Spring 2017 Semi-Annual
Groundwater Monitoring Report

Apple Valley Sub-Regional Reclamation Facility

July 2017

Prepared for

Victor Valley Wastewater Reclamation Authority

Prepared by

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Apple Valley Sub-Regional Reclamation Facility

The material and data in this report were prepared under the supervision and direction of the undersigned.

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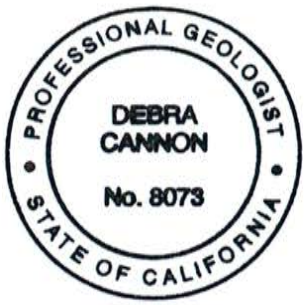

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1 INTRODUCTION

This Spring 2017 Semi-Annual Groundwater Monitoring Report has been prepared by Luhdorff and Scalmanini, Consulting Engineers (LSCE) on behalf of the Victor Valley Wastewater Reclamation Authority (VVWRA) to satisfy requirements to monitor the impact of discharge to groundwater outlined in the Monitoring and Reporting Program (MRP) included in the Waste Discharge Requirements (WDR), California Regional Water Quality Control Board (RWQCB), Lahontan Region, Board Order No. R6V-2013-0004 for the Apple Valley Sub-regional Reclamation Plant (Lahontan RWQCB, 2013). These Orders required VVWRA to "install detection groundwater monitoring wells at sufficient locations and depths to evaluate changes in groundwater quality in the uppermost aquifer beneath the land discharge site". A "Monitoring Well Completion and Installation Report" (LSCE, 2016) was prepared to document completion of the well installation project described in the "Draft Work Plan, Groundwater Monitoring Well Installation, Apple Valley Sub-Regional Reclamation Plant, Apple Valley, California" (LSCE, May 2014). A "Background Groundwater Quality Report, Apple Valley Sub-Regional Reclamation Facility, VVWRA" (LSCE, January 2017) was prepared to satisfy requirements for the establishment of background groundwater quality. This report addresses groundwater monitoring that occurred in April 2017 and provides the historical and complete groundwater record overview for the property. The initiation of discharge (which had been expected to be April/May 2017) triggers site reporting requirements; however, the discharge date has been delayed possibly until fall 2017. Groundwater monitoring (due semi-annually April and October) and reporting (due the first working day in August and February) will continue in the interim until and after the initiation of discharge.

The VVWRA Apple Valley Sub-Regional Reclamation Plant (Sub-Regional Plant) is a municipal wastewater treatment facility that produces disinfected tertiary recycled water (effluent) to be used for landscape irrigation and industrial process uses. Effluent produced in excess of the recycled water demand will be discharged to one or more percolation ponds at the land discharge site. **Figure 1-1** shows the site location in Apple Valley and the monitoring well locations. The two constituents that may cause degradation of the existing groundwater quality (Lahontan RWQCB, 2013) due to effluent discharge are total dissolved solids (TDS) and nitrate as nitrogen. The objective of monitoring is to evaluate whether wastewater constituents degrade groundwater quality.

1.1 Background

VVWRA installed two disposal ponds and a disposal channel in the town of Apple Valley and adjacent to the Apple Valley Golf Course (**Figure 1-1**). The groundwater monitoring sites were drilled immediately adjacent to these disposal features between November 24, 2015 and January 20, 2016. The monitoring well network consists of four sites (four separate boreholes), including one multiple-completion site (with two monitoring wells) and three sites with single-completion monitoring wells. Well construction details are included in **Table 1-1**. The monitoring effort targets the "uppermost aquifer beneath the land discharge site" (Lahontan RWQCB, 2013). The first completion of all four monitoring sites captures this uppermost aquifer. AV4 has two monitoring wells (AV4-225 and AV4-265) with perforations at different depths installed in one borehole; the inclusion of the second monitoring well at site AV4 provides some understanding of vertical variation of background water quality.

The site geology is based on the four monitoring wells' geophysical logs and lithology and is described in the *Background Groundwater Quality Report* (LSCE, 2017). Monitoring wells AV1, AV2, and AV3 have similar lithology and e-log signatures that suggest: 1) a clayey sequence that occurs from 150 to 170 feet below ground surface (bgs); and 2) a clayey sand from around 170 to 215 feet bgs where the wells are screened. However, this same lithologic sequence is not observed at the AV4 wells. At the AV4 site, lithology from about 110 feet to 300 feet is silty sand with a brown clay identified in the e-logs also at around 215 feet bgs that separates AV4-225 and AV4-265. This brown clay is not observed in the AV1, AV2, or AV3 monitoring wells and suggests that AV4-225 is constructed in a unit that is not continuous (e.g., laterally connected) across the property (which is consistent with an alluvial depositional environment) and therefore, will not be used for groundwater level contour maps. AV4-265 appears to be laterally connected to AV1-210, AV2-220, and AV3-225 (as indicated by the lithologic cross-section, **Figure 3, LSCE, 2017**) and will be used to create groundwater level contour maps. AV4-225 will be used for groundwater quality sampling because it represents the uppermost aquifer at this location (though not laterally continuous).

1.2 Report Organization

This report is intended to describe groundwater results for spring 2017 and groundwater conditions (including groundwater levels and quality) around the sub-regional facility. The semi-annual groundwater monitoring reports, due the 1st working day in February and August, are required to include the following information as required by the MRP:

Requirement in MRP Section (2013)	Description	Location in this Report
I.E.1	Collect grab samples for the constituents listed in Table 2-1 at the given frequency.	Appendix B
I.E.2	Report the final field parameters at the time of sample collection shall be recorded in a table and reported with laboratory analytical data.	Table 3-2 and Appendix D
I.E.3	Detection groundwater monitoring wells will be purged in accordance with USEPA.	Appendix C
I.E.4	SIP[1] Constituents: samples shall be analyzed for volatile, semi-volatile, and inorganic constituents listed.	Tables 3-5 and 3-6
I.E.5	Record well measurement information (depth to water) for each monitoring well sampling event.	Table 3-1

[1] SIP = California State Water Resources Control Board, 2005, Policy for implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California.

Requirement in MRP Section (2013)	Description	Location in this Report
I.E.6	Monitoring reports shall include: 1. a map showing well locations, 2. groundwater elevation contours 3. Tables summarizing a. final field data b. laboratory analytical data	1. Figure 1-1 2. Figure 3-2 3.a Table 3-2 3.b Tables 3-4, 3-5, 3-6, and Appendix D
II.A.2	Groundwater monitoring is required in accordance with the monitoring schedule regardless of the sub-regional plant operating status	Done
II.A.4	Arrange all reported data in tabular format. Data shall be summarized to clearly illustrate whether the Facility is operating in compliance with this monitoring and reporting program	Done
II.B.2.a	Frequency of semi-annual groundwater monitoring reports will be submitted to the Water Board by the 1st working day in February and August.	Done
II.B.2.b	Sample results and field parameters will be provided in each report	Tables 3-2, 3-4, 3-5, and 3-6
II.B.2.c	Results discussion-Groundwater monitoring reports shall include a discussion of monitoring results	
	i. Spatial and temporal trends in nitrate and TDS concentrations	Section 3.2
	ii. Detection or increase in any monitored constituent that may indicate the Producer/Discharger's activities have caused additional impacts to groundwater	Section 3.2
	iii. Pertinent well construction details including: top of well casing, top and bottom elevation of each screen section. All values shall be present to the nearest 0.1 feet above mean sea level.	Table 1-1 and 3-1

2 MONITORING PROGRAM

2.1 Groundwater Level and Quality Monitoring Schedule

The groundwater level monitoring program as outlined in the WDRs consists of water levels measured biannually in April and October by VVWRA. **Table 2-1** lists the wells used to create the groundwater level contour maps (with the exception of AV4-225 as explained above); their locations are shown on **Figure 1-1**. The groundwater quality monitoring schedule is listed in **Table 2-1.** AV1-210, AV2-220, AV3-225, and AV4-225 are considered to represent the "uppermost aquifer" at this site for water quality purposes. As described above, groundwater quality data are not required to be collected for AV4-265 since it does not represent first water. **Table 2-2** lists the general mineral and metal constituents and **Table 2-3** lists the volatile organic compounds (VOC) and semi-volatile organic compounds (SVOC) required by the WDR. Seven constituents (including TDS, nitrate as nitrogen, and others) are to be sampled biannually (April and October), and the remaining constituents (VOCs, SVOCs, and 15 inorganic constituents) are to be sampled biennially (e.g., April 2017 and April 2019).

2.2 Background Concentrations and Water Quality Objectives

Water quality results for constituents listed in **Tables 2-2 and 2-3** will be compared with naturally occurring background groundwater quality (Background Concentration) and the water quality objectives (WQO) outlined in the WDR (page 16). Background Concentrations were established after the collection and analysis of one-year of monitoring data (LSCE, 2017) prior to the initiation of effluent discharge. Because effluent discharge has been delayed until fall 2017, these April 2017 water quality results are additional background data. Spring 2017 results for four constituents (TDS, MBAS, arsenic, and selenium) were higher than the calculated Background Concentration (LSCE, 2017) prompting a new "maximum concentration prior to discharge" value that will be considered when evaluating future results. WQOs are the receiving water limitations for the Upper Mojave River Valley Groundwater Basin (WDR page 6) and are either the maximum contaminant level (MCL) for drinking water or a secondary MCL (SMCL), if one is available. Below, these concentrations are listed for the major constituents of concern and **Table 2-2** and **2-3** lists the Background Concentration and WQO for all constituents, if available.

Constituent	Units	Background Concentration	Water Quality Objective
NO3-N	mg/L	10.8	10
TDS	mg/L	1,215	500/1,000/1,500

3 GROUNDWATER CONDITIONS

Groundwater data collection started at the Apple Valley site in February 2016 after completion of the site monitoring wells. This section discusses groundwater levels and quality.

3.1 Groundwater Levels

Groundwater levels in all wells have been fairly stable over the short period of record with a slight seasonal fluctuation in AV2-220, AV3-225 and AV4-265. All wells with the exception of AV4-225 had less than 5 feet of groundwater elevation fluctuation with higher elevations in winter months and lower elevations in summer months (**Figure 3-1**). The water level record documents that AV4-225 has higher water levels than the other monitoring wells; however, lithologic logs and e-logs indicate (LSCE, 2017) that this is an isolated water that is not laterally continuous across the property and not present at the other monitoring locations. In addition, AV4-225 had a slight increase in water elevations between April and May 2016 of about 5 feet; water elevations are fairly stable prior to April and then remained relatively higher after the April to May increase. The water level record documents that AV1-210 is located up-gradient of the discharge ponds and channel and of the remaining three monitoring wells (AV2-220, AV3-225, and AV4-265).

Monitoring well AV4-265 is used along with AV1-210, AV2-220, and AV3-225 to prepare contours of equal groundwater elevation for the uppermost portion of the groundwater system. These wells have similar lithology as explained in Section 1.1. Contours of equal groundwater elevation show that the prevailing direction of flow is to the southwest beneath the ponds and channel in spring 2017 (**Figure 3-2**) which is consistent with historical contours starting in February 2016. **Appendix A** includes contours of equal groundwater elevation at the site and direction of groundwater flow for February 2016 through November 2016. The hydraulic gradient ranged from 0.003 to 0.055 in Spring 2017.

3.2 Groundwater Quality

Four wells at the Apple Valley site are monitored for groundwater quality; the list of analytes and sampling frequency are shown in **Tables 2-1, 2-2, and 2-3**. **Table 3-2** presents the summary of field parameters at the time of sample collection for the four groundwater network wells, and **Table 3-3** presents the instrument calibration for the equipment used to measure field parameters. Spring 2017 water quality results are summarized in **Table 3-4** (TDS, nitrate as nitrogen and general minerals), **Table 3-5** (inorganic constituents), and **Table 3-6** (detections of VOCs and SVOCs). **Appendix B** contains historical groundwater quality results, and **Figures 3-3 and 3-4** show time series graphs of TDS and nitrate as nitrogen, respectively. The spring 2017 sampling event field data sheets are in **Appendix C,** and the laboratory water quality results are in **Appendix D**. Note that every second year, the WDR (2013) requires the four network wells to be sampled for inorganics, VOCs, and SVOCs. The comprehensive water quality monitoring was completed in April 2017 and will be conducted again in

April 2019. A complete review of background groundwater quality for all constituents is included in the Background Groundwater Quality Report (2017). Results from the spring 2017 monitoring event will be compared with the constituent WQO and the Background Concentration. However, since effluent discharge has not begun, these springs 2017 results are still considered background and if results exceed the previously calculated Background Concentration (LSCE, 2017), a "maximum concentration prior to discharge" will be identified and used to compare future results.

3.2.1 Total Dissolved Solids

Spring 2017 water quality concentrations in the four sampled network wells met the WQO for TDS to not exceed the Short Term limit of 1,500 mg/L and the Background Concentration of 1,215 mg/L (**Figure 3-3** and **Table 3-4**). From February 2016 to April 2017, TDS values for AV1-210, AV2-220 and AV3-225 ranged from about 660 to 1,000 mg/L; these concentrations are at or below the Upper SMCL of 1,000 mg/L. TDS concentrations for AV4-225 and AV4-265 (two sample results) are generally higher and range from about 950 to 1,200 mg/L and are below the Short Term SMCL of 1,500 mg/L and the Background Concentration of 1,215 mg/L. The WDRs reported that tertiary disinfected wastewater discharged to the onsite ponds is projected to have a TDS concentration of about 370 mg/L, which would improve TDS in groundwater at the Apple Valley site.

3.2.2 Nitrate as Nitrogen

Spring 2017 water quality concentrations in three of the four sampled network wells met the WQO (drinking water standards) for nitrate as nitrogen to not exceed 10 mg/L (**Figure 3-4** and **Table 3-4**). AV4-225 nitrate as nitrogen concentration (11 mg/L) slightly exceeded the WQO in spring 2017 but cannot be attributed to effluent discharge (expected to start fall 2017). As described in Section 2.2, nitrate as nitrogen Background Concentration (10.8 mg/L, LSCE, 2017) was based on 2016 pre-effluent discharge water quality. However, spring 2017 provides additional pre-effluent discharge groundwater quality and the nitrate as nitrogen maximum variability prior to discharge is 11 mg/L (AV4-225). For the period February 2016 to present, nitrate as nitrogen concentrations in AV1-210 and AV2-220 are below 2.1 mg/L, and concentrations in AV3-225 range from about 6 to 8 mg/L. AV4-225 concentrations range from around 8.5 to 11 mg/L for this same period. (**Figure 3-4**). The WDRs reported that tertiary disinfected wastewater discharged to the onsite ponds is projected to have nitrate as nitrogen concentration of about 8 mg/L, which will increase nitrate as nitrogen in groundwater somewhat at the Apple Valley facility (but it will still be below the MCL of 10 mg/L) with the exception of AV4-225 that will be improved by the addition of treated wastewater to the onsite ponds.

3.2.3 General Minerals, Metals, and VOCs/SVOCs

General minerals, including ammonia-nitrogen, total Kjeldahl nitrogen (TKN), MBAS, chloride, and sulfate, are also sampled semi-annually in network wells (**Table 3-4**); these met the WQOs (when

present) and the Background Concentrations for water quality in spring 2017. The only exception to this was a chloride concentration (280 mg/L) in AV4-225 that slightly exceeded the WQO (250 mg/L, Recommended SMCL) but was below the Upper SMCL (500 mg/L) and Background Concentration (292 mg/L). As described in Section 2.2, MBAS Background Concentration (0.13 mg/L) was based on 2016 pre-effluent discharge water quality. However, spring 2017 sampling provided additional pre-effluent discharge groundwater quality data and the MBAS maximum variability prior to discharge is 0.14 mg/L (AV3-225).

Every second year, the WDR (2013) requires the four network wells to be sampled for metals and other inorganics and VOCs/SVOCs, and this initial sampling occurred in April 2017. Metal concentrations for wells sampled in spring 2017 (**Table 3-5**) were low and mostly not detected. Similar to results from 2016, hexavalent chromium was the only metal consistently detected, but concentrations have been below the Background Concentration (4.2 ug/L) and WQO (10 ug/L). As described in Section 2.2, arsenic and selenium Background Concentrations (<1.2 ug/L and <2.5 ug/L) were based on 2016 pre-effluent discharge water quality. However, spring 2017 sampling provided additional pre-effluent discharge groundwater quality data and the arsenic and selenium maximum variability prior to discharge is 1.8 ug/L and 6.5 ug/L (AV4-225).

Out of the 88 VOC and SVOCs constituents tested, only benzene and toluene were detected (**Table 3-6**); however, all detections are flagged as "J"[2]. Benzene was detected in two wells (AV3-225 and AV4-225) below the Background Concentration of 0.14 ug/L (set at the detection limit) and below the WQO/MCL (1 ug/L). Toluene was detected in all four wells below the Background Concentration (6.7 ug/L) and well below the WQO/MCL (150 ug/L).

Water quality in AV4-265 was sampled during two events prior to effluent discharge and has a similar composition to AV4-225 (higher TDS, chloride and sulfate), similar water type to all monitoring wells (calcium-sodium-chloride), and detections of volatile and semi-volatile constituents (**Appendix B-3**). However, as described above, AV4-265 will not be sampled for water quality in the future unless groundwater levels decline in the upper part of the aquifer system.

[2] J-flag is an estimated concentration above the sample-specific method detection limit (MDL) and below the method reporting limit (MRL).

4 FINDINGS, COMPLIANCE, and RECOMMENDATION

4.1 Groundwater Conditions

Groundwater levels at the Apple Valley Sub-Regional Facility as reflected in the groundwater elevation time series plot (**Figure 3-1**), have remained stable (near or less than five feet of groundwater elevation fluctuation) over the relatively short period of record (February 2016 to April 2017). The spring 2017 contours of equal groundwater elevation (**Figure 3-2**) are consistent with historical groundwater elevations (**Appendix A**) with a prevailing direction of flow to the southwest.

As shown in **Table 3-4**, **Figure 3-3**, and **Appendix B**, TDS results from spring 2017 range from 700 to 990 mg/L for wells required to be monitored by the MRP. The MRP requires that the TDS results are compared to both the TDS Background Concentration (1,215 mg/L) established prior to effluent discharge at the Apple Valley site and the WQO of 500/1,000/1,500 mg/L (**Table 2-2**). Although the four wells exceeded the WQO of 500 mg/L (Recommended SMCL), all four wells had concentrations below the Background Concentration and below the Upper SMCL of 1,000 mg/L. TDS concentrations in all four network wells is expected to decrease as effluent water is discharged with an expected TDS concentration of 370 mg/L.

As shown in **Table 3-4**, **Figure 3-4**, and **Appendix B**, nitrate as nitrogen concentrations range from 1.2 to 11 mg/L in spring 2017 for the four wells required to be monitored by the MRP. The MRP required that the nitrate as nitrogen values are compared to both the nitrate as nitrogen Background Concentration (10.8 mg/L) established prior to VVWRA discharge (LSCE, 2017) and the WQO of 10 mg/L (**Table 2-2**). Three of the four wells sampled in spring 2017 had nitrate as nitrogen concentrations that were below the Background Concentration and the WQO. AV4-225 exceeded the nitrate as nitrogen WQO at 11 mg/L. However, because effluent discharge has not begun at the site, 11 mg/L also represents background conditions and nitrate as nitrogen maximum variability prior to discharge. It is expected that nitrate as nitrogen concentrations will decrease in AV4-225 as effluent water is discharged with an expected 8 mg/L nitrate as nitrogen concentration.

General mineral (ammonia-nitrogen, TKN, MBAS, chloride, and sulfate) concentrations were below the Background Concentration and WQO in all four sampled wells. An exception to this was a chloride concentration of 280 mg/L in AV4-225, which exceeds the 250 mg/L Recommended SMCL but is below both the Upper SMCL (500 mg/L) and Background Concentration (292 mg/L). The spring 2017 MBAS concentration in one well (0.14 mg/L in AV3-225) was slightly higher than the 0.13 mg/L Background Concentration. However, because effluent discharge has not begun at the site, 0.14 mg/L also represents background conditions and is the MBAS maximum variability prior to discharge).

All wells at the Apple Valley site met SMCLs for metals; most were non-detect or slightly above the detection limit. Hexavalent chromium was the only metal that was consistently detected at the Apple

Valley site, but results are below the Background Concentration and WQO. Only AV4-225 had two constituents (arsenic and selenium) with concentrations (1.8 ug/L and 6.5 ug/L) that were slightly higher than the Background Concentration (set at the detection limit for both constituents) but did not exceed the WQO (10 ug/L and 50 ug/L). However, because effluent discharge has not started at the site, these concentrations represent background conditions and are the arsenic (1.8 ug/L) and selenium (6.5 ug/L) maximum variability prior to discharge.

Out of the 88 VOC and SVOCs constituents tested, only benzene and toluene were detected at J-flagged[2] concentrations. Benzene was detected in two wells (AV3-225 and AV4-225) below the Background Concentration (<0.14 ug/L) and the WQO/MCL (1 ug/L). Toluene was detected in all four wells below the Background Concentration (6.7 ug/L) and well below the WQO/MCL (150 ug/L).

4.2 Compliance with Receiving Water Limitations

Because discharge has not been initiated at the Apple Valley Sub-Regional Facility (i.e., groundwater has not been impacted by effluent), the spring 2017 sampling results are considered additional background groundwater quality data but are compared with the WQO (receiving water limitation). All four network wells sampled in spring 2017 had TDS and nitrate concentrations below the WQO for the site. The one exception was AV4-225 had a nitrate as nitrogen concentration (11 mg/L) slightly above the MCL (10 mg/L).

All four groundwater monitoring wells had spring 2017 concentrations below the WQO for general minerals (Upper SMCL when available), metals, VOCs, and SVOCs.

4.3 Recommendation

It is recommended that after initiation of effluent discharge at the Apple Valley Sub-Regional Facility the site Background Concentrations are recalculated to include all groundwater quality data acquired prior to effluent discharge. The original site Background Concentrations were calculated based on data acquired only in 2016 because discharge was expected to begin in April 2017. However, effluent discharge was delayed and additional background groundwater quality data has been collected that can be used to calculate more accurate Background Concentrations.

5 REFERENCES

Lahontan Region, California Regional Water Quality Control Board. 2013. Waste Discharge Requirements and Water Recycling Requirements for the Town of Apple Valley and Victor Valley Wastewater Reclamation Authority, Apple Valley Sub-Regional Reclamation Plant, General Order No. R5V-2013-0004. January 17, 2013.

Luhdorff & Scalmanini Consulting Engineers. 2014. Draft Work Plan, Groundwater Monitoring Well Installation, Apple Valley Subregional Reclamation Plant. May 19, 2014.

Luhdorff & Scalmanini Consulting Engineers. 2016. Detection Groundwater Monitoring Well Completion and Installation Report, Apple Valley Subregional Reclamation Facility. Prepared for Victor Valley Wastewater Reclamation Authority. June 2016.

Luhdorff & Scalmanini, Consulting Engineers. 2017. Background Groundwater Quality Report, Apple Valley Subregional Reclamation Facility. Prepared for VVWRA. January 2017.

TABLES

Table 1-1
Well Construction Details

Location	Well Name	Well Type	Northing	Easting	TOC Elev. (ft msl)	Casing Diameter (inches)	Screen Interval (feet below TOC)	Top of Screen Elev. (ft msl)	Bottom of Screen Elev. (ft msl)	Screen Length	Well Depth (ft bgs)	Total Drilled Depth (ft bgs)	Bore-hole Size (inch)	Date Installed
Apple Valley	AV1-210	MW	2011386.409	6793867.655	2936.19	2	170-200	2766.19	2736.19	30	210	280	9.875	1/5/2016
	AV2-220	MW	2011380.764	6793692.801	2937.65	2	180-210	2757.65	2727.65	30	220	260	9.875	1/15/2016
	AV3-225	MW	2011306.974	6793125.976	2939.38	2	185-215	2754.38	2724.38	30	225	250	9.875	12/16/2015
	AV4-225	MW	2011987.153	6792079.236	2944.59	2	185-215	2759.59	2729.59	30	225	500	11	12/1/2015
	AV4-265	MW	2011987.153	6792079.236	2944.59	2	225-255	2719.59	2689.59	30	265	500	11	12/1/2015

Abbreviations: TOC= top of casing; ft= feet; msl= mean sea level; Elev.= elevation; bgs= below ground surface; MW= monitoring well.

Table 2-1
Groundwater Network Wells and Monitoring Schedule

Owner	Well Name	Water Level		Water Qualilty		
		Frequency	Spring 2017 Data	Biannually April & Oct	Biennial April[2]	Spring 2017 Data
VVWRA	AV1-210	April & Oct	Y	Nitrate-N/ TDS[1]	VOCs, SVOC, Inorganics[2]	Y
	AV2-220	April & Oct	Y			Y
	AV3-225	April & Oct	Y			Y
	AV4-225	April & Oct	Y			Y
	AV4-265	April & Oct	Y	Not Required		

1. Biannually: April and October of each year. Includes nitrate-N, total dissolved solids (TDS), sulfate, chloride, ammonia-N, total Kjeldahl nitrogen and MBAS.
2. Every second year, beginning with the April 2017 sampling event (e.g., April 2017, April 2019). Includes: volatile organic compounds (VOCs), semi-volaile organic compounds (SVOCs), and inorganic constituents (antimony, arsenic, beryllium, cadmium, total chromium, chromium 6, copper, cyanide, lead, mercury, nickel, selenium, silver, thallium, zinc.

Table 2-2
General Mineral and Metal Constituents, Background Concentration, and Water Quality Objectives
VVWRA Apple Valley Sub-Regional Facilities

Analyte[1]	Units	Method	Back-ground Concen-tration[2]	Water Quality Objectives (WDR, pg 16)					
				Report-ing Limit	MCL[3]	SMCL[3]			
							Ranges		
						Consumer Acceptance	Recom-mended	Upper	Short Term
FIELD PARAMETERS									
Electrical Conductivity	uS/cm						900	1,600	2,200
pH (Field)	pH units								
Temperature	deg C								
Dissolved Oxygen	mg/L								
Turbidity	NTU					5			
Color	units					15			
OTHER									
Total Dissolved Solids (TDS)	mg/L	SM 2540C	1,215	10	-		500	1,000	1,500
MBAS (detects detergents)	mg/L	SM 5540C	0.13	0.05		.5			
GENERAL MINERALS									
Chloride	mg/L	EPA 300.0	292	1	-		250	500	600
Nitrate (as N)	mg/L	EPA 300.0	10.8	0.20	10				
Ammonia (as N)	mg/L	SM4500 NH3H	<0.059[4]	0.10	-				
Total Kjeldahl Nitrogen (TKN)	mg/L	EPA 351.2	0.72	0.10					
Sulfate (as SO4)	mg/L	EPA 300.0	283.3	0.5	-		250	500	600
METALS AND OTHER INORGANICS									
Antimony	µg/L	EPA 6020	<3.0[4]	6	6				
Arsenic	µg/L	EPA 6020	<1.2[4]	2	10				
Beryllium	µg/L	EPA 6020	<0.57[4]	1	4				
Cadmium	µg/L	EPA 6020	<0.57[4]	1	5				
Chromium (total)	µg/L	EPA 200.8	<10	0.5	50				
Chromium VI	µg/L	EPA 218.6	4.2	1	10				
Copper	µg/L	EPA 6020	<5.0[4]	10		1,000			
Cyanide	mg/L	SM4500 CN E	<0.005[4]	0.005	150				
Lead	µg/L	EPA 6020	<2.5[4]	5.0	15				
Mercury	µg/L	EPA 7470A	<0.10[4]	0.20	2				
Nickel	µg/L	EPA 6020	<5.0[4]	10	100				
Selenium	µg/L	EPA 6020	<2.5[4]	5	50				
Silver	µg/L	EPA 6020	<5.0[4]	10		100			
Thallium	µg/L	EPA 6020	<0.50[4]	1	2				
Zinc	µg/L	EPA 6020	23	10	-	5,000			

Note: Type of sample for groundwater monitoring is "grab sample" from the detection groundwater monitoring wells.

1. MRP lists constituents required for ongoing monitoring (MRP pg. 4) after the initiation of discharge.
2. Background Concentration calculated from the one year initial groundwater sampling and reported in "Background Groundwater Quality Report, Apple Valley Subregional Reclamation Facility", LSCE, January 2017.
3. MCL=Maximum Contaminant Limit, SMCL=Secondary Maximum Contaminant Limit. MCL and SMCL are from WDRs (pg. 16)**:** California Code of Regulation Title 22; Inorganic Chemicals, Section 64431 Table 64431-A; organic chemicals, Section 64444 Table 64444-A; Secondary Maximum Contaminant Levels, Section 64449 Table 64449-A and 64449-B.
4. Background Concentration= laboratory detection limit at the time the Background Concentration was determined (LSCE, January 2017).

Table 2-3
Volatile and Semi-Volatile Constituents, Background Concentration, and Water Quality Objectives
VVWRA Apple Valley Sub-Regional Facilities

VOLATILE SUBSTANCES[1]	Method	Reporting Limit (ug/L)	Background Concentration (um/L)	WQO/ MCL[2] (ug/L)
1,1 Dichloroethane	EPA 624	0.5	<0.098	5
1,1 Dichloroethene	EPA 624	0.5	<0.12	6
1,1,1 Trichloroethane	EPA 624	0.5	<0.12	200
1,1,2 Trichloroethane	EPA 624	0.5	<0.31	5
1,1,2,2 Tetrachloroethane	EPA 624	0.5	<0.29	1
1,2 Dichlorobenzene (volatile)	EPA 624	0.5	<0.20	600
1,2 Dichloroethane	EPA 624	0.5	<0.21	0.5
1,2 Dichloropropane	EPA 624	0.5	<0.19	5
1,3 Dichlorobenzene (volatile)	EPA 624	0.5	<0.15	-
1,3 Dichloropropene (volatile)	EPA 624	0.5	<0.30	0.5
1,4 Dichlorobenzene (volatile)	EPA 624	0.5	<0.072	5
Acrolein	EPA 624	2	<1.1	-
Acrylonitrile	EPA 624	2	<1.2	-
Benzene	EPA 624	0.5	<0.14	1
Bromoform	EPA 624	0.5	<0.50	-
Bromomethane	EPA 624	0.5	<0.48	-
Carbon Tetrachloride	EPA 624	0.5	<0.15	0.5
Chlorobenzene	EPA 624	0.5	<0.23	-
Chlorodibromo-methane (same as dibromochloromethane)	EPA 624	0.5	<0.37	-
Chloroethane	EPA 624	0.5	<0.35	-
Chloroform	EPA 624	0.5	<0.46	-
Chloromethane	EPA 624	0.5	<0.36	-
Dichlorobromo-methane (same as bromodichloromethane)	EPA 624	0.5	<0.11	-
Dichloromethane (same as methylene chloride)	EPA 624	0.5	<0.15	5
Ethylbenzene	EPA 624	0.5	<0.26	300
Tetrachloroethene	EPA 624	0.5	<0.23	5
Toluene	EPA 624	0.5	6.7	150
trans-1,2 Dichloroethylene	EPA 624	0.5	<0.10	10
Trichloroethene	EPA 624	0.5	<0.25	5
Vinyl Chloride	EPA 624	0.5	<0.13	0.5

SEMI-VOLATILE SUBSTANCES[1]	Method	Reporting Limit (ug/L)	Background Concentration (um/L)	WQO/ MCL[2] (ug/L)
1,2 Benzanthracene (same as Benzo(a)anthracene)	EPA 625 SIM	0.05	<0.05	-
1,2 Dichlorobenzene (semivolatile)	EPA 624	0.50	<0.20	-
1,2 Diphenylhydrazine	EPA 625	1	<1.0	-
1,2,4 Trichlorobenzene	EPA 625	1	<1.0	5
1,3 Dichlorobenzene (semivolatile)	EPA 624	0.50	<0.15	-
1,4 Dichlorobenzene (semivolatile)	EPA 624	0.50	<0.072	-
2 Chlorophenol	EPA 625	2	<1.8	-
2,4 Dichlorophenol	EPA 625	1	<1.0	-
2,4 Dimethylphenol	EPA 625	1	<1.0	-
2,4 Dinitrophenol	EPA 625	5	<1.6	-
2,4 Dinitrotoluene	EPA 625	5	<1.8	-
2,4,6 Trichlorophenol	EPA 625	10	<1.9	-
2,6 Dinitrotoluene	EPA 625	5	<1.9	-
2- Nitrophenol	EPA 625	10	<2.1	-
2-Chloroethyl vinyl ether	EPA 625	5	<2.5	-

Table 2-3 (continued)
Volatile and Semi-Volatile Constituents,
Background Concentration, and Water Quality Objectives
VVWRA Apple Valley Sub-Regional Facilities

SEMI-VOLATILE SUBSTANCES[1]	Method	Reporting Limit (ug/L)	Background Concentration (um/L)	WQO/ MCL[2] (ug/L)
2-Chloronaphthalene	EPA 625	10	<1.8	-
3,3' Dichlorobenzidine	EPA 625	5	<2.1	-
3,4 Benzofluoranthene (same as Benzo(b)fluoranthene)	EPA 625 SIM	0.05	<0.05	-
4 Chloro-3-methylphenol	EPA 625	1	<1.0	-
4,6 Dinitro-2-methylphenol	EPA 625	5	<1.8	-
4- Nitrophenol	EPA 625	5	<1.1	-
4-Bromophenyl phenyl ether	EPA 625	5	<1.6	-
4-Chlorophenyl phenyl ether	EPA 625	5	<1.8	-
Acenaphthene	EPA 625 SIM	0.05	<0.05	-
Acenaphthylene	EPA 625 SIM	0.05	<0.05	-
Anthracene	EPA 625 SIM	0.05	<0.05	-
Benzidine	EPA 625	5	<5.0	-
Benzo(a) pyrene(3,4 Benzopyrene)	EPA 625 SIM	0.05	<0.05	0.2
Benzo(g,h,i)perylene	EPA 625 SIM	0.05	<0.05	-
Benzo(k)fluoranthene	EPA 625 SIM	0.05	<0.05	-
bis 2-(1-Chloroethoxyl) methane	EPA 625	5	<1.8	-
bis(2-chloroethyl) ether	EPA 625	1	<1.0	-
bis(2-Chloroisopropyl) ether	EPA 625	2	<1.9	-
bis(2-Ethylhexyl) phthalate	EPA 625	5	<2.3	-
Butyl benzyl phthalate	EPA 625	10	<1.6	-
Chrysene	EPA 625 SIM	0.05	<0.05	-
di-n-Butyl phthalate	EPA 625	10	<1.9	-
di-n-Octyl phthalate	EPA 625	10	<2.6	-
Dibenzo(a,h)-anthracene	EPA 625 SIM	0.05	<0.05	-
Diethyl phthalate	EPA 625	2	<1.8	-
Dimethyl phthalate	EPA 625	2	<1.7	-
Fluoranthene	EPA 625 SIM	0.05	<0.05	-
Fluorene	EPA 625 SIM	0.05	<0.05	-
Hexachloro-cyclopentadiene	EPA 625	5	<1.7	-
Hexachlorobenzene	EPA 625	1	<1.0	1
Hexachlorobutadiene	EPA 625	1	<1.0	-
Hexachloroethane	EPA 625	1	<1.0	-
Indeno(1,2,3,cd)-pyrene	EPA 625 SIM	0.05	<0.05	-
Isophorone	EPA 625	1	<1.0	-
N-Nitroso diphenyl amine	EPA 625	1	<1.0	-
N-Nitroso-dimethyl amine	EPA 625	5	<1.4	-
N-Nitroso -di n-propyl amine	EPA 625	5	<1.7	-
Naphthalene	EPA 625 SIM	0.05	<0.05	-
Nitrobenzene	EPA 625	1	<1.0	-
Pentachlorophenol	EPA 625	1	<1.0	1
Phenanthrene	EPA 625 SIM	0.05	<0.05	-
Phenol	EPA 625	1	<1.0	-
Pyrene	EPA 625 SIM	0.05	<0.05	-

1. List of constituents required by MRP pg. 4: State Water Resource Control Board, 2005, Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Appendix 4, Table 2a, 2b, and 2c.

2. MCL=maximum contaminant level. Source of MCL: WDRs (pg. 16): California Code of Regulation Title 22; Inorganic Chemicals, Section 64431 Table 64431-A; organic chemicals, Section 64444 Table 64444-A.

WQO= Water Quality Objective

Table 3-1
Groundwater Elevation Monitoring Data, Spring 2017

Well Name	Source	Date Measured	Top of Casing Elev. (ft msl)	Depth to Ground-water (ft from TOC)	Ground-water Elev. (ft msl)	Top of Screen Elev. (ft msl)	Bottom of Screen Elev. (ft msl)
AV1-210	VVWRA	4/25/2017	2936.19	153.74	2782.45	2766.19	2736.19
AV2-220	VVWRA	4/25/2017	2937.65	164.80	2772.85	2757.65	2727.65
AV3-225	VVWRA	4/24/2017	2939.38	168.74	2770.64	2754.38	2724.38
AV4-225	VVWRA	4/24/2017	2944.59	145.28	2799.31	2759.59	2729.59
AV4-265	VVWRA	4/24/2017	5944.59	176.18	2768.41	2719.59	2689.59

Abbreviations: ft= feet; msl= mean sea level; Elev.= elevation; TOC= top of casing.

Table 3-2
Final Field Parameters[1], Spring 2017

Well Name	Date	Depth to Water (ft bTOC)	TOC Elev.	Ground-water Elev. (ft msl)	Purge Time (min)	Volume Pumped (gal)	Temp (c)	pH	EC (uS/cm)	Turb-idity (NTU)	DO (mg/L)	ORP (mV)
AV1-210	4/25/2017	153.74	2936.19	2782.45	0:38	2.01	17.97	6.96	1281	92	5.2	111.8
AV2-220	4/25/2017	164.80	2937.65	2772.85	0:23	1.22	19.45	7.1	954	6	3.61	35.3
AV3-225	4/24/2017	168.74	2939.38	2770.64	0:23	1.22	20.34	7.12	1538	4	6.91	57.4
AV4-225	4/24/2017	145.28	2944.59	2799.31	0:20	1.59	18.89	7.05	1677	9	3.81	-12.7

Abbreviations: bTOC= below top of casing; ft= feet; TOC= top of casing; msl= mean sea level; Elev.= elevation; min= minute; gal= gallon; c= degrees celcius; us/cm= microSiemens per centimeter; NTU= turbidity units; mg/L= milligrams per litre; mV= millivolt

1. The WDR (2013) requires final field parameters (collected after well purging and before the well groundwater quality sampling) to be included in this report.

Table 3-3
Equipment Calibration, Spring 2017

Equip. Name	Equip. Number	Date of Test	Time of Test	Standards Used	Equipment Reading	Calibrated to/or within 10%	Temp. (C)	Calibration Performed By:
YSI 556	10A101420	4/24/2017	9:00	DO 100% pH 7,10,4 Cond: 3.9 mS/cm ORP: 237.5 mv	DO: 117.3% pH: 7.03, 9.87, 4.66 Cond: 3.812 ms/cm ORP: 250.5 mv	yes	18.76 18.83	Blaine Tech Services, SC
YSI 556	10A101420	4/25/2017	7:00	DO 100% pH 7,10,4 Cond: 3.9 mS/cm ORP: 237.5 mv	DO: 108.3% pH: 7.04, 10.03, 4.16 Cond: 3.818 ms/cm ORP: 241.1 mv	yes	19.17 19.23	Blaine Tech Services, SC

Table 3-4
TDS, Nitrate, and General Mineral Results in Groundwater
Spring 2017

Well ID	Date	Total Dissolved Solids	Nitrate as N	Ammonia-Nitrogen	Total Kjeldahl Nitrogen	MBAS	Chloride	Sulfate
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Background Concentration		1,215	10.8	<0.059	0.72	0.13	292	283.3
Water Quality Objective (mg/L) [1]		*500/1,000 /1,500*	*10*	*N/A*	*N/A*	*0.5*	*250/500 /600*	*250/500/ 600*
AV1-210	4/25/2017	760	2.1	<0.10	<0.10	0.10	230	180
AV2-220	4/25/2017	700	1.2	<0.10	<0.10	0.07 J	150	170
AV3-225	4/24/2017	880	5.9	<0.10	<0.10	**0.14**	240	230
AV4-225	4/24/2017	990	**11**	<0.10	<0.10	0.06 J	280	240

Note: The WDRs (2013) require the four monitoring wells to be sampled biannually (April and October) and groundwater analyzed for the seven parameters listed in this table.

Bold value: indicates a value that exceeds the water quality objective or Background Concentration

J= Concentration is below the laboratory reporting limit and above the laboratory detection limit.

N/A= not available

1. Maximum Contaminant Level (MCL), Secondary MCL, or Consumer Acceptance (see Table 2-2)

Table 3-5
Metals Results in Groundwater
Spring 2017

Well	Date Sampled	Antimony	Arsenic	Beryllium	Cadmium	Chromium (total)	Chromium VI	Copper	Cyanide	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Background Concentration		<3.0[2]	<1.2[2]	<0.57[2]	<0.57[2]	<10	4.2	<5.0[2]	<0.005[2]	<2.5[2]	<0.10[2]	<5.0[2]	<2.5[2]	<5.0[2]	<0.50[2]	23
Water Quality Objective[1]		*6*	*10*	*4*	*5*	*50*	*10*	*1,000*	*150*	*15*	*2*	*100*	*50*	*100*	*2*	*5,000*
AV1-210	4/25/2017	<6.0	<2.0	<1.0	<1.0	<10	3.3	<10	<0.005	<5.0	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	4/25/2017	<6.0	<2.0	<1.0	<1.0	<10	3.5	<10	<0.005	<5.0	<0.20	<10	<5.0	<10	<1.0	<10
AV3-225	4/24/2017	<6.0	<2.0	<1.0	<1.0	<10	1.7	<10	<0.005	<5.0	<0.20	<10	<5.0	<10	<1.0	<10
AV4-225	4/24/2017	<6.0	**1.8 J**	<1.0	<1.0	<10	2.5	<10	<0.005	<5.0	<0.20	<10	**6.5**	<10	<1.0	5.3 J

Note: The WDRs (2013) required that every second year the above constituents are reported, beginning with the April 2017 sampling event (e.g., April 2017, April 2019).

Bold value: indicates a value that exceeds the Background Concentration and/or WQO

J= Concentration is below the laboratory reporting limit and above the laboratory detection limit.

1. Maximum Contaminant Level (MCL), Secondary MCL, or Consumer Acceptance (see Table 2-2)

2. Background Concentration= laboratory detection limit at the time the Background Concentration was determined (LSCE, January 2017).

Table 3-6
Volatile and Semi-Volatile Organic Compound Detections[1] in Groundwater, Spring 2017

Well	Date Sampled	Benzene	Toluene	Other VOC's
		ug/L	ug/L	ug/L
Background Concentration		*<0.14*[2]	*6.7*	*<DL*[2]
WQO/MCL		*1*	*150*	*Varies*
AV1-210	4/25/2017	<0.067	0.15 J	<0.05 - <5.0
AV2-220	4/25/2017	<0.067	0.31 J	<0.05 - <5.0
AV3-225	4/24/2017	0.13 J	0.40 J	<0.05 - <5.0
AV4-225	4/24/2017	0.070 J	0.46 J	<0.05 - <5.0

Note: The WDRs (2013) required that every second year the above constituents are reported, beginning with the April 2017 sampling event (e.g., April 2017, April 2019).

1. See Appendix B-3 for full list of VOCs detected historically
2. Background Concentration= laboratory detection limit at the time the Background Concentration was determined (LSCE, January 2017).

DL= Detection Limit.

WQO/MCL=Water Quality Objective/Maximum Contaminant Level

J= Concentration is below the laboratory reporting limit and above the laboratory detection limit.

Bold value: indicates a value that exceeds the Background Concentration or Water Quality Objective (WQO)/Maximum Contaminant Level (MCL)

FIGURES

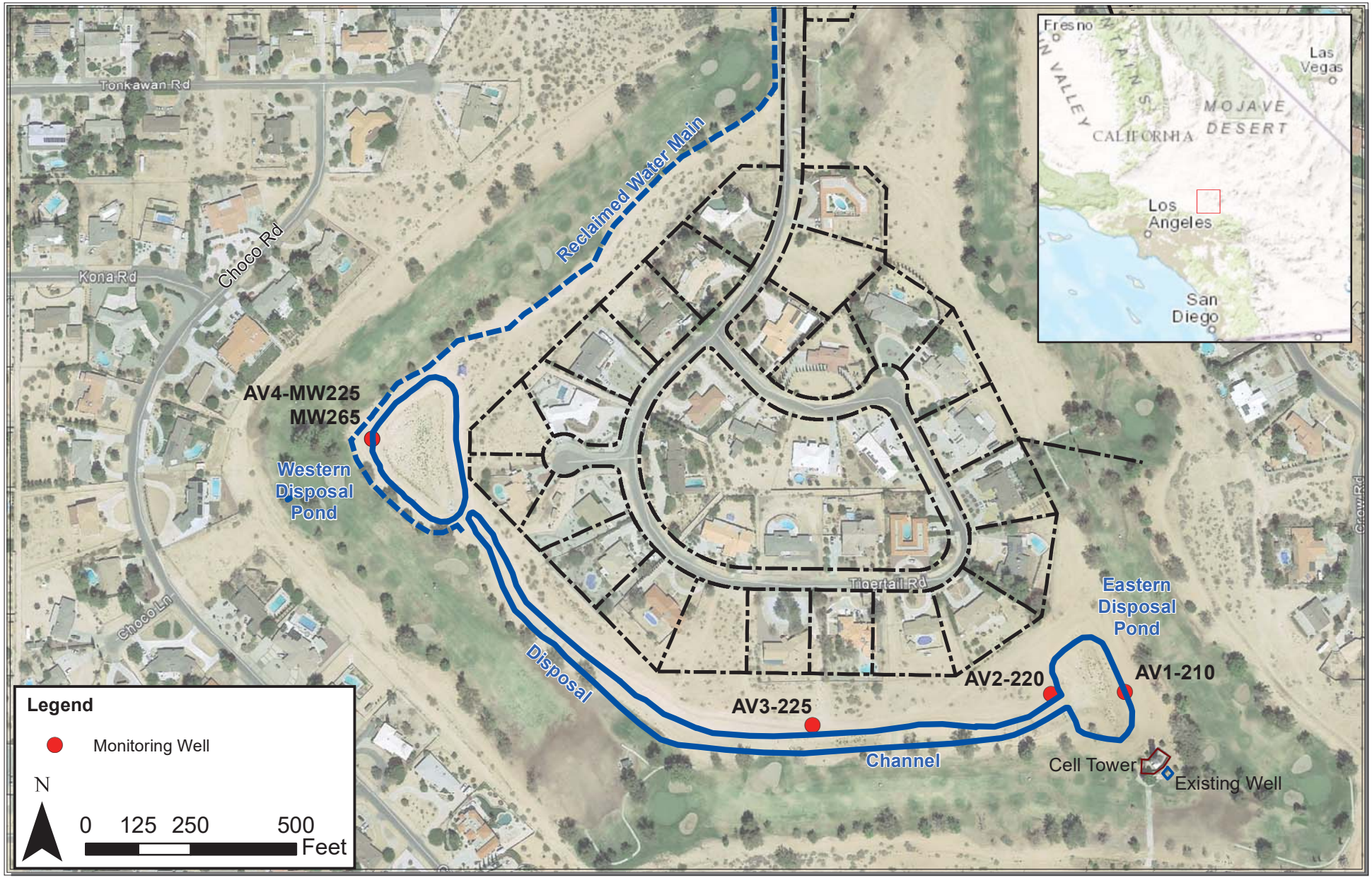

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FIGURE 1-1

Groundwater Monitoring Well Location Map

Victor Valley Wastewater Reclamation Authority
Apple Valley Sub-Regional Reclamation Facility, California
Spring 2017 Semi-Annual Groundwater Monitoring Results

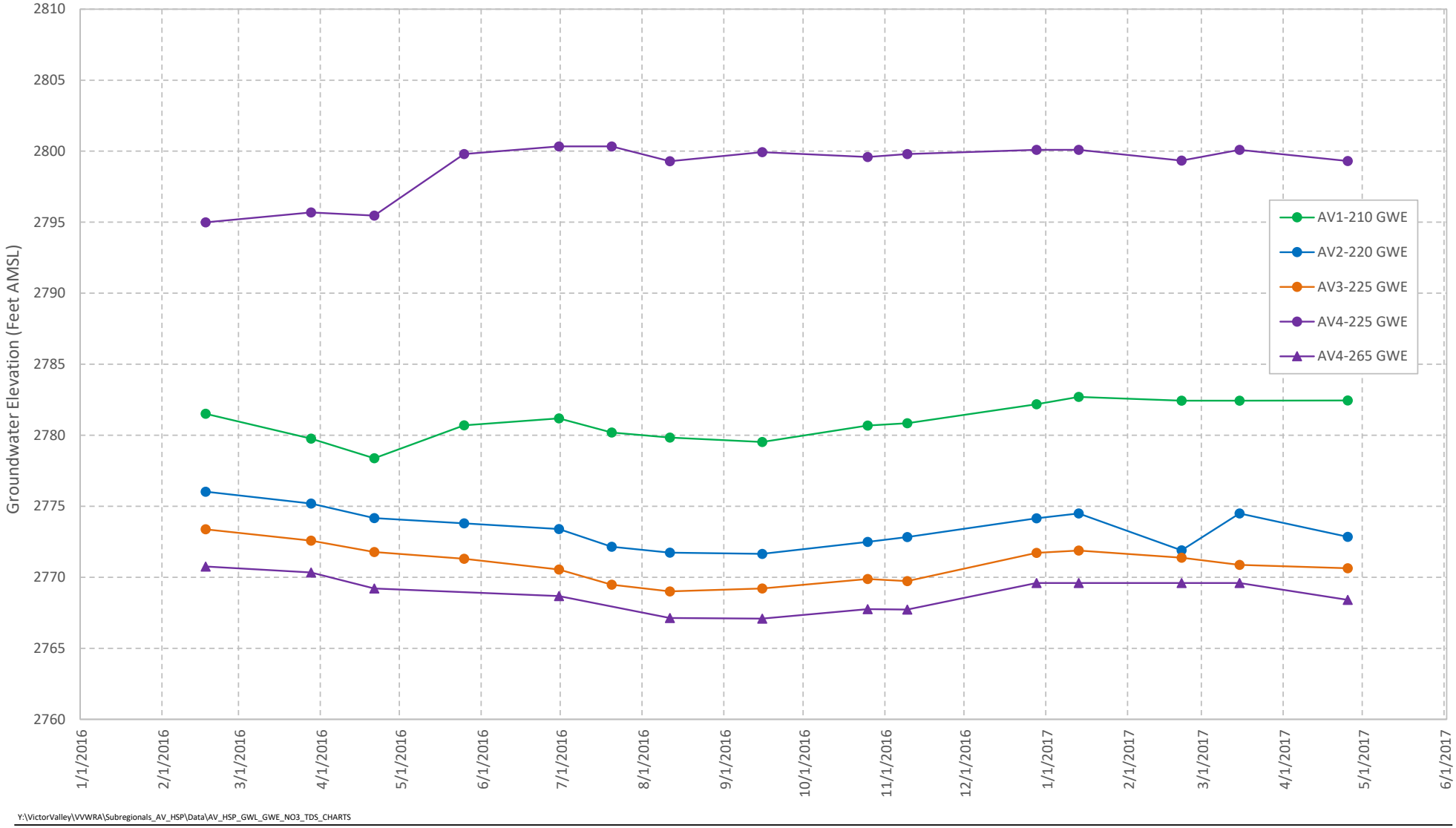

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FIGURE 3-1

Groundwater Elevation Time Series Plot

Victor Valley Wastewater Reclamation Authority
Apple Valley Sub-Regional Reclamation Facility, California
Spring 2017 Semi-Annual Groundwater Monitoring Results

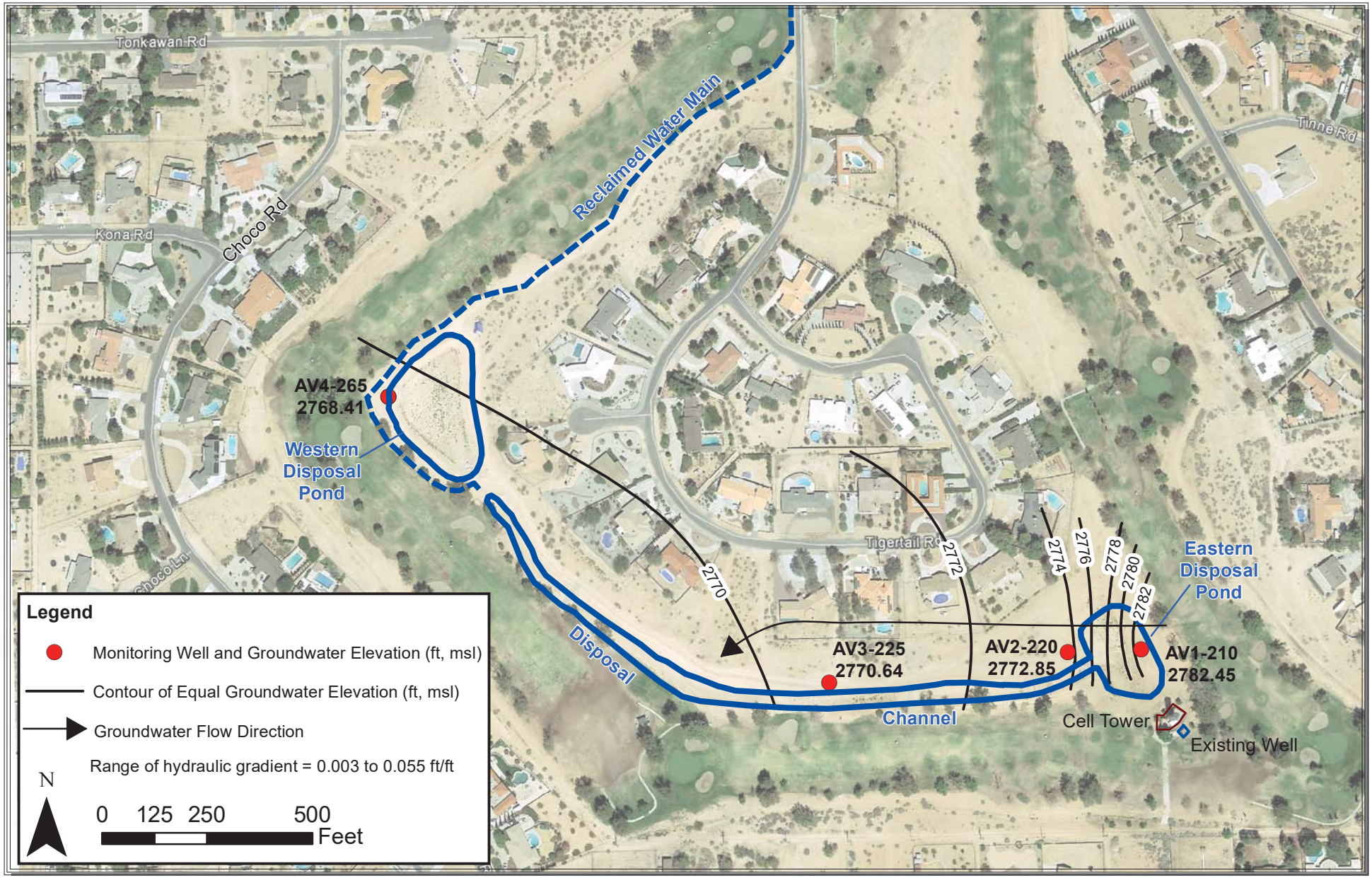

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FIGURE 3-2
Contours of Equal Groundwater Elevation, Spring 2017

Victor Valley Wastewater Reclamation Authority
Apple Valley Sub-Regional Reclamation Facility, California
Spring 2017 Semi-Annual Groundwater Monitoring Results

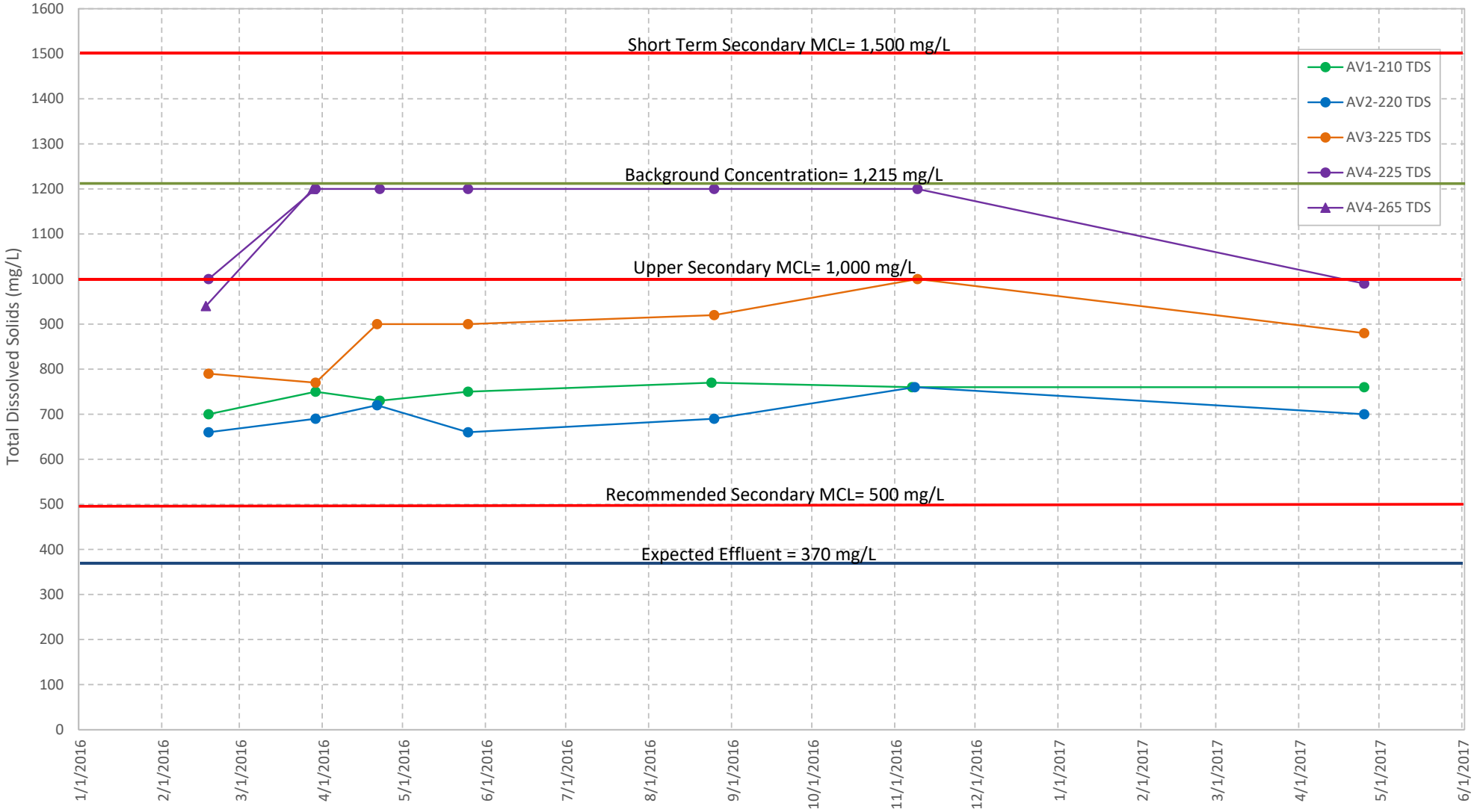

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FIGURE 3-3

TDS Concentrations Time Series Plot

Victor Valley Wastewater Reclamation Authority
Apple Valley Sub-Regional Reclamation Facility, California
Spring 2017 Semi-Annual Groundwater Monitoring Results

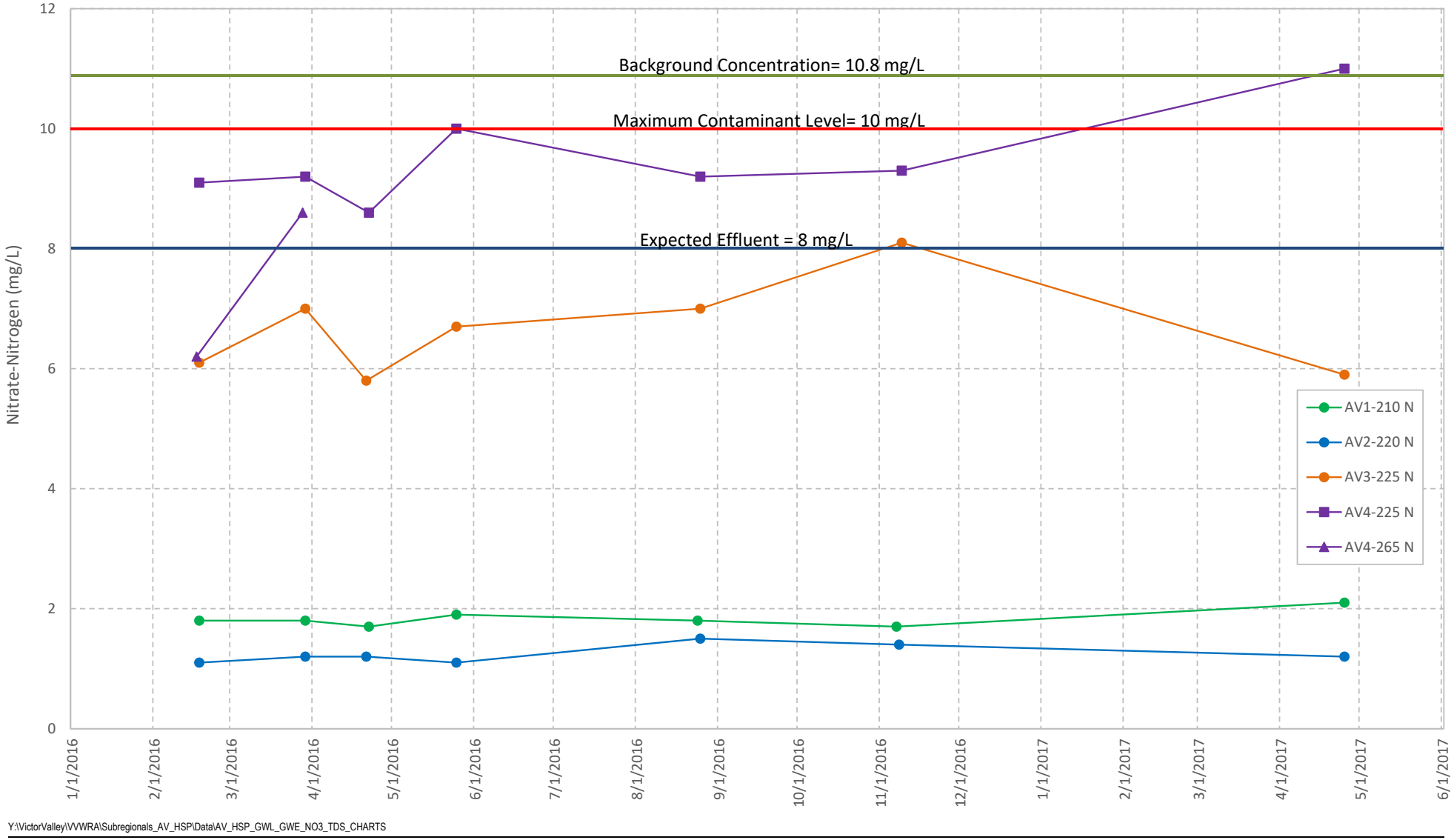

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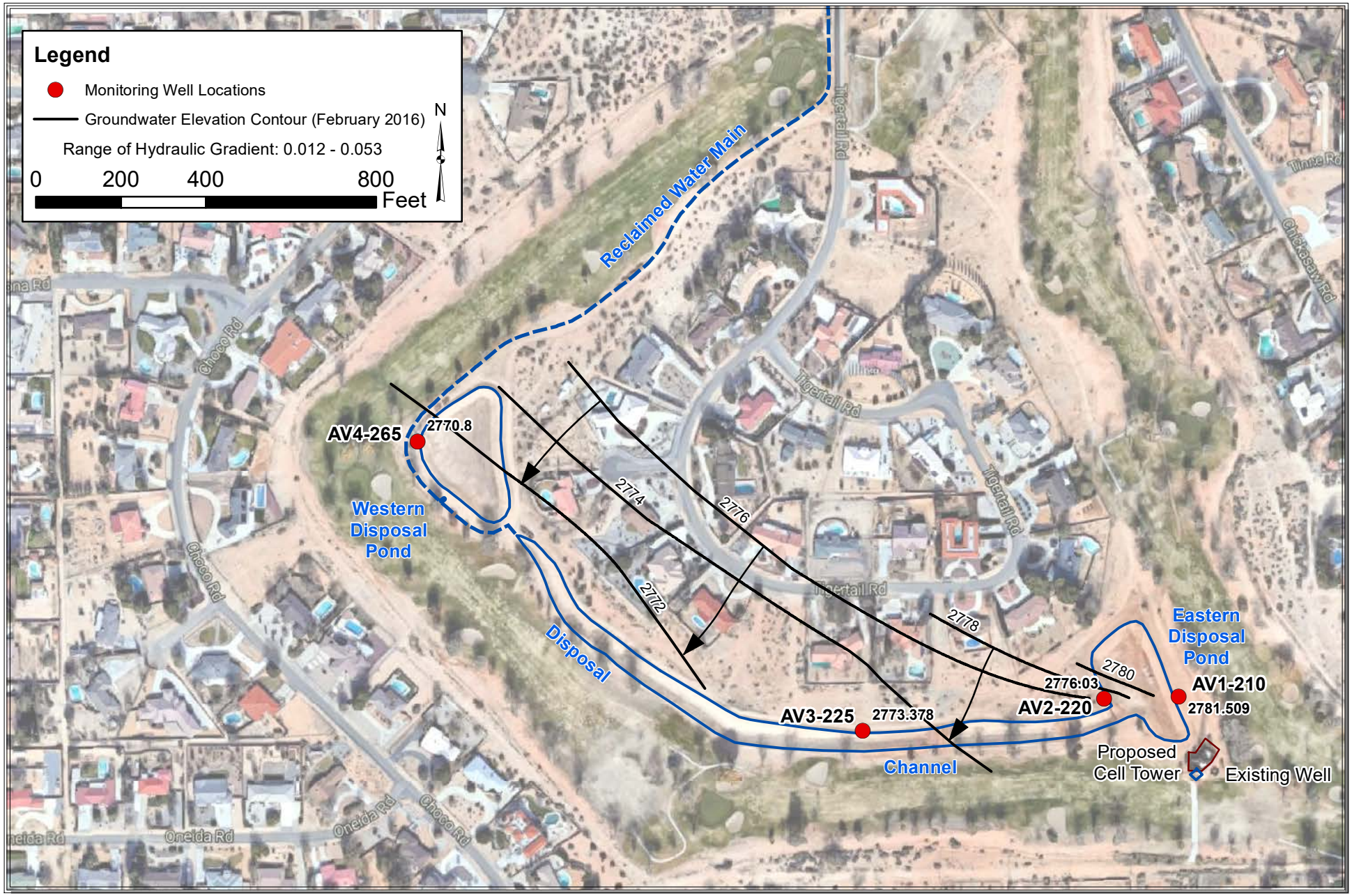
FIGURE 3-4

Nitrate as Nitrogen Concentration Time Series Plot

Victor Valley Wastewater Reclamation Authority
Apple Valley Sub-Regional Reclamation Facility, California
Spring 2017 Semi-Annual Groundwater Monitoring Results

APPENDIX A



Basemap Google 2017

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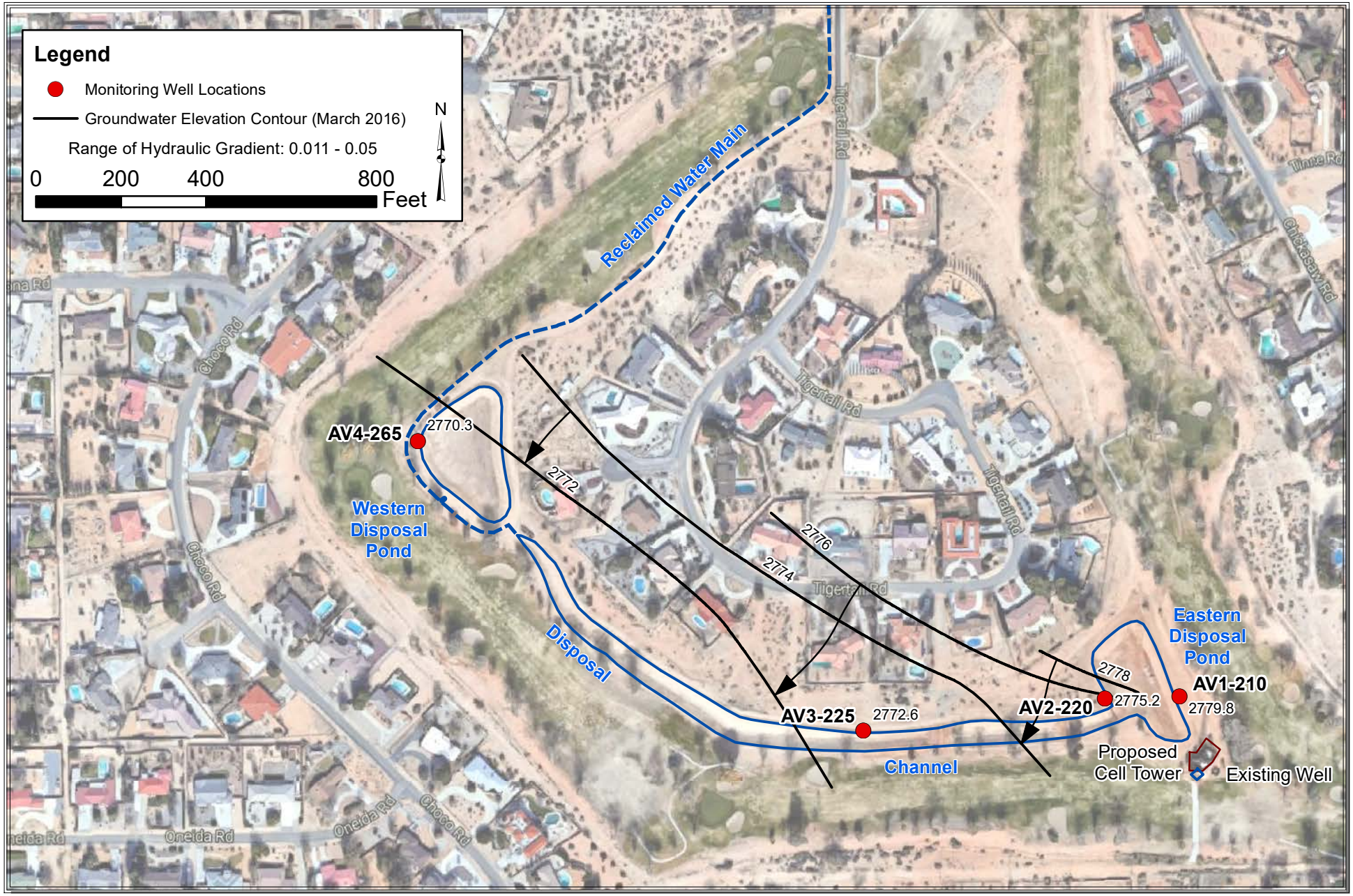
Appendix B
Contours of Equal Groundwater Elevation, February 2016
Apple Valley Subregional Reclamation Facility, VVWRA



Basemap Google 2017

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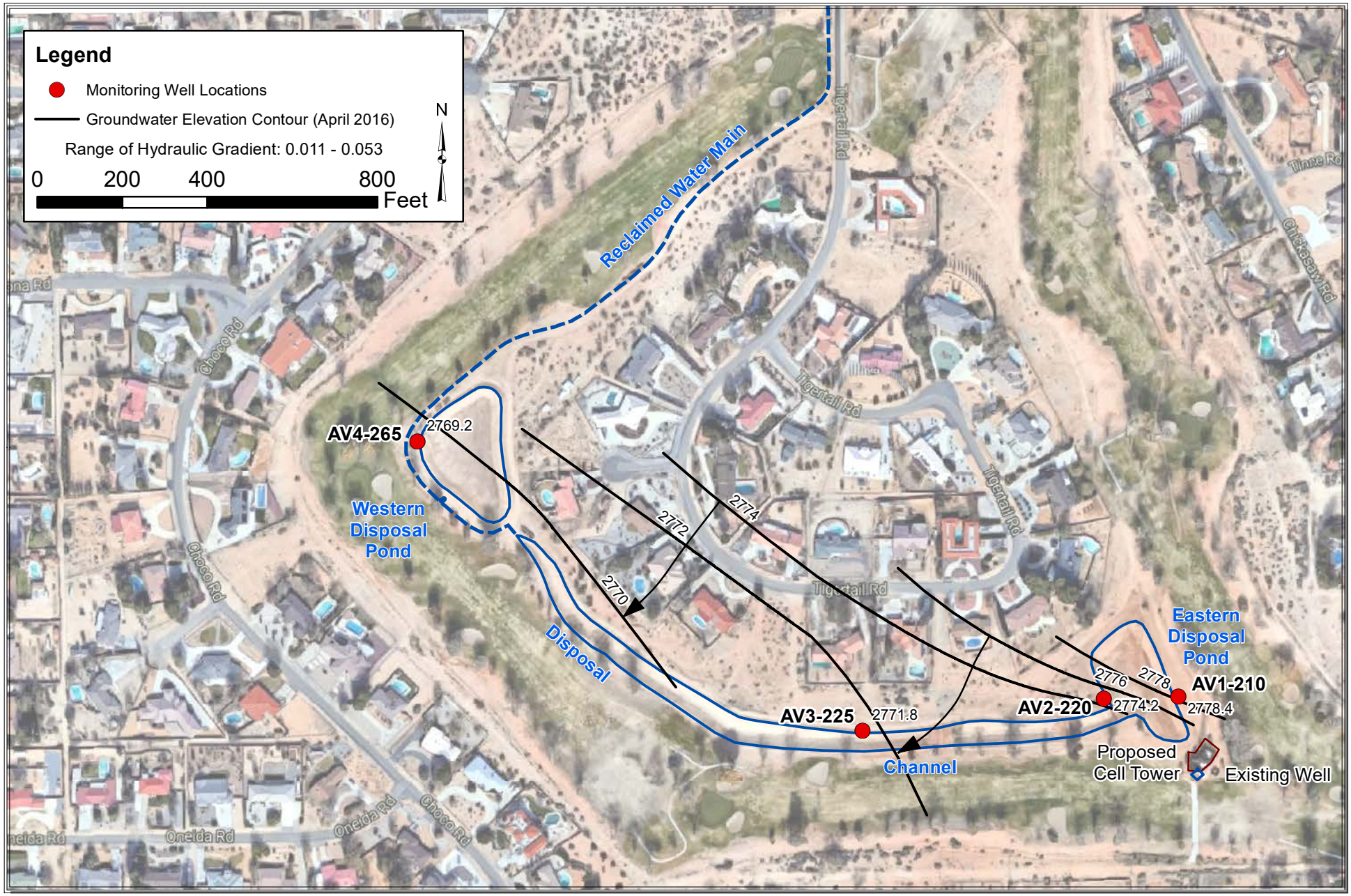
Appendix B
Contours of Equal Groundwater Elevation, March 2016
Apple Valley Subregional Reclamation Facility, VVWRA



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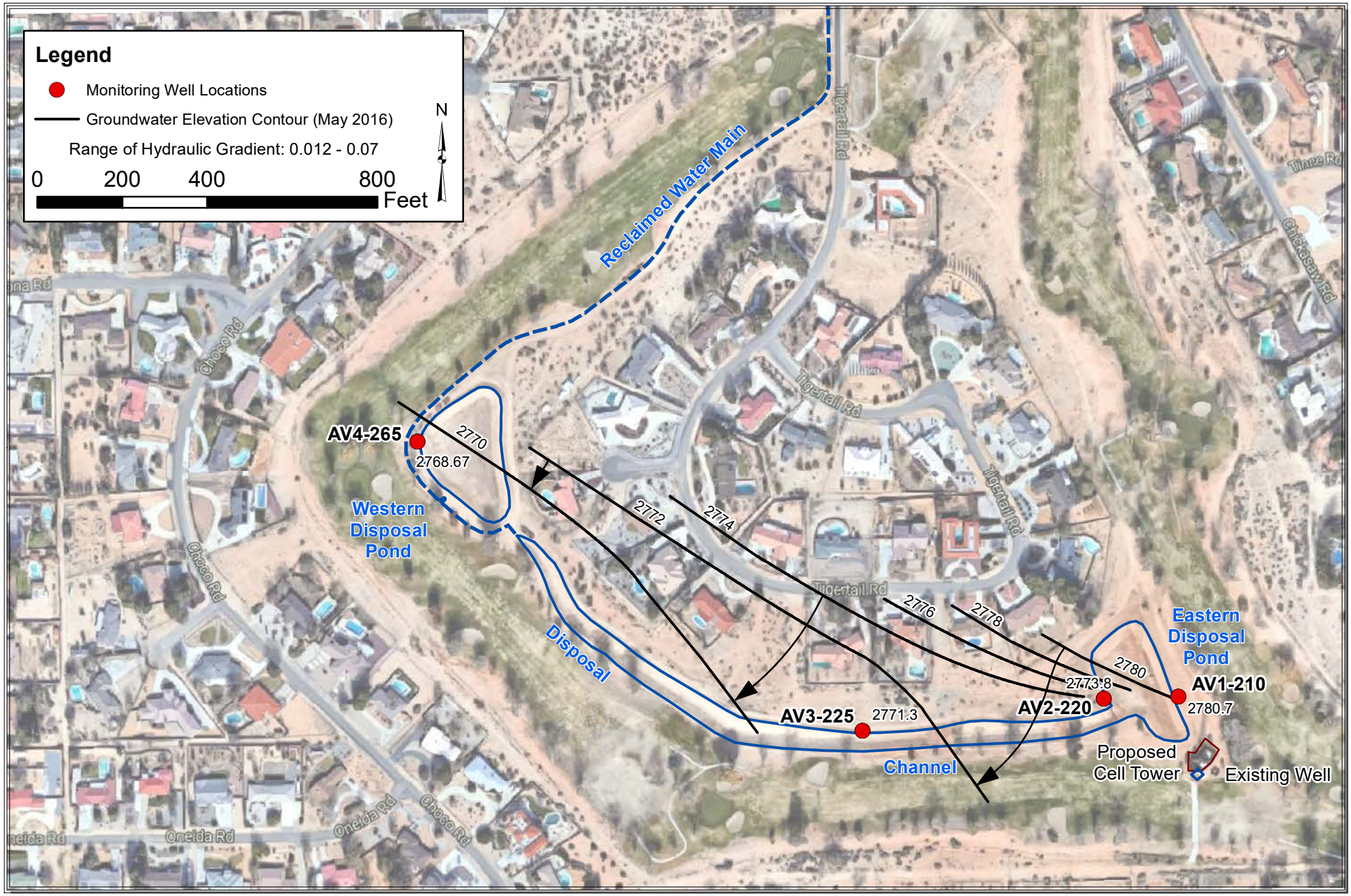
Appendix B
Contours of Equal Groundwater Elevation, April 2016
Apple Valley Subregional Reclamation Facility, VVWRA



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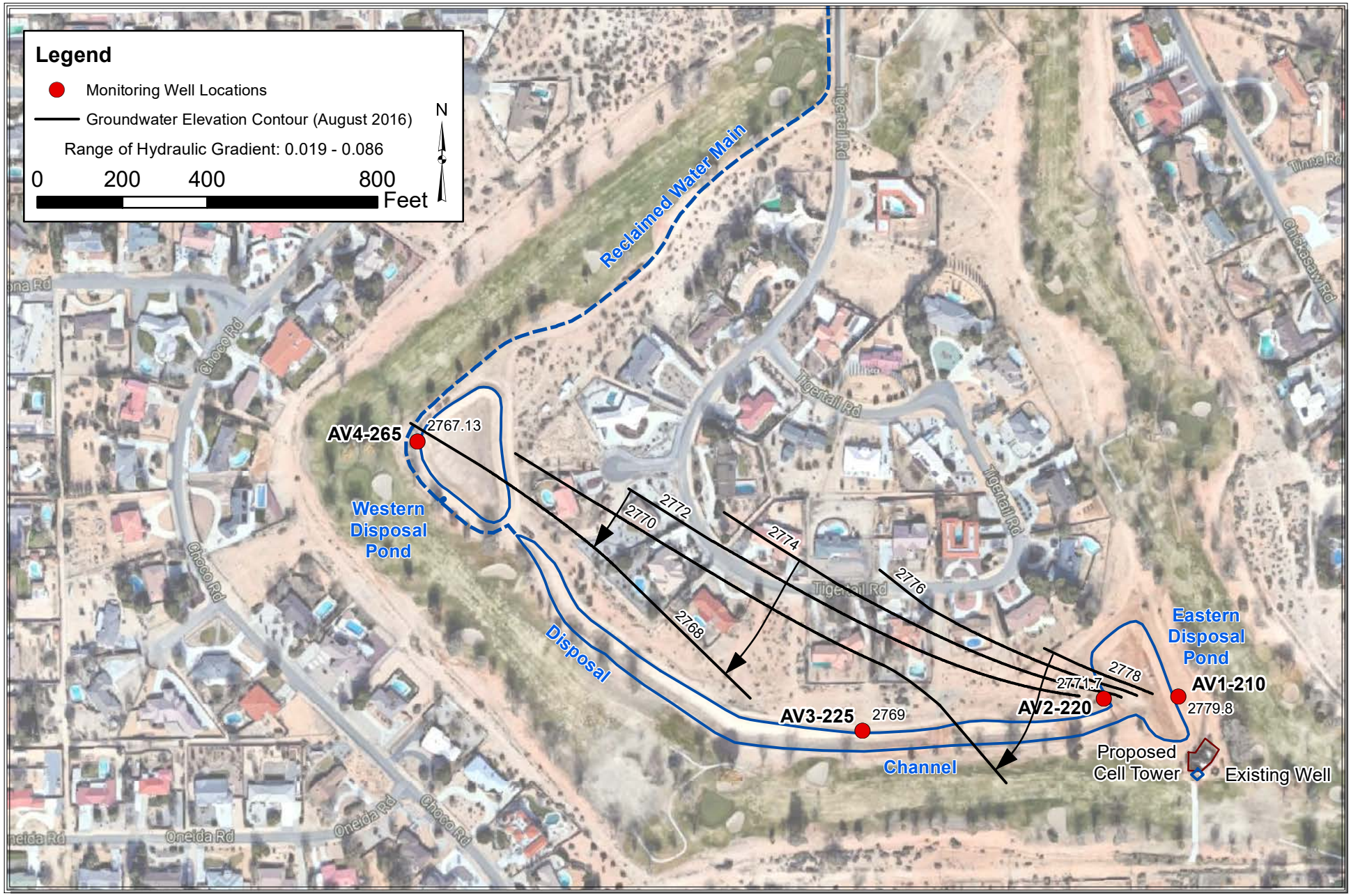
Appendix B
Contours of Equal Groundwater Elevation, May 2016
Apple Valley Subregional Reclamation Facility, VVWRA



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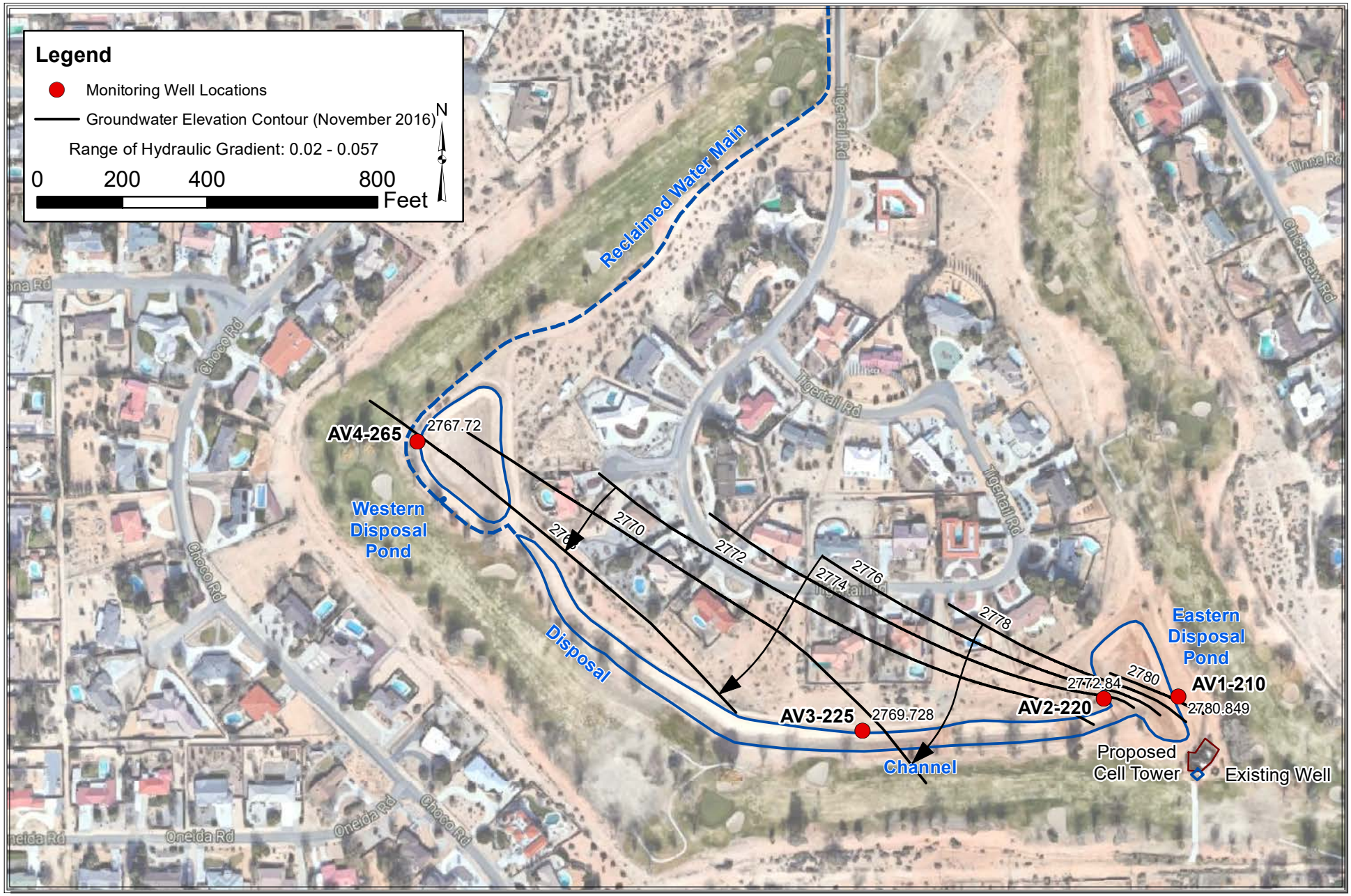
Appendix B
Contours of Equal Groundwater Elevation, August 2016
Apple Valley Subregional Reclamation Facility, VVWRA



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Appendix B
Contours of Equal Groundwater Elevation, November 2016
Apple Valley Subregional Reclamation Facility, VVWRA

APPENDIX B

Appendix B-1

Groundwater Quality—General Minerals, VVWRA Apple Valley Sub-Regional Facilities

									Cations				Anions						
Well Name	Date Units	TDS (mg/L)	Per-chlorate [6] (ug/L)	MBAS (mg/L)	Total Alkalinity [5] (mg/L)	TKN (mg/L)	Total Hardness [5] (mg/L)	NH3-N (mg/L)	Ca [5] (mg/L)	Na [5] (mg/L)	Mg [5] (mg/L)	K [5] (mg/L)	Cl (mg/L)	HCO3 [1, 5] (mg/L)	CO3 [1, 5] (mg/L)	OH [1, 5] (mg/L)	NO3-N (mg/L)	NO2-N [6] (mg/L)	SO4 (mg/L)
Water Quality Objective		**500/1,000/ 1,500 [4]**	**6 [2]**	**0.5 [3]**	-	-	-	-	-	-	-	-	**250/500/ 600 [4]**	-	-	-	**10 [2]**	**1 [2]**	**250/500/ 600 [4]**
Background Concentration		**1,215**	**-**	**0.13**	**131**	**0.72**	**612**	**<0.059**	**181**	**139**	**38**	**5.3**	**292**	**164**	**<1.7**	**<1.7**	**10.8**	**-**	**283.3**
AV1-210	2/18/2016	700	<4.0	<0.08	61	<0.10	280	<0.10	82	120	18	3.2	200	74	<3.0	<3.0	1.8	<0.10	160
AV1-210	3/29/2016	750	<4.0	<0.08	60	<0.10	290	<0.10	87	130	19	3.5	210	73	<3.0	<3.0	1.8	<0.10	160
AV1-210	4/22/2016	730	<4.0	<0.08	65	<0.20	300	<0.10	85	120	21	4.8	210	79	<3.0	<3.0	1.7	<0.10	160
AV1-210	5/25/2016	750	-	<0.13	60	0.068 J	290	<0.10	83	120	19	3.5	220	73	<3.0	<3.0	1.9	<0.10	170
AV1-210	8/24/2016	770	<4.0	<0.08	62	<0.10	300	<0.10	86	120	19	3.6	210	76	<3.0	<3.0	1.8	<0.10	170
AV1-210	11/7/2016	760	<4.0	<0.08	63	<0.10	310	<0.10	91	120	20	4.1	220	77	<3.0	<3.0	1.7	<0.10	170
AV1-210	4/25/2017	760	-	0.10	-	<0.10	-	<0.10	-	-	-	-	230	-	-	-	2.1	-	180
AV2-220	2/18/2016	660	<4.0	<0.08	88	<0.10	310	<0.10	88	95	23	3.5	150	110	<3.0	<3.0	1.1	<0.10	180
AV2-220	3/29/2016	690	<4.0	<0.08	88	<0.10	300	<0.10	85	94	22	3.5	160	110	<3.0	<3.0	1.2	<0.10	180
AV2-220	4/21/2016	720	1.1 J	<0.08	93	**11**	370	<0.10	100	100	27	4.7	170	110	<3.0	<3.0	1.2	<0.10	200
AV2-220	5/25/2016	660	-	0.11	85	<0.10	270	<0.10	74	89	20	3.6	140	100	<3.0	<3.0	1.1	<0.10	170
AV2-220	8/25/2016	690	<4.0	<0.08	90	<0.10	320	<0.10	90	93	24	3.8	170	110	<3.0	<3.0	1.5	<0.10	200
AV2-220	11/7/2016	760	<4.0	<0.08	96	0.68	370	<0.10	100	99	27	3.9	170	120	<3.0	<3.0	1.4	<0.10	200
AV2-220	4/25/2017	700	-	0.07 J	-	<0.10	-	<0.10	-	-	-	-	150	-	-	-	1.2	-	170
AV3-225	2/17/2016	790	<4.0	<0.08	98	<0.20	450	<0.10	140	130	26	3.9	230	120	<3.0	<3.0	6.1	<0.10	230
AV3-225	3/28/2016	770	2.9 J	<0.08	100	0.72	330	<0.10	100	120	19	3.2	200	120	<3.0	<3.0	7.0	<0.10	170
AV3-225	4/21/2016	900	<4.0	<0.08	95	<0.20	390	<0.10	120	130	23	3.7	230	120	<3.0	<3.0	5.8	<0.10	220
AV3-225	5/24/2016	900	-	0.09	96	<0.20	410	<0.10	120	130	24	4.0	220	120	<3.0	<3.0	6.7	<0.10	220
AV3-225	8/25/2016	920	<4.0	<0.08	98	<0.10	410	<0.10	120	130	24	3.7	240	120	<3.0	<3.0	7.0	<0.10	240
AV3-225	11/9/2016	1,000	<4.0	0.08	100	<0.10	460	<0.10	140	130	26	3.8	240	130	<3.0	<3.0	8.1	<0.10	240
AV3-225	4/24/2017	880	-	**0.14**	-	<0.10	-	<0.10	-	-	-	-	240	-	-	-	5.9	-	230
AV4-225	2/17/2016	1,000	<4.0	<0.08	120	<0.20	**640**	<0.10	**190**	120	**40**	5.2	260	150	<3.0	<3.0	9.1	<0.10	260
AV4-225	3/28/2016	1,200	<4.0	**0.30**	120	<0.10	530	<0.10	160	110	34	5.3	240	150	<3.0	<3.0	9.2	<0.10	240
AV4-225	4/22/2016	1,200	<4.0	<0.08	120	<0.20	570	<0.10	170	120	35	4.8	290	150	<3.0	<3.0	8.6	<0.10	280
AV4-225	5/24/2016	1,200	-	<0.08	120	<0.20	590	<0.10	170	120	38	**5.4**	280	150	<3.0	<3.0	10	<0.10	270
AV4-225	8/24/2016	1,200	<4.0	<0.08	120	<0.10	590	<0.10	170	120	38	5.3	280	150	<3.0	<3.0	9.2	<0.10	270
AV4-225	11/8/2016	1,200	<4.0	<0.08	130	<0.10	580	<0.10	170	110	36	4.5	280	160	<3.0	<3.0	9.3	<0.10	280
AV4-225	4/24/2017	990	-	0.06 J	-	<0.10	-	<0.10	-	-	-	-	280	-	-	-	**11**	-	240

Appendix B-1

Groundwater Quality—General Minerals, VVWRA Apple Valley Sub-Regional Facilities

									Cations				Anions						
Well Name	**Date**	**TDS**	**Per-chlorate** [6]	**MBAS**	**Total Alkalinity** [5]	**TKN**	**Total Hardness** [5]	**NH3-N**	**Ca** [5]	**Na** [5]	**Mg** [5]	**K** [5]	**Cl**	**HCO3** [1, 5]	**CO3** [1, 5]	**OH** [1, 5]	**NO3-N**	**NO2-N** [6]	**SO4**
	Units	**(mg/L)**	**(ug/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**	**(mg/L)**
Water Quality Objective		**500/1,000/ 1,500** [4]	**6** [2]	**0.5** [3]	-	-	-	-	-	-	-	-	**250/500/ 600** [4]	-	-	-	**10** [2]	**1** [2]	**250/500/ 600** [4]
Background Concentration		**1,215**	**-**	**0.13**	**131**	**0.72**	**612**	**<0.059**	**181**	**139**	**38**	**5.3**	**292**	**164**	**<1.7**	**<1.7**	**10.8**	**-**	**283.3**
AV4-265	2/17/2016	940	<4.0	<0.20	**200**	<0.10	**780**	<0.10	**210**	120	**63**	**17**	230	**240**	<3.0	<3.0	6.2	<0.10	240
AV4-265	3/28/2016	1,200	<4.0	<0.08	120	<0.10	570	<0.10	170	120	36	4.7	280	150	<3.0	<3.0	8.6	<0.10	280

1. HCO3 , CO3 and OH reported as HCO3 , CO3 and OH respectively.
2. MCL= Maximum Contaminant Level
3. Secondary Maximum Contaminant Limit- Consumer Acceptance
4. Secondary Maximum Contaminant Limit- Recommended/Upper/Short Term Range
5. Constituent only required for initial baseline monitoring (MRP pg.9), not ongoing monitoring (after initiation of discharge, MRP pg. 4).
6. Constituent not required by MRP, for determination of initial conditions only.

Non Detect Result Reported as < Reporting Limit

J= Concentration is below the laboratory reporting limit and above the laboratory detection limit.

Bold indicates a concentration that exceeds the Water Quality Objective or Background Concentration

Note: February and March 2016, all wells analyzed for general minerals, metals, VOCs and SVOCs, perchlorate and nitrite..
April 2016, all wells analyzed for general minerals and metals except AV4-265 analyzed for VOCs (not SVOCS) to confirm previous hits.
May 2016, all upper wells (not AV4-265) analyxed for general minerals and metals.
After May 2016, perchlorate and nitrite analysis and lower completion well AV4-265 sampling (installed to be used if water levels drop below upper completion well (AV4-225)) were discontinued. They were analyzed to determine background concentration and are not required by the MRP.

Appendix B-2

Groundwater Quality—Metals and Other Inorganics, VVWRA Apple Valley Sub-Regional Facilities

Well Name	Date	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Hexavalent Chromium	Copper	Cyanide	Iron [3]	Lead	Manganese [3]	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
	Units	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
Water Quality Objective		**6** [1]	**10** [1]	**4** [1]	**5** [1]	**50** [1]	**10** [1]	**1,000** [2]	**0.15** [1]	**-**	**-**	**-**	**2** [1]	**100** [1]	**50** [1]	**100** [2]	**2** [1]	**5,000** [2]
Background Concentration		**<3.0**	**<1.2**	**<0.57**	**<0.57**	**<10**	**4.2**	**<5.0**	**<0.005**	**80.5**	**<2.5**	**78**	**<0.10**	**<5.0**	**<2.5**	**<5.0**	**<0.50**	**23**
AV1-210	2/18/2016	<6.0	<2.0	<1.0	<1.0	4.2 J	3.4	<10	<0.005	**470**	<5.0	16	<0.20	<10	<5.0	<10	<1.0	<10
AV1-210	3/29/2016	<6.0	<2.0	<1.0	<1.0	4.4 J	3.5	<10	<0.005	<20	<5.0	7.7 J	<0.20	<10	<5.0	<10	<1.0	<10
AV1-210	4/22/2016	<6.0	**1.4 J**	<1.0	<1.0	9.3 J	3.4	**6.3 J**	<0.005	**7,200**	<5.0	**170**	<0.20	<10	<5.0	<10	<1.0	23
AV1-210	5/25/2016	<6.0	<2.0	<1.0	<1.0	4.3 J	3.5	<10	<0.005	<20	2.5 J	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV1-210	8/24/2016	<6.0	<2.0	<1.0	<1.0	4.4 J	3.2	<10	<0.005	**150**	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV1-210	11/7/2016	<6.0	<2.0	<1.0	<1.0	4.2 J	3.1	<10	<0.005	**2,100**	<5.0	47	<0.20	<10	<5.0	<10	<1.0	8.7 J
AV1-210	4/25/2017	<6.0	<2.0	<1.0	<1.0	<10	3.3	<10	<0.005	-	<5.0	-	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	2/18/2016	<6.0	<2.0	<1.0	<1.0	4.3 J	3.7	<10	<0.005	43	<5.0	11	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	3/29/2016	<6.0	<2.0	<1.0	<1.0	4.5 J	4.0	<10	<0.005	<20	<5.0	9.1 J	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	4/21/2016	<6.0	<2.0	<1.0	<1.0	6.2 J	**4.9**	<10	<0.005	**2,400**	<5.0	78	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	5/25/2016	<6.0	<2.0	<1.0	<1.0	4.4 J	3.6	<10	<0.005	18 J	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	6.3 J
AV2-220	8/25/2016	<6.0	<2.0	<1.0	<1.0	4.3 J	3.4	<10	<0.005	<20	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	11/7/2016	<6.0	<2.0	<1.0	<1.0	<10	3.0	<10	<0.005	49	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV2-220	4/25/2017	<6.0	<2.0	<1.0	<1.0	<10	3.5	<10	<0.005	-	<5.0	-	<0.20	<10	<5.0	<10	<1.0	<10
AV3-225	2/17/2016	<6.0	<2.0	<1.0	<1.0	5.0 J	2.6	<10	<0.005	**2,000**	<5.0	42	<0.20	<10	<5.0	<10	<1.0	8.5 J
AV3-225	3/28/2016	<6.0	<2.0	<1.0	<1.0	<10	3.2	<10	<0.005	<20	<5.0	8.6 J	<0.20	<10	<5.0	<10	<1.0	12
AV3-225	4/21/2016	<6.0	<2.0	<1.0	<1.0	<10	2.8	<10	<0.005	11 J	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV3-225	5/24/2016	<6.0	<2.0	<1.0	<1.0	<10	2.6	**7.4 J**	<0.005	**110**	<5.0	7.1 J	<0.20	<10	<5.0	<10	<1.0	**28**
AV3-225	8/25/2016	<6.0	<2.0	<1.0	<1.0	<10	2.6	<10	<0.005	<20	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV3-225	11/9/2016	<6.0	**1.5 J**	<1.0	<1.0	<10	2.6	<10	<0.005	**110**	<5.0	<10	<0.20	<10	**3.2 J**	<10	<1.0	<10
AV3-225	4/24/2017	<6.0	<2.0	<1.0	<1.0	<10	1.7	<10	<0.005	-	<5.0	-	<0.20	<10	<5.0	<10	<1.0	<10
AV4-225	2/17/2016	<6.0	<2.0	<1.0	<1.0	<10	2.2	<10	<0.005	**120**	<5.0	6.6 J	<0.20	<10	<5.0	<10	<1.0	10
AV4-225	3/28/2016	<6.0	<2.0	<1.0	<1.0	<10	2.5	<10	<0.005	38	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10
AV4-225	4/22/2016	<6.0	<2.0	<1.0	<1.0	<10	2.5	<10	<0.005	**96**	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	<10

Appendix B-2

Groundwater Quality—Metals and Other Inorganics, VVWRA Apple Valley Sub-Regional Facilities

Well Name	Date / Units	Antimony (ug/L)	Arsenic (ug/L)	Beryllium (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Hexavalent Chromium (ug/L)	Copper (ug/L)	Cyanide (ug/L)	Iron [3] (ug/L)	Lead (ug/L)	Manganese [3] (ug/L)	Mercury (ug/L)	Nickel (ug/L)	Selenium (ug/L)	Silver (ug/L)	Thallium (ug/L)	Zinc (ug/L)
Water Quality Objective		**6** [1]	**10** [1]	**4** [1]	**5** [1]	**50** [1]	**10** [1]	**1,000** [2]	**0.15** [1]	**-**	**-**	**-**	**2** [1]	**100** [1]	**50** [1]	**100** [2]	**2** [1]	**5,000** [2]
Background Concentration		**<3.0**	**<1.2**	**<0.57**	**<0.57**	**<10**	**4.2**	**<5.0**	**<0.005**	**80.5**	**<2.5**	**78**	**<0.10**	**<5.0**	**<2.5**	**<5.0**	**<0.50**	**23**
AV4-225	5/24/2016	<6.0	<2.0	<1.0	<1.0	<10	2.2	<10	<0.005	<20	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	16
AV4-225	8/24/2016	<6.0	<2.0	<1.0	<1.0	<10	2.2	<10	<0.005	**1,200**	<5.0	21	<0.20	<10	<5.0	<10	<1.0	<10
AV4-225	11/8/2016	<6.0	<2.0	<1.0	<1.0	<10	2.3	<10	<0.005	25	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	5.4 J
AV4-225	4/24/2017	<6.0	**1.8 J**	<1.0	<1.0	<10	2.5	<10	<0.005	-	<5.0	-	<0.20	<10	**6.5**	<10	<1.0	5.3 J
AV4-265	2/17/2016	<6.0	**4.3**	**3.0**	<2.0	**52**	3.2	**53**	<0.005	**59,000**	**28**	**1,600**	<0.20	**25**	<5.0	<10	<1.0	**420**
AV4-265	3/28/2016	<6.0	<2.0	<1.0	<1.0	<10	2.3	<10	<0.005	<20	<5.0	<10	<0.20	<10	<5.0	<10	<1.0	6.4 J

1. MCL= Maximum Contaminant Level

2. Secondary Maximum Contaminant Limit- Consumer Acceptance

3. Constituent only required for initial baseline monitoring (MRP pg.9), not ongoing monitoring (after initiation of discharge, MRP pg. 4).

ND = Reported as < Reporting Limit

J= Concentration is below the laboratory reporting limit and above the laboratory detection limit.

Bold indicates a concentration that exceeds the Water Quality Objective

Note: February and March 2016, all wells analyzed for general minerals, metals, VOCs and SVOCs, perchlorate and nitrite..

Apr. 2016, all wells analyzed for general minerals and metals except AV4-265 analyzed for VOCs (not SVOCS) to confirm previous hits.

May 2016, all upper wells (not AV4-265) analyzed for general minerals and metals.

After May 2016, perchlorate and nitrite analysis and lower completion well AV4-265 sampling (installed to be used if water levels drop below upper completion well (AV4-225)) were discontinued. They were analyzed to determine background concentration and are not required by MRP.

Appendix B-3

Groundwater Quality—Volatile and Semi-Volatile Organic Compound Detections
VVWRA Apple Valley Sub-Regional Facility

Well Name	Date	Constituent	Result (ug/L)	Background Concentration (ug/L)	Water Quality [1] Objective (ug/L)
AV1-210	8/24/2016	Toluene	0.40 J	6.7	150
AV1-210	11/7/2016	Toluene	**11**	6.7	150
AV1-210	4/25/2017	Toluene	0.15 J	6.7	150
AV2-220	8/25/2016	Diethyl phthalate	**4.4**	<1.8	-
AV2-220	8/25/2016	Toluene	0.26 J	6.7	150
AV2-220	11/7/2016	Chloroform	**0.88**	<0.46	-
AV2-220	11/7/2016	Toluene	6.7	6.7	150
AV2-220	4/25/2017	Toluene	0.31 J	6.7	150
AV3-225	2/17/2016	Naphthalene	**0.06**	<0.05	-
AV3-225	8/25/2016	Toluene	0.25 J	6.7	150
AV3-225	11/9/2016	Toluene	4.5	6.7	150
AV3-225	4/24/2017	Benzene	0.13 J	<0.14	1
AV3-225	4/24/2017	Toluene	0.40 J	6.7	150
AV4-225	8/24/2016	Toluene	0.43 J	6.7	150
AV4-225	11/8/2016	Toluene	6.0	6.7	150
AV4-225	4/24/2017	Benzene	0.070 J	<0.14	1
AV4-225	4/24/2017	Toluene	0.46 J	6.7	150
AV4-265	2/17/2016	Bromoform	**0.69**	<0.50	-
AV4-265	2/17/2016	Chloroform	**0.98**	<0.46	-
AV4-265	3/28/2016	Toluene	0.25 J	6.7	150
AV4-265	4/21/2016	Toluene	0.28 J	6.7	150

1. MCL= Maximum Contaminant Level

J= Concentration is below the laboratory reporting limit and above the laboratory detection limit.

Bold indicates a concentration that exceeds Water Quality Objective or Background Concentration.

Note: All other VOC/SVOC constituents analyzed by EPA methods 624, 625 and 625 SIM were not detected and not reported on this table.
Feb. and Mar. 2016, all wells sampled for general minerals, metals, VOCs and SVOCs, perchlorate and nitrite..
Apr. 2016, all wells analyzed for general minerals and metals except AV4-265 analyzed for VOCs (not SVOCS) to confirm previous hits.
May 2016, all upper wells (not AV4-265) analyxed for general minerals and metals. One exception was AV2-220 sampled for perchlorate.
After May 2016, perchlorate and nitrite analysis and lower completrion well AV4-265 sampling (installed to be used if water levels drop below upper completion well (AV4-225)) were discontinued. They were analyzed to determine background concentrations and are not required by the MRP.

APPENDIX C

WELL GAUGING DATA

Project # 170424.BN1 Date 4.24.17 Client VVWRA

Site VVWRA Apple Valley

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC	Notes
AV1-210	0905	2					153.74	210.14		
AV2-220	0911	2					164.80	223.38		
AV3-225	0918	2					168.74	226.29		
AV4-225	0925	2					145.28	227.33		
AV4-265	0931	2					176.18	260.81		

LOW FLOW WELL MONITORING DATA SHEET

Project #: 170424.BM1	Client: VVWRA
Sampler: BN	Gauging Date: 4.24.17
Well I.D.: AV1-210	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 210.14	Depth to Water (ft.): 153.74
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 0818 Flow Rate: 200 ml/min Pump Depth: 185

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
		System volume = 1425						
0826	18.13	6.95	1283	>1000	4.60	137.0	1,600	153.77
0829	18.14	6.95	1283	>1000	4.60	137.0	2,200	153.77
0832	17.97	6.95	1283	919	4.66	135.0	2,800	153.77
0835	17.99	6.95	1283	874	4.67	134.1	3,400	153.77
0838	17.97	6.90	1282	571	4.98	128.5	4,000	153.77
0841	17.96	6.91	1280	402	4.99	127.3	4,600	153.77
0844	17.95	6.96	1282	386	5.09	120.1	5,200	153.77
0847	17.94	6.94	1284	117	5.19	117.9	5,800	153.77
0850	17.96	6.96	1281	96	5.17	113.4	6,400	153.77
0853	17.95	6.94	1283	94	5.16	110.9	7,000	153.77
0856	17.97	6.96	1281	92	5.20	111.8	7,600	153.77

Did well dewater? Yes (No) Amount actually evacuated: 7,600 mL

Sampling Time: 0857 Sampling Date: 4.25.17

Sample I.D.: AV1-210 Laboratory: Babcock

Analyzed for: TPH-G BTEX MTBE TPH-D Other:

Equipment Blank I.D.: @ Time Duplicate I.D.: AV-DUP @ 0902

LOW FLOW WELL MONITORING DATA SHEET

Project #: 170424-13N1	Client: UUWRA
Sampler: BN	Gauging Date: 4.24.17
Well I.D.: AV-2-220	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 223.38	Depth to Water (ft.): 164.80
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 1207 Flow Rate: 200 mL/min Pump Depth: 195

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
		Sys	em volume = 1,475		mL			
1215	19.51	7.13	966	27	3.86	20.4	1,600	164.84
1218	19.47	7.12	963	11	3.67	25.4	2,200	164.84
1221	19.50	7.12	960	8	3.50	29.9	2,800	164.84
1224	19.48	7.11	957	7	3.58	33.7	3,400	164.84
1227	19.47	7.10	955	7	3.60	34.1	4,000	164.84
1230	19.45	7.10	954	6	3.61	35.3	4,600	164.84

Did well dewater? Yes (No) Amount actually evacuated: 4,600mL

Sampling Time: ~~12~~ 1231 Sampling Date: 4.25.17

Sample I.D.: AV2-220 Laboratory: Babcock

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See C.O.C.

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 170424.13 N1	Client: VVWRA
Sampler: BN	Gauging Date: 4.24.17
Well I.D.: AV3.225	Well Diameter (in.): (2) 3 4 6 8 ____
Total Well Depth (ft.): 226.29	Depth to Water (ft.): 168.74
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ____

Start Purge Time: 1212 Flow Rate: 200 mL/min Pump Depth: 200

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
		System volume = 1,500			mL			
1220	20.34	7.10	1557	17	6.70	32.9	1,600	168.77
1223	20.20	7.10	1555	10	7.05	44.5	2,200	168.77
1226	20.32	7.11	1546	5	7.14	53.4	2,800	168.77
1229	20.32	7.12	1543	5	6.89	59.5	3,400	168.77
1232	20.34	7.12	1536	4	6.91	56.3	4,000	168.77
1235	20.34	7.12	1538	4	6.91	57.4	4,600	168.77

Did well dewater? Yes (No) Amount actually evacuated: 4,600 mL

Sampling Time: 1236 Sampling Date: 4.24.17

Sample I.D.: AV3.225 Laboratory: Bascock

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See C.O.C.

Equipment Blank I.D.: @ Time Duplicate I.D.:

LOW FLOW WELL MONITORING DATA SHEET

Project #: 170424.13 N1	Client: VVWRA
Sampler: BN	Gauging Date: 4.24.17
Well I.D.: AV4.22S	Well Diameter (in.): (2) 3 4 6 8 ___
Total Well Depth (ft.): 227.33	Depth to Water (ft.): 145.28
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	Flow Cell Type: YSI 556

Purge Method: 2" Grundfos Pump | Peristaltic Pump | Bladder Pump
Sampling Method: Dedicated Tubing | New Tubing | Other ___

Start Purge Time: 0950 Flow Rate: 300 ml/min Pump Depth: 200'

Time	Temp. (°C or °F)	pH	Cond. (mS/cm or µS/cm)	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Depth to Water (ft.)
		System volume: 1,500mL						
0955	19.05	7.01	1698	32	5.42	-27.3	1,500	145.31
0958	19.00	7.03	1671	20	4.22	-23.4	2,400	145.31
1001	18.90	7.04	1673	12	3.95	-16.0	3,300	145.33
1004	18.88	7.05	1676	10	3.73	-12.6	4,200	145.33
1007	18.84	7.05	1675	9	3.80	-11.5	5,100	145.33
1010	18.89	7.05	1677	9	3.81	-12.7	6,000	145.33

Did well dewater? Yes (No) Amount actually evacuated: 6,000mL

Sampling Time: 1011 Sampling Date: 4.24.17

Sample I.D.: AV4.22S Laboratory: Babcock

Analyzed for: TPH-G BTEX MTBE TPH-D Other: See C.O.C.

Equipment Blank I.D.: @ Time Duplicate I.D.:

WELLHEAD INSPECTION CHECKLIST

Client VVWRA Date 4.20.17

Site Address VVWRA Apple Valley

Job Number 170424.BN1 Technician BN

Well ID	Well Inspected - No Corrective Action Required	WELL IS SECURABLE BY DESIGN (12"or less)	WELL IS CLEARLY MARKED WITH THE WORDS "MONITORING WELL" (12"or less)	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)	Repair Order Submitted
AV1.210	Y	Y	Y							
AV2.220	X	X	Y							
AV3.225	X	X	Y							
AV4.225	X	Y	X							
AV4.265	X	X	Y							

NOTES:

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME VVWRA, Apple Valley				PROJECT NUMBER 170424.13N1			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
YSI 556	10A101420	4.24.17	pH 7.00 4.00 10.00	7.03 4.06 9.87	✓ ✓	18.76°C	BN
	↓	↓	3900µS 237.5mV 100.0%	3812µS 250.5mV 112.3%	✓ ✓	18.83°C ~~18.88°C~~	B
YSI 556	10A101420	4.25.17 0700	pH 7.00 4.00 10.00	7.04 4.16 10.03	✓ ✓	19.17°C	BN
	↓	↓	3900µS 237.5mV 100.0%	3828 271.1mV 108.3%	✓ ✓	19.23°C	BN

APPENDIX D

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
B7D2022-01	AV4-225 Grab	Liquid	04/24/17 10:11	Ben Stevens	04/24/17 15:56	Courier (Hector N) - DE
B7D2022-02	AV3-225 Grab	Liquid	04/24/17 12:36	Ben Stevens	04/24/17 15:56	Courier (Hector N) - DE

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV4-225	Liquid	04/24/17 10:11	04/24/17 15:56

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Chloride	280	5.0	2.8	mg/L	EPA 300.0	04/26/17 05:23	IBR	
Sulfate	240	0.50	0.23	mg/L	EPA 300.0	04/24/17 19:42	IBR	
Nitrate as N	11	0.20	0.055	mg/L	EPA 300.0	04/24/17 19:42	IBR	
Solids								
Total Dissolved Solids	990	20	12	mg/L	SM 2540C	04/27/17 19:15	kbs	
Surfactants								
MBAS	0.06	0.08	0.05	mg/L	SM 5540C	04/25/17 19:00	krv	J
General Inorganics								
Cyanide	ND	0.005	0.004	mg/L	SM 4500CN E	04/25/17 12:24	sll	
Nutrients								
Ammonia-Nitrogen	ND	0.10	0.048	mg/L	SM4500NH3H	04/26/17 10:36	sll	
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L	EPA 351.2	04/28/17 22:13	jma	
Metals and Metalloids								
Hexavalent Chromium	2.5	1.0	0.024	ug/L	EPA 218.6	04/27/17 13:18	mel	
Mercury	ND	0.20	0.10	ug/L	EPA 200.8	04/27/17 16:38	ap	
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	6.0	3.0	ug/L	EPA 6020	04/27/17 16:38	ap	
Arsenic	1.8	2.0	1.2	ug/L	EPA 6020	04/27/17 16:38	ap	J
Beryllium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 16:38	ap	
Cadmium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 16:38	ap	
Total Chromium	ND	10	4.2	ug/L	EPA 6020	04/27/17 16:38	ap	
Copper	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:38	ap	
Lead	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 16:38	ap	
Nickel	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:38	ap	
Selenium	6.5	5.0	2.5	ug/L	EPA 6020	04/27/17 16:38	ap	
Silver	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:38	ap	
Thallium	ND	1.0	0.50	ug/L	EPA 6020	04/27/17 16:38	ap	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV4-225	Liquid	04/24/17 10:11	04/24/17 15:56

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Zinc	5.3	10	5.0	ug/L	EPA 6020	04/27/17 16:38	ap	J
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/25/17 13:10	EEC	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/25/17 13:10	EEC	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/25/17 13:10	EEC	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:10	EEC	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:10	EEC	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/25/17 13:10	EEC	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:10	EEC	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/25/17 13:10	EEC	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/25/17 13:10	EEC	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/25/17 13:10	EEC	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/25/17 13:10	EEC	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/25/17 13:10	EEC	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/25/17 13:10	EEC	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/25/17 13:10	EEC	
Benzene	0.070	0.50	0.067	ug/L	EPA 624	04/25/17 13:10	EEC	J
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/25/17 13:10	EEC	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/25/17 13:10	EEC	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/25/17 13:10	EEC	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/25/17 13:10	EEC	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/25/17 13:10	EEC	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/25/17 13:10	EEC	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/25/17 13:10	EEC	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/25/17 13:10	EEC	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/25/17 13:10	EEC	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/25/17 13:10	EEC	
Methylene Chloride	ND	0.50	0.25	ug/L	EPA 624	04/25/17 13:10	EEC	
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:10	EEC	
Toluene	0.46	0.50	0.093	ug/L	EPA 624	04/25/17 13:10	EEC	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/25/17 13:10	EEC	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV4-225	Liquid	04/24/17 10:11	04/24/17 15:56

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Trichloroethene	ND		0.50	0.18	ug/L	EPA 624	04/25/17 13:10	EEC	
Vinyl Chloride	ND		0.50	0.081	ug/L	EPA 624	04/25/17 13:10	EEC	
Surrogate: 1,2-Dichloroethane-d4	107	%	80-120			EPA 624	04/25/17 13:10	EEC	
Surrogate: Bromofluorobenzene	99.6	%	80-120			EPA 624	04/25/17 13:10	EEC	
Surrogate: Toluene-d8	98.2	%	80-120			EPA 624	04/25/17 13:10	EEC	
Semivolatile Organic Compounds by EPA 625									
1,2-Diphenylhydrazine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
1,2,4-Trichlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
2-Chlorophenol	ND		2.0	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
2,4-Dichlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
2,4-Dimethylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
2,4-Dinitrophenol	ND		5.0	1.6	ug/L	EPA 625	05/04/17 09:04	JHR	
2,4-Dinitrotoluene	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
2,4,6-Trichlorophenol	ND		10	1.9	ug/L	EPA 625	05/04/17 09:04	JHR	
2,6-Dinitrotoluene	ND		5.0	1.9	ug/L	EPA 625	05/04/17 09:04	JHR	
2-Nitrophenol	ND		10	2.1	ug/L	EPA 625	05/04/17 09:04	JHR	
2-Chloronaphthalene	ND		10	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
3,3'-Dichlorobenzidine	ND		5.0	2.1	ug/L	EPA 625	05/04/17 09:04	JHR	
4-Chloro-3-methylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
2-Methyl-4,6-Dinitrophenol	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
4-Nitrophenol	ND		5.0	1.1	ug/L	EPA 625	05/04/17 09:04	JHR	NRPDa
4-Bromophenyl phenyl ether	ND		5.0	1.6	ug/L	EPA 625	05/04/17 09:04	JHR	
4-Chlorophenyl phenyl ether	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
Benzidine	ND		5.0	5.0	ug/L	EPA 625	05/04/17 09:04	JHR	NCALhND
Bis(2-chloroethoxy)methane	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
Bis(2-Chloroethyl)ether	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
Bis(2-chloroisopropyl)Ether	ND		2.0	1.9	ug/L	EPA 625	05/04/17 09:04	JHR	
Bis(2-ethylhexyl)phthalate	ND		5.0	2.3	ug/L	EPA 625	05/04/17 09:04	JHR	
Butyl benzyl phthalate	ND		10	1.6	ug/L	EPA 625	05/04/17 09:04	JHR	
Di-n-butylphthalate	ND		10	1.9	ug/L	EPA 625	05/04/17 09:04	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV4-225	Liquid	04/24/17 10:11	04/24/17 15:56

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625									
Di-n-octylphthalate	ND		10	2.6	ug/L	EPA 625	05/04/17 09:04	JHR	
Diethyl phthalate	ND		2.0	1.8	ug/L	EPA 625	05/04/17 09:04	JHR	
Dimethyl phthalate	ND		2.0	1.7	ug/L	EPA 625	05/04/17 09:04	JHR	
Hexachlorocyclopentadiene	ND		5.0	1.7	ug/L	EPA 625	05/04/17 09:04	JHR	
Hexachlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
Hexachlorobutadiene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
Hexachloroethane	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
Isophorone	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
N-Nitrosodiphenylamine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
N-Nitrosodimethylamine	ND		5.0	1.4	ug/L	EPA 625	05/04/17 09:04	JHR	
n-Nitrosodi-n-propylamine	ND		5.0	1.7	ug/L	EPA 625	05/04/17 09:04	JHR	
Nitrobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
Pentachlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	NRPDa
Phenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:04	JHR	
Surrogate: 2,4,6-Tribromophenol	51.9	%	27-122			EPA 625	05/04/17 09:04	JHR	
Surrogate: 2-Fluorobiphenyl	60.3	%	30-110			EPA 625	05/04/17 09:04	JHR	
Surrogate: 2-Fluorophenol	52.2	%	10-63			EPA 625	05/04/17 09:04	JHR	
Surrogate: 4-Terphenyl-d14	70.7	%	34-125			EPA 625	05/04/17 09:04	JHR	
Surrogate: Nitrobenzene-d5	58.0	%	24-112			EPA 625	05/04/17 09:04	JHR	
Surrogate: Phenol-d6	38.9	%	10-47			EPA 625	05/04/17 09:04	JHR	
Semivolatile Organic Compounds by EPA 625 SIM									
Benzo(a)anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Benzo(b)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Acenaphthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Acenaphthylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Benzo(a)pyrene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Benzo(ghi)perylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Benzo(k)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Chrysene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV4-225	Liquid	04/24/17 10:11	04/24/17 15:56

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625 SIM								
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Fluoranthene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Fluorene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Naphthalene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Phenanthrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 22:45	JHR	
Surrogate: Anthracene-d10	69.9	% 24-110			EPA625 SIM	05/01/17 22:45	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
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Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV3-225	Liquid	04/24/17 12:36	04/24/17 15:56

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Chloride	240	1.0	0.56	mg/L	EPA 300.0	04/24/17 19:53	IBR	
Sulfate	230	0.50	0.23	mg/L	EPA 300.0	04/24/17 19:53	IBR	
Nitrate as N	5.9	0.20	0.055	mg/L	EPA 300.0	04/24/17 19:53	IBR	
Solids								
Total Dissolved Solids	880	20	12	mg/L	SM 2540C	04/27/17 19:15	kbs	
Surfactants								
MBAS	0.14	0.08	0.05	mg/L	SM 5540C	04/25/17 19:00	krv	
General Inorganics								
Cyanide	ND	0.005	0.004	mg/L	SM 4500CN E	04/25/17 12:28	sll	
Nutrients								
Ammonia-Nitrogen	ND	0.10	0.048	mg/L	SM4500NH3H	04/26/17 10:38	sll	
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L	EPA 351.2	04/28/17 22:14	jma	
Metals and Metalloids								
Hexavalent Chromium	1.7	1.0	0.024	ug/L	EPA 218.6	04/27/17 13:30	mel	
Mercury	ND	0.20	0.10	ug/L	EPA 200.8	04/27/17 16:50	ap	
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	6.0	3.0	ug/L	EPA 6020	05/01/17 17:32	MEL	
Arsenic	ND	2.0	1.2	ug/L	EPA 6020	04/27/17 16:50	ap	
Beryllium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 16:50	ap	
Cadmium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 16:50	ap	
Total Chromium	ND	10	4.2	ug/L	EPA 6020	04/27/17 16:50	ap	
Copper	ND	10	5.0	ug/L	EPA 6020	05/01/17 17:32	MEL	
Lead	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 16:50	ap	
Nickel	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:50	ap	
Selenium	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 16:50	ap	
Silver	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:50	ap	
Thallium	ND	1.0	0.50	ug/L	EPA 6020	04/27/17 16:50	ap	

Client Name: Victor Valley Reclamation Authority
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Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV3-225	Liquid	04/24/17 12:36	04/24/17 15:56

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Zinc	ND	10	5.0	ug/L	EPA 6020	05/01/17 17:32	MEL	
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/25/17 13:41	EEC	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/25/17 13:41	EEC	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/25/17 13:41	EEC	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:41	EEC	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:41	EEC	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/25/17 13:41	EEC	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:41	EEC	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/25/17 13:41	EEC	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/25/17 13:41	EEC	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/25/17 13:41	EEC	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/25/17 13:41	EEC	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/25/17 13:41	EEC	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/25/17 13:41	EEC	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/25/17 13:41	EEC	
Benzene	0.13	0.50	0.067	ug/L	EPA 624	04/25/17 13:41	EEC	J
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/25/17 13:41	EEC	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/25/17 13:41	EEC	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/25/17 13:41	EEC	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/25/17 13:41	EEC	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/25/17 13:41	EEC	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/25/17 13:41	EEC	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/25/17 13:41	EEC	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/25/17 13:41	EEC	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/25/17 13:41	EEC	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/25/17 13:41	EEC	
Methylene Chloride	ND	0.50	0.25	ug/L	EPA 624	04/25/17 13:41	EEC	
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/25/17 13:41	EEC	
Toluene	0.40	0.50	0.093	ug/L	EPA 624	04/25/17 13:41	EEC	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/25/17 13:41	EEC	

Client Name: Victor Valley Reclamation Authority
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Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV3-225	Liquid	04/24/17 12:36	04/24/17 15:56

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Trichloroethene	ND		0.50	0.18	ug/L	EPA 624	04/25/17 13:41	EEC	
Vinyl Chloride	ND		0.50	0.081	ug/L	EPA 624	04/25/17 13:41	EEC	
Surrogate: 1,2-Dichloroethane-d4	106	%	80-120			EPA 624	04/25/17 13:41	EEC	
Surrogate: Bromofluorobenzene	100	%	80-120			EPA 624	04/25/17 13:41	EEC	
Surrogate: Toluene-d8	95.7	%	80-120			EPA 624	04/25/17 13:41	EEC	
Semivolatile Organic Compounds by EPA 625									
1,2-Diphenylhydrazine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
1,2,4-Trichlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
2-Chlorophenol	ND		2.0	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
2,4-Dichlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
2,4-Dimethylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
2,4-Dinitrophenol	ND		5.0	1.6	ug/L	EPA 625	05/04/17 09:33	JHR	
2,4-Dinitrotoluene	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
2,4,6-Trichlorophenol	ND		10	1.9	ug/L	EPA 625	05/04/17 09:33	JHR	
2,6-Dinitrotoluene	ND		5.0	1.9	ug/L	EPA 625	05/04/17 09:33	JHR	
2-Nitrophenol	ND		10	2.1	ug/L	EPA 625	05/04/17 09:33	JHR	
2-Chloronaphthalene	ND		10	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
3,3'-Dichlorobenzidine	ND		5.0	2.1	ug/L	EPA 625	05/04/17 09:33	JHR	
4-Chloro-3-methylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
2-Methyl-4,6-Dinitrophenol	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
4-Nitrophenol	ND		5.0	1.1	ug/L	EPA 625	05/04/17 09:33	JHR	NRPDa
4-Bromophenyl phenyl ether	ND		5.0	1.6	ug/L	EPA 625	05/04/17 09:33	JHR	
4-Chlorophenyl phenyl ether	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
Benzidine	ND		5.0	5.0	ug/L	EPA 625	05/04/17 09:33	JHR	NCALhND
Bis(2-chloroethoxy)methane	ND		5.0	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
Bis(2-Chloroethyl)ether	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
Bis(2-chloroisopropyl)Ether	ND		2.0	1.9	ug/L	EPA 625	05/04/17 09:33	JHR	
Bis(2-ethylhexyl)phthalate	ND		5.0	2.3	ug/L	EPA 625	05/04/17 09:33	JHR	
Butyl benzyl phthalate	ND		10	1.6	ug/L	EPA 625	05/04/17 09:33	JHR	
Di-n-butylphthalate	ND		10	1.9	ug/L	EPA 625	05/04/17 09:33	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV3-225	Liquid	04/24/17 12:36	04/24/17 15:56

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625									
Di-n-octylphthalate	ND		10	2.6	ug/L	EPA 625	05/04/17 09:33	JHR	
Diethyl phthalate	ND		2.0	1.8	ug/L	EPA 625	05/04/17 09:33	JHR	
Dimethyl phthalate	ND		2.0	1.7	ug/L	EPA 625	05/04/17 09:33	JHR	
Hexachlorocyclopentadiene	ND		5.0	1.7	ug/L	EPA 625	05/04/17 09:33	JHR	
Hexachlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
Hexachlorobutadiene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
Hexachloroethane	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
Isophorone	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
N-Nitrosodiphenylamine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
N-Nitrosodimethylamine	ND		5.0	1.4	ug/L	EPA 625	05/04/17 09:33	JHR	
n-Nitrosodi-n-propylamine	ND		5.0	1.7	ug/L	EPA 625	05/04/17 09:33	JHR	
Nitrobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
Pentachlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	NRPDa
Phenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 09:33	JHR	
Surrogate: 2,4,6-Tribromophenol	68.1	%	27-122			EPA 625	05/04/17 09:33	JHR	
Surrogate: 2-Fluorobiphenyl	67.8	%	30-110			EPA 625	05/04/17 09:33	JHR	
Surrogate: 2-Fluorophenol	46.6	%	10-63			EPA 625	05/04/17 09:33	JHR	
Surrogate: 4-Terphenyl-d14	75.5	%	34-125			EPA 625	05/04/17 09:33	JHR	
Surrogate: Nitrobenzene-d5	62.8	%	24-112			EPA 625	05/04/17 09:33	JHR	
Surrogate: Phenol-d6	30.9	%	10-47			EPA 625	05/04/17 09:33	JHR	
Semivolatile Organic Compounds by EPA 625 SIM									
Benzo(a)anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Benzo(b)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Acenaphthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Acenaphthylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Benzo(a)pyrene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Benzo(ghi)perylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Benzo(k)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Chrysene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	

Client Name: Victor Valley Reclamation Authority
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
B7D2022-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV3-225	Liquid	04/24/17 12:36	04/24/17 15:56

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625 SIM								
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Fluoranthene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Fluorene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Naphthalene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Phenanthrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:11	JHR	
Surrogate: Anthracene-d10	56.8	% 24-110			EPA625 SIM	05/01/17 23:11	JHR	

Client Name: Victor Valley Reclamation Authority
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D24145 - Analyzed as Received IC											
Blank (7D24145-BLK1)					Prepared & Analyzed: 04/24/17						
Sulfate	ND	0.50	0.23	mg/L							
Chloride	ND	1.0	0.56	mg/L							
Nitrate as N	ND	0.20	0.055	mg/L							
LCS (7D24145-BS1)					Prepared & Analyzed: 04/24/17						
Sulfate	51.1	0.50	0.23	mg/L	50.0		102	90-110			
Chloride	49.9	1.0	0.56	mg/L	50.0		99.9	90-110			
Nitrate as N	11.2	0.20	0.055	mg/L	11.3		99.1	90-110			
Matrix Spike (7D24145-MS1)		**Source: B7D2006-01**			Prepared & Analyzed: 04/24/17						
Sulfate	292	0.50	0.23	mg/L	50.0	238	108	75-128			QOcal
Chloride	279	1.0	0.56	mg/L	50.0	228	103	84-129			QOcal
Nitrate as N	13.3	0.20	0.055	mg/L	4.52	7.95	119	75-131			
Matrix Spike Dup (7D24145-MSD1)		**Source: B7D2006-01**			Prepared & Analyzed: 04/24/17						
Sulfate	291	0.50	0.23	mg/L	50.0	238	107	75-128	0.154	20	QOcal
Chloride	279	1.0	0.56	mg/L	50.0	228	103	84-129	0.109	20	QOcal
Nitrate as N	13.3	0.20	0.055	mg/L	4.52	7.95	119	75-131	0.101	20	
Batch 7D25101 - Analyzed as Received IC											
Blank (7D25101-BLK1)					Prepared & Analyzed: 04/26/17						
Chloride	ND	1.0	0.56	mg/L							
LCS (7D25101-BS1)					Prepared & Analyzed: 04/26/17						
Chloride	53.9	1.0	0.56	mg/L	50.0		108	90-110			

Client Name: Victor Valley Reclamation Authority
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25101 - Analyzed as Received IC											
Matrix Spike (7D25101-MS1)		**Source: B7D2097-01**			Prepared & Analyzed: 04/26/17						
Chloride	194	1.0	0.56	mg/L	50.0	132	123	84-129			
Matrix Spike (7D25101-MS2)		**Source: B7D2180-01**			Prepared & Analyzed: 04/26/17						
Chloride	179	1.0	0.56	mg/L	50.0	117	125	84-129			
Matrix Spike Dup (7D25101-MSD1)		**Source: B7D2097-01**			Prepared & Analyzed: 04/26/17						
Chloride	194	1.0	0.56	mg/L	50.0	132	123	84-129	0.180	20	

Client Name: Victor Valley Reclamation Authority
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27130 - Analyzed as received											
Blank (7D27130-BLK1)				Prepared & Analyzed: 04/27/17							
Total Dissolved Solids	ND	10	5.8	mg/L							
LCS (7D27130-BS1)				Prepared & Analyzed: 04/27/17							
Total Dissolved Solids	705	20	12	mg/L	746		94.5	90-110			
Duplicate (7D27130-DUP1)		**Source: B7D1843-01**		Prepared & Analyzed: 04/27/17							
Total Dissolved Solids	439	20	12	mg/L		434			1.15	20	
Duplicate (7D27130-DUP2)		**Source: B7D2069-03**		Prepared & Analyzed: 04/27/17							
Total Dissolved Solids	147	20	12	mg/L		122			18.6	20	

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Surfactants - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25125 - Solvent Extraction.											
Blank (7D25125-BLK1)					Prepared & Analyzed: 04/25/17						
MBAS	ND	0.08	0.05	mg/L							
LCS (7D25125-BS1)					Prepared & Analyzed: 04/25/17						
MBAS	0.371	0.08	0.05	mg/L	0.320		116	52-141			
Matrix Spike (7D25125-MS1)		**Source: B7D2065-01**			Prepared & Analyzed: 04/25/17						
MBAS	0.572	0.20	0.13	mg/L	0.400	0.0660	127	35-142			
Matrix Spike Dup (7D25125-MSD1)		**Source: B7D2065-01**			Prepared & Analyzed: 04/25/17						
MBAS	0.475	0.20	0.13	mg/L	0.400	0.0660	102	35-142	18.6	20	

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General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25077 - Distillation											
Blank (7D25077-BLK1)					Prepared & Analyzed: 04/25/17						
Cyanide	ND	0.005	0.004	mg/L							
LCS (7D25077-BS1)					Prepared & Analyzed: 04/25/17						
Cyanide	0.0944	0.005	0.004	mg/L	0.101		93.5	61-120			
Matrix Spike (7D25077-MS1)		**Source: B7D1960-01**			Prepared & Analyzed: 04/25/17						
Cyanide	0.0825	0.005	0.004	mg/L	0.101	ND	81.7	53-125			
Matrix Spike Dup (7D25077-MSD1)		**Source: B7D1960-01**			Prepared & Analyzed: 04/25/17						
Cyanide	0.0924	0.005	0.004	mg/L	0.101	ND	91.5	53-125	11.3	30	

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Nutrients - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26089 - Analyzed as received											
Blank (7D26089-BLK1)					Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	ND	0.10	0.048	mg/L							
LCS (7D26089-BS1)					Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	0.749	0.10	0.048	mg/L	0.780		96.1	90-110			
Matrix Spike (7D26089-MS1)		**Source: B7D2174-01**			Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	58.0	5.0	2.4	mg/L	39.0	18.7	101	80-120			
Matrix Spike Dup (7D26089-MSD1)		**Source: B7D2174-01**			Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	57.7	5.0	2.4	mg/L	39.0	18.7	99.9	80-120	0.562	20	
Batch 7D28010 - Acid Digest											
Blank (7D28010-BLK1)					Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L							
LCS (7D28010-BS1)					Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	0.902	0.10	0.063	mg/L	1.00		90.2	80-120			
Matrix Spike (7D28010-MS1)		**Source: B7D2072-01**			Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	1.84	0.10	0.063	mg/L	1.00	0.836	101	42-149			
Matrix Spike (7D28010-MS2)		**Source: B7D2084-01**			Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	8.82	0.40	0.25	mg/L	4.00	7.41	35.3	42-149			QFpas, QMout

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Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26142 - EPA 200.2 SOP M02C											
Blank (7D26142-BLK1)					Prepared & Analyzed: 04/27/17						
Mercury	ND	0.20	0.10	ug/L							
LCS (7D26142-BS1)					Prepared & Analyzed: 04/27/17						
Mercury	2.36	0.20	0.10	ug/L	2.78		85.0	85-115			
Matrix Spike (7D26142-MS1)		**Source: B7D2230-01**			Prepared & Analyzed: 04/27/17						
Mercury	2.28	0.20	0.10	ug/L	2.78	ND	82.1	75-125			
Matrix Spike Dup (7D26142-MSD1)		**Source: B7D2230-01**			Prepared & Analyzed: 04/27/17						
Mercury	2.34	0.20	0.10	ug/L	2.78	ND	83.9	75-125	2.21	20	
Batch 7D27074 - Filter if turbid.-IC											
Blank (7D27074-BLK1)					Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	ND	1.0	0.024	ug/L							
Blank (7D27074-BLK2)					Prepared & Analyzed: 04/28/17						
Hexavalent Chromium	ND	1.0	0.024	ug/L							
LCS (7D27074-BS1)					Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	5.05	1.0	0.024	ug/L	5.00		101	90-110			
Duplicate (7D27074-DUP1)		**Source: B7D2030-01**			Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	8.99	5.0	0.12	ug/L		18.2			67.6	20	QRPDI
Matrix Spike (7D27074-MS1)		**Source: B7D2028-02**			Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	35.5	5.0	0.12	ug/L	25.0	10.4	100	82-121			

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Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27074 - Filter if turbid.-IC											
Matrix Spike Dup (7D27074-MSD1)		**Source: B7D2028-02**			Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	38.3	5.0	0.12	ug/L	25.0	10.4	112	82-121	7.69	20	

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Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26142 - EPA 200.2 SOP M02C											
Blank (7D26142-BLK1)				Prepared & Analyzed: 04/27/17							
Antimony	ND	6.0	3.0	ug/L							
Arsenic	ND	2.0	1.2	ug/L							
Beryllium	ND	1.0	0.57	ug/L							
Cadmium	ND	1.0	0.57	ug/L							
Total Chromium	ND	10	4.2	ug/L							
Copper	ND	10	5.0	ug/L							
Lead	ND	5.0	2.5	ug/L							
Nickel	ND	10	5.0	ug/L							
Selenium	ND	5.0	2.5	ug/L							
Silver	ND	10	5.0	ug/L							
Thallium	ND	1.0	0.50	ug/L							
Zinc	ND	10	5.0	ug/L							
LCS (7D26142-BS1)				Prepared & Analyzed: 04/27/17							
Antimony	327	6.0	3.0	ug/L	334		98.1	85-115			
Arsenic	352	2.0	1.2	ug/L	334		105	85-115			
Beryllium	319	1.0	0.57	ug/L	334		95.7	85-115			
Cadmium	321	1.0	0.57	ug/L	334		96.4	85-115			
Total Chromium	318	10	4.2	ug/L	334		95.4	85-115			
Copper	314	10	5.0	ug/L	334		94.0	85-115			
Lead	326	5.0	2.5	ug/L	334		97.8	85-115			
Nickel	319	10	5.0	ug/L	334		95.8	85-115			
Selenium	348	5.0	2.5	ug/L	334		104	85-115			
Silver	310	10	5.0	ug/L	334		92.9	85-115			
Thallium	328	1.0	0.50	ug/L	334		98.3	85-115			
Zinc	340	10	5.0	ug/L	334		102	85-115			
Matrix Spike (7D26142-MS1)		**Source: B7D2230-01**		Prepared & Analyzed: 04/27/17							
Antimony	354	6.0	3.0	ug/L	334	ND	106	75-125			
Arsenic	381	2.0	1.2	ug/L	334	6.13	113	75-125			
Beryllium	302	1.0	0.57	ug/L	334	ND	90.4	75-125			
Cadmium	328	1.0	0.57	ug/L	334	ND	98.2	75-125			
Total Chromium	343	10	4.2	ug/L	334	ND	103	75-125			
Copper	315	10	5.0	ug/L	334	5.02	92.8	75-125			
Lead	323	5.0	2.5	ug/L	334	ND	96.9	75-125			
Nickel	335	10	5.0	ug/L	334	ND	101	75-125			

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Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26142 - EPA 200.2 SOP M02C											
Matrix Spike (7D26142-MS1)		**Source: B7D2230-01**		Prepared & Analyzed: 04/27/17							
Selenium	357	5.0	2.5	ug/L	334	2.65	106	75-125			
Silver	309	10	5.0	ug/L	334	ND	92.7	75-125			
Thallium	323	1.0	0.50	ug/L	334	ND	97.0	75-125			
Zinc	324	10	5.0	ug/L	334	ND	97.2	75-125			
Matrix Spike Dup (7D26142-MSD1)		**Source: B7D2230-01**		Prepared & Analyzed: 04/27/17							
Antimony	353	6.0	3.0	ug/L	334	ND	106	75-125	0.328	20	
Arsenic	396	2.0	1.2	ug/L	334	6.13	117	75-125	3.80	20	
Beryllium	301	1.0	0.57	ug/L	334	ND	90.3	75-125	0.147	20	
Cadmium	326	1.0	0.57	ug/L	334	ND	97.6	75-125	0.604	20	
Total Chromium	356	10	4.2	ug/L	334	ND	107	75-125	3.86	20	
Copper	328	10	5.0	ug/L	334	5.02	96.9	75-125	4.18	20	
Lead	329	5.0	2.5	ug/L	334	ND	98.7	75-125	1.83	20	
Nickel	345	10	5.0	ug/L	334	ND	104	75-125	2.98	20	
Selenium	372	5.0	2.5	ug/L	334	2.65	111	75-125	3.98	20	
Silver	309	10	5.0	ug/L	334	ND	92.8	75-125	0.0944	20	
Thallium	329	1.0	0.50	ug/L	334	ND	98.6	75-125	1.69	20	
Zinc	336	10	5.0	ug/L	334	ND	101	75-125	3.62	20	
Batch 7D28033 - EPA 200.2 SOP M02C											
Blank (7D28033-BLK1)				Prepared & Analyzed: 05/01/17							
Antimony	ND	6.0	3.0	ug/L							
Copper	ND	10	5.0	ug/L							
Zinc	ND	10	5.0	ug/L							
Blank (7D28033-BLK2)				Prepared & Analyzed: 05/01/17							
Antimony	ND	6.0	3.0	ug/L							QBfil
Copper	ND	10	5.0	ug/L							QBfil
Zinc	ND	10	5.0	ug/L							QBfil

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Received on Ice (Y/N): Yes Temp: 3 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D28033 - EPA 200.2 SOP M02C											
LCS (7D28033-BS1)					Prepared & Analyzed: 05/01/17						
Antimony	331	6.0	3.0	ug/L	334		99.3	85-115			
Copper	322	10	5.0	ug/L	334		96.7	85-115			
Zinc	312	10	5.0	ug/L	334		93.6	85-115			
Matrix Spike (7D28033-MS1)		**Source: B7D2355-11**			Prepared & Analyzed: 05/01/17						
Antimony	329	6.0	3.0	ug/L	334	ND	98.7	75-125			
Copper	323	10	5.0	ug/L	334	ND	96.9	75-125			
Zinc	312	10	5.0	ug/L	334	ND	93.6	75-125			
Matrix Spike Dup (7D28033-MSD1)		**Source: B7D2355-11**			Prepared & Analyzed: 05/01/17						
Antimony	347	6.0	3.0	ug/L	334	ND	104	75-125	5.39	20	
Copper	325	10	5.0	ug/L	334	ND	97.3	75-125	0.495	20	
Zinc	312	10	5.0	ug/L	334	ND	93.5	75-125	0.107	20	

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Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25076 - Purge and Trap											
Blank (7D25076-BLK1)				Prepared & Analyzed: 04/25/17							
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L							
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L							
1,1-Dichloroethane	ND	0.50	0.12	ug/L							
1,1-Dichloroethene	ND	0.50	0.12	ug/L							
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L							
1,2-Dichloroethane	ND	0.50	0.12	ug/L							
1,2-Dichloropropane	ND	0.50	0.13	ug/L							
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L							
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L							
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L							
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L							QCEVE
Acrolein	ND	2.0	1.1	ug/L							
Acrylonitrile	ND	2.0	0.59	ug/L							
Benzene	ND	0.50	0.067	ug/L							
Bromodichloromethane	ND	0.50	0.24	ug/L							
Bromoform	ND	0.50	0.34	ug/L							
Bromomethane	ND	0.50	0.15	ug/L							
Carbon Tetrachloride	ND	0.50	0.20	ug/L							
Chlorobenzene	ND	0.50	0.071	ug/L							
Chloroethane	ND	0.50	0.19	ug/L							
Chloroform	ND	0.50	0.44	ug/L							
Chloromethane	ND	0.50	0.097	ug/L							
Dibromochloromethane	ND	0.50	0.18	ug/L							
Ethylbenzene	ND	0.50	0.11	ug/L							
Methylene Chloride	ND	0.50	0.25	ug/L							
Tetrachloroethene	ND	0.50	0.12	ug/L							
Toluene	ND	0.50	0.093	ug/L							
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L							
Trichloroethene	ND	0.50	0.18	ug/L							
Vinyl Chloride	ND	0.50	0.081	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*11*			ug/L	*10.0*		*108*	*80-120*			
Surrogate: Bromofluorobenzene	*9.4*			ug/L	*10.0*		*94.5*	*80-120*			

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Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25076 - Purge and Trap											
Blank (7D25076-BLK1)					Prepared & Analyzed: 04/25/17						
Surrogate: Toluene-d8	*9.8*			ug/L	*10.0*		*98.3*	*80-120*			
LCS (7D25076-BS1)					Prepared & Analyzed: 04/25/17						
1,1-Dichloroethane	23.4	0.50	0.12	ug/L	25.0		93.8	70-130			
1,1-Dichloroethene	22.9	0.50	0.12	ug/L	25.0		91.5	70-130			
1,4-Dichlorobenzene	23.5	0.50	0.098	ug/L	25.0		94.2	70-130			
Benzene	22.6	0.50	0.067	ug/L	25.0		90.3	70-135			
Bromodichloromethane	22.1	0.50	0.24	ug/L	25.0		88.4	70-130			
Bromoform	23.5	0.50	0.34	ug/L	25.0		94.2	70-130			
Chloroform	23.8	0.50	0.44	ug/L	25.0		95.3	70-130			
Dibromochloromethane	22.8	0.50	0.18	ug/L	25.0		91.2	70-131			
Ethylbenzene	23.8	0.50	0.11	ug/L	25.0		95.1	70-130			
Tetrachloroethene	22.3	0.50	0.12	ug/L	25.0		89.4	70-130			
Toluene	22.6	0.50	0.093	ug/L	25.0		90.2	70-130			
Trichloroethene	21.9	0.50	0.18	ug/L	25.0		87.6	70-130			
Vinyl Chloride	25.3	0.50	0.081	ug/L	25.0		101	70-130			
Surrogate: 1,2-Dichloroethane-d4	*11*			ug/L	*10.0*		*105*	*80-120*			
Surrogate: Bromofluorobenzene	*10*			ug/L	*10.0*		*101*	*80-120*			
Surrogate: Toluene-d8	*9.7*			ug/L	*10.0*		*97.4*	*80-120*			
LCS Dup (7D25076-BSD1)					Prepared & Analyzed: 04/25/17						
1,1-Dichloroethane	23.2	0.50	0.12	ug/L	25.0		93.0	70-130	0.900	20	
1,1-Dichloroethene	22.6	0.50	0.12	ug/L	25.0		90.3	70-130	1.32	20	
1,4-Dichlorobenzene	22.9	0.50	0.098	ug/L	25.0		91.5	70-130	2.84	20	
Benzene	22.1	0.50	0.067	ug/L	25.0		88.5	70-135	1.97	20	
Bromodichloromethane	22.4	0.50	0.24	ug/L	25.0		89.4	70-130	1.21	20	
Bromoform	23.3	0.50	0.34	ug/L	25.0		93.4	70-130	0.853	20	
Chloroform	23.7	0.50	0.44	ug/L	25.0		94.8	70-130	0.505	20	
Dibromochloromethane	22.8	0.50	0.18	ug/L	25.0		91.2	70-131	0.0439	20	
Ethylbenzene	24.0	0.50	0.11	ug/L	25.0		95.8	70-130	0.754	20	
Tetrachloroethene	22.3	0.50	0.12	ug/L	25.0		89.2	70-130	0.179	20	
Toluene	22.8	0.50	0.093	ug/L	25.0		91.2	70-130	1.10	20	
Trichloroethene	22.2	0.50	0.18	ug/L	25.0		88.9	70-130	1.54	20	
Vinyl Chloride	25.1	0.50	0.081	ug/L	25.0		101	70-130	0.792	20	

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Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25076 - Purge and Trap											
LCS Dup (7D25076-BSD1)					Prepared & Analyzed: 04/25/17						
Surrogate: 1,2-Dichloroethane-d4	*10*			ug/L	*10.0*		*104*	*80-120*			
Surrogate: Bromofluorobenzene	*9.9*			ug/L	*10.0*		*99.0*	*80-120*			
Surrogate: Toluene-d8	*9.8*			ug/L	*10.0*		*97.8*	*80-120*			
Duplicate (7D25076-DUP1)		**Source: B7D2022-02**			Prepared & Analyzed: 04/25/17						
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L		ND				40	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L		ND				40	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L		ND				40	
1,1-Dichloroethane	ND	0.50	0.12	ug/L		ND				20	
1,1-Dichloroethene	ND	0.50	0.12	ug/L		ND				20	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L		ND				40	
1,2-Dichloroethane	ND	0.50	0.12	ug/L		ND				40	
1,2-Dichloropropane	ND	0.50	0.13	ug/L		ND				40	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L		ND				40	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L		ND				200	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L		ND				20	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L		ND				40	QCEVE
Acrolein	ND	2.0	1.1	ug/L		ND				40	
Acrylonitrile	ND	2.0	0.59	ug/L		ND				40	
Benzene	0.120	0.50	0.067	ug/L		0.130			8.00	20	J
Bromodichloromethane	ND	0.50	0.24	ug/L		ND				20	
Bromoform	ND	0.50	0.34	ug/L		ND				20	
Bromomethane	ND	0.50	0.15	ug/L		ND				40	
Carbon Tetrachloride	ND	0.50	0.20	ug/L		ND				40	
Chlorobenzene	ND	0.50	0.071	ug/L		ND				40	
Chloroethane	ND	0.50	0.19	ug/L		ND				40	
Chloroform	ND	0.50	0.44	ug/L		ND				20	
Chloromethane	ND	0.50	0.097	ug/L		ND				40	
Dibromochloromethane	ND	0.50	0.18	ug/L		ND				20	
Ethylbenzene	ND	0.50	0.11	ug/L		ND				20	
Methylene Chloride	ND	0.50	0.25	ug/L		ND				40	
Tetrachloroethene	ND	0.50	0.12	ug/L		ND				20	
Toluene	0.370	0.50	0.093	ug/L		0.400			7.79	20	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L		ND				40	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25076 - Purge and Trap											
Duplicate (7D25076-DUP1)		**Source: B7D2022-02**			Prepared & Analyzed: 04/25/17						
Trichloroethene	ND	0.50	0.18	ug/L		ND				20	
Vinyl Chloride	ND	0.50	0.081	ug/L		ND				20	
Surrogate: 1,2-Dichloroethane-d4	*11*			ug/L	*10.0*		*109*	*80-120*			
Surrogate: Bromofluorobenzene	*10*			ug/L	*10.0*		*100*	*80-120*			
Surrogate: Toluene-d8	*9.7*			ug/L	*10.0*		*96.6*	*80-120*			
Matrix Spike (7D25076-MS1)		**Source: B7D2022-01**			Prepared & Analyzed: 04/25/17						
1,1-Dichloroethane	22.5	0.50	0.12	ug/L	25.0	ND	89.8	66.1-134			
1,1-Dichloroethene	22.5	0.50	0.12	ug/L	25.0	ND	89.8	66.6-130			
1,4-Dichlorobenzene	22.4	0.50	0.098	ug/L	25.0	ND	89.5	70-130			
Benzene	21.6	0.50	0.067	ug/L	25.0	0.0700	86.2	70-135			
Bromodichloromethane	20.3	0.50	0.24	ug/L	25.0	ND	81.2	70-130			
Bromoform	22.7	0.50	0.34	ug/L	25.0	ND	90.8	66.5-130			
Chloroform	23.0	0.50	0.44	ug/L	25.0	ND	92.2	70-134			
Dibromochloromethane	22.0	0.50	0.18	ug/L	25.0	ND	88.2	70-136			
Ethylbenzene	22.9	0.50	0.11	ug/L	25.0	ND	91.6	70-134			
Tetrachloroethene	21.7	0.50	0.12	ug/L	25.0	ND	86.6	70-130			
Toluene	22.0	0.50	0.093	ug/L	25.0	0.460	86.1	70-130			
Trichloroethene	20.0	0.50	0.18	ug/L	25.0	ND	80.1	70-132			
Vinyl Chloride	24.3	0.50	0.081	ug/L	25.0	ND	97.3	70-137			
Surrogate: 1,2-Dichloroethane-d4	*11*			ug/L	*10.0*		*108*	*80-120*			
Surrogate: Bromofluorobenzene	*10*			ug/L	*10.0*		*102*	*80-120*			
Surrogate: Toluene-d8	*9.4*			ug/L	*10.0*		*93.6*	*80-120*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Blank (7D26102-BLK2)					Prepared: 04/26/17 Analyzed: 05/03/17						
1,2-Diphenylhydrazine	ND	1.0	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	1.0	ug/L							
2-Chlorophenol	ND	2.0	1.8	ug/L							
2,4-Dichlorophenol	ND	1.0	1.0	ug/L							
2,4-Dimethylphenol	ND	1.0	1.0	ug/L							
2,4-Dinitrophenol	ND	5.0	1.6	ug/L							
2,4-Dinitrotoluene	ND	5.0	1.8	ug/L							
2,4,6-Trichlorophenol	ND	10	1.9	ug/L							
2,6-Dinitrotoluene	ND	5.0	1.9	ug/L							
2-Nitrophenol	2.08	10	2.1	ug/L							
2-Chloronaphthalene	ND	10	1.8	ug/L							
3,3'-Dichlorobenzidine	ND	5.0	2.1	ug/L							
4-Chloro-3-methylphenol	ND	1.0	1.0	ug/L							
2-Methyl-4,6-Dinitrophenol	ND	5.0	1.8	ug/L							
4-Nitrophenol	ND	5.0	1.1	ug/L							
4-Bromophenyl phenyl ether	ND	5.0	1.6	ug/L							
4-Chlorophenyl phenyl ether	ND	5.0	1.8	ug/L							
Benzidine	ND	5.0	5.0	ug/L							
Bis(2-chloroethoxy)methane	ND	5.0	1.8	ug/L							
Bis(2-Chloroethyl)ether	ND	1.0	1.0	ug/L							
Bis(2-chloroisopropyl)Ether	ND	2.0	1.9	ug/L							
Bis(2-ethylhexyl)phthalate	ND	5.0	2.3	ug/L							
Butyl benzyl phthalate	ND	10	1.6	ug/L							
Di-n-butylphthalate	ND	10	1.9	ug/L							
Di-n-octylphthalate	ND	10	2.6	ug/L							
Diethyl phthalate	ND	2.0	1.8	ug/L							
Dimethyl phthalate	ND	2.0	1.7	ug/L							
Hexachlorocyclopentadiene	ND	5.0	1.7	ug/L							
Hexachlorobenzene	ND	1.0	1.0	ug/L							
Hexachlorobutadiene	ND	1.0	1.0	ug/L							
Hexachloroethane	ND	1.0	1.0	ug/L							
Isophorone	ND	1.0	1.0	ug/L							
N-Nitrosodiphenylamine	ND	1.0	1.0	ug/L							
N-Nitrosodimethylamine	ND	5.0	1.4	ug/L							
n-Nitrosodi-n-propylamine	ND	5.0	1.7	ug/L							

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Blank (7D26102-BLK2)					Prepared: 04/26/17 Analyzed: 05/03/17						
Nitrobenzene	ND	1.0	1.0	ug/L							
Pentachlorophenol	ND	1.0	1.0	ug/L							
Phenol	ND	1.0	1.0	ug/L							
Surrogate: 2,4,6-Tribromophenol	*21*			ug/L	*37.5*		*56.1*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*14*			ug/L	*25.0*		*54.5*	*30-110*			
Surrogate: 2-Fluorophenol	*17*			ug/L	*37.5*		*45.0*	*10-63*			
Surrogate: 4-Terphenyl-d14	*18*			ug/L	*25.0*		*72.5*	*34-125*			
Surrogate: Nitrobenzene-d5	*14*			ug/L	*25.0*		*54.6*	*24-112*			
Surrogate: Phenol-d6	*9.7*			ug/L	*37.5*		*25.8*	*10-47*			
LCS (7D26102-BS1)					Prepared: 04/26/17 Analyzed: 05/03/17						
1,2,4-Trichlorobenzene	29.1	2.0	2.0	ug/L	50.0		58.3	44-142			
2-Chlorophenol	53.2	4.0	3.6	ug/L	75.0		71.0	23-134			
2,4-Dichlorophenol	52.6	2.0	2.0	ug/L	75.0		70.1	39-135			
2,4-Dimethylphenol	48.0	2.0	2.0	ug/L	75.0		64.0	32-119			
2,4-Dinitrotoluene	26.3	10	3.7	ug/L	50.0		52.6	39-139			
4-Chloro-3-methylphenol	50.7	2.0	2.0	ug/L	75.0		67.6	22-147			
4-Nitrophenol	19.6	10	2.3	ug/L	75.0		26.1	5-132			
Butyl benzyl phthalate	35.7	20	3.3	ug/L	50.0		71.4	5-152			
Isophorone	34.4	2.0	2.0	ug/L	50.0		68.8	21-196			
n-Nitrosodi-n-propylamine	31.7	10	3.4	ug/L	50.0		63.4	10-230			
Pentachlorophenol	39.2	2.0	2.0	ug/L	75.0		52.3	14-176			
Phenol	23.8	2.0	2.0	ug/L	75.0		31.7	5-112			
Surrogate: 2,4,6-Tribromophenol	*52*			ug/L	*75.0*		*68.8*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*35*			ug/L	*50.0*		*69.2*	*30-110*			
Surrogate: 2-Fluorophenol	*37*			ug/L	*75.0*		*49.9*	*10-63*			
Surrogate: 4-Terphenyl-d14	*40*			ug/L	*50.0*		*80.8*	*34-125*			
Surrogate: Nitrobenzene-d5	*33*			ug/L	*50.0*		*65.7*	*24-112*			
Surrogate: Phenol-d6	*23*			ug/L	*75.0*		*30.2*	*10-47*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
LCS (7D26102-BS2)					Prepared: 04/27/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	32.4	2.0	2.0	ug/L	50.0		64.8	44-142			
2-Chlorophenol	56.9	4.0	3.6	ug/L	75.0		75.9	23-134			
2,4-Dichlorophenol	54.5	2.0	2.0	ug/L	75.0		72.6	39-135			
2,4-Dimethylphenol	58.5	2.0	2.0	ug/L	75.0		78.1	32-119			
2,4-Dinitrotoluene	26.8	10	3.7	ug/L	50.0		53.6	39-139			
4-Chloro-3-methylphenol	54.5	2.0	2.0	ug/L	75.0		72.6	22-147			
4-Nitrophenol	21.6	10	2.3	ug/L	75.0		28.9	5-132			
Butyl benzyl phthalate	36.3	20	3.3	ug/L	50.0		72.6	5-152			
Isophorone	35.5	2.0	2.0	ug/L	50.0		71.1	21-196			
n-Nitrosodi-n-propylamine	33.0	10	3.4	ug/L	50.0		65.9	10-230			
Pentachlorophenol	41.0	2.0	2.0	ug/L	75.0		54.7	14-176			
Phenol	26.1	2.0	2.0	ug/L	75.0		34.8	5-112			
Surrogate: 2,4,6-Tribromophenol	*53*			ug/L	*75.0*		*70.2*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*37*			ug/L	*50.0*		*73.0*	*30-110*			
Surrogate: 2-Fluorophenol	*39*			ug/L	*75.0*		*52.5*	*10-63*			
Surrogate: 4-Terphenyl-d14	*42*			ug/L	*50.0*		*84.8*	*34-125*			
Surrogate: Nitrobenzene-d5	*34*			ug/L	*50.0*		*67.5*	*24-112*			
Surrogate: Phenol-d6	*25*			ug/L	*75.0*		*33.2*	*10-47*			
LCS Dup (7D26102-BSD1)					Prepared: 04/26/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	28.8	2.0	2.0	ug/L	50.0		57.6	44-142	1.10	40	
2-Chlorophenol	49.6	4.0	3.6	ug/L	75.0		66.2	23-134	6.98	40	
2,4-Dichlorophenol	47.7	2.0	2.0	ug/L	75.0		63.6	39-135	9.83	40	
2,4-Dimethylphenol	45.2	2.0	2.0	ug/L	75.0		60.3	32-119	5.98	40	
2,4-Dinitrotoluene	25.3	10	3.7	ug/L	50.0		50.6	39-139	3.91	40	
4-Chloro-3-methylphenol	48.1	2.0	2.0	ug/L	75.0		64.1	22-147	5.26	40	
4-Nitrophenol	18.1	10	2.3	ug/L	75.0		24.1	5-132	7.86	40	
Butyl benzyl phthalate	34.1	20	3.3	ug/L	50.0		68.2	5-152	4.53	40	
Isophorone	33.2	2.0	2.0	ug/L	50.0		66.4	21-196	3.55	40	
n-Nitrosodi-n-propylamine	30.7	10	3.4	ug/L	50.0		61.3	10-230	3.34	40	
Pentachlorophenol	38.9	2.0	2.0	ug/L	75.0		51.8	14-176	0.871	40	
Phenol	22.9	2.0	2.0	ug/L	75.0		30.5	5-112	3.81	40	
Surrogate: 2,4,6-Tribromophenol	*49*			ug/L	*75.0*		*65.9*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*33*			ug/L	*50.0*		*65.5*	*30-110*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
LCS Dup (7D26102-BSD1)					Prepared: 04/26/17 Analyzed: 05/04/17						
Surrogate: 2-Fluorophenol	*35*			ug/L	*75.0*		*46.2*	*10-63*			
Surrogate: 4-Terphenyl-d14	*38*			ug/L	*50.0*		*75.9*	*34-125*			
Surrogate: Nitrobenzene-d5	*31*			ug/L	*50.0*		*62.1*	*24-112*			
Surrogate: Phenol-d6	*22*			ug/L	*75.0*		*28.7*	*10-47*			
LCS Dup (7D26102-BSD2)					Prepared: 04/27/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	33.1	2.0	2.0	ug/L	50.0		66.3	44-142	2.23	40	
2-Chlorophenol	58.5	4.0	3.6	ug/L	75.0		78.0	23-134	2.74	40	
2,4-Dichlorophenol	55.6	2.0	2.0	ug/L	75.0		74.1	39-135	2.04	40	
2,4-Dimethylphenol	60.9	2.0	2.0	ug/L	75.0		81.2	32-119	3.92	40	
2,4-Dinitrotoluene	28.2	10	3.7	ug/L	50.0		56.3	39-139	5.02	40	
4-Chloro-3-methylphenol	55.5	2.0	2.0	ug/L	75.0		74.0	22-147	1.82	40	
4-Nitrophenol	21.1	10	2.3	ug/L	75.0		28.1	5-132	2.67	40	
Butyl benzyl phthalate	37.9	20	3.3	ug/L	50.0		75.8	5-152	4.31	40	
Isophorone	36.4	2.0	2.0	ug/L	50.0		72.8	21-196	2.39	40	
n-Nitrosodi-n-propylamine	34.7	10	3.4	ug/L	50.0		69.4	10-230	5.17	40	
Pentachlorophenol	41.5	2.0	2.0	ug/L	75.0		55.3	14-176	1.09	40	
Phenol	26.5	2.0	2.0	ug/L	75.0		35.4	5-112	1.56	40	
Surrogate: 2,4,6-Tribromophenol	*56*			ug/L	*75.0*		*74.8*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*38*			ug/L	*50.0*		*76.2*	*30-110*			
Surrogate: 2-Fluorophenol	*39*			ug/L	*75.0*		*51.7*	*10-63*			
Surrogate: 4-Terphenyl-d14	*43*			ug/L	*50.0*		*86.0*	*34-125*			
Surrogate: Nitrobenzene-d5	*33*			ug/L	*50.0*		*66.8*	*24-112*			
Surrogate: Phenol-d6	*25*			ug/L	*75.0*		*33.1*	*10-47*			
Matrix Spike (7D26102-MS1)		**Source: B7D2022-01**			Prepared: 04/26/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	25.6	2.0	2.0	ug/L	50.0	ND	51.1	44-142			
2-Chlorophenol	39.1	4.0	3.6	ug/L	75.0	ND	52.2	23-134			
2,4-Dichlorophenol	40.5	2.0	2.0	ug/L	75.0	ND	54.1	39-135			
2,4-Dimethylphenol	36.4	2.0	2.0	ug/L	75.0	ND	48.5	32-119			
2,4-Dinitrotoluene	24.2	10	3.7	ug/L	50.0	ND	48.3	39-139			
4-Chloro-3-methylphenol	41.7	2.0	2.0	ug/L	75.0	ND	55.6	22-147			
4-Nitrophenol	11.4	10	2.3	ug/L	75.0	ND	15.2	5-132			
Butyl benzyl phthalate	32.0	20	3.3	ug/L	50.0	ND	64.0	5-152			
Isophorone	29.9	2.0	2.0	ug/L	50.0	ND	59.7	21-196			
n-Nitrosodi-n-propylamine	27.6	10	3.4	ug/L	50.0	ND	55.2	5-230			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Matrix Spike (7D26102-MS1)		**Source: B7D2022-01**			Prepared: 04/26/17		Analyzed: 05/04/17				
Pentachlorophenol	27.8	2.0	2.0	ug/L	75.0	ND	37.1	14-176			
Phenol	17.3	2.0	2.0	ug/L	75.0	ND	23.0	5-112			
Surrogate: 2,4,6-Tribromophenol	*40*			ug/L	*75.0*		*53.8*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*31*			ug/L	*50.0*		*62.4*	*30-110*			
Surrogate: 2-Fluorophenol	*25*			ug/L	*75.0*		*33.3*	*10-63*			
Surrogate: 4-Terphenyl-d14	*33*			ug/L	*50.0*		*66.8*	*34-125*			
Surrogate: Nitrobenzene-d5	*29*			ug/L	*50.0*		*57.1*	*24-112*			
Surrogate: Phenol-d6	*16*			ug/L	*75.0*		*21.8*	*10-47*			
Matrix Spike (7D26102-MS2)		**Source: B7D2022-02**			Prepared: 04/27/17		Analyzed: 05/04/17				
1,2,4-Trichlorobenzene	15.8	1.0	1.0	ug/L	23.6	ND	67.1	44-142			
2-Chlorophenol	19.8	2.0	1.8	ug/L	35.4	ND	55.9	23-134			
2,4-Dichlorophenol	19.9	1.0	1.0	ug/L	35.4	ND	56.4	39-135			
2,4-Dimethylphenol	27.0	1.0	1.0	ug/L	35.4	ND	76.4	32-119			
2,4-Dinitrotoluene	13.4	5.0	1.8	ug/L	23.6	ND	56.7	39-139			
4-Chloro-3-methylphenol	23.4	1.0	1.0	ug/L	35.4	ND	66.1	22-147			
4-Nitrophenol	6.47	5.0	1.1	ug/L	35.4	ND	18.3	5-132			
Butyl benzyl phthalate	17.7	10	1.6	ug/L	23.6	ND	75.0	5-152			
Isophorone	16.9	1.0	1.0	ug/L	23.6	ND	71.6	21-196			
n-Nitrosodi-n-propylamine	15.6	5.0	1.7	ug/L	23.6	ND	66.3	5-230			
Pentachlorophenol	15.0	1.0	1.0	ug/L	35.4	ND	42.5	14-176			
Phenol	8.43	1.0	1.0	ug/L	35.4	ND	23.8	5-112			
Surrogate: 2,4,6-Tribromophenol	*18*			ug/L	*35.4*		*52.1*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*18*			ug/L	*23.6*		*75.0*	*30-110*			
Surrogate: 2-Fluorophenol	*12*			ug/L	*35.4*		*34.0*	*10-63*			
Surrogate: 4-Terphenyl-d14	*19*			ug/L	*23.6*		*82.2*	*34-125*			
Surrogate: Nitrobenzene-d5	*16*			ug/L	*23.6*		*69.1*	*24-112*			
Surrogate: Phenol-d6	*8.0*			ug/L	*35.4*		*22.7*	*10-47*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Matrix Spike Dup (7D26102-MSD1)		**Source: B7D2022-01**			Prepared: 04/26/17		Analyzed: 05/04/17				
1,2,4-Trichlorobenzene	29.7	2.0	2.0	ug/L	50.0	ND	59.3	44-142	14.8	40	
2-Chlorophenol	49.3	4.0	3.6	ug/L	75.0	ND	65.7	23-134	23.0	40	
2,4-Dichlorophenol	50.2	2.0	2.0	ug/L	75.0	ND	66.9	39-135	21.3	40	
2,4-Dimethylphenol	51.6	2.0	2.0	ug/L	75.0	ND	68.8	32-119	34.7	40	
2,4-Dinitrotoluene	26.4	10	3.7	ug/L	50.0	ND	52.9	39-139	8.97	40	
4-Chloro-3-methylphenol	48.8	2.0	2.0	ug/L	75.0	ND	65.1	22-147	15.8	40	
4-Nitrophenol	18.4	10	2.3	ug/L	75.0	ND	24.5	5-132	47.0	40	QRPDa
Butyl benzyl phthalate	35.5	20	3.3	ug/L	50.0	ND	71.1	5-152	10.4	40	
Isophorone	33.7	2.0	2.0	ug/L	50.0	ND	67.5	21-196	12.2	40	
n-Nitrosodi-n-propylamine	31.3	10	3.4	ug/L	50.0	ND	62.6	5-230	12.6	40	
Pentachlorophenol	42.2	2.0	2.0	ug/L	75.0	ND	56.2	14-176	40.9	40	QRPDa
Phenol	21.0	2.0	2.0	ug/L	75.0	ND	28.0	5-112	19.6	40	
Surrogate: 2,4,6-Tribromophenol	*52*			ug/L	*75.0*		*69.4*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*35*			ug/L	*50.0*		*69.1*	*30-110*			
Surrogate: 2-Fluorophenol	*33*			ug/L	*75.0*		*44.3*	*10-63*			
Surrogate: 4-Terphenyl-d14	*38*			ug/L	*50.0*		*75.2*	*34-125*			
Surrogate: Nitrobenzene-d5	*32*			ug/L	*50.0*		*64.5*	*24-112*			
Surrogate: Phenol-d6	*20*			ug/L	*75.0*		*26.3*	*10-47*			
Matrix Spike Dup (7D26102-MSD2)		**Source: B7D2022-02**			Prepared: 04/27/17		Analyzed: 05/04/17				
1,2,4-Trichlorobenzene	14.7	1.0	1.0	ug/L	23.6	ND	62.2	44-142	7.70	40	
2-Chlorophenol	23.6	2.0	1.8	ug/L	35.4	ND	66.7	23-134	17.6	40	
2,4-Dichlorophenol	24.8	1.0	1.0	ug/L	35.4	ND	70.1	39-135	21.6	40	
2,4-Dimethylphenol	18.1	1.0	1.0	ug/L	35.4	ND	51.2	32-119	39.4	40	
2,4-Dinitrotoluene	13.6	5.0	1.8	ug/L	23.6	ND	57.5	39-139	1.30	40	
4-Chloro-3-methylphenol	23.6	1.0	1.0	ug/L	35.4	ND	66.8	22-147	1.00	40	
4-Nitrophenol	11.1	5.0	1.1	ug/L	35.4	ND	31.3	5-132	52.6	40	QRPDa
Butyl benzyl phthalate	17.4	10	1.6	ug/L	23.6	ND	74.0	5-152	1.37	40	
Isophorone	15.9	1.0	1.0	ug/L	23.6	ND	67.5	21-196	5.87	40	
n-Nitrosodi-n-propylamine	14.6	5.0	1.7	ug/L	23.6	ND	62.0	5-230	6.67	40	
Pentachlorophenol	22.7	1.0	1.0	ug/L	35.4	ND	64.3	14-176	40.7	40	QRPDa
Phenol	9.95	1.0	1.0	ug/L	35.4	ND	28.1	5-112	16.5	40	
Surrogate: 2,4,6-Tribromophenol	*26*			ug/L	*35.4*		*73.2*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*17*			ug/L	*23.6*		*70.9*	*30-110*			

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Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C										
Matrix Spike Dup (7D26102-MSD2)		**Source: B7D2022-02**		Prepared: 04/27/17 Analyzed: 05/04/17						
Surrogate: 2-Fluorophenol	*15*		ug/L	*35.4*		*42.7*	*10-63*			
Surrogate: 4-Terphenyl-d14	*17*		ug/L	*23.6*		*74.1*	*34-125*			
Surrogate: Nitrobenzene-d5	*15*		ug/L	*23.6*		*62.8*	*24-112*			
Surrogate: Phenol-d6	*9.3*		ug/L	*35.4*		*26.4*	*10-47*			

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Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 SIM - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27079 - EPA 3510C											
Blank (7D27079-BLK1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	ND	0.05	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	0.05	ug/L							
Acenaphthene	ND	0.05	0.05	ug/L							
Acenaphthylene	ND	0.05	0.05	ug/L							
Anthracene	ND	0.05	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	0.05	ug/L							
Benzo(ghi)perylene	ND	0.05	0.05	ug/L							
Benzo(k)fluoranthene	ND	0.05	0.05	ug/L							
Chrysene	ND	0.05	0.05	ug/L							
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L							
Fluoranthene	ND	0.05	0.05	ug/L							
Fluorene	ND	0.05	0.05	ug/L							
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L							
Naphthalene	ND	0.05	0.05	ug/L							
Phenanthrene	ND	0.05	0.05	ug/L							
Pyrene	ND	0.05	0.05	ug/L							
Surrogate: Anthracene-d10	*0.039*			ug/L	*0.0500*		*77.0*	*24-110*			
LCS (7D27079-BS1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	0.369	0.05	0.05	ug/L	0.500		73.7	46-103			
Benzo(b)fluoranthene	0.361	0.05	0.05	ug/L	0.500		72.1	49-110			
Acenaphthene	0.294	0.05	0.05	ug/L	0.500		58.9	42-91			
Acenaphthylene	0.300	0.05	0.05	ug/L	0.500		59.9	36-96			
Anthracene	0.335	0.05	0.05	ug/L	0.500		67.0	29-110			
Benzo(a)pyrene	0.344	0.05	0.05	ug/L	0.500		68.8	43-116			
Benzo(ghi)perylene	0.337	0.05	0.05	ug/L	0.500		67.4	37-128			
Benzo(k)fluoranthene	0.353	0.05	0.05	ug/L	0.500		70.6	38-127			
Chrysene	0.341	0.05	0.05	ug/L	0.500		68.1	45-107			
Dibenzo(a,h)anthracene	0.366	0.05	0.05	ug/L	0.500		73.2	43-129			
Fluoranthene	0.355	0.05	0.05	ug/L	0.500		71.0	38-113			
Fluorene	0.328	0.05	0.05	ug/L	0.500		65.6	42-99			
Indeno(1,2,3-cd)pyrene	0.341	0.05	0.05	ug/L	0.500		68.3	35-145			
Naphthalene	0.270	0.05	0.05	ug/L	0.500		54.1	36-90			
Phenanthrene	0.325	0.05	0.05	ug/L	0.500		65.1	33-104			
Pyrene	0.351	0.05	0.05	ug/L	0.500		70.3	42-113			

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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 SIM - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27079 - EPA 3510C											
LCS (7D27079-BS1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Surrogate: Anthracene-d10	*0.044*			ug/L	*0.0500*		*87.0*	*24-110*			
LCS Dup (7D27079-BSD1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	0.361	0.05	0.05	ug/L	0.500		72.2	46-103	2.13	40	
Benzo(b)fluoranthene	0.356	0.05	0.05	ug/L	0.500		71.1	49-110	1.40	40	
Acenaphthene	0.308	0.05	0.05	ug/L	0.500		61.7	42-91	4.64	40	
Acenaphthylene	0.313	0.05	0.05	ug/L	0.500		62.7	36-96	4.45	40	
Anthracene	0.333	0.05	0.05	ug/L	0.500		66.6	29-110	0.663	40	
Benzo(a)pyrene	0.319	0.05	0.05	ug/L	0.500		63.8	43-116	7.54	40	
Benzo(ghi)perylene	0.327	0.05	0.05	ug/L	0.500		65.3	37-128	3.22	40	
Benzo(k)fluoranthene	0.343	0.05	0.05	ug/L	0.500		68.6	38-127	2.89	40	
Chrysene	0.335	0.05	0.05	ug/L	0.500		67.1	45-107	1.55	40	
Dibenzo(a,h)anthracene	0.349	0.05	0.05	ug/L	0.500		69.8	43-129	4.79	40	
Fluoranthene	0.355	0.05	0.05	ug/L	0.500		71.0	38-113	0.0141	40	
Fluorene	0.342	0.05	0.05	ug/L	0.500		68.3	42-99	4.12	40	
Indeno(1,2,3-cd)pyrene	0.332	0.05	0.05	ug/L	0.500		66.4	35-145	2.75	40	
Naphthalene	0.290	0.05	0.05	ug/L	0.500		57.9	36-90	6.87	40	
Phenanthrene	0.329	0.05	0.05	ug/L	0.500		65.7	33-104	0.991	40	
Pyrene	0.371	0.05	0.05	ug/L	0.500		74.3	42-113	5.58	40	
Surrogate: Anthracene-d10	*0.045*			ug/L	*0.0500*		*89.1*	*24-110*			
Matrix Spike (7D27079-MS1)		**Source: B7D2316-01**			Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	0.0999	0.05	0.05	ug/L	0.476	ND	21.0	10-108			
Benzo(b)fluoranthene	0.0629	0.05	0.05	ug/L	0.476	ND	13.2	10-103			
Acenaphthene	0.267	0.05	0.05	ug/L	0.476	ND	56.1	12-106			
Acenaphthylene	0.297	0.05	0.05	ug/L	0.476	ND	62.5	14-98			
Anthracene	0.226	0.05	0.05	ug/L	0.476	ND	47.5	10-108			
Benzo(a)pyrene	0.0645	0.05	0.05	ug/L	0.476	ND	13.5	10-100			
Benzo(ghi)perylene	ND	0.05	0.05	ug/L	0.476	ND	NR	10-70			QMint
Benzo(k)fluoranthene	0.0611	0.05	0.05	ug/L	0.476	ND	12.8	10-114			
Chrysene	0.0890	0.05	0.05	ug/L	0.476	ND	18.7	10-100			
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	0.476	ND	NR	10-75			QMint
Fluoranthene	0.168	0.05	0.05	ug/L	0.476	ND	35.3	10-111			
Fluorene	0.279	0.05	0.05	ug/L	0.476	ND	58.6	12-107			
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	0.476	ND	NR	10-96			QMint
Naphthalene	0.284	0.05	0.05	ug/L	0.476	ND	59.6	12-103			

Client Name: Victor Valley Reclamation Authority
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Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Semivolatile Organic Compounds by EPA 625 SIM - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27079 - EPA 3510C											
Matrix Spike (7D27079-MS1)		**Source: B7D2316-01**			Prepared: 04/27/17		Analyzed: 05/01/17				
Phenanthrene	0.226	0.05	0.05	ug/L	0.476	ND	47.4	12-108			
Pyrene	0.168	0.05	0.05	ug/L	0.476	ND	35.2	10-107			
Surrogate: Anthracene-d10	*0.031*			ug/L	*0.0476*		*64.1*	*24-110*			
Matrix Spike Dup (7D27079-MSD1)		**Source: B7D2316-01**			Prepared: 04/27/17		Analyzed: 05/01/17				
Benzo(a)anthracene	0.0911	0.05	0.05	ug/L	0.472	ND	19.3	10-108	9.24	40	
Benzo(b)fluoranthene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-103		40	Qraw
Acenaphthene	0.251	0.05	0.05	ug/L	0.472	ND	53.3	12-106	6.08	40	
Acenaphthylene	0.276	0.05	0.05	ug/L	0.472	ND	58.4	14-98	7.66	40	
Anthracene	0.238	0.05	0.05	ug/L	0.472	ND	50.5	10-108	5.16	40	
Benzo(a)pyrene	0.0515	0.05	0.05	ug/L	0.472	ND	10.9	10-100	22.3	40	
Benzo(ghi)perylene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-70		40	QMint
Benzo(k)fluoranthene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-114		40	QMSD
Chrysene	0.0815	0.05	0.05	ug/L	0.472	ND	17.3	10-100	8.79	40	
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-75		40	QMint
Fluoranthene	0.175	0.05	0.05	ug/L	0.472	ND	37.1	10-111	4.10	40	
Fluorene	0.264	0.05	0.05	ug/L	0.472	ND	56.0	12-107	5.54	40	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-96		40	QMint
Naphthalene	0.253	0.05	0.05	ug/L	0.472	ND	53.7	12-103	11.4	40	
Phenanthrene	0.233	0.05	0.05	ug/L	0.472	ND	49.3	12-108	3.00	40	
Pyrene	0.170	0.05	0.05	ug/L	0.472	ND	36.0	10-107	1.17	40	
Surrogate: Anthracene-d10	*0.031*			ug/L	*0.0472*		*66.3*	*24-110*			

Client Name: Victor Valley Reclamation Authority
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Notes and Definitions

Cr+6:	Regulatory 15 minute holding time for sample filtration and preservation exceeded	B7D2022-01
Cr+6:	Regulatory 15 minute holding time for sample filtration and preservation exceeded	B7D2022-02

J	Estimated value
NCALhNI	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, therefore data not impacted.
NCEVE	In an acidified sample, this compound degrades and is not detectable as 2-Chloroethylvinyl ether. Its degradation product is 2-Chloroethanol, which is not an analyte of this method.
NRPDa	Both percent recoveries of MS/MSD analyses performed on this sample were acceptable, however, the RPD was above laboratory acceptance criteria.
QBfil	Method blank was filtered prior to processing.
QCEVE	In an acidified sample, this compound degrades and is not detectable as 2-Chloroethylvinyl ether. Its degradation product is 2-Chloroethanol, which is not an analyte of this method.
QFpas	Follow-up result within laboratory acceptance criteria.
QMint	Due to matrix interference, the MS and/or MSD did not meet laboratory acceptance criteria.
QMout	MS and/or MSD recovery did not meet laboratory acceptance criteria.
QMSD	The MS recovery and MS/MSD RPD met laboratory acceptance criteria. MSD recovery was not within range. MSD performed to assess precision data only.
QOcal	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
Qraw	Based on raw data excluding numerical rounding, QC recovery was within laboratory acceptance criteria.
QRPDa	Both percent recoveries were acceptable, however, the RPD result was above laboratory acceptance criteria.
QRPDl	Analyte concentration was below range for valid RPD determination.
ND:	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reportable Detection Limit (RDL)
NR:	Not Reported
RDL:	Reportable Detection Limit
MDL:	Method Detection Limit

* / (Non-NELAP): NELAP does not offer accreditation for this analyte/method/matrix combination

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Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted.

Cindy A. Waddell

cc:

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CONTRACT LABORATORYCHAIN OF CUSTODY AND ANALYSIS REQUESTRECORD

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Plant Address: 20111 Shay Road · Victorville, CA92394 · TEL: (760) 246-8638 FAX: (760) 246-5440

Website: www.vvwra.com E-mail: edavis@vvwra.com

Project Name: Apple Valley Groundwater Monitoring Wells
Project Contact: Eugene Davis (760) 246-8638 ext. 287
Sampler Name: Ben Stevens
Sampler Signature:

VVWRAID #	Sample Location/Description	Sample Date	Sample Time	Sample Type: Grab	Sample Type: Composite	Sample Matrix (WW, DW, GW, SG)	Laboratory Analyses Requested	Total # of Containers	Sample Preservation Methods: Refrigeration	H_2SO_4 pH<2	HNO_3 pH<2	NaOH	HCL	Buffer(Na2CO3/NaHCO3) (NH4)2SO4)	Container Type
	AV4-225	4.24.17	1011	X		GW	Ammonia-N, TKN	1		1					Pint poly.
	AV4-225		1011	X		GW	MBAS, Nitrate - N, Chloride & Sulfate, T. Dissolved Solids	1	1						Quart poly.
	AV4-225		1011	X		GW	Cyanide	1				1			Pint poly.
	AV4-225		1011	X		GW	ewCr-6 (218.6)	1						1	125 mL poly.
	AV4-225		1011	X		GW	Metals	1			1				Pint poly.
	AV4-225		1011	X		GW	EPA 624-ML	4					2		40mL glass amber via
	AV4-225		1011	X		GW	EPA 625-ML	3	3						1-Liter glass amber
	AV4-225		1011	X		GW	EPA 625 -SIM-ML	3	3						1-Liter glass amber

TAT: ____ 24 hr ____ 48 hr ____ 72 hr _X_ Standard

Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Ben Stevens Company: BS	4-24-17 2:30	Print: Company: DS	Print: Company: DS	4/24/17 1556	Print: JB Company: BSK
Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Company:		Print: Company:	Print: Company:		Print: Company:

Sample Condition Upon Receipt by Laboratory:
Samples Received on Ice? (Yes) No Temperature
Samples Received Intact? (Yes) No 3 °C

Laboratory Notes
*Metals to include: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn

Samples sent via courier to: Babcock Laboratories, Inc.
Lab # B7D2022AB

APR 24 2017

Please

mailing
P.O Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
F 951 653 1662
www.babcocklabs.com

CA ELAP No. 2698
EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2022
Received on Ice (Y/N): Yes Temp: 3 °C

CONTRACT LABORATORYCHAIN OF CUSTODY AND ANALYSIS REQUESTRECORD

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Plant Address: 20111 Shay Road · Victorville, CA92394 · TEL: (760) 246-8638 FAX: (760) 246-5440

Website: www.vvwra.com E-mail: cdavis@vvwra.com

Project Name: Apple Valley Groundwater Monitoring Wells
Project Contact: Eugene Davis (760) 246-8638 ext. 287
Sampler Name: Ben Stevens
Sampler Signature:

VVWRAID #	Sample Location/Description	Sample Date	Sample Time	Sample Type: Grab	Sample Type: Composite	Sample Matrix (WW, DW, GW, SG)	Laboratory Analyses Requested: Ammonia-N	TKN	MBAS	Nitrate - N	Chloride & Sulfate	T. Dissolved Solids	Cyanide	ewCr-6 (218.6)	Metals	EPA 624-ML	EPA 625-ML	EPA 625 -SIM-ML	Total # of Containers	Sample Preservation Methods: Refrigeration	H_2SO_4 pH<2	HNO_3 pH<2	NaOH HCL	Buffer/Na2CO3/Na 2HCO3/ (NH4)2SO4	Container Type
	AV3-225	4.24.17	1236	X		GW	X	X											1		1				Pint poly.
	AV3-225		1236	X		GW			X	X	X	X							1	1					Quart poly.
	AV3-225		1236	X		GW							X						1				1		Pint poly.
	AV3-225		1236	X		GW								X					1					1	125 mL poly.
	AV3-225		1236	X		GW									X				1			1			Pint poly.
	AV3-225		1236	X		GW										X			4				2		40mL glass amber via
	AV3-225		1236	X		GW											X		3	3					1-Liter glass amber
	AV3-225	↓	1236	X		GW												X	3	3					1-Liter glass amber

TAT: ____ 24 hr ____ 48 hr ____ 72 hr _X_ Standard

Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Ben Stevens	4.24.17 2:20	Print:	Print:	4/24/17 1556	Print: JB
Company: VVWRA		Company:	Company:		Company: ESB
Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print:		Print:	Print:		Print:
Company:		Company:	Company:		Company:

Sample Condition Upon Receipt by Laboratory:
Samples Received on Ice? ~~Yes~~ No Temperature
Samples Received Intact? ~~Yes~~ No 3 °C

Laboratory Notes
*Metals to include: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn

Samples sent via courier to: Babcock Laboratories, Inc.
Lab # B7D2022 AB

Please Fax a copy of the completed Chain of Custody document to: Eugene Davis, VVWRA at (760) 954-5006 01-55-520-7170 APR 24 2017

BABCOCK Laboratories, Inc.
The Standard of Excellence for Over 100 Years

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
B7D2152-01	AV1-210 Grab	Liquid	04/25/17 8:57	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE
B7D2152-02	AV-DUP Grab	Liquid	04/25/17 9:02	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE
B7D2152-03	AV2-220 Grab	Liquid	04/25/17 12:31	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE
B7D2152-04	AV-Field Blank Grab	Liquid	04/25/17 7:00	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE
B7D2152-05	AV-Field Blank Grab	Liquid	04/25/17 7:00	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE
B7D2152-06	AV-Equipment Blank Grab	Liquid	04/25/17 7:10	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE
B7D2152-07	AV-Trip Blank Grab	Liquid	04/25/17 7:00	Ben Stevens	04/25/17 14:50	Courier (Hector N) - DE

mailing
P.O Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
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www.babcocklabs.com

CA ELAP No. 2698
EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV1-210	Liquid	04/25/17 08:57	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Chloride	230	1.0	0.56	mg/L	EPA 300.0	04/26/17 05:58	IBR	
Sulfate	180	0.50	0.23	mg/L	EPA 300.0	04/26/17 05:58	IBR	
Nitrate as N	2.1	0.20	0.055	mg/L	EPA 300.0	04/26/17 05:58	IBR	
Solids								
Total Dissolved Solids	760	20	12	mg/L	SM 2540C	04/29/17 11:50	kbs	
Surfactants								
MBAS	0.10	0.08	0.05	mg/L	SM 5540C	04/25/17 21:10	krv	
General Inorganics								
Cyanide	ND	0.005	0.004	mg/L	SM 4500CN E	05/01/17 12:19	sll	
Nutrients								
Ammonia-Nitrogen	ND	0.10	0.048	mg/L	SM4500NH3H	04/26/17 10:51	sll	
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L	EPA 351.2	04/28/17 20:38	jma	
Metals and Metalloids								
Hexavalent Chromium	3.3	1.0	0.024	ug/L	EPA 218.6	04/27/17 14:09	mel	
Mercury	ND	0.20	0.10	ug/L	EPA 200.8	04/27/17 16:57	ap	
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	6.0	3.0	ug/L	EPA 6020	04/27/17 16:57	ap	
Arsenic	ND	2.0	1.2	ug/L	EPA 6020	04/27/17 16:57	ap	
Beryllium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 16:57	ap	
Cadmium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 16:57	ap	
Total Chromium	ND	10	4.2	ug/L	EPA 6020	04/27/17 16:57	ap	
Copper	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:57	ap	
Lead	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 16:57	ap	
Nickel	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:57	ap	
Selenium	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 16:57	ap	
Silver	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:57	ap	
Thallium	ND	1.0	0.50	ug/L	EPA 6020	04/27/17 16:57	ap	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV1-210	Liquid	04/25/17 08:57	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Zinc	ND	10	5.0	ug/L	EPA 6020	04/27/17 16:57	ap	
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/26/17 23:42	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/26/17 23:42	eec	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/26/17 23:42	eec	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:42	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:42	eec	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/26/17 23:42	eec	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:42	eec	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/26/17 23:42	eec	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/26/17 23:42	eec	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/26/17 23:42	eec	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/26/17 23:42	eec	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/26/17 23:42	eec	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/26/17 23:42	eec	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/26/17 23:42	eec	
Benzene	ND	0.50	0.067	ug/L	EPA 624	04/26/17 23:42	eec	
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/26/17 23:42	eec	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/26/17 23:42	eec	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/26/17 23:42	eec	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/26/17 23:42	eec	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/26/17 23:42	eec	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/26/17 23:42	eec	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/26/17 23:42	eec	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/26/17 23:42	eec	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/26/17 23:42	eec	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 23:42	eec	
Methylene Chloride	ND	0.50	0.25	ug/L	EPA 624	04/26/17 23:42	eec	
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:42	eec	
Toluene	0.15	0.50	0.093	ug/L	EPA 624	04/26/17 23:42	eec	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 23:42	eec	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV1-210	Liquid	04/25/17 08:57	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Trichloroethene	ND		0.50	0.18	ug/L	EPA 624	04/26/17 23:42	eec	
Vinyl Chloride	ND		0.50	0.081	ug/L	EPA 624	04/26/17 23:42	eec	
Surrogate: 1,2-Dichloroethane-d4	105	%	80-120			EPA 624	04/26/17 23:42	eec	
Surrogate: Bromofluorobenzene	104	%	80-120			EPA 624	04/26/17 23:42	eec	
Surrogate: Toluene-d8	94.4	%	80-120			EPA 624	04/26/17 23:42	eec	
Semivolatile Organic Compounds by EPA 625									
1,2-Diphenylhydrazine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
1,2,4-Trichlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
2-Chlorophenol	ND		2.0	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
2,4-Dichlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
2,4-Dimethylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
2,4-Dinitrophenol	ND		5.0	1.6	ug/L	EPA 625	05/04/17 10:03	JHR	
2,4-Dinitrotoluene	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
2,4,6-Trichlorophenol	ND		10	1.9	ug/L	EPA 625	05/04/17 10:03	JHR	
2,6-Dinitrotoluene	ND		5.0	1.9	ug/L	EPA 625	05/04/17 10:03	JHR	
2-Nitrophenol	ND		10	2.1	ug/L	EPA 625	05/04/17 10:03	JHR	
2-Chloronaphthalene	ND		10	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
3,3'-Dichlorobenzidine	ND		5.0	2.1	ug/L	EPA 625	05/04/17 10:03	JHR	
4-Chloro-3-methylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
2-Methyl-4,6-Dinitrophenol	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
4-Nitrophenol	ND		5.0	1.1	ug/L	EPA 625	05/04/17 10:03	JHR	
4-Bromophenyl phenyl ether	ND		5.0	1.6	ug/L	EPA 625	05/04/17 10:03	JHR	
4-Chlorophenyl phenyl ether	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
Benzidine	ND		5.0	5.0	ug/L	EPA 625	05/04/17 10:03	JHR	NCALhND
Bis(2-chloroethoxy)methane	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
Bis(2-Chloroethyl)ether	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Bis(2-chloroisopropyl)Ether	ND		2.0	1.9	ug/L	EPA 625	05/04/17 10:03	JHR	
Bis(2-ethylhexyl)phthalate	ND		5.0	2.3	ug/L	EPA 625	05/04/17 10:03	JHR	
Butyl benzyl phthalate	ND		10	1.6	ug/L	EPA 625	05/04/17 10:03	JHR	
Di-n-butylphthalate	ND		10	1.9	ug/L	EPA 625	05/04/17 10:03	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV1-210	Liquid	04/25/17 08:57	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625									
Di-n-octylphthalate	ND		10	2.6	ug/L	EPA 625	05/04/17 10:03	JHR	
Diethyl phthalate	ND		2.0	1.8	ug/L	EPA 625	05/04/17 10:03	JHR	
Dimethyl phthalate	ND		2.0	1.7	ug/L	EPA 625	05/04/17 10:03	JHR	
Hexachlorocyclopentadiene	ND		5.0	1.7	ug/L	EPA 625	05/04/17 10:03	JHR	
Hexachlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Hexachlorobutadiene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Hexachloroethane	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Isophorone	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
N-Nitrosodiphenylamine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
N-Nitrosodimethylamine	ND		5.0	1.4	ug/L	EPA 625	05/04/17 10:03	JHR	
n-Nitrosodi-n-propylamine	ND		5.0	1.7	ug/L	EPA 625	05/04/17 10:03	JHR	
Nitrobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Pentachlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Phenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:03	JHR	
Surrogate: 2,4,6-Tribromophenol	54.6	%	27-122			EPA 625	05/04/17 10:03	JHR	
Surrogate: 2-Fluorobiphenyl	61.4	%	30-110			EPA 625	05/04/17 10:03	JHR	
Surrogate: 2-Fluorophenol	49.6	%	10-63			EPA 625	05/04/17 10:03	JHR	
Surrogate: 4-Terphenyl-d14	66.9	%	34-125			EPA 625	05/04/17 10:03	JHR	
Surrogate: Nitrobenzene-d5	58.0	%	24-112			EPA 625	05/04/17 10:03	JHR	
Surrogate: Phenol-d6	36.3	%	10-47			EPA 625	05/04/17 10:03	JHR	
Semivolatile Organic Compounds by EPA 625 SIM									
Benzo(a)anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Benzo(b)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Acenaphthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Acenaphthylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Benzo(a)pyrene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Benzo(ghi)perylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Benzo(k)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Chrysene	ND		0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV1-210	Liquid	04/25/17 08:57	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625 SIM								
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Fluoranthene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Fluorene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Naphthalene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Phenanthrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/01/17 23:38	JHR	
Surrogate: Anthracene-d10	59.5	% 24-110			EPA625 SIM	05/01/17 23:38	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-DUP	Liquid	04/25/17 09:02	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Chloride	230	1.0	0.56	mg/L	EPA 300.0	04/26/17 06:33	IBR	
Sulfate	180	0.50	0.23	mg/L	EPA 300.0	04/26/17 06:33	IBR	
Nitrate as N	2.1	0.20	0.055	mg/L	EPA 300.0	04/26/17 06:33	IBR	
Solids								
Total Dissolved Solids	760	20	12	mg/L	SM 2540C	04/29/17 11:50	kbs	
Surfactants								
MBAS	0.17	0.08	0.05	mg/L	SM 5540C	04/25/17 21:10	krv	
General Inorganics								
Cyanide	ND	0.005	0.004	mg/L	SM 4500CN E	05/01/17 12:21	sll	
Nutrients								
Ammonia-Nitrogen	ND	0.10	0.048	mg/L	SM4500NH3H	04/26/17 10:53	sll	
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L	EPA 351.2	04/28/17 22:15	jma	
Metals and Metalloids								
Hexavalent Chromium	3.2	1.0	0.024	ug/L	EPA 218.6	04/27/17 14:22	mel	
Mercury	ND	0.20	0.10	ug/L	EPA 200.8	04/27/17 17:00	ap	
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	6.0	3.0	ug/L	EPA 6020	04/27/17 17:00	ap	
Arsenic	ND	2.0	1.2	ug/L	EPA 6020	04/27/17 17:00	ap	
Beryllium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 17:00	ap	
Cadmium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 17:00	ap	
Total Chromium	ND	10	4.2	ug/L	EPA 6020	04/27/17 17:00	ap	
Copper	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:00	ap	
Lead	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 17:00	ap	
Nickel	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:00	ap	
Selenium	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 17:00	ap	
Silver	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:00	ap	
Thallium	ND	1.0	0.50	ug/L	EPA 6020	04/27/17 17:00	ap	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-DUP	Liquid	04/25/17 09:02	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Zinc	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:00	ap	
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/27/17 00:15	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/27/17 00:15	eec	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/27/17 00:15	eec	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:15	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:15	eec	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/27/17 00:15	eec	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:15	eec	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/27/17 00:15	eec	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/27/17 00:15	eec	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/27/17 00:15	eec	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/27/17 00:15	eec	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/27/17 00:15	eec	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/27/17 00:15	eec	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/27/17 00:15	eec	
Benzene	ND	0.50	0.067	ug/L	EPA 624	04/27/17 00:15	eec	
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/27/17 00:15	eec	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/27/17 00:15	eec	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/27/17 00:15	eec	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/27/17 00:15	eec	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/27/17 00:15	eec	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/27/17 00:15	eec	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/27/17 00:15	eec	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/27/17 00:15	eec	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/27/17 00:15	eec	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/27/17 00:15	eec	
Methylene Chloride	ND	0.50	0.25	ug/L	EPA 624	04/27/17 00:15	eec	
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:15	eec	
Toluene	0.16	0.50	0.093	ug/L	EPA 624	04/27/17 00:15	eec	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/27/17 00:15	eec	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-DUP	Liquid	04/25/17 09:02	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Trichloroethene	ND		0.50	0.18	ug/L	EPA 624	04/27/17 00:15	eec	
Vinyl Chloride	ND		0.50	0.081	ug/L	EPA 624	04/27/17 00:15	eec	
Surrogate: 1,2-Dichloroethane-d4	104	%	80-120			EPA 624	04/27/17 00:15	eec	
Surrogate: Bromofluorobenzene	104	%	80-120			EPA 624	04/27/17 00:15	eec	
Surrogate: Toluene-d8	95.7	%	80-120			EPA 624	04/27/17 00:15	eec	
Semivolatile Organic Compounds by EPA 625									
1,2-Diphenylhydrazine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
1,2,4-Trichlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
2-Chlorophenol	ND		2.0	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
2,4-Dichlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
2,4-Dimethylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
2,4-Dinitrophenol	ND		5.0	1.6	ug/L	EPA 625	05/04/17 10:34	JHR	
2,4-Dinitrotoluene	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
2,4,6-Trichlorophenol	ND		10	1.9	ug/L	EPA 625	05/04/17 10:34	JHR	
2,6-Dinitrotoluene	ND		5.0	1.9	ug/L	EPA 625	05/04/17 10:34	JHR	
2-Nitrophenol	ND		10	2.1	ug/L	EPA 625	05/04/17 10:34	JHR	
2-Chloronaphthalene	ND		10	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
3,3'-Dichlorobenzidine	ND		5.0	2.1	ug/L	EPA 625	05/04/17 10:34	JHR	
4-Chloro-3-methylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
2-Methyl-4,6-Dinitrophenol	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
4-Nitrophenol	ND		5.0	1.1	ug/L	EPA 625	05/04/17 10:34	JHR	
4-Bromophenyl phenyl ether	ND		5.0	1.6	ug/L	EPA 625	05/04/17 10:34	JHR	
4-Chlorophenyl phenyl ether	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
Benzidine	ND		5.0	5.0	ug/L	EPA 625	05/04/17 10:34	JHR	NCALhND
Bis(2-chloroethoxy)methane	ND		5.0	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
Bis(2-Chloroethyl)ether	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Bis(2-chloroisopropyl)Ether	ND		2.0	1.9	ug/L	EPA 625	05/04/17 10:34	JHR	
Bis(2-ethylhexyl)phthalate	ND		5.0	2.3	ug/L	EPA 625	05/04/17 10:34	JHR	
Butyl benzyl phthalate	ND		10	1.6	ug/L	EPA 625	05/04/17 10:34	JHR	
Di-n-butylphthalate	ND		10	1.9	ug/L	EPA 625	05/04/17 10:34	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-DUP	Liquid	04/25/17 09:02	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625									
Di-n-octylphthalate	ND		10	2.6	ug/L	EPA 625	05/04/17 10:34	JHR	
Diethyl phthalate	ND		2.0	1.8	ug/L	EPA 625	05/04/17 10:34	JHR	
Dimethyl phthalate	ND		2.0	1.7	ug/L	EPA 625	05/04/17 10:34	JHR	
Hexachlorocyclopentadiene	ND		5.0	1.7	ug/L	EPA 625	05/04/17 10:34	JHR	
Hexachlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Hexachlorobutadiene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Hexachloroethane	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Isophorone	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
N-Nitrosodiphenylamine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
N-Nitrosodimethylamine	ND		5.0	1.4	ug/L	EPA 625	05/04/17 10:34	JHR	
n-Nitrosodi-n-propylamine	ND		5.0	1.7	ug/L	EPA 625	05/04/17 10:34	JHR	
Nitrobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Pentachlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Phenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 10:34	JHR	
Surrogate: 2,4,6-Tribromophenol	48.7	%	27-122			EPA 625	05/04/17 10:34	JHR	
Surrogate: 2-Fluorobiphenyl	55.0	%	30-110			EPA 625	05/04/17 10:34	JHR	
Surrogate: 2-Fluorophenol	45.8	%	10-63			EPA 625	05/04/17 10:34	JHR	
Surrogate: 4-Terphenyl-d14	72.9	%	34-125			EPA 625	05/04/17 10:34	JHR	
Surrogate: Nitrobenzene-d5	52.7	%	24-112			EPA 625	05/04/17 10:34	JHR	
Surrogate: Phenol-d6	34.5	%	10-47			EPA 625	05/04/17 10:34	JHR	
Semivolatile Organic Compounds by EPA 625 SIM									
Benzo(a)anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Benzo(b)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Acenaphthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Acenaphthylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Benzo(a)pyrene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Benzo(ghi)perylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Benzo(k)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Chrysene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-DUP	Liquid	04/25/17 09:02	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625 SIM								
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Fluoranthene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Fluorene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Naphthalene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Phenanthrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:04	JHR	
Surrogate: Anthracene-d10	77.0	% 24-110			EPA625 SIM	05/02/17 00:04	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV2-220	Liquid	04/25/17 12:31	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Chloride	150	1.0	0.56	mg/L	EPA 300.0	04/26/17 06:44	IBR	
Sulfate	170	0.50	0.23	mg/L	EPA 300.0	04/26/17 06:44	IBR	
Nitrate as N	1.2	0.20	0.055	mg/L	EPA 300.0	04/26/17 06:44	IBR	
Solids								
Total Dissolved Solids	700	20	12	mg/L	SM 2540C	04/29/17 11:50	kbs	
Surfactants								
MBAS	0.07	0.08	0.05	mg/L	SM 5540C	04/25/17 21:10	kbs	J
General Inorganics								
Cyanide	ND	0.005	0.004	mg/L	SM 4500CN E	05/01/17 12:22	sll	
Nutrients								
Ammonia-Nitrogen	ND	0.10	0.048	mg/L	SM4500NH3H	04/26/17 10:54	sll	
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L	EPA 351.2	04/28/17 20:46	jma	
Metals and Metalloids								
Hexavalent Chromium	3.5	1.0	0.024	ug/L	EPA 218.6	04/28/17 08:40	mel	
Mercury	ND	0.20	0.10	ug/L	EPA 200.8	04/27/17 17:02	ap	
Metals and Metalloids; EPA SW846 Series								
Antimony	ND	6.0	3.0	ug/L	EPA 6020	04/27/17 17:02	ap	
Arsenic	ND	2.0	1.2	ug/L	EPA 6020	04/27/17 17:02	ap	
Beryllium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 17:02	ap	
Cadmium	ND	1.0	0.57	ug/L	EPA 6020	04/27/17 17:02	ap	
Total Chromium	ND	10	4.2	ug/L	EPA 6020	04/27/17 17:02	ap	
Copper	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:02	ap	
Lead	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 17:02	ap	
Nickel	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:02	ap	
Selenium	ND	5.0	2.5	ug/L	EPA 6020	04/27/17 17:02	ap	
Silver	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:02	ap	
Thallium	ND	1.0	0.50	ug/L	EPA 6020	04/27/17 17:02	ap	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV2-220	Liquid	04/25/17 12:31	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Metals and Metalloids; EPA SW846 Series								
Zinc	ND	10	5.0	ug/L	EPA 6020	04/27/17 17:02	ap	
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/27/17 00:48	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/27/17 00:48	eec	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/27/17 00:48	eec	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:48	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:48	eec	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/27/17 00:48	eec	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:48	eec	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/27/17 00:48	eec	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/27/17 00:48	eec	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/27/17 00:48	eec	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/27/17 00:48	eec	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/27/17 00:48	eec	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/27/17 00:48	eec	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/27/17 00:48	eec	
Benzene	ND	0.50	0.067	ug/L	EPA 624	04/27/17 00:48	eec	
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/27/17 00:48	eec	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/27/17 00:48	eec	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/27/17 00:48	eec	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/27/17 00:48	eec	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/27/17 00:48	eec	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/27/17 00:48	eec	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/27/17 00:48	eec	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/27/17 00:48	eec	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/27/17 00:48	eec	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/27/17 00:48	eec	
Methylene Chloride	ND	0.50	0.25	ug/L	EPA 624	04/27/17 00:48	eec	
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/27/17 00:48	eec	
Toluene	0.31	0.50	0.093	ug/L	EPA 624	04/27/17 00:48	eec	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/27/17 00:48	eec	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV2-220	Liquid	04/25/17 12:31	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Trichloroethene	ND		0.50	0.18	ug/L	EPA 624	04/27/17 00:48	eec	
Vinyl Chloride	ND		0.50	0.081	ug/L	EPA 624	04/27/17 00:48	eec	
Surrogate: 1,2-Dichloroethane-d4	105	%	80-120			EPA 624	04/27/17 00:48	eec	
Surrogate: Bromofluorobenzene	104	%	80-120			EPA 624	04/27/17 00:48	eec	
Surrogate: Toluene-d8	95.4	%	80-120			EPA 624	04/27/17 00:48	eec	
Semivolatile Organic Compounds by EPA 625									
1,2-Diphenylhydrazine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
1,2,4-Trichlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
2-Chlorophenol	ND		2.0	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
2,4-Dichlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
2,4-Dimethylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
2,4-Dinitrophenol	ND		5.0	1.6	ug/L	EPA 625	05/04/17 11:03	JHR	
2,4-Dinitrotoluene	ND		5.0	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
2,4,6-Trichlorophenol	ND		10	1.9	ug/L	EPA 625	05/04/17 11:03	JHR	
2,6-Dinitrotoluene	ND		5.0	1.9	ug/L	EPA 625	05/04/17 11:03	JHR	
2-Nitrophenol	ND		10	2.1	ug/L	EPA 625	05/04/17 11:03	JHR	
2-Chloronaphthalene	ND		10	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
3,3'-Dichlorobenzidine	ND		5.0	2.1	ug/L	EPA 625	05/04/17 11:03	JHR	
4-Chloro-3-methylphenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
2-Methyl-4,6-Dinitrophenol	ND		5.0	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
4-Nitrophenol	ND		5.0	1.1	ug/L	EPA 625	05/04/17 11:03	JHR	
4-Bromophenyl phenyl ether	ND		5.0	1.6	ug/L	EPA 625	05/04/17 11:03	JHR	
4-Chlorophenyl phenyl ether	ND		5.0	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
Benzidine	ND		5.0	5.0	ug/L	EPA 625	05/04/17 11:03	JHR	NCALhND
Bis(2-chloroethoxy)methane	ND		5.0	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
Bis(2-Chloroethyl)ether	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Bis(2-chloroisopropyl)Ether	ND		2.0	1.9	ug/L	EPA 625	05/04/17 11:03	JHR	
Bis(2-ethylhexyl)phthalate	ND		5.0	2.3	ug/L	EPA 625	05/04/17 11:03	JHR	
Butyl benzyl phthalate	ND		10	1.6	ug/L	EPA 625	05/04/17 11:03	JHR	
Di-n-butylphthalate	ND		10	1.9	ug/L	EPA 625	05/04/17 11:03	JHR	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV2-220	Liquid	04/25/17 12:31	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625									
Di-n-octylphthalate	ND		10	2.6	ug/L	EPA 625	05/04/17 11:03	JHR	
Diethyl phthalate	ND		2.0	1.8	ug/L	EPA 625	05/04/17 11:03	JHR	
Dimethyl phthalate	ND		2.0	1.7	ug/L	EPA 625	05/04/17 11:03	JHR	
Hexachlorocyclopentadiene	ND		5.0	1.7	ug/L	EPA 625	05/04/17 11:03	JHR	
Hexachlorobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Hexachlorobutadiene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Hexachloroethane	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Isophorone	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
N-Nitrosodiphenylamine	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
N-Nitrosodimethylamine	ND		5.0	1.4	ug/L	EPA 625	05/04/17 11:03	JHR	
n-Nitrosodi-n-propylamine	ND		5.0	1.7	ug/L	EPA 625	05/04/17 11:03	JHR	
Nitrobenzene	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Pentachlorophenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Phenol	ND		1.0	1.0	ug/L	EPA 625	05/04/17 11:03	JHR	
Surrogate: 2,4,6-Tribromophenol	53.0	%	27-122			EPA 625	05/04/17 11:03	JHR	
Surrogate: 2-Fluorobiphenyl	53.2	%	30-110			EPA 625	05/04/17 11:03	JHR	
Surrogate: 2-Fluorophenol	51.6	%	10-63			EPA 625	05/04/17 11:03	JHR	
Surrogate: 4-Terphenyl-d14	65.1	%	34-125			EPA 625	05/04/17 11:03	JHR	
Surrogate: Nitrobenzene-d5	49.7	%	24-112			EPA 625	05/04/17 11:03	JHR	
Surrogate: Phenol-d6	36.6	%	10-47			EPA 625	05/04/17 11:03	JHR	
Semivolatile Organic Compounds by EPA 625 SIM									
Benzo(a)anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Benzo(b)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Acenaphthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Acenaphthylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Anthracene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Benzo(a)pyrene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Benzo(ghi)perylene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Benzo(k)fluoranthene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Chrysene	ND		0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV2-220	Liquid	04/25/17 12:31	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Semivolatile Organic Compounds by EPA 625 SIM								
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Fluoranthene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Fluorene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Naphthalene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Phenanthrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Pyrene	ND	0.05	0.05	ug/L	EPA625 SIM	05/02/17 00:31	JHR	
Surrogate: Anthracene-d10	67.4	% 24-110			EPA625 SIM	05/02/17 00:31	JHR	

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Field Blank	Liquid	04/25/17 07:00	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Nitrate as N	ND	0.20	0.055	mg/L	EPA 300.0	04/26/17 06:56	IBR	
Solids								
Total Dissolved Solids	8.0	10	5.8	mg/L	SM 2540C	04/29/17 11:50	kbs	J

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CA ELAP No. 2698
EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Field Blank	Liquid	04/25/17 07:00	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/26/17 22:36	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/26/17 22:36	eec	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/26/17 22:36	eec	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:36	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:36	eec	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/26/17 22:36	eec	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:36	eec	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/26/17 22:36	eec	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/26/17 22:36	eec	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/26/17 22:36	eec	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/26/17 22:36	eec	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/26/17 22:36	eec	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/26/17 22:36	eec	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/26/17 22:36	eec	
Benzene	0.080	0.50	0.067	ug/L	EPA 624	04/26/17 22:36	eec	J
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/26/17 22:36	eec	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/26/17 22:36	eec	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/26/17 22:36	eec	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/26/17 22:36	eec	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/26/17 22:36	eec	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/26/17 22:36	eec	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/26/17 22:36	eec	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/26/17 22:36	eec	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/26/17 22:36	eec	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 22:36	eec	
Methylene Chloride	0.93	0.50	0.25	ug/L	EPA 624	04/26/17 22:36	eec	Nconf
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:36	eec	
Toluene	ND	0.50	0.093	ug/L	EPA 624	04/26/17 22:36	eec	
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 22:36	eec	
Trichloroethene	ND	0.50	0.18	ug/L	EPA 624	04/26/17 22:36	eec	
Vinyl Chloride	ND	0.50	0.081	ug/L	EPA 624	04/26/17 22:36	eec	

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Field Blank	Liquid	04/25/17 07:00	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Surrogate: 1,2-Dichloroethane-d4	104	%	80-120			EPA 624	04/26/17 22:36	eec	
Surrogate: Bromofluorobenzene	104	%	80-120			EPA 624	04/26/17 22:36	eec	
Surrogate: Toluene-d8	96.2	%	80-120			EPA 624	04/26/17 22:36	eec	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Equipment Blank	Liquid	04/25/17 07:10	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/26/17 23:09	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/26/17 23:09	eec	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/26/17 23:09	eec	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:09	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:09	eec	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/26/17 23:09	eec	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:09	eec	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/26/17 23:09	eec	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/26/17 23:09	eec	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/26/17 23:09	eec	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/26/17 23:09	eec	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/26/17 23:09	eec	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/26/17 23:09	eec	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/26/17 23:09	eec	
Benzene	0.080	0.50	0.067	ug/L	EPA 624	04/26/17 23:09	eec	J
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/26/17 23:09	eec	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/26/17 23:09	eec	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/26/17 23:09	eec	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/26/17 23:09	eec	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/26/17 23:09	eec	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/26/17 23:09	eec	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/26/17 23:09	eec	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/26/17 23:09	eec	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/26/17 23:09	eec	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 23:09	eec	
Methylene Chloride	0.93	0.50	0.25	ug/L	EPA 624	04/26/17 23:09	eec	Nconf
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 23:09	eec	
Toluene	ND	0.50	0.093	ug/L	EPA 624	04/26/17 23:09	eec	
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 23:09	eec	
Trichloroethene	ND	0.50	0.18	ug/L	EPA 624	04/26/17 23:09	eec	
Vinyl Chloride	ND	0.50	0.081	ug/L	EPA 624	04/26/17 23:09	eec	

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Equipment Blank	Liquid	04/25/17 07:10	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Surrogate: 1,2-Dichloroethane-d4	102	%	80-120			EPA 624	04/26/17 23:09	eec	
Surrogate: Bromofluorobenzene	104	%	80-120			EPA 624	04/26/17 23:09	eec	
Surrogate: Toluene-d8	96.1	%	80-120			EPA 624	04/26/17 23:09	eec	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Trip Blank	Liquid	04/25/17 07:00	04/25/17 14:50

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624								
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L	EPA 624	04/26/17 22:03	eec	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L	EPA 624	04/26/17 22:03	eec	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L	EPA 624	04/26/17 22:03	eec	
1,1-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:03	eec	
1,1-Dichloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:03	eec	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L	EPA 624	04/26/17 22:03	eec	
1,2-Dichloroethane	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:03	eec	
1,2-Dichloropropane	ND	0.50	0.13	ug/L	EPA 624	04/26/17 22:03	eec	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L	EPA 624	04/26/17 22:03	eec	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L	EPA 624	04/26/17 22:03	eec	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L	EPA 624	04/26/17 22:03	eec	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L	EPA 624	04/26/17 22:03	eec	NCEVE
Acrolein	ND	2.0	1.1	ug/L	EPA 624	04/26/17 22:03	eec	
Acrylonitrile	ND	2.0	0.59	ug/L	EPA 624	04/26/17 22:03	eec	
Benzene	ND	0.50	0.067	ug/L	EPA 624	04/26/17 22:03	eec	
Bromodichloromethane	ND	0.50	0.24	ug/L	EPA 624	04/26/17 22:03	eec	
Bromoform	ND	0.50	0.34	ug/L	EPA 624	04/26/17 22:03	eec	
Bromomethane	ND	0.50	0.15	ug/L	EPA 624	04/26/17 22:03	eec	
Carbon Tetrachloride	ND	0.50	0.20	ug/L	EPA 624	04/26/17 22:03	eec	
Chlorobenzene	ND	0.50	0.071	ug/L	EPA 624	04/26/17 22:03	eec	
Chloroethane	ND	0.50	0.19	ug/L	EPA 624	04/26/17 22:03	eec	
Chloroform	ND	0.50	0.44	ug/L	EPA 624	04/26/17 22:03	eec	
Chloromethane	ND	0.50	0.097	ug/L	EPA 624	04/26/17 22:03	eec	
Dibromochloromethane	ND	0.50	0.18	ug/L	EPA 624	04/26/17 22:03	eec	
Ethylbenzene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 22:03	eec	
Methylene Chloride	ND	0.50	0.25	ug/L	EPA 624	04/26/17 22:03	eec	
Tetrachloroethene	ND	0.50	0.12	ug/L	EPA 624	04/26/17 22:03	eec	
Toluene	ND	0.50	0.093	ug/L	EPA 624	04/26/17 22:03	eec	
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L	EPA 624	04/26/17 22:03	eec	
Trichloroethene	ND	0.50	0.18	ug/L	EPA 624	04/26/17 22:03	eec	
Vinyl Chloride	ND	0.50	0.081	ug/L	EPA 624	04/26/17 22:03	eec	

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Client Name: Victor Valley Reclamation Authority
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Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
B7D2152-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
AV-Trip Blank	Liquid	04/25/17 07:00	04/25/17 14:50

Analyte(s)	Result		RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Volatile Organic Compounds by EPA 624									
Surrogate: 1,2-Dichloroethane-d4	103	%	80-120			EPA 624	04/26/17 22:03	eec	
Surrogate: Bromofluorobenzene	107	%	80-120			EPA 624	04/26/17 22:03	eec	
Surrogate: Toluene-d8	95.6	%	80-120			EPA 624	04/26/17 22:03	eec	

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Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25101 - Analyzed as Received IC											
Blank (7D25101-BLK1)					Prepared & Analyzed: 04/26/17						
Sulfate	ND	0.50	0.23	mg/L							
Chloride	ND	1.0	0.56	mg/L							
Nitrate as N	ND	0.20	0.055	mg/L							
LCS (7D25101-BS1)					Prepared & Analyzed: 04/26/17						
Sulfate	53.9	0.50	0.23	mg/L	50.0		108	90-110			
Chloride	53.9	1.0	0.56	mg/L	50.0		108	90-110			
Nitrate as N	12.0	0.20	0.055	mg/L	11.3		106	90-110			
Matrix Spike (7D25101-MS1)		**Source: B7D2097-01**			Prepared & Analyzed: 04/26/17						
Sulfate	170	0.50	0.23	mg/L	50.0	108	124	75-128			
Chloride	194	1.0	0.56	mg/L	50.0	132	123	84-129			
Nitrate as N	8.10	0.20	0.055	mg/L	4.52	2.65	121	75-131			
Matrix Spike (7D25101-MS2)		**Source: B7D2180-01**			Prepared & Analyzed: 04/26/17						
Sulfate	121	0.50	0.23	mg/L	50.0	58.6	125	75-128			
Chloride	179	1.0	0.56	mg/L	50.0	117	125	84-129			
Nitrate as N	4.91	0.20	0.055	mg/L	4.52	ND	109	75-131			
Matrix Spike Dup (7D25101-MSD1)		**Source: B7D2097-01**			Prepared & Analyzed: 04/26/17						
Sulfate	170	0.50	0.23	mg/L	50.0	108	124	75-128	0.150	20	
Chloride	194	1.0	0.56	mg/L	50.0	132	123	84-129	0.180	20	
Nitrate as N	8.12	0.20	0.055	mg/L	4.52	2.65	121	75-131	0.242	20	

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D29010 - Analyzed as received											
Blank (7D29010-BLK1)					Prepared & Analyzed: 04/29/17						
Total Dissolved Solids	ND	10	5.8	mg/L							
LCS (7D29010-BS1)					Prepared & Analyzed: 04/29/17						
Total Dissolved Solids	750	20	12	mg/L	746		101	90-110			
Duplicate (7D29010-DUP1)		**Source: B7D2150-04**			Prepared & Analyzed: 04/29/17						
Total Dissolved Solids	280	20	12	mg/L		283			1.07	20	
Duplicate (7D29010-DUP2)		**Source: B7D2226-03**			Prepared & Analyzed: 04/29/17						
Total Dissolved Solids	493	20	12	mg/L		477			3.30	20	

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Surfactants - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D25125 - Solvent Extraction.											
Blank (7D25125-BLK1)					Prepared & Analyzed: 04/25/17						
MBAS	ND	0.08	0.05	mg/L							
LCS (7D25125-BS1)					Prepared & Analyzed: 04/25/17						
MBAS	0.371	0.08	0.05	mg/L	0.320		116	52-141			
Matrix Spike (7D25125-MS1)		**Source: B7D2065-01**			Prepared & Analyzed: 04/25/17						
MBAS	0.572	0.20	0.13	mg/L	0.400	0.0660	127	35-142			
Matrix Spike Dup (7D25125-MSD1)		**Source: B7D2065-01**			Prepared & Analyzed: 04/25/17						
MBAS	0.475	0.20	0.13	mg/L	0.400	0.0660	102	35-142	18.6	20	

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7E01083 - Distillation											
Blank (7E01083-BLK1)					Prepared & Analyzed: 05/01/17						
Cyanide	ND	0.005	0.004	mg/L							
LCS (7E01083-BS1)					Prepared & Analyzed: 05/01/17						
Cyanide	0.0940	0.005	0.004	mg/L	0.101		93.1	61-120			
Matrix Spike (7E01083-MS1)		**Source: B7D2469-01**			Prepared & Analyzed: 05/01/17						
Cyanide	0.0978	0.005	0.004	mg/L	0.101	ND	96.9	53-125			
Matrix Spike Dup (7E01083-MSD1)		**Source: B7D2469-01**			Prepared & Analyzed: 05/01/17						
Cyanide	0.0962	0.005	0.004	mg/L	0.101	ND	95.2	53-125	1.75	30	

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Nutrients - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26089 - Analyzed as received											
Blank (7D26089-BLK1)					Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	ND	0.10	0.048	mg/L							
LCS (7D26089-BS1)					Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	0.749	0.10	0.048	mg/L	0.780		96.1	90-110			
Matrix Spike (7D26089-MS1)		**Source: B7D2174-01**			Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	58.0	5.0	2.4	mg/L	39.0	18.7	101	80-120			
Matrix Spike Dup (7D26089-MSD1)		**Source: B7D2174-01**			Prepared & Analyzed: 04/26/17						
Ammonia-Nitrogen	57.7	5.0	2.4	mg/L	39.0	18.7	99.9	80-120	0.562	20	
Batch 7D28010 - Acid Digest											
Blank (7D28010-BLK1)					Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	ND	0.10	0.063	mg/L							
LCS (7D28010-BS1)					Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	0.902	0.10	0.063	mg/L	1.00		90.2	80-120			
Matrix Spike (7D28010-MS1)		**Source: B7D2072-01**			Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	1.84	0.10	0.063	mg/L	1.00	0.836	101	42-149			
Matrix Spike (7D28010-MS2)		**Source: B7D2084-01**			Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	8.82	0.40	0.25	mg/L	4.00	7.41	35.3	42-149			QFpas, QMout
Batch 7D28011 - Acid Digest											
Blank (7D28011-BLK1)					Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	0.0969	0.10	0.063	mg/L							J

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Nutrients - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D28011 - Acid Digest											
LCS (7D28011-BS1)					Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	1.10	0.10	0.063	mg/L	1.00		110	80-120			
Matrix Spike (7D28011-MS1)		**Source: B7D2165-01**			Prepared & Analyzed: 04/28/17						
Kjeldahl Nitrogen	175	8.0	5.0	mg/L	80.0	61.6	142	42-149			

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Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26142 - EPA 200.2 SOP M02C											
Blank (7D26142-BLK1)					Prepared & Analyzed: 04/27/17						
Mercury	ND	0.20	0.10	ug/L							
LCS (7D26142-BS1)					Prepared & Analyzed: 04/27/17						
Mercury	2.36	0.20	0.10	ug/L	2.78		85.0	85-115			
Matrix Spike (7D26142-MS1)		**Source: B7D2230-01**			Prepared & Analyzed: 04/27/17						
Mercury	2.28	0.20	0.10	ug/L	2.78	ND	82.1	75-125			
Matrix Spike Dup (7D26142-MSD1)		**Source: B7D2230-01**			Prepared & Analyzed: 04/27/17						
Mercury	2.34	0.20	0.10	ug/L	2.78	ND	83.9	75-125	2.21	20	
Batch 7D27074 - Filter if turbid.-IC											
Blank (7D27074-BLK1)					Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	ND	1.0	0.024	ug/L							
Blank (7D27074-BLK2)					Prepared & Analyzed: 04/28/17						
Hexavalent Chromium	ND	1.0	0.024	ug/L							
LCS (7D27074-BS1)					Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	5.05	1.0	0.024	ug/L	5.00		101	90-110			
Duplicate (7D27074-DUP1)		**Source: B7D2030-01**			Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	8.99	5.0	0.12	ug/L		18.2			67.6	20	QRPDI
Matrix Spike (7D27074-MS1)		**Source: B7D2028-02**			Prepared & Analyzed: 04/27/17						
Hexavalent Chromium	35.5	5.0	0.12	ug/L	25.0	10.4	100	82-121			

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Metals and Metalloids - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27074 - Filter if turbid.-IC											
Matrix Spike Dup (7D27074-MSD1)		**Source: B7D2028-02**		Prepared & Analyzed: 04/27/17							
Hexavalent Chromium	38.3	5.0	0.12	ug/L	25.0	10.4	112	82-121	7.69	20	

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Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26142 - EPA 200.2 SOP M02C											
Blank (7D26142-BLK1)				Prepared & Analyzed: 04/27/17							
Antimony	ND	6.0	3.0	ug/L							
Arsenic	ND	2.0	1.2	ug/L							
Beryllium	ND	1.0	0.57	ug/L							
Cadmium	ND	1.0	0.57	ug/L							
Total Chromium	ND	10	4.2	ug/L							
Copper	ND	10	5.0	ug/L							
Lead	ND	5.0	2.5	ug/L							
Nickel	ND	10	5.0	ug/L							
Selenium	ND	5.0	2.5	ug/L							
Silver	ND	10	5.0	ug/L							
Thallium	ND	1.0	0.50	ug/L							
Zinc	ND	10	5.0	ug/L							
LCS (7D26142-BS1)				Prepared & Analyzed: 04/27/17							
Antimony	327	6.0	3.0	ug/L	334		98.1	85-115			
Arsenic	352	2.0	1.2	ug/L	334		105	85-115			
Beryllium	319	1.0	0.57	ug/L	334		95.7	85-115			
Cadmium	321	1.0	0.57	ug/L	334		96.4	85-115			
Total Chromium	318	10	4.2	ug/L	334		95.4	85-115			
Copper	314	10	5.0	ug/L	334		94.0	85-115			
Lead	326	5.0	2.5	ug/L	334		97.8	85-115			
Nickel	319	10	5.0	ug/L	334		95.8	85-115			
Selenium	348	5.0	2.5	ug/L	334		104	85-115			
Silver	310	10	5.0	ug/L	334		92.9	85-115			
Thallium	328	1.0	0.50	ug/L	334		98.3	85-115			
Zinc	340	10	5.0	ug/L	334		102	85-115			
Matrix Spike (7D26142-MS1)		**Source: B7D2230-01**		Prepared & Analyzed: 04/27/17							
Antimony	354	6.0	3.0	ug/L	334	ND	106	75-125			
Arsenic	381	2.0	1.2	ug/L	334	6.13	113	75-125			
Beryllium	302	1.0	0.57	ug/L	334	ND	90.4	75-125			
Cadmium	328	1.0	0.57	ug/L	334	ND	98.2	75-125			
Total Chromium	343	10	4.2	ug/L	334	ND	103	75-125			
Copper	315	10	5.0	ug/L	334	5.02	92.8	75-125			
Lead	323	5.0	2.5	ug/L	334	ND	96.9	75-125			
Nickel	335	10	5.0	ug/L	334	ND	101	75-125			

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Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Metals and Metalloids; EPA SW846 Series - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26142 - EPA 200.2 SOP M02C											
Matrix Spike (7D26142-MS1)		**Source: B7D2230-01**		Prepared & Analyzed: 04/27/17							
Selenium	357	5.0	2.5	ug/L	334	2.65	106	75-125			
Silver	309	10	5.0	ug/L	334	ND	92.7	75-125			
Thallium	323	1.0	0.50	ug/L	334	ND	97.0	75-125			
Zinc	324	10	5.0	ug/L	334	ND	97.2	75-125			
Matrix Spike Dup (7D26142-MSD1)		**Source: B7D2230-01**		Prepared & Analyzed: 04/27/17							
Antimony	353	6.0	3.0	ug/L	334	ND	106	75-125	0.328	20	
Arsenic	396	2.0	1.2	ug/L	334	6.13	117	75-125	3.80	20	
Beryllium	301	1.0	0.57	ug/L	334	ND	90.3	75-125	0.147	20	
Cadmium	326	1.0	0.57	ug/L	334	ND	97.6	75-125	0.604	20	
Total Chromium	356	10	4.2	ug/L	334	ND	107	75-125	3.86	20	
Copper	328	10	5.0	ug/L	334	5.02	96.9	75-125	4.18	20	
Lead	329	5.0	2.5	ug/L	334	ND	98.7	75-125	1.83	20	
Nickel	345	10	5.0	ug/L	334	ND	104	75-125	2.98	20	
Selenium	372	5.0	2.5	ug/L	334	2.65	111	75-125	3.98	20	
Silver	309	10	5.0	ug/L	334	ND	92.8	75-125	0.0944	20	
Thallium	329	1.0	0.50	ug/L	334	ND	98.6	75-125	1.69	20	
Zinc	336	10	5.0	ug/L	334	ND	101	75-125	3.62	20	

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26081 - Purge and Trap											
Blank (7D26081-BLK1)				Prepared & Analyzed: 04/26/17							
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L							
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L							
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L							
1,1-Dichloroethane	ND	0.50	0.12	ug/L							
1,1-Dichloroethene	ND	0.50	0.12	ug/L							
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L							
1,2-Dichloroethane	ND	0.50	0.12	ug/L							
1,2-Dichloropropane	ND	0.50	0.13	ug/L							
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L							
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L							
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L							
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L							QCEVE
Acrolein	ND	2.0	1.1	ug/L							
Acrylonitrile	ND	2.0	0.59	ug/L							
Benzene	ND	0.50	0.067	ug/L							
Bromodichloromethane	ND	0.50	0.24	ug/L							
Bromoform	ND	0.50	0.34	ug/L							
Bromomethane	ND	0.50	0.15	ug/L							
Carbon Tetrachloride	ND	0.50	0.20	ug/L							
Chlorobenzene	ND	0.50	0.071	ug/L							
Chloroethane	ND	0.50	0.19	ug/L							
Chloroform	ND	0.50	0.44	ug/L							
Chloromethane	ND	0.50	0.097	ug/L							
Dibromochloromethane	ND	0.50	0.18	ug/L							
Ethylbenzene	ND	0.50	0.11	ug/L							
Methylene Chloride	ND	0.50	0.25	ug/L							
Tetrachloroethene	ND	0.50	0.12	ug/L							
Toluene	ND	0.50	0.093	ug/L							
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L							
Trichloroethene	ND	0.50	0.18	ug/L							
Vinyl Chloride	ND	0.50	0.081	ug/L							
Surrogate: 1,2-Dichloroethane-d4	*10*			ug/L	*10.0*		*103*	*80-120*			
Surrogate: Bromofluorobenzene	*11*			ug/L	*10.0*		*106*	*80-120*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26081 - Purge and Trap											
Blank (7D26081-BLK1)					Prepared & Analyzed: 04/26/17						
Surrogate: Toluene-d8	*9.5*			ug/L	*10.0*		*94.9*	*80-120*			
LCS (7D26081-BS1)					Prepared & Analyzed: 04/26/17						
1,1-Dichloroethane	24.1	0.50	0.12	ug/L	25.0		96.5	70-130			
1,1-Dichloroethene	22.5	0.50	0.12	ug/L	25.0		89.9	70-130			
1,4-Dichlorobenzene	22.8	0.50	0.098	ug/L	25.0		91.0	70-130			
Benzene	23.6	0.50	0.067	ug/L	25.0		94.2	70-135			
Bromodichloromethane	22.7	0.50	0.24	ug/L	25.0		90.7	70-130			
Bromoform	23.2	0.50	0.34	ug/L	25.0		92.7	70-130			
Chloroform	24.3	0.50	0.44	ug/L	25.0		97.2	70-130			
Dibromochloromethane	22.2	0.50	0.18	ug/L	25.0		88.7	70-131			
Ethylbenzene	23.8	0.50	0.11	ug/L	25.0		95.3	70-130			
Tetrachloroethene	23.4	0.50	0.12	ug/L	25.0		93.8	70-130			
Toluene	22.8	0.50	0.093	ug/L	25.0		91.3	70-130			
Trichloroethene	23.5	0.50	0.18	ug/L	25.0		93.8	70-130			
Vinyl Chloride	24.6	0.50	0.081	ug/L	25.0		98.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	*9.9*			ug/L	*10.0*		*99.2*	*80-120*			
Surrogate: Bromofluorobenzene	*9.8*			ug/L	*10.0*		*98.2*	*80-120*			
Surrogate: Toluene-d8	*9.9*			ug/L	*10.0*		*98.6*	*80-120*			
LCS Dup (7D26081-BSD1)					Prepared & Analyzed: 04/26/17						
1,1-Dichloroethane	23.6	0.50	0.12	ug/L	25.0		94.5	70-130	2.09	20	
1,1-Dichloroethene	21.4	0.50	0.12	ug/L	25.0		85.7	70-130	4.83	20	
1,4-Dichlorobenzene	22.6	0.50	0.098	ug/L	25.0		90.3	70-130	0.750	20	
Benzene	22.9	0.50	0.067	ug/L	25.0		91.5	70-135	2.89	20	
Bromodichloromethane	22.9	0.50	0.24	ug/L	25.0		91.6	70-130	1.01	20	
Bromoform	24.6	0.50	0.34	ug/L	25.0		98.3	70-130	5.87	20	
Chloroform	23.8	0.50	0.44	ug/L	25.0		95.0	70-130	2.25	20	
Dibromochloromethane	22.8	0.50	0.18	ug/L	25.0		91.4	70-131	2.93	20	
Ethylbenzene	23.4	0.50	0.11	ug/L	25.0		93.6	70-130	1.78	20	
Tetrachloroethene	22.8	0.50	0.12	ug/L	25.0		91.1	70-130	2.90	20	
Toluene	22.2	0.50	0.093	ug/L	25.0		88.8	70-130	2.75	20	
Trichloroethene	22.7	0.50	0.18	ug/L	25.0		90.8	70-130	3.34	20	
Vinyl Chloride	24.0	0.50	0.081	ug/L	25.0		95.8	70-130	2.72	20	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26081 - Purge and Trap											
LCS Dup (7D26081-BSD1)					Prepared & Analyzed: 04/26/17						
Surrogate: 1,2-Dichloroethane-d4	*9.7*			ug/L	*10.0*		*96.9*	*80-120*			
Surrogate: Bromofluorobenzene	*10*			ug/L	*10.0*		*99.7*	*80-120*			
Surrogate: Toluene-d8	*10*			ug/L	*10.0*		*99.6*	*80-120*			
Duplicate (7D26081-DUP1)		**Source: B7D2152-03**			Prepared: 04/26/17 Analyzed: 04/27/17						
1,1,1-Trichloroethane	ND	0.50	0.088	ug/L		ND				40	
1,1,2,2-Tetrachloroethane	ND	0.50	0.16	ug/L		ND				40	
1,1,2-Trichloroethane	ND	0.50	0.14	ug/L		ND				40	
1,1-Dichloroethane	ND	0.50	0.12	ug/L		ND				20	
1,1-Dichloroethene	ND	0.50	0.12	ug/L		ND				20	
1,2-Dichlorobenzene	ND	0.50	0.17	ug/L		ND				40	
1,2-Dichloroethane	ND	0.50	0.12	ug/L		ND				40	
1,2-Dichloropropane	ND	0.50	0.13	ug/L		ND				40	
1,3-Dichlorobenzene	ND	0.50	0.099	ug/L		ND				40	
1,3-Dichloropropene (total)	ND	0.50	0.072	ug/L		ND				200	
1,4-Dichlorobenzene	ND	0.50	0.098	ug/L		ND				20	
2-Chloroethylvinyl ether	ND	5.0	1.3	ug/L		ND				40	QCEVE
Acrolein	ND	2.0	1.1	ug/L		ND				40	
Acrylonitrile	ND	2.0	0.59	ug/L		ND				40	
Benzene	ND	0.50	0.067	ug/L		ND				20	
Bromodichloromethane	ND	0.50	0.24	ug/L		ND				20	
Bromoform	ND	0.50	0.34	ug/L		ND				20	
Bromomethane	ND	0.50	0.15	ug/L		ND				40	
Carbon Tetrachloride	ND	0.50	0.20	ug/L		ND				40	
Chlorobenzene	ND	0.50	0.071	ug/L		ND				40	
Chloroethane	ND	0.50	0.19	ug/L		ND				40	
Chloroform	ND	0.50	0.44	ug/L		ND				20	
Chloromethane	ND	0.50	0.097	ug/L		ND				40	
Dibromochloromethane	ND	0.50	0.18	ug/L		ND				20	
Ethylbenzene	ND	0.50	0.11	ug/L		ND				20	
Methylene Chloride	ND	0.50	0.25	ug/L		ND				40	
Tetrachloroethene	ND	0.50	0.12	ug/L		ND				20	
Toluene	0.310	0.50	0.093	ug/L		0.310			0.00	20	J
trans-1,2-Dichloroethene	ND	0.50	0.11	ug/L		ND				40	

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Volatile Organic Compounds by EPA 624 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26081 - Purge and Trap											
Duplicate (7D26081-DUP1)		**Source: B7D2152-03**			Prepared: 04/26/17 Analyzed: 04/27/17						
Trichloroethene	ND	0.50	0.18	ug/L		ND				20	
Vinyl Chloride	ND	0.50	0.081	ug/L		ND				20	
Surrogate: 1,2-Dichloroethane-d4	*10*			ug/L	*10.0*		*104*	*80-120*			
Surrogate: Bromofluorobenzene	*10*			ug/L	*10.0*		*103*	*80-120*			
Surrogate: Toluene-d8	*9.6*			ug/L	*10.0*		*95.5*	*80-120*			
Matrix Spike (7D26081-MS1)		**Source: B7D2152-01**			Prepared & Analyzed: 04/26/17						
1,1-Dichloroethane	22.4	0.50	0.12	ug/L	25.0	ND	89.4	66.1-134			
1,1-Dichloroethene	20.8	0.50	0.12	ug/L	25.0	ND	83.3	66.6-130			
1,4-Dichlorobenzene	21.2	0.50	0.098	ug/L	25.0	ND	84.7	70-130			
Benzene	21.6	0.50	0.067	ug/L	25.0	ND	86.6	70-135			
Bromodichloromethane	21.6	0.50	0.24	ug/L	25.0	ND	86.3	70-130			
Bromoform	22.7	0.50	0.34	ug/L	25.0	ND	90.7	66.5-130			
Chloroform	22.2	0.50	0.44	ug/L	25.0	ND	89.0	70-134			
Dibromochloromethane	21.4	0.50	0.18	ug/L	25.0	ND	85.5	70-136			
Ethylbenzene	22.3	0.50	0.11	ug/L	25.0	ND	89.2	70-134			
Tetrachloroethene	21.9	0.50	0.12	ug/L	25.0	ND	87.6	70-130			
Toluene	21.4	0.50	0.093	ug/L	25.0	0.150	85.2	70-130			
Trichloroethene	21.8	0.50	0.18	ug/L	25.0	ND	87.0	70-132			
Vinyl Chloride	23.6	0.50	0.081	ug/L	25.0	ND	94.2	70-137			
Surrogate: 1,2-Dichloroethane-d4	*9.6*			ug/L	*10.0*		*95.8*	*80-120*			
Surrogate: Bromofluorobenzene	*10*			ug/L	*10.0*		*101*	*80-120*			
Surrogate: Toluene-d8	*9.8*			ug/L	*10.0*		*98.5*	*80-120*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Blank (7D26102-BLK2)					Prepared: 04/26/17 Analyzed: 05/03/17						
1,2-Diphenylhydrazine	ND	1.0	1.0	ug/L							
1,2,4-Trichlorobenzene	ND	1.0	1.0	ug/L							
2-Chlorophenol	ND	2.0	1.8	ug/L							
2,4-Dichlorophenol	ND	1.0	1.0	ug/L							
2,4-Dimethylphenol	ND	1.0	1.0	ug/L							
2,4-Dinitrophenol	ND	5.0	1.6	ug/L							
2,4-Dinitrotoluene	ND	5.0	1.8	ug/L							
2,4,6-Trichlorophenol	ND	10	1.9	ug/L							
2,6-Dinitrotoluene	ND	5.0	1.9	ug/L							
2-Nitrophenol	2.08	10	2.1	ug/L							
2-Chloronaphthalene	ND	10	1.8	ug/L							
3,3'-Dichlorobenzidine	ND	5.0	2.1	ug/L							
4-Chloro-3-methylphenol	ND	1.0	1.0	ug/L							
2-Methyl-4,6-Dinitrophenol	ND	5.0	1.8	ug/L							
4-Nitrophenol	ND	5.0	1.1	ug/L							
4-Bromophenyl phenyl ether	ND	5.0	1.6	ug/L							
4-Chlorophenyl phenyl ether	ND	5.0	1.8	ug/L							
Benzidine	ND	5.0	5.0	ug/L							
Bis(2-chloroethoxy)methane	ND	5.0	1.8	ug/L							
Bis(2-Chloroethyl)ether	ND	1.0	1.0	ug/L							
Bis(2-chloroisopropyl)Ether	ND	2.0	1.9	ug/L							
Bis(2-ethylhexyl)phthalate	ND	5.0	2.3	ug/L							
Butyl benzyl phthalate	ND	10	1.6	ug/L							
Di-n-butylphthalate	ND	10	1.9	ug/L							
Di-n-octylphthalate	ND	10	2.6	ug/L							
Diethyl phthalate	ND	2.0	1.8	ug/L							
Dimethyl phthalate	ND	2.0	1.7	ug/L							
Hexachlorocyclopentadiene	ND	5.0	1.7	ug/L							
Hexachlorobenzene	ND	1.0	1.0	ug/L							
Hexachlorobutadiene	ND	1.0	1.0	ug/L							
Hexachloroethane	ND	1.0	1.0	ug/L							
Isophorone	ND	1.0	1.0	ug/L							
N-Nitrosodiphenylamine	ND	1.0	1.0	ug/L							
N-Nitrosodimethylamine	ND	5.0	1.4	ug/L							
n-Nitrosodi-n-propylamine	ND	5.0	1.7	ug/L							

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Blank (7D26102-BLK2)					Prepared: 04/26/17 Analyzed: 05/03/17						
Nitrobenzene	ND	1.0	1.0	ug/L							
Pentachlorophenol	ND	1.0	1.0	ug/L							
Phenol	ND	1.0	1.0	ug/L							
Surrogate: 2,4,6-Tribromophenol	*21*			ug/L	*37.5*		*56.1*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*14*			ug/L	*25.0*		*54.5*	*30-110*			
Surrogate: 2-Fluorophenol	*17*			ug/L	*37.5*		*45.0*	*10-63*			
Surrogate: 4-Terphenyl-d14	*18*			ug/L	*25.0*		*72.5*	*34-125*			
Surrogate: Nitrobenzene-d5	*14*			ug/L	*25.0*		*54.6*	*24-112*			
Surrogate: Phenol-d6	*9.7*			ug/L	*37.5*		*25.8*	*10-47*			
LCS (7D26102-BS1)					Prepared: 04/26/17 Analyzed: 05/03/17						
1,2,4-Trichlorobenzene	29.1	2.0	2.0	ug/L	50.0		58.3	44-142			
2-Chlorophenol	53.2	4.0	3.6	ug/L	75.0		71.0	23-134			
2,4-Dichlorophenol	52.6	2.0	2.0	ug/L	75.0		70.1	39-135			
2,4-Dimethylphenol	48.0	2.0	2.0	ug/L	75.0		64.0	32-119			
2,4-Dinitrotoluene	26.3	10	3.7	ug/L	50.0		52.6	39-139			
4-Chloro-3-methylphenol	50.7	2.0	2.0	ug/L	75.0		67.6	22-147			
4-Nitrophenol	19.6	10	2.3	ug/L	75.0		26.1	5-132			
Butyl benzyl phthalate	35.7	20	3.3	ug/L	50.0		71.4	5-152			
Isophorone	34.4	2.0	2.0	ug/L	50.0		68.8	21-196			
n-Nitrosodi-n-propylamine	31.7	10	3.4	ug/L	50.0		63.4	10-230			
Pentachlorophenol	39.2	2.0	2.0	ug/L	75.0		52.3	14-176			
Phenol	23.8	2.0	2.0	ug/L	75.0		31.7	5-112			
Surrogate: 2,4,6-Tribromophenol	*52*			ug/L	*75.0*		*68.8*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*35*			ug/L	*50.0*		*69.2*	*30-110*			
Surrogate: 2-Fluorophenol	*37*			ug/L	*75.0*		*49.9*	*10-63*			
Surrogate: 4-Terphenyl-d14	*40*			ug/L	*50.0*		*80.8*	*34-125*			
Surrogate: Nitrobenzene-d5	*33*			ug/L	*50.0*		*65.7*	*24-112*			
Surrogate: Phenol-d6	*23*			ug/L	*75.0*		*30.2*	*10-47*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
LCS (7D26102-BS2)					Prepared: 04/27/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	32.4	2.0	2.0	ug/L	50.0		64.8	44-142			
2-Chlorophenol	56.9	4.0	3.6	ug/L	75.0		75.9	23-134			
2,4-Dichlorophenol	54.5	2.0	2.0	ug/L	75.0		72.6	39-135			
2,4-Dimethylphenol	58.5	2.0	2.0	ug/L	75.0		78.1	32-119			
2,4-Dinitrotoluene	26.8	10	3.7	ug/L	50.0		53.6	39-139			
4-Chloro-3-methylphenol	54.5	2.0	2.0	ug/L	75.0		72.6	22-147			
4-Nitrophenol	21.6	10	2.3	ug/L	75.0		28.9	5-132			
Butyl benzyl phthalate	36.3	20	3.3	ug/L	50.0		72.6	5-152			
Isophorone	35.5	2.0	2.0	ug/L	50.0		71.1	21-196			
n-Nitrosodi-n-propylamine	33.0	10	3.4	ug/L	50.0		65.9	10-230			
Pentachlorophenol	41.0	2.0	2.0	ug/L	75.0		54.7	14-176			
Phenol	26.1	2.0	2.0	ug/L	75.0		34.8	5-112			
Surrogate: 2,4,6-Tribromophenol	*53*			ug/L	*75.0*		*70.2*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*37*			ug/L	*50.0*		*73.0*	*30-110*			
Surrogate: 2-Fluorophenol	*39*			ug/L	*75.0*		*52.5*	*10-63*			
Surrogate: 4-Terphenyl-d14	*42*			ug/L	*50.0*		*84.8*	*34-125*			
Surrogate: Nitrobenzene-d5	*34*			ug/L	*50.0*		*67.5*	*24-112*			
Surrogate: Phenol-d6	*25*			ug/L	*75.0*		*33.2*	*10-47*			
LCS Dup (7D26102-BSD1)					Prepared: 04/26/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	28.8	2.0	2.0	ug/L	50.0		57.6	44-142	1.10	40	
2-Chlorophenol	49.6	4.0	3.6	ug/L	75.0		66.2	23-134	6.98	40	
2,4-Dichlorophenol	47.7	2.0	2.0	ug/L	75.0		63.6	39-135	9.83	40	
2,4-Dimethylphenol	45.2	2.0	2.0	ug/L	75.0		60.3	32-119	5.98	40	
2,4-Dinitrotoluene	25.3	10	3.7	ug/L	50.0		50.6	39-139	3.91	40	
4-Chloro-3-methylphenol	48.1	2.0	2.0	ug/L	75.0		64.1	22-147	5.26	40	
4-Nitrophenol	18.1	10	2.3	ug/L	75.0		24.1	5-132	7.86	40	
Butyl benzyl phthalate	34.1	20	3.3	ug/L	50.0		68.2	5-152	4.53	40	
Isophorone	33.2	2.0	2.0	ug/L	50.0		66.4	21-196	3.55	40	
n-Nitrosodi-n-propylamine	30.7	10	3.4	ug/L	50.0		61.3	10-230	3.34	40	
Pentachlorophenol	38.9	2.0	2.0	ug/L	75.0		51.8	14-176	0.871	40	
Phenol	22.9	2.0	2.0	ug/L	75.0		30.5	5-112	3.81	40	
Surrogate: 2,4,6-Tribromophenol	*49*			ug/L	*75.0*		*65.9*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*33*			ug/L	*50.0*		*65.5*	*30-110*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
LCS Dup (7D26102-BSD1)					Prepared: 04/26/17 Analyzed: 05/04/17						
Surrogate: 2-Fluorophenol	*35*			ug/L	*75.0*		*46.2*	*10-63*			
Surrogate: 4-Terphenyl-d14	*38*			ug/L	*50.0*		*75.9*	*34-125*			
Surrogate: Nitrobenzene-d5	*31*			ug/L	*50.0*		*62.1*	*24-112*			
Surrogate: Phenol-d6	*22*			ug/L	*75.0*		*28.7*	*10-47*			
LCS Dup (7D26102-BSD2)					Prepared: 04/27/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	33.1	2.0	2.0	ug/L	50.0		66.3	44-142	2.23	40	
2-Chlorophenol	58.5	4.0	3.6	ug/L	75.0		78.0	23-134	2.74	40	
2,4-Dichlorophenol	55.6	2.0	2.0	ug/L	75.0		74.1	39-135	2.04	40	
2,4-Dimethylphenol	60.9	2.0	2.0	ug/L	75.0		81.2	32-119	3.92	40	
2,4-Dinitrotoluene	28.2	10	3.7	ug/L	50.0		56.3	39-139	5.02	40	
4-Chloro-3-methylphenol	55.5	2.0	2.0	ug/L	75.0		74.0	22-147	1.82	40	
4-Nitrophenol	21.1	10	2.3	ug/L	75.0		28.1	5-132	2.67	40	
Butyl benzyl phthalate	37.9	20	3.3	ug/L	50.0		75.8	5-152	4.31	40	
Isophorone	36.4	2.0	2.0	ug/L	50.0		72.8	21-196	2.39	40	
n-Nitrosodi-n-propylamine	34.7	10	3.4	ug/L	50.0		69.4	10-230	5.17	40	
Pentachlorophenol	41.5	2.0	2.0	ug/L	75.0		55.3	14-176	1.09	40	
Phenol	26.5	2.0	2.0	ug/L	75.0		35.4	5-112	1.56	40	
Surrogate: 2,4,6-Tribromophenol	*56*			ug/L	*75.0*		*74.8*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*38*			ug/L	*50.0*		*76.2*	*30-110*			
Surrogate: 2-Fluorophenol	*39*			ug/L	*75.0*		*51.7*	*10-63*			
Surrogate: 4-Terphenyl-d14	*43*			ug/L	*50.0*		*86.0*	*34-125*			
Surrogate: Nitrobenzene-d5	*33*			ug/L	*50.0*		*66.8*	*24-112*			
Surrogate: Phenol-d6	*25*			ug/L	*75.0*		*33.1*	*10-47*			
Matrix Spike (7D26102-MS1)		**Source: B7D2022-01**			Prepared: 04/26/17 Analyzed: 05/04/17						
1,2,4-Trichlorobenzene	25.6	2.0	2.0	ug/L	50.0	ND	51.1	44-142			
2-Chlorophenol	39.1	4.0	3.6	ug/L	75.0	ND	52.2	23-134			
2,4-Dichlorophenol	40.5	2.0	2.0	ug/L	75.0	ND	54.1	39-135			
2,4-Dimethylphenol	36.4	2.0	2.0	ug/L	75.0	ND	48.5	32-119			
2,4-Dinitrotoluene	24.2	10	3.7	ug/L	50.0	ND	48.3	39-139			
4-Chloro-3-methylphenol	41.7	2.0	2.0	ug/L	75.0	ND	55.6	22-147			
4-Nitrophenol	11.4	10	2.3	ug/L	75.0	ND	15.2	5-132			
Butyl benzyl phthalate	32.0	20	3.3	ug/L	50.0	ND	64.0	5-152			
Isophorone	29.9	2.0	2.0	ug/L	50.0	ND	59.7	21-196			
n-Nitrosodi-n-propylamine	27.6	10	3.4	ug/L	50.0	ND	55.2	5-230			

Client Name: Victor Valley Reclamation Authority
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Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Matrix Spike (7D26102-MS1)		**Source: B7D2022-01**			Prepared: 04/26/17		Analyzed: 05/04/17				
Pentachlorophenol	27.8	2.0	2.0	ug/L	75.0	ND	37.1	14-176			
Phenol	17.3	2.0	2.0	ug/L	75.0	ND	23.0	5-112			
Surrogate: 2,4,6-Tribromophenol	*40*			ug/L	*75.0*		*53.8*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*31*			ug/L	*50.0*		*62.4*	*30-110*			
Surrogate: 2-Fluorophenol	*25*			ug/L	*75.0*		*33.3*	*10-63*			
Surrogate: 4-Terphenyl-d14	*33*			ug/L	*50.0*		*66.8*	*34-125*			
Surrogate: Nitrobenzene-d5	*29*			ug/L	*50.0*		*57.1*	*24-112*			
Surrogate: Phenol-d6	*16*			ug/L	*75.0*		*21.8*	*10-47*			
Matrix Spike (7D26102-MS2)		**Source: B7D2022-02**			Prepared: 04/27/17		Analyzed: 05/04/17				
1,2,4-Trichlorobenzene	15.8	1.0	1.0	ug/L	23.6	ND	67.1	44-142			
2-Chlorophenol	19.8	2.0	1.8	ug/L	35.4	ND	55.9	23-134			
2,4-Dichlorophenol	19.9	1.0	1.0	ug/L	35.4	ND	56.4	39-135			
2,4-Dimethylphenol	27.0	1.0	1.0	ug/L	35.4	ND	76.4	32-119			
2,4-Dinitrotoluene	13.4	5.0	1.8	ug/L	23.6	ND	56.7	39-139			
4-Chloro-3-methylphenol	23.4	1.0	1.0	ug/L	35.4	ND	66.1	22-147			
4-Nitrophenol	6.47	5.0	1.1	ug/L	35.4	ND	18.3	5-132			
Butyl benzyl phthalate	17.7	10	1.6	ug/L	23.6	ND	75.0	5-152			
Isophorone	16.9	1.0	1.0	ug/L	23.6	ND	71.6	21-196			
n-Nitrosodi-n-propylamine	15.6	5.0	1.7	ug/L	23.6	ND	66.3	5-230			
Pentachlorophenol	15.0	1.0	1.0	ug/L	35.4	ND	42.5	14-176			
Phenol	8.43	1.0	1.0	ug/L	35.4	ND	23.8	5-112			
Surrogate: 2,4,6-Tribromophenol	*18*			ug/L	*35.4*		*52.1*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*18*			ug/L	*23.6*		*75.0*	*30-110*			
Surrogate: 2-Fluorophenol	*12*			ug/L	*35.4*		*34.0*	*10-63*			
Surrogate: 4-Terphenyl-d14	*19*			ug/L	*23.6*		*82.2*	*34-125*			
Surrogate: Nitrobenzene-d5	*16*			ug/L	*23.6*		*69.1*	*24-112*			
Surrogate: Phenol-d6	*8.0*			ug/L	*35.4*		*22.7*	*10-47*			

Client Name: Victor Valley Reclamation Authority
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Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C											
Matrix Spike Dup (7D26102-MSD1)		**Source: B7D2022-01**			Prepared: 04/26/17		Analyzed: 05/04/17				
1,2,4-Trichlorobenzene	29.7	2.0	2.0	ug/L	50.0	ND	59.3	44-142	14.8	40	
2-Chlorophenol	49.3	4.0	3.6	ug/L	75.0	ND	65.7	23-134	23.0	40	
2,4-Dichlorophenol	50.2	2.0	2.0	ug/L	75.0	ND	66.9	39-135	21.3	40	
2,4-Dimethylphenol	51.6	2.0	2.0	ug/L	75.0	ND	68.8	32-119	34.7	40	
2,4-Dinitrotoluene	26.4	10	3.7	ug/L	50.0	ND	52.9	39-139	8.97	40	
4-Chloro-3-methylphenol	48.8	2.0	2.0	ug/L	75.0	ND	65.1	22-147	15.8	40	
4-Nitrophenol	18.4	10	2.3	ug/L	75.0	ND	24.5	5-132	47.0	40	QRPDa
Butyl benzyl phthalate	35.5	20	3.3	ug/L	50.0	ND	71.1	5-152	10.4	40	
Isophorone	33.7	2.0	2.0	ug/L	50.0	ND	67.5	21-196	12.2	40	
n-Nitrosodi-n-propylamine	31.3	10	3.4	ug/L	50.0	ND	62.6	5-230	12.6	40	
Pentachlorophenol	42.2	2.0	2.0	ug/L	75.0	ND	56.2	14-176	40.9	40	QRPDa
Phenol	21.0	2.0	2.0	ug/L	75.0	ND	28.0	5-112	19.6	40	
Surrogate: 2,4,6-Tribromophenol	*52*			ug/L	*75.0*		*69.4*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*35*			ug/L	*50.0*		*69.1*	*30-110*			
Surrogate: 2-Fluorophenol	*33*			ug/L	*75.0*		*44.3*	*10-63*			
Surrogate: 4-Terphenyl-d14	*38*			ug/L	*50.0*		*75.2*	*34-125*			
Surrogate: Nitrobenzene-d5	*32*			ug/L	*50.0*		*64.5*	*24-112*			
Surrogate: Phenol-d6	*20*			ug/L	*75.0*		*26.3*	*10-47*			
Matrix Spike Dup (7D26102-MSD2)		**Source: B7D2022-02**			Prepared: 04/27/17		Analyzed: 05/04/17				
1,2,4-Trichlorobenzene	14.7	1.0	1.0	ug/L	23.6	ND	62.2	44-142	7.70	40	
2-Chlorophenol	23.6	2.0	1.8	ug/L	35.4	ND	66.7	23-134	17.6	40	
2,4-Dichlorophenol	24.8	1.0	1.0	ug/L	35.4	ND	70.1	39-135	21.6	40	
2,4-Dimethylphenol	18.1	1.0	1.0	ug/L	35.4	ND	51.2	32-119	39.4	40	
2,4-Dinitrotoluene	13.6	5.0	1.8	ug/L	23.6	ND	57.5	39-139	1.30	40	
4-Chloro-3-methylphenol	23.6	1.0	1.0	ug/L	35.4	ND	66.8	22-147	1.00	40	
4-Nitrophenol	11.1	5.0	1.1	ug/L	35.4	ND	31.3	5-132	52.6	40	QRPDa
Butyl benzyl phthalate	17.4	10	1.6	ug/L	23.6	ND	74.0	5-152	1.37	40	
Isophorone	15.9	1.0	1.0	ug/L	23.6	ND	67.5	21-196	5.87	40	
n-Nitrosodi-n-propylamine	14.6	5.0	1.7	ug/L	23.6	ND	62.0	5-230	6.67	40	
Pentachlorophenol	22.7	1.0	1.0	ug/L	35.4	ND	64.3	14-176	40.7	40	QRPDa
Phenol	9.95	1.0	1.0	ug/L	35.4	ND	28.1	5-112	16.5	40	
Surrogate: 2,4,6-Tribromophenol	*26*			ug/L	*35.4*		*73.2*	*27-122*			
Surrogate: 2-Fluorobiphenyl	*17*			ug/L	*23.6*		*70.9*	*30-110*			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D26102 - EPA 3510C										
Matrix Spike Dup (7D26102-MSD2)		**Source: B7D2022-02**		Prepared: 04/27/17 Analyzed: 05/04/17						
Surrogate: 2-Fluorophenol	*15*		ug/L	*35.4*		*42.7*	*10-63*			
Surrogate: 4-Terphenyl-d14	*17*		ug/L	*23.6*		*74.1*	*34-125*			
Surrogate: Nitrobenzene-d5	*15*		ug/L	*23.6*		*62.8*	*24-112*			
Surrogate: Phenol-d6	*9.3*		ug/L	*35.4*		*26.4*	*10-47*			

Client Name: Victor Valley Reclamation Authority
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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 SIM - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27079 - EPA 3510C											
Blank (7D27079-BLK1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	ND	0.05	0.05	ug/L							
Benzo(b)fluoranthene	ND	0.05	0.05	ug/L							
Acenaphthene	ND	0.05	0.05	ug/L							
Acenaphthylene	ND	0.05	0.05	ug/L							
Anthracene	ND	0.05	0.05	ug/L							
Benzo(a)pyrene	ND	0.05	0.05	ug/L							
Benzo(ghi)perylene	ND	0.05	0.05	ug/L							
Benzo(k)fluoranthene	ND	0.05	0.05	ug/L							
Chrysene	ND	0.05	0.05	ug/L							
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L							
Fluoranthene	ND	0.05	0.05	ug/L							
Fluorene	ND	0.05	0.05	ug/L							
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L							
Naphthalene	ND	0.05	0.05	ug/L							
Phenanthrene	ND	0.05	0.05	ug/L							
Pyrene	ND	0.05	0.05	ug/L							
Surrogate: Anthracene-d10	*0.039*			ug/L	*0.0500*		*77.0*	*24-110*			
LCS (7D27079-BS1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	0.369	0.05	0.05	ug/L	0.500		73.7	46-103			
Benzo(b)fluoranthene	0.361	0.05	0.05	ug/L	0.500		72.1	49-110			
Acenaphthene	0.294	0.05	0.05	ug/L	0.500		58.9	42-91			
Acenaphthylene	0.300	0.05	0.05	ug/L	0.500		59.9	36-96			
Anthracene	0.335	0.05	0.05	ug/L	0.500		67.0	29-110			
Benzo(a)pyrene	0.344	0.05	0.05	ug/L	0.500		68.8	43-116			
Benzo(ghi)perylene	0.337	0.05	0.05	ug/L	0.500		67.4	37-128			
Benzo(k)fluoranthene	0.353	0.05	0.05	ug/L	0.500		70.6	38-127			
Chrysene	0.341	0.05	0.05	ug/L	0.500		68.1	45-107			
Dibenzo(a,h)anthracene	0.366	0.05	0.05	ug/L	0.500		73.2	43-129			
Fluoranthene	0.355	0.05	0.05	ug/L	0.500		71.0	38-113			
Fluorene	0.328	0.05	0.05	ug/L	0.500		65.6	42-99			
Indeno(1,2,3-cd)pyrene	0.341	0.05	0.05	ug/L	0.500		68.3	35-145			
Naphthalene	0.270	0.05	0.05	ug/L	0.500		54.1	36-90			
Phenanthrene	0.325	0.05	0.05	ug/L	0.500		65.1	33-104			
Pyrene	0.351	0.05	0.05	ug/L	0.500		70.3	42-113			

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Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 SIM - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27079 - EPA 3510C											
LCS (7D27079-BS1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Surrogate: Anthracene-d10	*0.044*			ug/L	*0.0500*		*87.0*	*24-110*			
LCS Dup (7D27079-BSD1)					Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	0.361	0.05	0.05	ug/L	0.500		72.2	46-103	2.13	40	
Benzo(b)fluoranthene	0.356	0.05	0.05	ug/L	0.500		71.1	49-110	1.40	40	
Acenaphthene	0.308	0.05	0.05	ug/L	0.500		61.7	42-91	4.64	40	
Acenaphthylene	0.313	0.05	0.05	ug/L	0.500		62.7	36-96	4.45	40	
Anthracene	0.333	0.05	0.05	ug/L	0.500		66.6	29-110	0.663	40	
Benzo(a)pyrene	0.319	0.05	0.05	ug/L	0.500		63.8	43-116	7.54	40	
Benzo(ghi)perylene	0.327	0.05	0.05	ug/L	0.500		65.3	37-128	3.22	40	
Benzo(k)fluoranthene	0.343	0.05	0.05	ug/L	0.500		68.6	38-127	2.89	40	
Chrysene	0.335	0.05	0.05	ug/L	0.500		67.1	45-107	1.55	40	
Dibenzo(a,h)anthracene	0.349	0.05	0.05	ug/L	0.500		69.8	43-129	4.79	40	
Fluoranthene	0.355	0.05	0.05	ug/L	0.500		71.0	38-113	0.0141	40	
Fluorene	0.342	0.05	0.05	ug/L	0.500		68.3	42-99	4.12	40	
Indeno(1,2,3-cd)pyrene	0.332	0.05	0.05	ug/L	0.500		66.4	35-145	2.75	40	
Naphthalene	0.290	0.05	0.05	ug/L	0.500		57.9	36-90	6.87	40	
Phenanthrene	0.329	0.05	0.05	ug/L	0.500		65.7	33-104	0.991	40	
Pyrene	0.371	0.05	0.05	ug/L	0.500		74.3	42-113	5.58	40	
Surrogate: Anthracene-d10	*0.045*			ug/L	*0.0500*		*89.1*	*24-110*			
Matrix Spike (7D27079-MS1)		**Source: B7D2316-01**			Prepared: 04/27/17 Analyzed: 05/01/17						
Benzo(a)anthracene	0.0999	0.05	0.05	ug/L	0.476	ND	21.0	10-108			
Benzo(b)fluoranthene	0.0629	0.05	0.05	ug/L	0.476	ND	13.2	10-103			
Acenaphthene	0.267	0.05	0.05	ug/L	0.476	ND	56.1	12-106			
Acenaphthylene	0.297	0.05	0.05	ug/L	0.476	ND	62.5	14-98			
Anthracene	0.226	0.05	0.05	ug/L	0.476	ND	47.5	10-108			
Benzo(a)pyrene	0.0645	0.05	0.05	ug/L	0.476	ND	13.5	10-100			
Benzo(ghi)perylene	ND	0.05	0.05	ug/L	0.476	ND	NR	10-70			QMint
Benzo(k)fluoranthene	0.0611	0.05	0.05	ug/L	0.476	ND	12.8	10-114			
Chrysene	0.0890	0.05	0.05	ug/L	0.476	ND	18.7	10-100			
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	0.476	ND	NR	10-75			QMint
Fluoranthene	0.168	0.05	0.05	ug/L	0.476	ND	35.3	10-111			
Fluorene	0.279	0.05	0.05	ug/L	0.476	ND	58.6	12-107			
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	0.476	ND	NR	10-96			QMint
Naphthalene	0.284	0.05	0.05	ug/L	0.476	ND	59.6	12-103			

Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Report Date: 09-May-2017

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Semivolatile Organic Compounds by EPA 625 SIM - Batch Quality Control

Analyte(s)	Result	RDL		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 7D27079 - EPA 3510C											
Matrix Spike (7D27079-MS1)		**Source: B7D2316-01**			Prepared: 04/27/17		Analyzed: 05/01/17				
Phenanthrene	0.226	0.05	0.05	ug/L	0.476	ND	47.4	12-108			
Pyrene	0.168	0.05	0.05	ug/L	0.476	ND	35.2	10-107			
Surrogate: Anthracene-d10	*0.031*			ug/L	*0.0476*		*64.1*	*24-110*			
Matrix Spike Dup (7D27079-MSD1)		**Source: B7D2316-01**			Prepared: 04/27/17		Analyzed: 05/01/17				
Benzo(a)anthracene	0.0911	0.05	0.05	ug/L	0.472	ND	19.3	10-108	9.24	40	
Benzo(b)fluoranthene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-103		40	Qraw
Acenaphthene	0.251	0.05	0.05	ug/L	0.472	ND	53.3	12-106	6.08	40	
Acenaphthylene	0.276	0.05	0.05	ug/L	0.472	ND	58.4	14-98	7.66	40	
Anthracene	0.238	0.05	0.05	ug/L	0.472	ND	50.5	10-108	5.16	40	
Benzo(a)pyrene	0.0515	0.05	0.05	ug/L	0.472	ND	10.9	10-100	22.3	40	
Benzo(ghi)perylene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-70		40	QMint
Benzo(k)fluoranthene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-114		40	QMSD
Chrysene	0.0815	0.05	0.05	ug/L	0.472	ND	17.3	10-100	8.79	40	
Dibenzo(a,h)anthracene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-75		40	QMint
Fluoranthene	0.175	0.05	0.05	ug/L	0.472	ND	37.1	10-111	4.10	40	
Fluorene	0.264	0.05	0.05	ug/L	0.472	ND	56.0	12-107	5.54	40	
Indeno(1,2,3-cd)pyrene	ND	0.05	0.05	ug/L	0.472	ND	NR	10-96		40	QMint
Naphthalene	0.253	0.05	0.05	ug/L	0.472	ND	53.7	12-103	11.4	40	
Phenanthrene	0.233	0.05	0.05	ug/L	0.472	ND	49.3	12-108	3.00	40	
Pyrene	0.170	0.05	0.05	ug/L	0.472	ND	36.0	10-107	1.17	40	
Surrogate: Anthracene-d10	*0.031*			ug/L	*0.0472*		*66.3*	*24-110*			

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Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Notes and Definitions

Cr+6:	Regulatory 15 minute holding time for sample filtration and preservation exceeded	B7D2152-01
Cr+6:	Regulatory 15 minute holding time for sample filtration and preservation exceeded	B7D2152-03
Cr+6:	Regulatory 15 minute holding time for sample filtration and preservation exceeded	B7D2152-02

J	Estimated value
NCALhNl	Calibration Verification recovery was above the method control limit for this analyte. Analyte not detected, therefore data not impacted.
NCEVE	In an acidified sample, this compound degrades and is not detectable as 2-Chloroethylvinyl ether. Its degradation product is 2-Chloroethanol, which is not an analyte of this method.
Nconf	Result(s) confirmed by re-analysis.
QCEVE	In an acidified sample, this compound degrades and is not detectable as 2-Chloroethylvinyl ether. Its degradation product is 2-Chloroethanol, which is not an analyte of this method.
QFpas	Follow-up result within laboratory acceptance criteria.
QMint	Due to matrix interference, the MS and/or MSD did not meet laboratory acceptance criteria.
QMout	MS and/or MSD recovery did not meet laboratory acceptance criteria.
QMSD	The MS recovery and MS/MSD RPD met laboratory acceptance criteria. MSD recovery was not within range. MSD performed to assess precision data only.
Qraw	Based on raw data excluding numerical rounding, QC recovery was within laboratory acceptance criteria.
QRPDa	Both percent recoveries were acceptable, however, the RPD result was above laboratory acceptance criteria.
QRPDl	Analyte concentration was below range for valid RPD determination.
ND:	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reportable Detection Limit (RDL)
NR:	Not Reported
RDL:	Reportable Detection Limit
MDL:	Method Detection Limit

* / (Non-NELAP): NELAP does not offer accreditation for this analyte/method/matrix combination

BABCOCK Laboratories, Inc.
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Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted.

Cindy A. Waddell

cc:

e-Standard_No Alias.rpt

mailing
P.O Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

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CA ELAP No. 2698
EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119

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Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

CONTRACT LABORATORYCHAIN OF CUSTODY AND ANALYSIS REQUESTRECORD

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Plant Address: 20111 Shay Road · Victorville, CA92394 · TEL: (760) 246-8638 FAX: (760) 246-5440

Website: www.vvwra.com E-mail: edavis@vvwra.com

Project Name: Apple Valley Groundwater Monitoring Wells
Project Contact: Eugene Davis (760) 246-8638 ext. 287
Sampler Name: Ben Stevens
Sampler Signature:

VVWRAID #	Sample Location/Description	Sample Date	Sample Time	Sample Type: Grab	Sample Type: Composite	Sample Matrix (WW, DW, GW, SG)	Laboratory Analyses Requested: Ammonia-N	TKN	MBAS	Nitrate - N	Chloride & Sulfate	T. Dissolved Solids	Cyanide	ewCr-6 (218.6)	Metals	EPA 624-ML	EPA 625-ML	EPA 625 -SIM-ML	Total # of Containers	Sample Preservation Methods: Refrigeration	H_2SO_4 pH<2	HNO_3 pH<2	NaOH	HCL	Buffer(Na2CO3/Na 2HCO3/ (NH4)2SO4)	TAT / Container Type
	AV1-210 ←220 on Bottle Labels	4/25/17	0857	X		GW	X	X											1		1					Pint poly.
	AV1-210 (AB 4/25/17		0857	X		GW			X	X	X	X							1	1						Quart poly.
	AV1-210		0857	X		GW							X						1				1			Pint poly.
	AV1-210		0857	X		GW								X					1						1	125 mL poly.
	AV1-210		0857	X		GW									X				1			1				Pint poly.
	AV1-210		0857	X		GW										X			4				2			40mL glass amber vial
	AV1-210		0857	X		GW											X		3	3						1-Liter glass amber
	AV1-210		0857	X		GW												X								1-Liter glass amber

TAT: ____ 24 hr ____ 48 hr ____ 72 hr _X_ Standard

Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Ben Stevens	4/25/17 1340	Print: Heather Nancy	Print: Heather Nancy	4/25/17 1450	Print:
Company: BTI		Company: DS	Company: DS		Company:
Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print:		Print:	Print:		Print:
Company:		Company:	Company:		Company:

Sample Condition Upon Receipt by Laboratory:
Samples Received on Ice? (Yes) No Temperature °C 10
Samples Received Intact? (Yes) No

Laboratory Notes
*Metals to include: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn

Samples sent via courier to: Babcock Laboratories, Inc.
Lab # B7D2152 AB

Please Fax a copy of the completed Chain of Custody document to: Eugene Davis, VVWRA at (760) 954-5006 01-55-520-7170

APR 25 2017

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Riverside, CA 92502-0432

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Riverside, CA 92507-0704

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www.babcocklabs.com

CA ELAP No. 2698
EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119

BABCOCK Laboratories, Inc.
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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

CONTRACT LABORATORYCHAIN OF CUSTODY AND ANALYSIS REQUESTRECORD

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Plant Address: 20111 Shay Road · Victorville, CA92394 · TEL: (760) 246-8638 FAX: (760) 246-5440

Website: www.vvwra.com E-mail: edavis@vvwra.com

Project Name: Apple Valley Groundwater Monitoring Wells
Project Contact: Eugene Davis (760) 246-8638 ext. 287
Sampler Name: Ben Stevens
Sampler Signature:

VVWRAID #	Sample Location/Description	Sample Date	Sample Time	Sample Type: Grab	Sample Type: Composite	Sample Matrix (WW, DW, GW, SG)	Laboratory Analyses Requested: Ammonia-N	TKN	MBAS	Nitrate - N	Chloride & Sulfate	T. Dissolved Solids	Cyanide	ewCr-6 (218.6)	Metals	EPA 624-ML	EPA 625-ML	EPA 625 -SIM-ML	Total # of Containers	Sample Preservation Methods: Refrigeration	H_2SO_4 pH<2	HNO_3 pH<2	NaOH	HCL	Buffer(Na2CO3/NaHCO3/(NH4)2SO4)	TAT: 24 hr / 48 hr / 72 hr / X Standard — Container Type
	AV-DUP	4.25.17	0900	X		GW	X	X											1		1					Pint poly.
	AV-DUP		0900	X		GW			X	X	X	X							1	1						Quart poly.
	AV-DUP		0900	X		GW							X						1				1			Pint poly.
	AV-DUP		0900	X		GW								X					1						1	125 mL poly.
	AV-DUP		0900	X		GW									X				1			1				Pint poly.
	AV-DUP		0900	X		GW										X			4				2			40mL glass amber vial
	AV-DUP		0900	X		GW											X		3	3						1-Liter glass amber
	AV-DUP	✓	0900	X		GW												X	3	3						1-Liter glass amber

Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Ben Stevens Company: BTI	4-25-17 1700	Print: Hecto Naranjo Company: DE	Print: Hecto Naranjo Company: DE	4/25/17 1480	Print: NC Company: ESB
Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Company:		Print: Company:	Print: Company:		Print: Company:

Sample Condition Upon Receipt by Laboratory:
Samples Received on Ice? (Yes) No Temperature °C 10
Samples Received Intact? (Yes) No

Laboratory Notes
*Metals to include: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn

Samples sent via courier to: Babcock Laboratories, Inc.
Lab # B7D2152 AB APR 25 2017

Please Fax a copy of the completed Chain of Custody document to: Eugene Davis, VVWRA at (760) 954-5006 01-55-520-7170

BABCOCK Laboratories, Inc.
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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
Received on Ice (Y/N): Yes Temp: 10 °C

CONTRACT LABORATORYCHAIN OF CUSTODY AND ANALYSIS REQUESTRECORD

Victor Valley Wastewater Reclamation Authority
A Joint Powers Authority and Public Agency of the State of California
Plant Address: 20111 Shay Road · Victorville, CA92394 · TEL: (760) 246-8638 FAX: (760) 246-5440

Website: www.vvwra.com E-mail: edavis@vvwra.com

Project Name: Apple Valley Groundwater Monitoring Wells
Project Contact: Eugene Davis (760) 246-8638 ext. 287
Sampler Name: Ben Stevens
Sampler Signature:

VVWRAID #	Sample Location/Description	Sample Date	Sample Time	Sample Type: Grab	Sample Type: Composite	Sample Matrix (WW, DW, GW, SG)	Laboratory Analyses Requested: Ammonia-N	TKN	MBAS	Nitrate - N	Chloride & Sulfate	T. Dissolved Solids	Cyanide	ewCr-6 (218.6)	Metals	EPA 624-ML	EPA 625-ML	EPA 625 –SIM-ML				Total # of Containers	Sample Preservation Methods: Refrigeration	H_2SO_4 pH<2	HNO_3 pH<2	NaOH	HCL	Buffer(Na2CO3/Na 2HCO3/ (NH4)2SO4)	Container Type
	AV2-220	4.25.17	1231	X		GW	X	X														1		1					Pint poly.
	AV2-220		1231	X		GW			X	X	X	X										1	1						Quart poly.
	AV2-220		1131	X		GW							X									1				1			Pint poly.
	AV2-220		1231	X		GW								X								1						1	125 mL poly.
	AV2-220		1231	X		GW									X							1			1				Pint poly.
	AV2-220		1231	X		GW										X						4				2			40mL glass amber vial
	AV2-220		1231	X		GW											X					3	3						1-Liter glass amber
	AV2-220		1231	X		GW												X				3	3						1-Liter glass amber

TAT: ____ 24 hr ____ 48 hr ____ 72 hr _X_ Standard

Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Ben Stevens	4.25.17 1330	Print: Hector Narvaez	Print: Hector Narvaez	4/25/17 1450	Print:
Company: DJJ		Company: DJE	Company: DJE		Company:
Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print:		Print:	Print:		Print:
Company:		Company:	Company:		Company:

Sample Condition Upon Receipt by Laboratory:
Samples Received on Ice? (Yes) No Temperature
Samples Received Intact? (Yes) No °C 10

Laboratory Notes
*Metals to include: Sb, As, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, Tl, Zn

Samples sent via courier to: Babcock Laboratories, Inc.
Lab # B7D2152

Please Fax a copy of the completed Chain of Custody document to: Eugene Davis, VVWRA at (760) 954-5006 01-55-520-7170

APR 25 2017 AB

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Client Name: Victor Valley Reclamation Authority
Contact: Eugene Davis
Address: 20111 Shay Road
Victorville, CA 92394

Report Date: 09-May-2017

Project Name: VVWRA-Apple Valley Groundwa
Project Number: 01-55-520-7170

Work Order Number: B7D2152
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Website: www.vvwra.com E-mail: edavis@vvwra.com

Project Name: Apple Valley Groundwater Monitoring Wells
Project Contact: Eugene Davis (760) 246-8638 ext. 287
Sampler Name: Ben Stevens
Sampler Signature:

VVWRAID #	Sample Location/Description	Sample Date	Sample Time	Sample Type: Grab	Sample Type: Composite	Laboratory Analyses Requested: Sample Matrix (WW, DW, GW, SG)	Nitrate - N	T. Dissolved Solids	Volatile Organic Constituents EPA 624	Total # of Containers	Sample Preservation Methods: Refrigeration	H_2SO_4 pH<2	HNO_3 pH<2	HCl	Container Type
	AV-Field Blank	4.25.17	0700	X		LQ	X	X		1	1				Quart poly.
	AV-Field Blank		0700	X		LQ			X	2				2	40mL glass amber vial
	AV-Equipment Blank		0710	X		LQ			X	2				2	40mL glass amber vial
	AV-Trip Blank		0700	X		LQ			X	2				2	40mL glass amber vial

TAT: ____ 24 hr ____ 48 hr ____ 72 hr _X_ Standard

Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Ben Stevens Company: BSI	4-25-17 1300	Print: Hector Nanez Company: DS	Print: Hector Nanez Company: DS	4/25/17 1450	Print: Company: ESB
Relinquished By (Sign):	Date/Time:	Received By (Sign):	Relinquished By (Sign):	Date/Time:	Received By (Sign):
Print: Company:		Print: Company:	Print: Company:		Print: Company:

Sample Condition Upon Receipt by Laboratory:
Samples Received on Ice? (Yes) No Temperature °C 10
Samples Received Intact? (Yes) No

Laboratory Notes

Samples sent via courier to: Babcock Laboratories, Inc.
Lab # B7D2152

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CA ELAP No. 2698
EPA No. CA00102
NELAP No. OR4035
LACSD No. 10119