No.

Company ABC LIOVIN DRILLING, INC.

Well PW-18

Field COLTON

County SAN BERNARDINO State CA

Location:

25 MILES EAST OF N PEPPER AVE & WEST RANDALL AVE
GPS: 34.0853 -117.3490

Other Services:

ELOG
GAMMA RAY

Sec. Twp. Rge.

Permanent Datum	G.L.	Elevation	Elevation:
Log Measured From	G.L. 0'	above perm. datum	GCK.B. G.L.
Drilling Measured From	G.L.		

Date	12/7/2018			
Run Number	ONE			
Depth Driller	470'			
Depth Logger	470'			
Bottom Logged Interval	470'			
Top Log Interval	20'			
Casing Driller	16" @ 20'			
Casing Logger	20'			
Bit Size	10.625"			
Type Fluid in Hole	BENTONITE			
Density / Viscosity	N/A			
pH / Fluid Loss	N/A			
Source of Sample	PIT			
Rm @ Meas. Temp	5.2 @ 68.6 F			
Rmf @ Meas. Temp	4.89 @ 68.6 F			
Rmc @ Meas. Temp	N/A			
Source of Rmf / Rmc	MEASURE			
Rm @ BHT	N/A			
Time Circulation Stopped	11:00 AM			
Time Logger on Bottom	12:30 PM			
Max. Recorded Temperature	N/A			
Equipment Number	PS-12			
Location	L.A.			
Recorded By	ABREAU			
Witnessed By	VALENZUELA			

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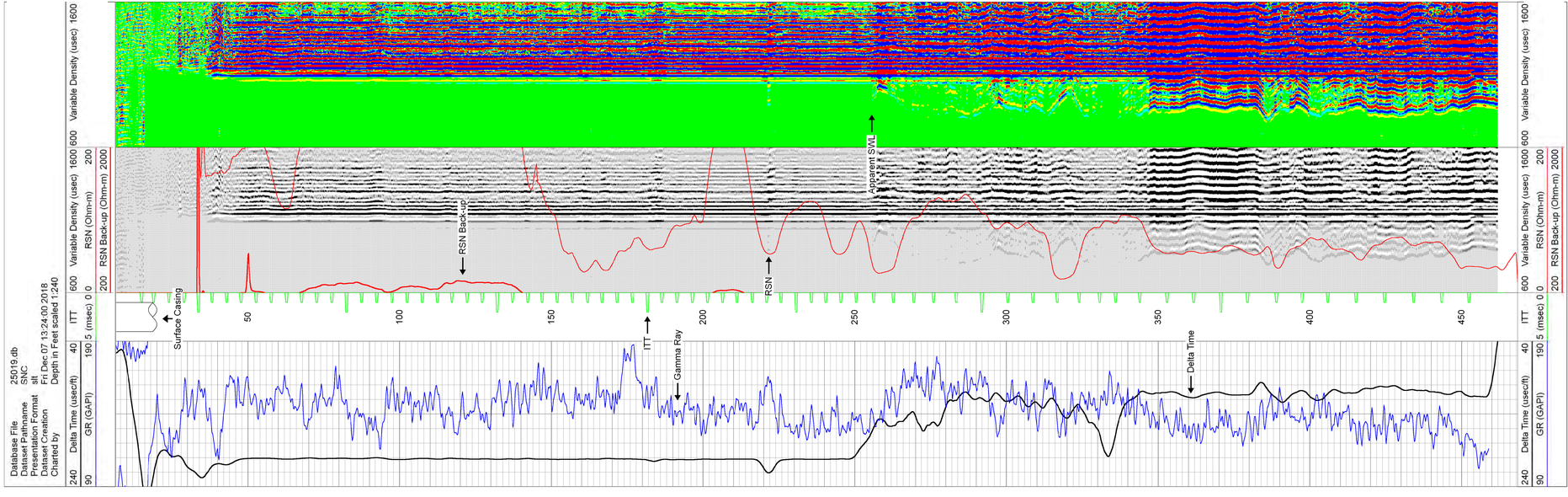
Comments:



PACIFIC SURVEYS

ELECTRIC LOG
GAMMA RAY

Company	ABC LLOYN DRILLING, INC.
Well	PIV-19
Field	COLTON
County	SAN BERNARDINO
State	CA
Other Services:	SONIC/GL

Location: 1154 N CYPRESS AVE, GPS: 34.091 -117.342

File No: 24817

Permanent Datum: GL
Log Measured From: GL 0'
Drilling Measured From: RKB

Elevation: 1420ft
Elevation: GL
Elevation: DF

Date: 1/14/2019
Run Number: ONE
Depth Driller: 451
Depth Logger: 451
Bottom Logged Interval: 451
Top Logged Interval: SURFACE
Casing Driller: 16" @ 37'
Casing Logger: 457
Bit Size: 12.25"
Type Fluid in Hole: GEL
Density / Viscosity: 9.8 / 40
pH / Fluid Loss: N/A
Source of Sample: FLOWLINE
Rm @ Meas. Temp: 2.74 @ 69.8 F
Rmf @ Meas. Temp: N/A
Rmc @ Meas. Temp: N/A
Source: Rmf / Rmc: MEASURE
Rm @ BHT: N/A
Time Circulation Stopped: 11:00 AM
Time Logger on Bottom: 12:30 PM
Max. Recorded Temperature: N/A
Equipment Number: 1
Location: LA
Recorded By: J. CRUZ
Witnessed By: VALENCIA

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Comments

Calibration Report

Database File	24817.db
Dataset Pathname	elog2
Dataset Creation	Wed Jan 09 14:00:30 2019

ELOG Calibration Report

Serial:	PS-5
Model:	DTQ
Shop Calibration Performed:	Thu May 31 13:28:25 2018
Before Survey Verification Performed:	Wed Nov 09 10:04:07 2016
After Survey Verification Performed:	Wed Nov 09 10:04:43 2016

Shop Calibration

	Readings Zero	Readings Cal		References Zero	References Cal		Results Gain	Results Offset
Short	0.784	51.434		0.500	50.000	Ohm-m	0.977	-0.266
Long	3.144	206.323		2.000	200.000	Ohm-m	0.975	-1.064
IEE	8.160	5581.480	counts	0.009	6.108	A		
VSN	76.580	6407.720	counts	1.451	122.219	V		
VLN	125.200	1628.700	counts	2.388	31.065	V		

Before Survey Verification

	Readings Zero	Readings Cal		References Zero	References Cal		Results Gain	Results Offset
Short	15.833	0.000		14.449	0.000	Ohm-m	0.913	0.000
Long	555.866	1.696		541.982	2.165	Ohm-m	0.974	0.513
IEE	106.360	29984.580	counts	0.116	32.815	A		
VSN	18.920	0.000	counts	0.361	0.000	V		
VLN	166.060	142.840	counts	3.167	2.724	V		

After Survey Verification

	Readings Zero	Readings Cal		References Zero	References Cal		Results Gain	Results Offset
Short	15.786	0.000		15.833	0.000	Ohm-m	1.003	0.000
Long	555.770	1.692		555.866	1.696	Ohm-m	1.000	0.003
IEE	106.340	30058.260	counts	0.116	32.896	A		
VSN	18.860	0.000	counts	0.360	0.000	V		
VLN	166.000	142.880	counts	3.166	2.725	V		

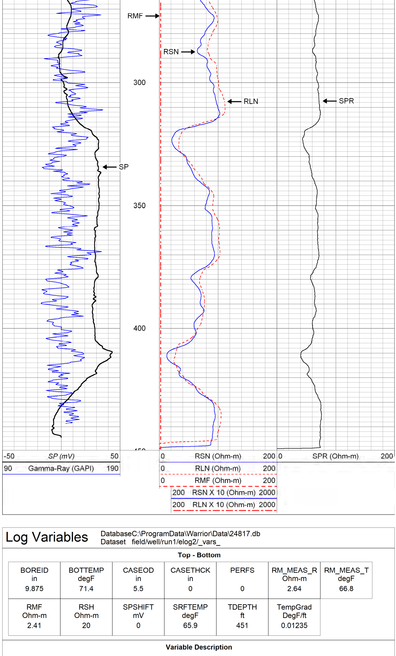
After Survey Verification compared to Before Survey Calibration

	Zero Before	Zero After		Cal Before	Cal After	
Short	14.449	15.833	Ohm-m	0.000	0.000	Ohm-m
Long	541.982	555.866	Ohm-m	2.165	1.696	Ohm-m

Gamma Ray Calibration Report

Serial Number:	D4
Tool Model:	ELOG
Performed:	Thu May 31 13:25:39 2018
Calibrator Value:	162.0 GAPI
Background Reading:	124.7 cps
Calibrator Reading:	352.0 cps
Sensitivity:	0.7129 GAPI/cps

Database File	24817.db
Dataset Pathname	elog2
Presentation Format	elog_owa
Dataset Creation	Wed Jan 09 14:00:30 2019
Charted by	Depth in Feet scaled 1:240



Log Variables

Database C:\ProgramData\Warrior\Data\24817.db
Dataset field\well\run1\elog2_vars_

Top - Bottom

BOREID	BOTTEMP	CASEOD	CASETHCK	PERFS	RM_MEAS_R	RM_MEAS_T
in	degF	in	in		Ohm-m	degF
9.875	71.4	5.5	0	0	2.64	66.8

RMF	RSH	SPSHIFT	SRFTEMP	TDEPTH	TempGrad
Ohm-m	Ohm-m	mV	degF	ft	DegF/ft
2.41	20	0	65.9	451	0.01235

Variable Description

BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
PERFS : Perforation Flag
RM_MEAS_R : Mud Resistivity Measured
RM_MEAS_T : Mud Temperature Measured
RMF : Resistivity of Mud Filtrate
RSH : Resistivity of Shale
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
TDEPTH : Total Depth
TempGrad : Temperature Gradient

PACIFIC SURVEYS

SONIC VELOCITY VARIABLE DENSITY

Job No. 24817

File No.

Company ABC LIOVIN DRILLING, INC.

Well PW-19

Field COLTON

County SAN BERNARDINO State CA

Location:

1154 N. CYPRESS AVE.
GPS: 34.0791 -117.3412

Other Services:

ELOG
GAMMA RAY

Sec. Twp. Rge.

				Elevation:
Permanent Datum	G.L.		Elevation above perm. datum	K.B.
Log Measured From	G.L.	0'		D.F.
Drilling Measured From	G.L.			G.L.

Date	1/9/2019
Run Number	ONE
Depth Driller	451'
Depth Logger	451'
Bottom Logged Interval	450'
Top Log Interval	20'
Casing Driller	16" @ 20'
Casing Logger	20'
Bit Size	9.875"
Type Fluid in Hole	BENTONITE
Density / Viscosity	N/A
pH / Fluid Loss	N/A
Source of Sample	PIT
Rm @ Meas. Temp	2.64 @ 66.8 F
Rmf @ Meas. Temp	2.41 @ 66.8 F
Rmc @ Meas. Temp	N/A
Source of Rmf / Rmc	MEASURE
Rm @ BHT	N/A
Time Circulation Stopped	11:00 AM
Time Logger on Bottom	1:30 PM
Max. Recorded Temperature	N/A
Equipment Number	PS-12
Location	L.A.
Recorded By	ABREAU
Witnessed By	VALENZUELA

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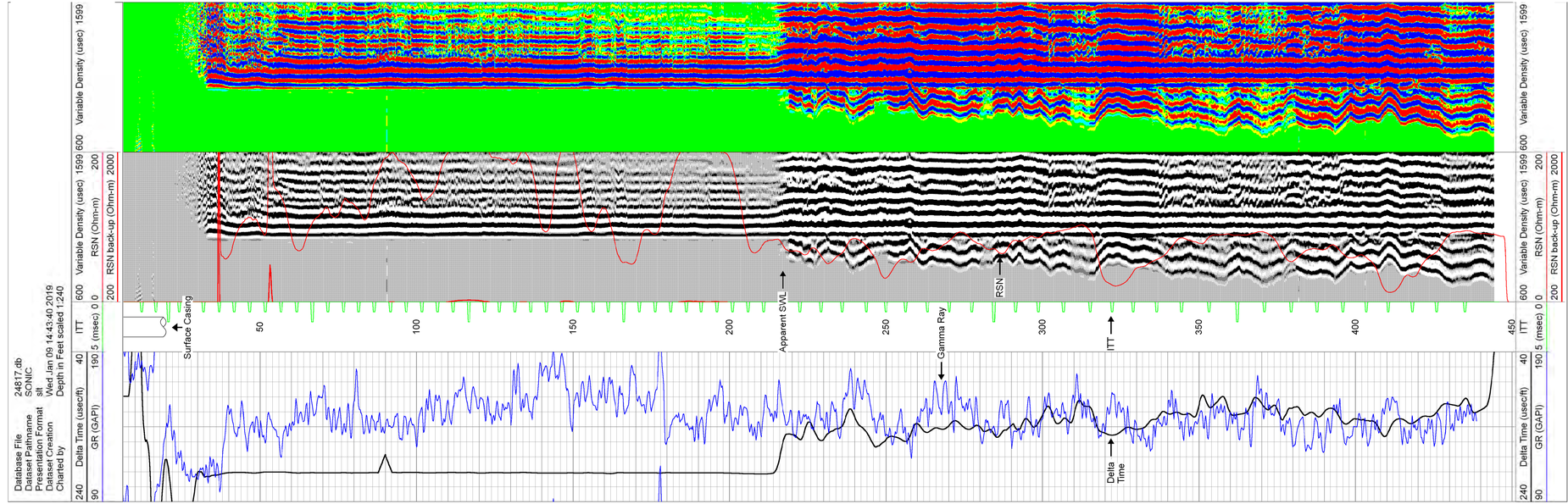
Comments



PACIFIC SURVEYS

CALIPER BOREHOLE VOLUMES

Job No. 25229
File No.

Company ABC LIOVIN DRILLING, INC.
Well PW-19
Field COLTON
County SAN BERNARDINO State CA

Location:
1154 N CYPRESS AVE.
GPS: 34.0791 -117.3412
Sec. Twp. Rge.

Other Services:
NONE

		Elevation	Elevation
Permanent Datum	G.L.		
Log Measured From	G.L. 0'	above perm. datum	K.B.
Drilled Measured From	G.L.		G.L.

Date	01/15/2019		
Run Number	ONE		
Depth Driller	452'		
Depth Logger	452'		
Bottom Logged Interval	452'		
Top Log Interval	0'		
Type Caliper	3 ARM		
Type Fluid in Hole	BENTONITE		
Density / Viscosity	9.10 / 39		
Max. Recorded Temp.	N/A		
pH/Fluid Loss	N/A		
Time Well Ready	1:10 PM		
Time Logger on Bottom	1:24 PM		
Equipment Number	PS-10		
Location	LA		
Recorded By	E. AFCH		
Witnessed By	G. VALENZUELA		

Borehole Record				Gravel Feed/Tubing Schedule			
Run Number	Bit	From	To	Size	Type	From	To
ONE	14.75"	0'	452'				

Casing Schedule	Size	Wgt/Ft	Top	Bottom
Surface String	16" ID	N/A	0'	20'
Production String	2" ID	PVC	0'	292'
Production String	2" ID	PVC	0'	334'
Production String	2" ID	PVC	0'	396'
Production String				

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Comments

Calibration Report

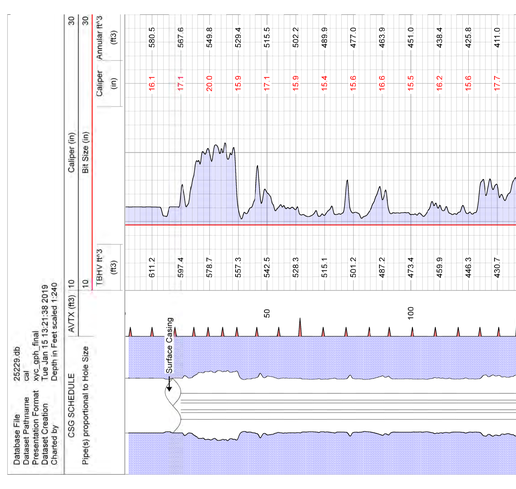
Database File	25229.db
Dataset Pathname	cal
Dataset Creation	Tue Jan 15 13:21:38 2019

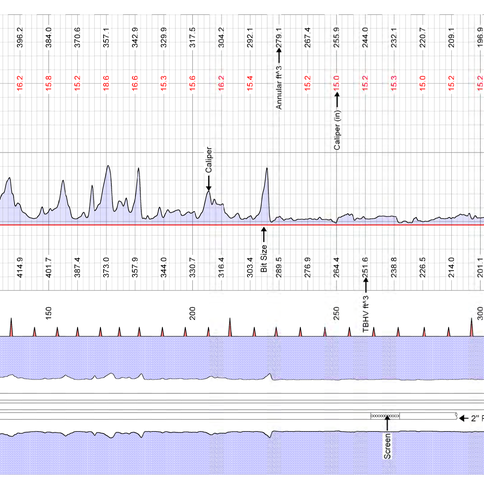
XY Caliper Calibration Report

Serial Number/Model:	Cal-4 Medium-Comprobe
Performed:	Fri Jan 12 15:30:49 2018

Ring		
1:	8	in
2:	14	in
3:	20	in
4:	26	in
5:	32	in
6:		in
7:		in
8:		in
9:		in
10:		in

	X Caliper		Y Caliper	
1:	642.094	cps	642.094	cps
2:	1030.13	cps	1030.13	cps
3:	1409.98	cps	1409.98	cps
4:	1787.47	cps	1787.47	cps
5:	2201.68	cps	2201.68	cps
6:		cps		cps
7:		cps		cps
8:		cps		cps
9:		cps		cps
10:		cps		cps





Appendix B
Lithology and
Well Construction Logs

ENSAFE

5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-18 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))	Monitoring Well Construction
0	1116					CMT	Asphalt cover (4 inches thick)	Well Box
1	1115							
2	1114							PW-18A TOC 1115.81
3	1113							PW-18B TOC 1115.73
4	1112							PW-18C TOC 1115.77
5	1111							
6	1110							
7	1109							
8	1108							
9	1107							
10	1106							
11	1105					SM	Randall Basin Berm Fill: Silty sand, yellowish brown, fine to medium sand	
12	1104							
13	1103							
14	1102							
15	1101							
16	1100							
17	1099							
18	1098							
19	1097					SP	POORLY GRADED SAND (SP), light yellowish brown (10YR 6/4), subrounded fine to medium sand	Metal casing
20	1096							Portland Cement Mix
21	1095							
22	1094							
23	1093							
24	1092							
25	1091							
26	1090							
27	1089							
28	1088							
29	1087							
30	1086							
31	1085							
32	1084							
33	1083							
34	1082							
35	1081							
36	1080							
37	1079					SP	POORLY GRADED SAND (SP), light yellowish brown (10YR 6/4), subangular coarse sand with angular fine gravel, some fine and medium sand	
38	1078							
39	1077							
40	1076							
41	1075							
42	1074							
43	1073							
44	1072							
45	1071							
46	1070							
47	1069							
48	1068							
49	1067							
50	1066							
51	1065							
52	1064							
53	1063							
54	1062							
55	1061							
56	1060							
57	1059							
58	1058							
59	1057							
60	1056							
61	1055							
62	1054							
63	1053							
64	1052							
65	1051							
66	1050							
67	1049					GP	POORLY GRADED GRAVEL (GP), yellowish brown (10YR 5/6), subangular fine gravel, some subrounded medium and coarse sand, trace silt	

Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▌ Laboratory Sample Interval

TOC - Top of Casing
ft. - feet

J:\Concord\Projects\UTC\UTC RFF Rialto\Boring Logs

ENSAFE

5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-18 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))	Monitoring Well Construction
68–135	1048–981					SW	WELL GRADED SAND (SW), yellowish brown (10YR 5/6), subrounded fine to coarse sand, trace silt, trace subangular fine gravel	
						GP	POORLY GRADED GRAVEL (GP), yellowish brown (10YR 5/6), subangular fine gravel, some subrounded medium and coarse sand, trace silt	
						GC	POORLY GRADED GRAVEL WITH SILT AND CLAY(GC), yellowish brown (10YR 5/6), subangular fine gravel, some silty and clayey sand	

Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▌ Laboratory Sample Interval
TOC - Top of Casing
ft. - feet

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5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-18 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
136-203	980-913					ML	SANDY SILT, brown (10YR 5/3), some subrounded fine to medium sand with fine subangular fine gravel
						GC	POORLY GRADED GRAVEL WITH CLAY (GC), brown (10YR 5/3), subangular fine gravel, little subangular coarse sand
						CL	SANDY CLAY (CS), brown (10YR 5/3), some subangular fine sand, little subrounded medium sand, litile angular fine gravel
						GC	POORLY GRADED GRAVEL WITH CLAY (GC), yellowish brown (10YR 5/6), subangular fine gravel with sandy clay

Monitoring Well Construction

Bentonite grout mix (50% Bentonite - 50% Sand)

Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▌ Laboratory Sample Interval
TOC - Top of Casing
ft. - feet

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ENSAFE

5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-18 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))	Monitoring Well Construction
204–271	912–845					CL	SANDY CLAY (CS), brown (10YR 5/3), some subangular fine sand, little subrounded medium sand, some angular fine gravel	
						SP	POORLY GRADED SAND (SP), yellowish brown (10YR 5/6), subrounded coarse sand, some clayey and silty sand, litle angular fine gravel	
						SW	WELL GRADED SAND WITH GRAVEL (SW), brown (10YR 5/3), subrounded fine to coarse sand, some subangular fine gravel, trace clayey sand	
						CL	SANDY CLAY (CS), brown (10YR 5/3), some subangular fine sand, little subrounded medium and coarse sand, some angular fine gravel	Transition sand (Sand No. 250)

Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▌ Laboratory Sample Interval
TOC - Top of Casing
ft. - feet

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5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-18 (A-C)

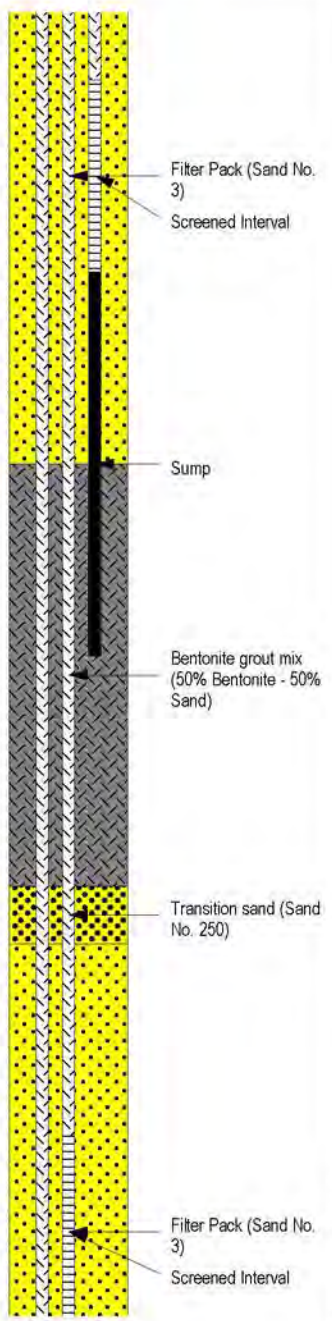
Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
325	791				SP		POORLY GRADED SAND (SP), yellowish brown (10YR 5/6), subrounded coarse sand, some clayey and silty sand, litle angular fine gravel

Monitoring Well Construction



Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▮ Laboratory Sample Interval

TOC - Top of Casing
ft. - feet

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5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-18 (A-C)

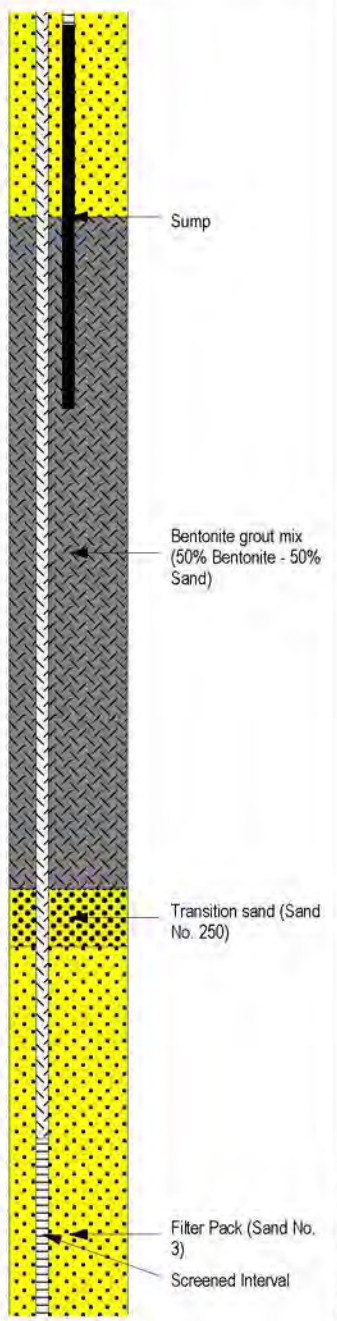
Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
340–407	776–709					CL	SANDY CLAY (CS), brown (10YR 5/3), some subangular fine sand, little subrounded medium and coarse sand, some angular fine gravel
						SP	POORLY GRADED SAND (SP), yellowish brown (10YR 5/6), subrounded coarse sand, some clayey and silty sand, litle angular fine gravel
						CL	SANDY CLAY (CS), brown (10YR 5/3), some subangular fine sand, little subrounded medium and coarse sand, some angular fine gravel
						SP	POORLY GRADED SAND (SP), yellowish brown (10YR 5/6), subrounded coarse sand, some clay, some angular fine gravel
						GP	POORLY GRADED GRAVEL (GP), yellowish brown (10YR 5/6), subangular fine gravel, some subrounded medium and coarse sand, trace silt
						SP	POORLY GRADED SAND (SP), yellowish brown (10YR 5/6), subrounded coarse sand, some sandy silt, some angular fine gravel

Monitoring Well Construction



Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▮ Laboratory Sample Interval
TOC - Top of Casing
ft. - feet

J:\Concord\Projects\UTC\UTC RFF Rialto\Boring Logs

ENSAFE

5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

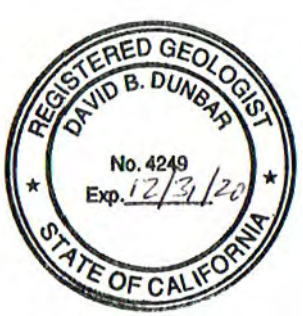
Location ID: PW-18 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 12/03/18
End Date/Time: 12/17/18
Total Depth: 470
Ground Elevation: 1116.07
TOC Elevation: 1115.81 (PW-18A)
Northing: 1854034.48
Easting: 6758815.46

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))	Monitoring Well Construction
408–470	708–647					SW	WELL GRADED SAND (SW), brown (10YR 5/3), subrounded fine to coarse sand, some subangular fine gravel, trace sandy silt	Sump; Bentonite grout mix (50% Bentonite - 50% Sand)



Notes:Nested monitoring well set with three casings, PW-18A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▌ Laboratory Sample Interval
TOC - Top of Casing
ft. - feet

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5001 Airport Plaza Drive, Suie 260
Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

Location ID: PW-19 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud Rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 01/03/19
End Date/Time: 01/18/19
Total Depth: 452
Ground Elevation: 1059.89
TOC Elevation: 1059.28 (PW-19A)
Northing: 1851877.29
Easting: 6761188.88

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))	Monitoring Well Construction
0	1059					CMT	Asphalt cover (4 inches thick)	Well Box
1	1058							
2	1057							
3	1056							
4	1055							
5	1054							
6	1053							
7	1052							
8	1051							
9	1050							
10	1049							
11	1048							
12	1047							
13	1046							
14	1045							
15	1044							
16	1043							
17	1042							
18	1041							
19	1040							
20	1039							
21	1038							
22	1037							
23	1036							
24	1035							
25	1034							
26	1033							
27	1032							
28	1031							
29	1030							
30	1029							
31	1028							
32	1027							
33	1026							
34	1025							
35	1024							
36	1023							
37	1022							
38	1021					SP	POORLY GRADED SAND (SP), light yellowish brown (10YR 6/4), subrounded fine to medium sand	PW-19A TOC 1059.28 PW-19B TOC 1059.33 PW-19C TOC 1059.30
39	1020							
40	1019							
41	1018							
42	1017							
43	1016							
44	1015							
45	1014							
46	1013							
47	1012							
48	1011							
49	1010							
50	1009							
51	1008							
52	1007							
53	1006							
54	1005							
55	1004							
56	1003							
57	1002							
58	1001							
59	1000							
60	999							
61	998							
62	997							
63	996							
64						GP	POORLY GRADED GRAVEL (GP), brown (10YR 5/6), subangular fine gravel, some silty sand, subrounded medium and coarse sand	Metal casing Portland Cement Mix

Notes: Nested monitoring well set with three casings, PW-19A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

▼ Water Level
▮ Laboratory Sample Interval
TOC - Top of Casing
ft. - feet

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Long Beach, California 90815

Soil Boring Log and Monitoring Well Log

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Project #: 0888822992
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Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud Rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 01/03/19
End Date/Time: 01/18/19
Total Depth: 452
Ground Elevation: 1059.89
TOC Elevation: 1059.28 (PW-19A)
Northing: 1851877.29
Easting: 6761188.88

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
65–129	995–931					SW	WELL GRADED SAND WITH GRAVEL (SW), yellowish brown (10YR 5/6), subrounded fine to coarse sand, trace silt, trace subangular fine gravel
						GP	POORLY GRADED GRAVEL (GP), yellowish brown (10YR 5/6), subangular fine gravel, some subrounded medium and coarse sand with silt
						SW	WELL GRADED SAND WITH SILTY CLAY AND GRAVEL (SW-SC), yellowish brown (10YR 5/6), subrounded fine to coarse sand, subangular fine gravel and some silty clay

Monitoring Well Construction

Notes: Nested monitoring well set with three casings, PW-19A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

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Easting: 6761188.88

Client: United Technologies Corporation
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Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud Rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
165	895					GP	POORLY GRADED GRAVEL (GP), brown (10YR 5/6), subangular fine gravel, some silty sand, subrounded medium and coarse sand
167	893					SW	WELL GRADED SAND WITH SILTY CLAY AND GRAVEL (SW-SC), yellowish brown (10YR 5/6), subrounded fine to coarse sand, subangular fine gravel and some silty clay
172	888					GP	POORLY GRADED GRAVEL (GP), brown (10YR 5/6), subangular fine gravel, some silty sand, subrounded medium and coarse sand
174	886					SW	WELL GRADED SAND WITH SILTY CLAY AND GRAVEL (SW-SC), yellowish brown (10YR 5/6), subrounded fine to coarse sand, subangular fine gravel and some silty clay

Monitoring Well Construction

Bentonite grout mix (50% Bentonite - 50% Sand)

Notes: Nested monitoring well set with three casings, PW-19A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

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Soil Boring Log and Monitoring Well Log

Location ID: PW-19 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
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Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

Start Date/Time: 01/03/19
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Northing: 1851877.29
Easting: 6761188.88

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))	Monitoring Well Construction
194–258	866–802					GC	POORLY GRADED GRAVEL WITH CLAY (GC), brown (10YR 5/3), subangular fine gravel with some yellowish brown sandy silt and reddish brown sandy clay	Transition sand (Sand No. 250)

Notes: Nested monitoring well set with three casings, PW-19A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

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Soil Boring Log and Monitoring Well Log

Location ID: PW-19 (A-C)

Client: United Technologies Corporation
Project #: 0888822992
Purpose: Monitoring well installation
Project: PW18 and PW19 Well Installation
Location: San Bernardino, California

Sample Method: Drilling cuttings
Drill Equipment: Mud Rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

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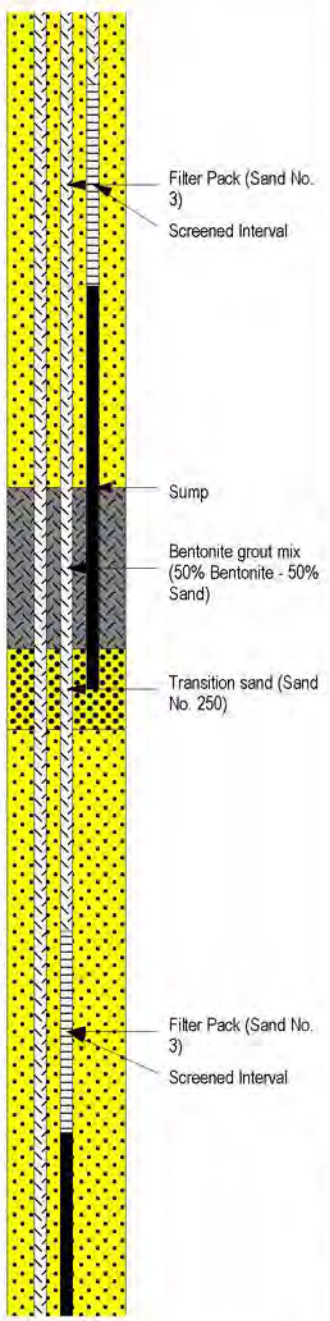
Northing: 1851877.29
Easting: 6761188.88

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
259–323	801–737					CL	SANDY SILTY CLAY WITH GRAVEL (CL-ML), brown (10YR 5/3), some subangular fine sand, little subrounded medium sand, silt, and some angular fine gravel
						SP	POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM), brown (10YR 5/3), subrounded coarse sand, some sandy silt and clay, little angular fine gravel
						ML	SANDY SILT WITH GRAVEL (ML), yellowish brown (10YR 5/6), fine to medium sand, little subrounded coarse sand, some angular fine gravel

Monitoring Well Construction



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Drill Equipment: Mud Rotary
Drilling Company: ABC Liovin Drilling
Geologist: G.Valenzuela

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Total Depth: 452
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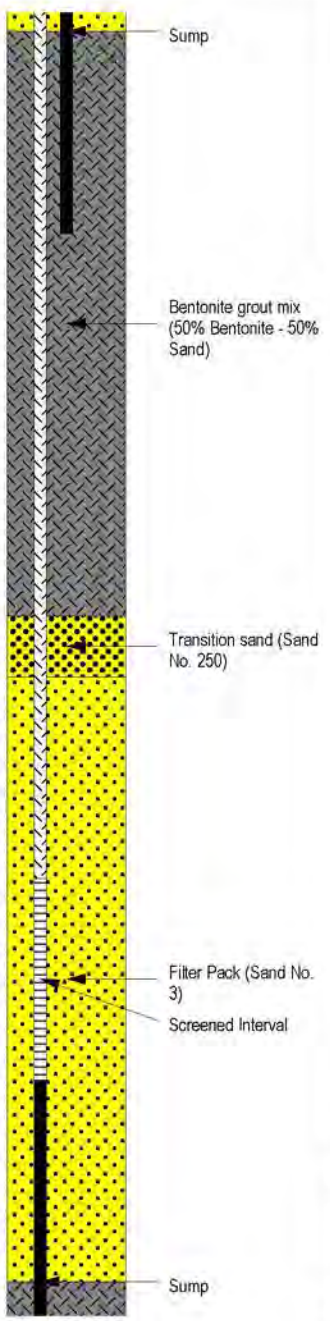
TOC Elevation: 1059.28 (PW-19A)
Northing: 1851877.29
Easting: 6761188.88

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
324–387	736–673					GP	POORLY GRADED GRAVEL WITH SAND (GP), brown (10YR 5/3), subangular fine gravel, some subrounded medium and coarse sand, trace silt

Monitoring Well Construction



Notes: Nested monitoring well set with three casings, PW-19A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

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Ground Elevation: 1059.89
TOC Elevation: 1059.28 (PW-19A)
Northing: 1851877.29
Easting: 6761188.88

Depth (ft.)	Elevation (ft.)	% Recovery	Miscellaneous	OVA Reading (ppm)	USCS Symbol	USCS Code	Lithologic Description (Visual-Manual Description (ASTM D 2488-06))
388–452	672–608						
						SW	WELL GRADED SAND (SW), brown (10YR 5/3), subrounded fine to coarse sand, some subangular fine gravel, trace sandy silt
						ML	SANDY SILT WITH GRAVEL (ML), yellowish brown (10YR 5/6), some medium to coarse sand, some angular fine gravel
						SW	WELL GRADED SAND (SW), brown (10YR 5/3), subrounded, fine to coarse sand, some subangular fine gravel
						SM	SILTY SAND WITH GRAVEL (SM), yellowish brown (10YR 5/6), some fine to coarse sand, some angular fine gravel
							Total boring depth 450 feet below grade

Monitoring Well Construction

Bentonite grout mix (50% Bentonite - 50% Sand)

REGISTERED GEOLOGIST
DAVID B. DUNBAR
No. 4249
Exp. 12/31/20
STATE OF CALIFORNIA

Notes: Nested monitoring well set with three casings, PW-19A through C. Smallest grain size recovered by drilling shaker is small to medium sand. Largest grain size recovered during drilling is fine gravel. Descriptions are based on mud rotary cuttings and driller notes. Descriptions might not be an accurate representation of borehole lithology.

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ft. - feet

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Appendix C
Well Development Logs

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WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/8/19	JOB NUMBER: 08~~888~~/~~[illegible]~~23992
PROJECT: UTC- Rialto	EVENT: Well development
WELL ID: PW-18-C	LOCATION: 34°05'06.8"N 117°20'57.5"W
WEATHER CONDITIONS: Cloudy	AMBIENT TEMP: 45-65F
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: ~~3~~ 2"	1/8/19 WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 422'5"	START: 700	FINISH: 1600
DEPTH TO WATER from TOC (ft.): 252 84	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 101	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal): 27.69	START:	FINISH:
3 VOLUMES OF WATER (gal): 83.07	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description: Lifting

Time (hh:mm):	11:33	12:02	1232	1250	1325	1425	1545	Air surging is turned off to air surging the well & turned on at each time taken
pH (units):	9.64	9.62	9.64	9.68	9.69	9.83	9.84	
Conductivity (mS/cm):	0.334	0.333	0.324	0.331	0.329	0.329	0.322	
Turbidity (NTU):	51.4	42.9	19.5	30.5	52.2	52.7	38.3	All readings are taken 10 mins after air ~~surging~~ turned on in 10 mins
DO* (mg/L):	39.1	116.2	59.8	54.8	8.10	4.94	5.14	
Temperature (C°):	20.05	19.90	20.70	20.63	21.32	21.30	20.98	
ORP (mV):								Water color changes from clear brown to milky color
Corrected ORP** (mV):								
Volume Purged (gal):								
Depth to Water (ft):								
Flow Rate.	1.25	→						
							Well Goes Dry While Purging ☐	

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data ☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/9/19	JOB NUMBER:	08888 ~~13608~~ 23992
PROJECT:	VTC- Rialto	EVENT:	Well development
WELL ID:	DW-18-C (deep screen)	LOCATION:	34°05'068"N 117°30'57.5"W
WEATHER CONDITIONS:	Sunny	AMBIENT TEMP:	45-65°F
REVIEWED BY:		PERSONNEL:	R. Xiao

WELL DIA:	~~2~~ 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	~~425~~ 425.61'	START: 700	FINISH: 400
DEPTH TO WATER from TOC (ft.):	~~252.84~~ 253'	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	~~20~~ 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	27.69	START:	FINISH:
3 VOLUMES OF WATER (gal):	83.07	VOLUME PURGED (gal):	
		ANALYSIS:	

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING						☐ Bailer ☐ Pump	Description:				
Time (hh:mm):	13:25	1430	~~1500~~ 1530	1600	~~1630~~		Mommy		Mommy surge block		
pH (units):	10.11	9.89	9.91	9.94	10.11		Milky		surged & turn on		
Conductivity (mS/cm):	0.350	0.340	0.320	0.329	0.329				the air ~~surging~~ lifting		
Turbidity (NTU):	58.9	84.4	33.1	16.1	18.8		Color		.		
DO* (mg/L):	7.20	5.66	6.38	5.18	5.06		to		Air ~~surging~~ lifting was kept		
Temperature (C°):	19.93	20.66	20.16	20.05	20.23		light		on after & ~~take~~		
ORP (mV):	215	190	175	181	170		clear		took readings every 30 mins.		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

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WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/10/19	JOB NUMBER: 08888 ~~23992~~ 23992
PROJECT: UTC-Rialto	EVENT: Well development
WELL ID: PW-18 B (middle screen)	LOCATION: ~~26~~ 34°05'06.8"N 117°20'57.3"W
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 45-65F
REVIEWED BY:	PERSONNEL: R Xiao

WELL DIA: ~~3~~ 2"	**WELL DEVELOPMENT**	
TOTAL DEPTH from TOC (ft.): ~~425.61~~ 360.75'	START: 700	FINISH: 400
DEPTH TO WATER from TOC (ft.): ~~253'~~ ~~360.75'~~	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): ~~172.10~~ 10' 256.3'	**GROUNDWATER SAMPLING**	
1 VOLUME OF WATER (gal): 17.01'	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	1130	1350	1500					Water color is milky brown.			
pH (units):	9.98	10.06	10.01								
Conductivity (mS/cm):	0.483	0.531	0.498								
Turbidity (NTU):	208	>1000	>1000								
DO* (mg/L):	4.77	7.62	7.56								
Temperature (C°):	20.14	20.15	20.37								
ORP (mV):	206	172	175								
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lal	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

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WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/11/19	JOB NUMBER:	08858 ~~13685~~ 23992
PROJECT:	UTC - Rialto	EVENT:	Well development
WELL ID:	PW-18 B (middle screen)	LOCATION:	34°05'06.8"N 117°20'57.5"W
WEATHER CONDITIONS:	Sunny	AMBIENT TEMP:	45-65°F
REVIEWED BY:		PERSONNEL:	R. Xiao

WELL DIA:	~~3~~ 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	360.75	START: 700	FINISH:
DEPTH TO WATER from TOC (ft.):	256.5	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	~~20~~ 104'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	170	START:	FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):	
		ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING	☐ Bailer ☐ Pump						Description:				
Time (hh:mm):	830	930	1030	1130				Water is milky brown			
pH (units):	10.40	9.95	9.96	9.92							
Conductivity (mS/cm):	0.498	0.507	0.458	0.481							
Turbidity (NTU):	>1000	>1000	>1000	>1000							
DO* (mg/L):	7.91	7.80	7.50	7.53							
Temperature (C°):	13.8	17.11	18.78	19.06							
ORP (mV):	204	179	177	173							
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data ☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

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WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/14/19	JOB NUMBER: 08888823992
PROJECT: VTC – Rialto	EVENT: Well development
WELL ID: PW-18 B	LOCATION: 1154 Cypress Ave. PW-18
WEATHER CONDITIONS: Raining & cloudy	AMBIENT TEMP: 45 - 55°F
REVIEWED BY: R.	PERSONNEL: R. Xiong

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 360.53	START: ~~850~~ 700	FINISH: ~~1415~~ 1630
DEPTH TO WATER from TOC (ft.): 257.2	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING ☐ Bailer ☐ Pump	Description:										
Time (hh:mm):	905	1000	1110	1235	1330	1445	1600				
pH (units):	8.65	8.47	8.46	8.35	8.25	8.34	8.39				
Conductivity (mS/cm):	0.807	0.602	0.604	0.591	0.605	0.562	0.586				
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	>1000	>1000				
DO* (mg/L):	9.94	10.46	12.25	12.72	13.37	13.71	16.89				
Temperature (C°):	14.57	17.24	15.04	14.87	14.70	13.78	12.52				
ORP (mV):	167	103	124	114	115	117	118				
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/15/19	JOB NUMBER:	0885823992
PROJECT:	UTC – Rialto	EVENT:	Well development
WELL ID:	PW-18B	LOCATION:	1154 Cypress Ave (PW-18)
WEATHER CONDITIONS:	Rainy Cloudy	AMBIENT TEMP:	45-55°F
REVIEWED BY:	~~BS~~	PERSONNEL:	R. Xiao

WELL DIA:	2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	360.93	START: 730	FINISH: 400 PM
DEPTH TO WATER from TOC (ft.):	257.26	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	80'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):		START:	FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):	
		ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	735	850	950	1045	1200	1305	1405	1500	1400		
pH (units):	8.38	8.32	8.40	8.31	8.44	8.58	8.35	8.38	8.21		
Conductivity (mS/cm):	0.561	0.542	0.592	0.617	0.623	0.603	0.604	0.582	0.576		
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000		
DO* (mg/L):	11.62	10.54	12.02	12.01	9.45	11.58	11.64	12.23	12.62		
Temperature (C°):	13.71	14.79	15.06	17.42	20.26	17.94	15.75	14.47	14.80		
ORP (mV):	120	104	109	101	98	97	109	133	139		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/16/19	JOB NUMBER: 088862392
PROJECT: UTC – Rialto	EVENT: Well development
WELL ID: PW-18 B	LOCATION: 1154 Cypress Ave. (PW-18)
WEATHER CONDITIONS: Rainy, Cloudy	AMBIENT TEMP: 45-55 F
REVIEWED BY:	PERSONNEL: R.X. GD

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 360.93	START: 7 ~~15~~ 50	FINISH: 4:00 pm
DEPTH TO WATER from TOC (ft.): 357.26	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	740	840	940	1040	1135	1230	1325	1415			
pH (units):	8.34	8.15	8.19	8.02	8.18	8.18	8.09	8.13			
Conductivity (mS/cm):	0.553	0.56	0.562	0.560	0.584	~~1.33~~ 0.576	0.583	0.560			
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000			
DO* (mg/L):	8.91	9.95	9.85	10.46	10.52	10.11	9.6	8.86			
Temperature (C°):	15.69	15.71	18.82	16.33	18.53	18.26	18.35	18.26			
ORP (mV):	117	133	127	143	133	133	132	139			
Corrected ORP** (mV):											
Volume Purged (gal):			Exchang								
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lat	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/17/19	**JOB NUMBER:**	08888239?2
PROJECT:	UTC Rail to CA	**EVENT:**	Well development PW-18A
WELL ID:	PW-18A (Actually PW-18C)	**LOCATION:**	1154 Cypress Ave PW-18
WEATHER CONDITIONS:	Rainy	**AMBIENT TEMP:**	50-60° F
REVIEWED BY:		**PERSONNEL:**	R. Xiao

WELL DIA:	2	**WELL DEVELOPMENT**	
TOTAL DEPTH from TOC (ft.):	~~360.43~~	**START:** 700	**FINISH:** 1630
DEPTH TO WATER from TOC (ft.):	~~259.26~~	**VOLUME PURGED (gal):**	
LENGTH OF WATER COL. (ft.):	101	**GROUNDWATER SAMPLING**	
1 VOLUME OF WATER (gal):		**START:**	**FINISH:**
3 VOLUMES OF WATER (gal):		**VOLUME PURGED (gal):**	
		ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump **Description:**

Time (hh:mm):	735	835	935	1035	1150	1310	1430	1535			
pH (units):	8.31	8.13	8.11	8.17	8.13	8.00	8.13	8.16			
Conductivity (mS/cm):	0.382	0.387	0.386	0.387	0.305	0.302	0.396	0.398			
Turbidity (NTU):	1.79	1.57	4.79	6.90	823	>1000	>1000	>1000			
DO* (mg/L):	9.24	10.16	11.34	9.33	10.9	10.92	10.22	9.70			
Temperature (C°):	15.61	15.18	16.00	16.30	16.34	16.91	16.93	17.74			
ORP (mV):	111	144	141	134	131	167	135	130			
Corrected ORP (mV):**											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump **Description:**

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lat	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/18/19	JOB NUMBER:	08888239.92
PROJECT:	UTC - Rialto	EVENT:	PW-18A Well development
WELL ID:	PW-18A (Actually PW-18-C) R. Xicoo	LOCATION:	Randall Basin
WEATHER CONDITIONS:	Sunny	AMBIENT TEMP:	50 – 65 °F
REVIEWED BY:	G. Valencia	PERSONNEL:	G. Valencia

WELL DIA:	2	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	~300	START: 0710	FINISH: 1545
DEPTH TO WATER from TOC (ft.):	[redacted]	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):		GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):		START:	FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):	
		ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	0742	0846	0950	1100	1210	1315	1415	1530			Well dries after ~8 mins of pumping. Takes approx. 1 hr to recharge.
pH (units):	8.15	8.26	8.41	8.30	8.27	8.35	8.42	8.31			
Conductivity (mS/cm):	0.486	0.399	0.407	0.404	0.427	0.421	0.410	0.410			
Turbidity (NTU):	869	342	292	266	+1,000	+1,000	+1,000	+1,000			
DO* (mg/L):	9.49	9.20	8.97	9.10	9.22	8.27	9.09	9.33			
Temperature (C°):	14.95	15.49	19.20	19.16	19.39	21.75	23.24	23.39			
ORP (mV):	129	127	107	118	113	114	111	111			
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data ☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/21/19	**JOB NUMBER:**	08888 23992
PROJECT:	VTC - Rialto	**EVENT:**	Well development
WELL ID:	PW-18-A (originally PW-18-C)	**LOCATION:**	1454 Cypress Ave PW-18
WEATHER CONDITIONS:	Cloudy → Sunny	**AMBIENT TEMP:**	50-65°F
REVIEWED BY:		**PERSONNEL:**	RX:CO

WELL DIA:	2"	**WELL DEVELOPMENT**
TOTAL DEPTH from TOC (ft.):	**START:** 700	**FINISH:**
DEPTH TO WATER from TOC (ft.):	**VOLUME PURGED (gal):**	
LENGTH OF WATER COL. (ft.): 10'	**GROUNDWATER SAMPLING**	
1 VOLUME OF WATER (gal):	**START:**	**FINISH:**
3 VOLUMES OF WATER (gal):	**VOLUME PURGED (gal):**	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump **Description:**

Time (hh:mm):	1140	1158	1212	1229	1244	1258	1320				Muddy Look Color
pH (units):	8.17	8.22	8.19	8.24	8.18	8.12	8.09				
Conductivity (mS/cm):	0.391	0.386	0.386	0.384	0.379	0.377	0.374				
Turbidity (NTU):	~~>1000~~	>1000	>1000	>1000	>1000	>1000	>1000				
DO* (mg/L):	7.64	9.48	8.05	9.01	8.25	7.39	6.8				
Temperature (C°):	21.04	21.17	21.55	21.26	21.30	21.02	21.33				
ORP (mV):	120	119	119	119	119	120	123				
Corrected ORP (mV):**											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump **Description:**

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/21/19	JOB NUMBER: 08888239?2
PROJECT: UTC – Rialto	EVENT: Well Development
WELL ID: PW-18-A (Actually PW-18-C)	LOCATION: 1154 Cypress Ave. PW-18
WEATHER CONDITIONS: Cloudy → Sunny	AMBIENT TEMP: 50–60°F
REVIEWED BY:	PERSONNEL: R. Yiau

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): ~~360.93~~	START: 700	FINISH: 1700
DEPTH TO WATER from TOC (ft.): ~~359.06~~	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	745	846	906	925	944	1010	1027	1046	1106	1126	muddy/cloudy color
pH (units):	10.33	8.10	8.17	8.22	8.23	8.27	8.2	8.09	8.14	8.29	
Conductivity (mS/cm):	0.372	0.423	0.420	0.392	0.397	0.395	0.385	0.400	0.385	0.384	
Turbidity (NTU):	948	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	
DO* (mg/L):	8.11	9.4	10.24	9.06	8.73	13.88	9.35	7.36	9.53	7.01	
Temperature (C°):	13.99	16.43	15.55	17.24	18.00	18.24	17.70	18.68	19.33	20.64	
ORP (mV):	206	114	114	117	115	115	116	122	122	117	
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page 1 of 1

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/22/19	**JOB NUMBER:**	08888293332
PROJECT:	USC – Rialto	**EVENT:**	Well Development
WELL ID:	PW-18-B	**LOCATION:**	1154 Cypress Ave PW-18-B
WEATHER CONDITIONS:	Sunny	**AMBIENT TEMP:**	45-60°F
REVIEWED BY:		**PERSONNEL:**	R. Xiao

WELL DIA:	2"	**WELL DEVELOPMENT**	
TOTAL DEPTH from TOC (ft.):	361.35	**START:** 1130	**FINISH:** 1630
DEPTH TO WATER from TOC (ft.):	350.65	**VOLUME PURGED (gal):**	
LENGTH OF WATER COL. (ft.):	10	**GROUNDWATER SAMPLING**	
1 VOLUME OF WATER (gal):		**START:**	**FINISH:**
3 VOLUMES OF WATER (gal):		**VOLUME PURGED (gal):**	
		ANALYSIS:	

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING	☐ Bailer ☐ Pump	Description:										
Time (hh:mm):	1126	1228	1339	1425	1530	1630						
pH (units):	8.51	8.44	8.56	8.57	8.60	8.49						
Conductivity (mS/cm):	0.524	0.524	0.504	0.495	0.488	0.473						
Turbidity (NTU):	99.8	>1000	298	188	182	146						
DO* (mg/L):	6.74	6.56	7.02	7.01	7.05	7.09						
Temperature (C°):	19.35	19.16	18.00	17.63	17.33	15.15						
ORP (mV):	~~-88~~	140	134	146	145	147						
Corrected ORP (mV):**	144											
Volume Purged (gal):												
Depth to Water (ft):												
							Well Goes Dry While Purging ☐					

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data ☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ **Page __ of __**

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/22/19	JOB NUMBER: 08888-23992
PROJECT: UTC-Rialto	EVENT: Well Development
WELL ID: PW-18-C	LOCATION: 1154 Cypress Ave PW-18
WEATHER CONDITIONS: Windy Sunny	AMBIENT TEMP: 50-65°F
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	START: 730	FINISH: 1000
DEPTH TO WATER from TOC (ft.):	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	750	809	820	836	853	905	921	939	1001		
pH (units):	8.27	8.15	8.21	8.27	8.30	8.28	8.30	8.28	8.48		
Conductivity (mS/cm):	0.410	0.374	0.362	0.360	0.354	0.353	0.353	0.348	0.355		
Turbidity (NTU):	7000	111	40.2	29.8	22.7	20.4	16.9	16	17		
DO* (mg/L):	10.20	7.68	8.16	7.21	9.36	7.34	7.25	6.82	7.04		
Temperature (C°):	15.97	17.44	17.61	18.21	18.9	18.34	17.74	17.97	17.35		
ORP (mV):	119	135	133	134	137	149	138	163	166		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 1/23/19	JOB NUMBER: 0885829332
PROJECT: VTC-Rialto	EVENT: Well Development
WELL ID: PW-18-B	LOCATION: 1154 Cypress Ave PW-18
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 45-65°F
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 361.35	START: 715	FINISH: 1230
DEPTH TO WATER from TOC (ft.): 256.65	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 101	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING	☐ Bailer ☐ Pump	Description:									
Time (hh:mm):	810	910	1010	1110	1210						
pH (units):	8.22	8.45	8.34	8.44	8.40						
Conductivity (mS/cm):	0.497	0.486	0.471	0.479	0.472						
Turbidity (NTU):	>1000	298	131	146	150						
DO* (mg/L):	7.94	7.21	6.45	6.74	6.23						
Temperature (C°):	15.20	17.92	19.81	20.52	22.24						
ORP (mV):	139	122	131	128	131						
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lal	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 11/23/19	JOB NUMBER: 08888299332
PROJECT: UTC - Balto	EVENT: Well Development
WELL ID: PW-18-A	LOCATION: 1154 Cypress Ave PW-18
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 45-55°F
REVIEWED BY:	PERSONNEL: R. Xicco

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 304'	START:	FINISH:
DEPTH TO WATER from TOC (ft.): 257.42'	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal): 0.17	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	
	Purge well 0.17 gal	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	9:05	9:25	9:30	10:15	10:40	11:56	12:34	1321	1401	1445	1523	1600
pH (units):	8.68	8.65	8.65	8.59	8.66	8.64	8.63	8.74	8.74	8.73	8.62	8.62
Conductivity (mS/cm):	1.59	1.54	1.54	1.52	1.51	1.27	1.21	1.32	1.10	1.12	0.778	0.957
Turbidity (NTU):	1000T	1000T	1000T	1000T	1000T	1000+	1000+	>1000	7/000	>1000	>1000	>1000
DO* (mg/L):	7.18	7.76	6.09	6.77	5.69	6.03	7.70	7.56	7.09	7.05	6.21	6.71
Temperature (C°):	18.46	19.46	19.41	18.66	18.08	22.92	23.49	23.32	21.95	21.83	22.47	22.18
ORP (mV):	65	89	91	96	95	93	99	94	92	94	94	102
Corrected ORP** (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
							Well Goes Dry While Purging ☐					

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	1/25/19	**JOB NUMBER:**	088882399.2
PROJECT:	VTC - Rialto	**EVENT:**	Well Development
WELL ID:	PW-18.	**LOCATION:**	1154 Cypress Ave. PW-18
WEATHER CONDITIONS:	Sunny	**AMBIENT TEMP:**	45 - 65°F
REVIEWED BY:		**PERSONNEL:**	R. Xiao

WELL DIA:	2"	**WELL DEVELOPMENT**	
TOTAL DEPTH from TOC (ft.):	304	**START:** 700	**FINISH:** 1500
DEPTH TO WATER from TOC (ft.):	257.42	**VOLUME PURGED (gal):**	
LENGTH OF WATER COL. (ft.):	101	**GROUNDWATER SAMPLING**	
1 VOLUME OF WATER (gal):	0.17.	**START:**	**FINISH:**
3 VOLUMES OF WATER (gal):		**VOLUME PURGED (gal):**	
		ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING	☐ Bailer ☐ Pump						**Description:**				
Time (hh:mm):	750	1050	1238	1320	1355	1427					8:49 System turned off
pH (units):	8.26	8.31	8.79	8.70	8.72	8.59					to manual surge
Conductivity (mS/cm):	0.812	0.941	1.06	1.06	0.932	0.937	muddy	color			turn it back on @ 1046.
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	>1000					
DO* (mg/L):	7.72	6.51	6.34	7.94	6.35	6.29					
Temperature (C°):	14.85	21.51	23.04	24.24	23.30	22.50					
ORP (mV):	[redacted]	104	75.	84	86	95.					
Corrected ORP (mV):**	133										
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump **Description:**

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/26/19	JOB NUMBER: 0888823992
PROJECT: VTC-Rialto	EVENT: Well Development
WELL ID: ~~PW~~ PW-18A	LOCATION: 1154 Cypress Ave, Rialto
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 40-55F
REVIEWED BY:	PERSONNEL: R. Xiong

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 290.25	START: 0715	FINISH: 1700
DEPTH TO WATER from TOC (ft.): 206.38	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: ~~DEVELOPMENT~~ SAMPLING				☐ Bailer ☐ Pump		Description:				
Time (hh:mm):	0730	0755	0825							
pH (units):	8.21	8.30	8.34							
Conductivity (mS/cm):	0.634	0.679	0.654							
Turbidity (NTU):	7000	>1000	>1000							
DO* (mg/L):	6.50	6.42	6.54							
Temperature (C°):	16.03	18.28	20.57							
ORP (mV):	237	187	163							
Corrected ORP** (mV):										
Volume Purged (gal):										
Depth to Water (ft):	Without adding water									
						Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/27/19	JOB NUMBER: 08888239902
PROJECT: Vrc - Rialto	EVENT: Well Development
WELL ID: PW-18-A	LOCATION: 1154 Cypress Ave. Rialto PW-18 Location
WEATHER CONDITIONS: ~~Sunny~~ Cloudy	AMBIENT TEMP: 50 - 65°F
REVIEWED BY:	PERSONNEL: F. Xicay

WELL DIA: 24"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 290.35	START: 0720	FINISH: 1700
DEPTH TO WATER from TOC (ft.): 206.38	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: ~~DEVELOPMENT~~ SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	0720	0748	0832	0912	0948	1015	1045	1125	1205	1335	water color
pH (units):	8.3	8.14	8.33	8.5	8.42	8.47	834	8.44	8.49	8.48	changed
Conductivity (mS/cm):	0.583	0.650	0.606	0.540	0.524	0.523	0.515	0.545	0.536	0.524	from dense
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	muddy to
DO* (mg/L):	6.99	7.03	6.77	6.11	6.16	6.48	5.40	5.34	5.34	4.95	medium d muddy
Temperature (C°):	16.85	17.8	19.47	22.16	24.00	24.71	23.99	26.89	26.92	25.95	shows improved
ORP (mV):	108	151	140	140	143	140	144	138	134	125	clarity
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data ☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/28/19	JOB NUMBER: 088882399.2
PROJECT: VTC-Rialto	EVENT: Well Development
WELL ID: PW-18-A	LOCATION: 1154 Cypress Ave. Rialto. PW-18 Location
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 50 - 65°F
REVIEWED BY:	PERSONNEL: R. Xiong

WELL DIA: 2".	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 290.25	START: 0720	FINISH: 1700
DEPTH TO WATER from TOC (ft.): 206.38	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10.	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	0735	0834	0912	0952	1036	1123	1208	1300	1410	1459	1549
pH (units):	8.25	8.43	8.41	8.47	8.37	8.46	8.51	8.53	8.39	8.48	8.41
Conductivity (mS/cm):	0.554	0.558	0.542	0.526	0.516	0.536	0.517	0.546	0.500	0.512	0.509
Turbidity (NTU):	283	314	259	229	199	196	171	162	215	229	229
DO* (mg/L):	6.89	5.85	5.66	4.97	5.63	5.74	5.23	4.63	5.55	5.19	6.03
Temperature (C°):	19.84	22.19	24.01	25.66	24.76	26.63	28.65	27.18	25.88	26.31	25.79
ORP (mV):	166	156	151	166	175	169	169	156	148	155	162
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lal	Filtered (0.45 µm)	Remarks

COMMENTS: mud & silt were mixed in the waterssamples, therefore turbidity were taken after 1 hr water settlement from suspended part. to represent the mud data.

Purge water placed in drum# 1

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	2/4/19	JOB NUMBER:	08888239.2
PROJECT:	UTC-Rialto	EVENT:	Well Development
WELL ID:	PW-19-C	LOCATION:	154 Cypress Ave. Rialto
WEATHER CONDITIONS:	Rainny	AMBIENT TEMP:	30-60°F
REVIEWED BY:		PERSONNEL:	R. Xiao

WELL DIA:	2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	390.70	START: 1300	FINISH: 1630
DEPTH TO WATER from TOC (ft.):	203.6'	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	66.42 gal	START:	FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):	
		ANALYSIS:	

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	1310	1410	1510	1610								
pH (units):	8.55	8.34	7.98	8.12								
Conductivity (mS/cm):	1.25	0.611	0.452	0.446								
Turbidity (NTU):	>1000	>1000	>1000	>1000								
DO* (mg/L):	8.99	8.47	8.9	6.62								
Temperature (C°):	18.36	18.32	17.44	20.45								
ORP (mV):	98	87	125	127								
Corrected ORP** (mV):												
Volume Purged (gal):												
Depth to Water (ft):												
							Well Goes Dry While Purging ☐					

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum# Yes

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/5/19	JOB NUMBER: 08888-2392
PROJECT: UTC-Rialto	EVENT: Well Development
WELL ID: PW-19-C	LOCATION: 1154 Cypress Ave
WEATHER CONDITIONS: Cloudy	AMBIENT TEMP: 50-60°F
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 390.79	START: 700	FINISH: 1630
DEPTH TO WATER from TOC (ft.): 203.6	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal): 66.42 gal	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	815	915	1015	1115	1215	1315	1415	1515	1615		
pH (units):	8.53	7.31	8.02	8.14	8.02	8.04	8.01	8.18	8.17		
Conductivity (mS/cm):	0.458	0.393	0.364	0.385	0.382	0.366	0.333	0.377	0.359		
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	807	201	>1000	>1000		
DO* (mg/L):	8.67	7.28	7.33	7.81	8.00	7.35	7.88	8.18	8.13		
Temperature (C°):	16.54	18.20	18.32	18.34	18.02	18.11	18.50	18.45	18.68		
ORP (mV):	116	152	154	144	148	152	172	206	209		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data ☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/6/19	JOB NUMBER: 088882392
PROJECT: VTC – Rialto	EVENT: Well Development
WELL ID: PW-19-C	LOCATION: 154 Cypress Ave.
WEATHER CONDITIONS:	AMBIENT TEMP: 35 – 55°F
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 390.70	START: 0745	FINISH: 1600
DEPTH TO WATER from TOC (ft.): 203.60	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: ~~DEVELOPMENT~~ SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	835	935	1035	1135	1235	1335	1435	1535	1605		
pH (units):	8.20	8.07	8.15	8.12	8.18	8.17	8.23	8.20	8.09		
Conductivity (mS/cm):	0.359	0.342	0.330	0.315	0.320	0.324	0.327	0.319	0.326		
Turbidity (NTU):	776	370	765	165	146	999	480	292	292		
DO* (mg/L):	8.76	7.97	6.99	6.79	7.06	7.31	7.66	7.95	7.29		
Temperature (C°):	13.65	16.56	17.31	18.47	18.04	19.12	20.27	20.03	19.22		
ORP (mV):	174	166	164	175	171	169	165	168	174		
Corrected ORP** (mV):		↑		↓	↑						
Volume Purged (gal):				9							
Depth to Water (ft):											
		Air Surge		Air Surge							
		After this ready		After this Ready			Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/7/18	JOB NUMBER: 08882399.2
PROJECT: UTC-Rialto	EVENT: Well Development
WELL ID: PW-19-C	LOCATION: 1654 Cypress Ave Rialto
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 35 - 55°F
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 390.70	START: 830	FINISH: 1300
DEPTH TO WATER from TOC (ft.): 203.60	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	930	1030	1130	1230	1330	1330	1400	1430			
pH (units):	8.06	7.97	8.37	8.24	8.24	8.21	8.19	8.18			
Conductivity (mS/cm):	0.335	0.323	0.321	0.309	0.303	0.308	0.309	0.312			
Turbidity (NTU):	253	253	100	41.1	31.4	34	31.7	34.4			
DO* (mg/L):	9.72	12.45	11.12	8.33	6.13	6.82	7.17	7.40			
Temperature (C°):	16.93	17.96	18.74	19.83	20.16	20.88	20.82	21.17			
ORP (mV):	127	223	173	168	170	179	147	150			
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	2/13/19	JOB NUMBER:	088852392
PROJECT:	VIC–Rialto	EVENT:	Well Development
WELL ID:	PW-19-B	LOCATION:	1154 Cypress Ave. Rialto
WEATHER CONDITIONS:		AMBIENT TEMP:	45–55°F
REVIEWED BY:		PERSONNEL:	R. Xiao

WELL DIA:	2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.):	330.17	START: 9:45	FINISH: 1545
DEPTH TO WATER from TOC (ft.):	206.88	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.):	10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):		START:	FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):	
		ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	1045	1145	1245	1345	1445	1545					
pH (units):	8.44	8.18	8.26	8.22	8.25	8.33					
Conductivity (mS/cm):	0.598	0.501	0.452	0.438	0.433	0.426					
Turbidity (NTU):	>1000	>1000	>1000	~~>1000~~ 576	454	355					
DO* (mg/L):	7.70	8.18	8.82	8.16	8.27	7.96					
Temperature (C°):	18.76	19.68	19.57	18.59	18.64	18.36					
ORP (mV):	105	138	126	138	137	134					
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lat	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page 1 of 1

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	2/14/19	JOB NUMBER:	08888823992
PROJECT:	UTC – Rialto	EVENT:	Well Development
WELL ID:	PW-A-B	LOCATION:	1154 Cypress Ave, Rialto
WEATHER CONDITIONS:	Rainny	AMBIENT TEMP:	45 – 55°F
REVIEWED BY:		PERSONNEL:	R. Xiao

WELL DIA:	2"	WELL DEVELOPMENT
TOTAL DEPTH from TOC (ft.):	330.17'	START: 730 / FINISH: 1630
DEPTH TO WATER from TOC (ft.):	206.88'	VOLUME PURGED (gal):
LENGTH OF WATER COL. (ft.):	10'	GROUNDWATER SAMPLING
1 VOLUME OF WATER (gal):		START: / FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):
		ANALYSIS:

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	830	930	1030	1130	1230	1330	1430	1530	1630		
pH (units):	8.42	8.34	8.31	830	8.2	8.21	8.14	8.20	8.17		Air surged again @ 1445 pm
Conductivity (mS/cm):	0.464	0.448	0.403	0.394	0.386	0.388	0.390	0.412	0.406		
Turbidity (NTU):	>1000	821	401	260	186	136	128	>1000	484		
DO* (mg/L):	8.04	9.03	6.29	8.69	7.5	6.00	7.12	6.91	[illegible]	7.58	
Temperature (C°):	17.26	18.26	18.63	18.15	18.28	19.26	18.91	19.11	18.97		
ORP (mV):	136	129	139	136	144	149	155	152	146		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____ Page __ of __

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/15/19	JOB NUMBER: 0888823992
PROJECT: UTC-Rialto	EVENT: Well Development
WELL ID: PW-19-B	LOCATION: 1154 Cypress Ave
WEATHER CONDITIONS:	AMBIENT TEMP: 40 - 75°F
REVIEWED BY:	PERSONNEL: P. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 330.17	START: 730	FINISH: 16:30
DEPTH TO WATER from TOC (ft.): 206.88	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	815	845	915	945	1015	1045	1115	1145	1215		
pH (units):	8.23	8.28	8.32	8.30	8.23	8.19	8.20	8.32	8.23		
Conductivity (mS/cm):	0.448	0.440	0.399	0.384	0.392	0.388	0.384	0.381	0.378		
Turbidity (NTU):	686	113	117	132	84.2	75.1	61.6	56	65.5		
DO* (mg/L):	6.82	5.82	6.82	6.77	6.70	6.77	6.70	6.70	6.60		
Temperature (C°):	17.92	18.97	19.75	20.01	19.97	19.45	20.62	19.73	19.69		
ORP (mV):	151	149	150	151	152	154	152	155	152		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	2/18/19	JOB NUMBER:	08888239.2
PROJECT:	VTC-Rialto	EVENT:	Well Development
WELL ID:	PW-19-A	LOCATION:	1134 Cypress Ave.
WEATHER CONDITIONS:	Sunny	AMBIENT TEMP:	35-50°F
REVIEWED BY:		PERSONNEL:	

WELL DIA:	2"	WELL DEVELOPMENT
TOTAL DEPTH from TOC (ft.):	290.92	START: 7:15 / FINISH:
DEPTH TO WATER from TOC (ft.):	206.85	VOLUME PURGED (gal):
LENGTH OF WATER COL. (ft.):	10'	GROUNDWATER SAMPLING
1 VOLUME OF WATER (gal):		START: / FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):
		ANALYSIS:

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	0815	915	1015	1115	1215	1315	1415	1515	1615		
pH (units):	8.81	8.50	8.58	8.60	8.59	8.71	8.63	8.59	8.58		
Conductivity (mS/cm):	1.29	1.08	0.939	0.891	0.790	0.736	0.703	0.671	0.658		
Turbidity (NTU):	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000		
DO* (mg/L):	8.30	8.49	8.68	6.55	6.57	6.48	5.74	5.64	5.96		
Temperature (C°):	13.64	15.80	17.26	19.54	19.60	19.84	20.70	20.42	19.66		
ORP (mV):	107	111	118	116	115	113	118	121	123		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/19/19	JOB NUMBER: 08858239 92
PROJECT: VTC-Rialto	EVENT: Well Development
WELL ID: PW-19-A	LOCATION: 114 Cypress Ave.
WEATHER CONDITIONS: Sunny	AMBIENT TEMP: 32 - 52 F
REVIEWED BY:	PERSONNEL:

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 290.92	START: 730	FINISH:
DEPTH TO WATER from TOC (ft.): 206.85	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal):	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
	ANALYSIS:	

IN-SITU TESTING

Circle one: DEVELOPMENT SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	0830	0930	1030	1130	1230	1330	1430	1530	1630		
pH (units):	8.74	8.45	8.5	8.59	8.51	8.49	8.49	8.59	8.50		~~Acetic~~
Conductivity (mS/cm):	0.789	0.665	0.632	0.621	0.592	0.573	0.584	0.561	0.562		Air surged
Turbidity (NTU):	>1000	>1000	>1000	>1000	390	266	216	253	787		again on
DO* (mg/L):	8.11	7.20	6.63	5.68	6.37	5.82	5.97	5.49	5.50		1535.
Temperature (C°):	14.53	17.39	18.82	19.34	19.94	20.77	20.08	20.37	20.84		
ORP (mV):	115	132	131	135	137	134	113	124	125		
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles otal to lat	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

1/2

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	2/20/19	JOB NUMBER:	08888239.02
PROJECT:	VTC – Rialto	EVENT:	Well Development
WELL ID:	PW-19-A	LOCATION:	154 Cypress Ave. Rialto
WEATHER CONDITIONS:	Sunny	AMBIENT TEMP:	35–50
REVIEWED BY:		PERSONNEL:	RX'ao

WELL DIA:	2"	**WELL DEVELOPMENT**
TOTAL DEPTH from TOC (ft.):	290.92	START: 0815 / FINISH:
DEPTH TO WATER from TOC (ft.):	206.85	VOLUME PURGED (gal):
LENGTH OF WATER COL. (ft.):	10'	**GROUNDWATER SAMPLING**
1 VOLUME OF WATER (gal):		START: / FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):
		ANALYSIS:

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description: 1350

Time (hh:mm):	0815	0915	1015	1045	1115	1145	1215	1245	[redacted]	1420	System got shut off twice due to low fuel
pH (units):	8.35	8.34	8.47	8.37	8.47	8.39	8.32	8.24	8.37	8.44	
Conductivity (mS/cm):	0.596	0.575	0.555	0.552	0.536	0.536	0.538	0.531	0.533	0.529	1310
Turbidity (NTU):	>1000	637	301	226	185	173	134	137	540	404	
DO* (mg/L):	7.39	7.57	6.91	6.59	6.78	6.20	6.18	5.89	5.91	5.69	Restart @
Temperature (C°):	15.60	16.78	19.19	19.93	19.21	19.21	19.34	18.87	18.80	18.68	1320
ORP (mV):	150	142	129	129	128	131	136	142	134	134	
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
											Well Goes Dry While Purging ☐

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles total to lab	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

2/2

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE:	2/20/19	JOB NUMBER:	088882392
PROJECT:	UTC-Rialto	EVENT:	Well Development
WELL ID:	PW-19-A	LOCATION:	154 Cypress Ave. Rialto
WEATHER CONDITIONS:		AMBIENT TEMP:	35-50°F
REVIEWED BY:		PERSONNEL:	R. Xiao

WELL DIA:	2"	WELL DEVELOPMENT
TOTAL DEPTH from TOC (ft.):	290.52	START: 0815 FINISH: 1650
DEPTH TO WATER from TOC (ft.):	206.85	VOLUME PURGED (gal):
LENGTH OF WATER COL. (ft.):	10'	GROUNDWATER SAMPLING
1 VOLUME OF WATER (gal):		START: FINISH:
3 VOLUMES OF WATER (gal):		VOLUME PURGED (gal):
		ANALYSIS:

IN-SITU TESTING

Circle one: DEVELOPMENT / SAMPLING	☐ Bailer ☐ Pump	Description:									
Time (hh:mm):	1450	1520	1550	1620	1650						
pH (units):	8.38	8.36	8.37	8.35	8.39						
Conductivity (mS/cm):	0.525	0.524	0.518	0.515	0.521						
Turbidity (NTU):	323	245	184	185	177						
DO* (mg/L):	6.08	6.07	6.40	6.20	6.30						
Temperature (C°):	18.58	17.70	17.75	17.52	17.45						
ORP (mV):	132	132	134	132	132						
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☐				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS:

Purge water placed in drum#_____

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

ENSAFE

WELL DEVELOPMENT & GROUNDWATER SAMPLING FORM

DATE: 2/25/19	JOB NUMBER: 088882399.2
PROJECT: UIC-Rialto	EVENT: Well Development
WELL ID: PW-18-A.	LOCATION: 1154 Cypress Ave. Rialto PW-18
WEATHER CONDITIONS: Sunny	AMBIENT TEMP:
REVIEWED BY:	PERSONNEL: R. Xiao

WELL DIA: 2"	WELL DEVELOPMENT	
TOTAL DEPTH from TOC (ft.): 290.35	START: 1130	FINISH: 1600
DEPTH TO WATER from TOC (ft.): 206.38	VOLUME PURGED (gal):	
LENGTH OF WATER COL. (ft.): 10'	GROUNDWATER SAMPLING	
1 VOLUME OF WATER (gal): 35	START:	FINISH:
3 VOLUMES OF WATER (gal):	VOLUME PURGED (gal):	
purg	ANALYSIS:	

IN-SITU TESTING

Circle one: (DEVELOPMENT) SAMPLING ☐ Bailer ☐ Pump Description:

Time (hh:mm):	1217	1251	1440	1530	1618						
pH (units):	8.18	8.46	8.46	8.44	8.46						
Conductivity (mS/cm):	0.446	0.473	0.458	0.440	0.431						
Turbidity (NTU):	>1000	>1000	>1000	210	48.7						
DO* (mg/L):	5.77	7.01	5.79	5.80	6.22						
Temperature (C°):	21.31	22.32	22.51	21.70	22.69						
ORP (mV):	393	275	201	342	507						
Corrected ORP** (mV):											
Volume Purged (gal):											
Depth to Water (ft):											
							Well Goes Dry While Purging ☑				

*DO Range = 0 to 14.6 mg/L, max of 8.6 mg/L at 25°C **Corrected ORP = Field ORP + 200 mV

Sample Data

☐ Bailer ☐ Pump Description:

Sample ID	Date (m/d/y)	Time (hh:mm)	Bottles (total to lab)	Filtered (0.45 µm)	Remarks

COMMENTS: Add hydrant water to the well PW-18-A and air purged the well in continuous cycles. Add water → air purge → dry → add water ..... Readings were collected towards the end of drying time to represent well water.

Purge water placed in drum#_____ Page 1 of 1

If questions arise and you are unable to contact your PM, please call either Tiffany Thomas (901) 937-3018 or Tina Cantwell (901) 937-4315

Appendix D
Survey Data

MONITORING WELLS

WELL	NORTHING (FEET)	EASTING (FEET)	LATITUDE (DD)	LONGITUDE (DD)	TOR (ELEVATION)	FS (ELEVATION)	TOC (ELEVATION)	RISER_HT
PW-18A	1854034.48	6758815.46	34.0852216	-117.3488941	1116.14	1116.07	1115.81	-0.26
PW-18B	1854034.48	6758815.46	34.0852216	-117.3488941	1116.14	1116.07	1115.73	-0.34
PW-18C	1854034.48	6758815.46	34.0852216	-117.3488941	1116.14	1116.07	1115.77	-0.30
PW-19A	1851877.29	6761188.88	34.0792515	-117.3411025	1059.87	1059.89	1059.28	-0.61
PW-19B	1851877.29	6761188.88	34.0792515	-117.3411025	1059.87	1059.89	1059.33	-0.56
PW-19C	1851877.29	6761188.88	34.0792515	-117.3411025	1059.87	1059.89	1059.30	-0.59

Professional's Name:
Armando D. Dupont

Professional's License Type:
Professional Land Surveyor

Professional's License Number:
7780

NOTE:
RISER_HT - RISER HEIGHT
RISER HEIGHT: THE MEASURED DISTANCE FROM GROUND SURFACE TO TOP OF WELL CASING
DD: DECIMAL DEGREES
TOR: TOP OF RIM
TOC: TOP OF CASING
FS: FINISHED SURFACE

SURVEY DATE: APRIL 19, 2019

BENCHMARK:
THE ELEVATIONS SHOWN HEREON ARE BASED UPON STATIC GPS OBSERVATION, HOLDING THE LEICA S.N.N.A. C.O.R.S. "CABD"; ELEVATION = 1041.76 FEET (NAVD 88)

COORDINATES:
THE COORDINATES SHOWN HEREON ARE BASED UPON THE CALIFORNIA COORDINATE SYSTEM (CCS 83), ZONE 5, 1983 DATUM, DEFINED BY SECTIONS 8801 TO 8819 OF THE CALIFORNIA PUBLIC RESOURCES CODE, HOLDING THE LEICA S.N.N.A. C.O.R.S. DATA POINT "CABD"

GLOBAL_ID	FIELD_PT_NAME	STATUS	GW_MEAS_DATE	DTFPROD	DTW	RISER_HT	TOT_DEPTH	GW_MEAS_DESC	SHEEN
	PW-18A	ACT				-0.26			
	PW-18B	ACT				-0.34			
	PW-18C	ACT				-0.30			
	PW-19A	ACT				-0.61			
	PW-19B	ACT				-0.56			
	PW-19C	ACT				-0.59			

GLOBAL_ID	FIELD_PT_NAME	FIELD_PT_CLASS	XY_SURVEY_DATE	LATITUDE	LONGITUDE	XY_METHOD	XY_DATUM	XY_ACC_VAL	XY_SURVEY_ORG	GPS_EQUIP_TYPE	XY_SURVEY_DESC
	PW-18A	MW	04/19/2019	34.0852216	-117.3488941	CGPS	NAD83	3	CAL VADA SURVEYING, INC.	L530	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-18B	MW	04/19/2019	34.0852216	-117.3488941	CGPS	NAD83	3	CAL VADA SURVEYING, INC.	L530	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-18C	MW	04/19/2019	34.0852216	-117.3488941	CGPS	NAD83	3	CAL VADA SURVEYING, INC.	L530	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-19A	MW	04/19/2019	34.0792515	-117.3411025	CGPS	NAD83	3	CAL VADA SURVEYING, INC.	L530	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-19B	MW	04/19/2019	34.0792515	-117.3411025	CGPS	NAD83	3	CAL VADA SURVEYING, INC.	L530	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-19C	MW	04/19/2019	34.0792515	-117.3411025	CGPS	NAD83	3	CAL VADA SURVEYING, INC.	L530	LEICA SNNA CORS GPS DATA POINT "CABD"

GLOBAL_ID	FIELD_PT_NAME	ELEV_SURVEY_DATE	ELEVATION (TOC)	ELEV_METHOD	ELEV_DATUM	ELEV_ACC_VAL	ELEV_SURVEY_ORG	RISER_HT	ELEV_DESC
	PW-18A	04/19/2019	1115.81	DIG	88	0.3	CAL VADA SURVEYING, INC.	-0.26	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-18B	04/19/2019	1115.73	DIG	88	0.3	CAL VADA SURVEYING, INC.	-0.34	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-18C	04/19/2019	1115.77	DIG	88	0.3	CAL VADA SURVEYING, INC.	-0.30	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-19A	04/19/2019	1059.28	DIG	88	0.3	CAL VADA SURVEYING, INC.	-0.61	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-19B	04/19/2019	1059.33	DIG	88	0.3	CAL VADA SURVEYING, INC.	-0.56	LEICA SNNA CORS GPS DATA POINT "CABD"
	PW-19C	04/19/2019	1059.30	DIG	88	0.3	CAL VADA SURVEYING, INC.	-0.59	LEICA SNNA CORS GPS DATA POINT "CABD"