Henry P. Roybal
Commissioner, District 1

Anna Hansen
Commissioner, District 2

Rudy N. Garcia
Commissioner, District 3

Anna T. Hamilton
Commissioner, District 4

Ed Moreno
Commissioner, District 5

Katherine Miller
County Manager

November 21, 2019

SANTA FE COUNTY
RFP NO. 2020-0083-PW/MAM
GROUND WATER MONITORING
SERVICES AGUA FRIA LANDFILL

ADDENDUM #1

Dear Proponents,

This addendum is issued to reflect the following immediately. It shall be the responsibility Interested Offerors to adhere to any changes or revisions to the RFP as identified in this Addendum No. 1. This documentation shall become permanent and made part of the Of the departmental files.

ATTACHMENT A: **Pre Proposal Agenda and Sign in Sheet**
APPENDIX F: **NMED Revised Closure Post-Closure Plan (CPC) monitoring (ground water & methane) requirements determination for the closed Agua Fria Landfill and Parameter list.**
APPENDIX G: **Location Map Agua Fria Landfill**

CLARIFICATION NO. 1:
Page 3 APPENDICES IS DELETED AND REPLACED AS FOLLOWS:

A. Acknowledgement of Receipt Form
B. Campaign Contribution Disclosure Form
C. Resident Veterans Preference Certification
D. Sample Agreement
E. Cost Proposal Form
F. NMED Revised Closure Post-Closure Plan (CPC) monitoring (ground water & methane) requirements determination for the closed Agua Fria Landfill and Parameter list.
G. Location Map

CLARIFICATION NO. 2:
Page 5, II. CONTRACT OBJECTIVES; A. PROJECT BACKGROUND remove all APPENDIX C reference and replace it with APPENDIX F attached hereto.

CLARIFICATION NO. 3:

Page 5, II. CONTRACT OBJECTIVES; B. SCOPE OF WORK: is deleted in its entirety and replaced with the following:

All work is pursuant to the monitoring requirements set forth in the Agua Fria Landfill's Closure and Post- Closure Plan (CPCP) issued and approved by the New Mexico Environment Department (NMED) on or about December 1998 and as modified by written letter of January 13, 2011 or in the future.

A. To provide scientific and technical consulting services;
B. Field data collection and report preparation annually for groundwater and semiannual for methane gas;
C. Annual monitoring of groundwater quality;
D. Measuring well water levels;
E. Obtaining semi-annual methane lower explosive limit (LEL) readings.

Well Information, Sampling Protocol and Analytical Sampling Procedure details are listed below.

Currently there are five groundwater monitoring wells at this site as detailed in the following table:

Well Number	Well Location Type	Depth Below Grade (feet)	Pump Description	Notes
MW-1	Up-gradient	465	Electric, submersible impeller, 1 hp	
MW-2	Down-gradient	405	Electric, submersible impeller, 1 hp	
MW-3	Down-gradient	340	Electric, submersible impeller, 1 hp	
MW-4	Down-gradient	310	Bennett sample pump #1800-8, Submersible piston pump, compressed air	
MW-5	Down-gradient	319.5	Grundfos variable speed motor 5E8 RediFlo, 2HP, three phase, 230V Pollution Recover Motor with a 50 foot Teflon lead	Installed in September 2004

The Sample Agreement is for reference only. This solicitation is qualification based and the selection and award will be based on the responses to the evaluation criteria. The specifics regarding Scope of Work will be negotiated with the selected Offeror.

CLARIFICATION NO. 4:
Page 21 Section V.B.1 bullet 3 and V.B.2 bullet 3 "market conditions, historic preservation" is hereby deleted.

Question# 1: Appendix E, Cost Proposal Form, is required to be submitted with the original proposal. Are costs being considered as part of the evaluation, and if so, how are they being weighted, as costs are not listed in the evaluation factors?

Answer# 1: No.

Question# 2: Per Section V.B.3, resumes shall be provided as part of the proposal; can resumes be included as an appendix or are they required to be included in the 15-page proposal?

Answer# 2: Yes, please refer to C. Proposal Format last paragraph on the bottom of page 19.

Question# 3: Per Section IV.C, professional licenses and certifications shall be included as Appendices; however, Section IV.C.1 indicates that the Preference Certificate(s) shall be included as Section f in the proposal and the Campaign Contribution Disclosure Form shall be included as Section e in the proposal. Can these forms be included as appendices instead of being included as sections in the 15-page proposal?

Answer# 3: Yes, please refer to C. Proposal Format last paragraph on the bottom of page 19.

Question# 4: Section II.A and Appendix D, page 32, reference Appendix C of this RFP for scope of work information; however, Appendix C is the Resident Veterans Preference Certification. Can Santa Fe County clarify the reference?

Answer# 4: ***CLARIFICATION NO. 1:***
Page 3 APPENDICES IS DELETED AND REPLACED AS FOLLOWS:

- ***A. Acknowledgement of Receipt Form***
- ***B. Campaign Contribution Disclosure Form***
- ***C. Resident Veterans Preference Certification***
- ***D. Sample Agreement***
- ***E. Cost Proposal Form***
- ***F. NMED Revised Closure Post-Closure Plan (CPC) monitoring (ground water & methane) requirements determination for the closed Agua Fria Landfill and Parameter list.***
- ***G. Location Map***

Question# 5: Appendix D, page 35, indicates that a letter report summarizing the inorganic data obtained for the first and third quarters shall be prepared; however, the scope of work in Appendix D and the Cost Proposal Form (Appendix E) indicate sampling will be semi-annual or annual. Can Santa Fe County clarify the groundwater and methane reporting requirements and sampling frequency?

Answer# 5: ***The Sample Agreement is for reference only. This solicitation is qualification based and the selection and award will be based on the responses to the evaluation criteria. The specifics regarding Scope of Work will be negotiated with the selected Offeror.***

Question# 6: The RFP references 20 NMAC 9.1 (C) (3) (a, b, and c); however, this regulation appears to have been repealed. Can Santa Fe County clarify the NMAC reference that should be used?

Answer# 6: http://164.64.110.134/parts/title20/20.009.0009.html Please reference section **HISTORY OF 20.9.9 NMAC.**

Question# 7: Can Santa Fe County provide a copy of the latest annual groundwater monitoring report and the latest methane monitoring report?

Answer# 7: Yes, see attached

Please add this Addendum No. 1 to the original proposal documents and refer to proposal documents, hereto as such. This and all subsequent addenda will become part of any resulting contract documents and have effects as if original issued. All other unaffected sections will have their original interpretation and remain in full force and effect. Responders are reminded that any questions or need for clarification must be addressed to Michelle Marmion, Senior Procurement Specialist at mmarmion@santafecountynm.gov.

GROUNDWATER MONITORING REPORT

Agua Fria Landfill

Submitted to:

Santa Fe County Solid Waste Department
424 NM 599
Santa Fe, New Mexico 87507

Submitted by:

Golder Associates Inc.
5200 Pasadena Avenue NE, Suite C
Albuquerque, New Mexico 87112

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1543135

August 22, 2019

Distribution List

1 copy - Santa Fe County Solid Waste Department

1 copy - NMED Solid Waste Bureau

STATEMENT OF FAMILIARITY

I, the undersigned, am personally familiar with the information submitted in this report and the attached documents and attest that it is complete and true to the best of my knowledge.

Signature: _____ Date: August 22, 2019

Name: Matthew Somogyi
Affiliation: Golder Associates Inc.
Title: Project Manager, Senior Hydrogeologist

EXECUTIVE SUMMARY

- The depth to groundwater at the Agua Fria Landfill ranges from approximately 272.6 to 302.5 feet below the top of the well sounding tubes (corresponding to groundwater elevations from approximately 6162.8 to 6164.5 feet above mean sea level). The groundwater gradient is approximately 1.82 feet per mile and the interpreted flow direction is to the southwest. The calculated groundwater flow velocity is 10.8 feet per year.
- The water table is generally stable in the area of the Agua Fria Landfill, having varied less than 3.5 feet in site wells throughout the period of record dating back to 2000.
- Analyses of water samples collected from landfill monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 indicate that shallow groundwater generally meets applicable regulatory water quality standards.
- MW-3 was not sampled during the April 24, 2015 groundwater monitoring event due to a non-functioning sample pump. The pump issue was corrected, and a sample was collected from MW-3 on July 2, 2015. This sample was found to contain the volatile organic compounds (VOCs) toluene and phenol. The New Mexico Environment Department Solid Waste Bureau (NMED-SWB) was notified in correspondence dated July 31, 2015 and February 15, 2016. Due to the timing of the sample collection after pump work was performed, Golder and the NMED-SWB agreed that the detection of toluene and phenol in the July 2, 2015 sample should not be regarded as confirmed unless these compounds were detected in subsequent groundwater samples collected from MW-3 during regular detection monitoring at the landfill. The May 30, 2019 groundwater sample collected from MW-3 was found to contain no VOCs.
- Iron and manganese, secondary or non-health related water quality parameters, have been detected in water samples collected from all landfill monitoring wells. Historically, in three of the five monitoring wells, iron and manganese concentrations have exceeded the New Mexico Water Quality Control Commission (NMWQCC) groundwater protection standard (GWPS). Sample turbidity was suspected as a contributor to elevated iron and manganese in samples from these wells. Results from the monitoring events conducted from July 2007 to June 2016 indicate that dissolved iron and magnesium concentrations are below the Presumptive Assessment Monitoring Levels (AML) in all wells.
- Arsenic equal to or exceeding the GWPS (0.01 mg/L) has been historically detected in all monitoring wells. The highest arsenic concentrations have been measured in upgradient well MW-1; therefore, arsenic is considered to be ambient and not related to the landfill. A site-specific AML for arsenic (0.023 mg/L) was calculated after background concentrations were determined. Arsenic concentrations measured during the 2019 annual groundwater monitoring event did not exceed the site-specific AML of 0.023 mg/L.

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APPENDICES

APPENDIX A
WATER LEVEL HYDROGRAPHS GROUNDWATER MONITORING WELLS 1-5

APPENDIX B
LABORATORY REPORT FOR WATER QUALITY ANALYSES, 5/30/2019

APPENDIX C
GROUNDWATER MONITORING WELL PURGING DATA, 5/30/2019

1.0 INTRODUCTION

Golder Associates Inc. (Golder) was retained in June 2005 by Santa Fe County to perform groundwater monitoring tasks for environmental regulatory compliance at the closed Agua Fria Landfill, located adjacent to the Frijoles Arroyo approximately eight miles west of the city of Santa Fe, New Mexico. Data indicate that the landfill stopped accepting waste in July 2000 and that groundwater monitoring has been performed at the site since October 2000. This landfill is regulated by the New Mexico Environment Department Solid Waste Bureau (NMED-SWB) under the NMED Solid Waste Management Regulations (NMED-SWMR).

There are five groundwater monitoring wells at the Agua Fria Landfill. The upgradient well, MW-1, was installed in 2000 along the northeast corner of the site. The remaining four downgradient wells are located near the southern and western perimeters of the landfill. MW-2, MW-3, and MW-4 were installed in 2000, and MW-5 was installed in 2004. MW-5 was installed in response to observations of high iron and manganese concentrations in the original three downgradient wells. Locations of the groundwater monitoring wells are shown on Figure 1.

2.0 GROUNDWATER MONITORING ACTIVITIES

Groundwater levels were measured and groundwater samples were collected from each of the five monitoring wells at the Agua Fria Landfill on May 30, 2019. Groundwater samples were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis. A groundwater elevation contour map (Figure 1) was prepared using the groundwater level data. Groundwater elevation data are included in Table 1, and groundwater chemistry data are included in Tables 2a and 2b. Groundwater gradient and flow velocity calculations are presented in Table 3. Groundwater elevation hydrographs are included in Appendix A. A copy of the analytical laboratory report for the sampling event is included in Appendix B**,** and the groundwater monitoring well purging data are presented in Appendix C.

3.0 WATER LEVEL GRADIENT AND TREND

Groundwater level measurements collected on May 30, 2019 were used to prepare the groundwater elevation contour map (Figure 1). The groundwater elevation surface indicates a southwesterly groundwater flow direction, which is consistent with historical measurements and interpretations. The groundwater gradient is 0.000345 feet per foot, or approximately 1.82 feet per mile, between MW-1 and MW-5.

The groundwater table has generally been stable over the period of record. Overall, groundwater levels have varied less than 3.5 feet since the monitoring wells were installed in 2000 and 2004. Monitoring well groundwater level data are included in Table 1.

4.0 GROUNDWATER FLOW VELOCITY ESTIMATES

Groundwater flow velocity was calculated using the average aquifer hydraulic conductivity calculated from specific capacity data from tests conducted at MW-1 and MW-5 during July of 2005, as well as gradient data measured from the most recent groundwater elevation map. Average aquifer hydraulic conductivity is estimated to be approximately 4.3 feet per day and effective porosity is conservatively assumed to be 5%. Resultant groundwater flow velocity is approximately 10.8 feet per year, in a southwesterly direction. Groundwater flow velocity calculations and inputs are summarized in Table 3, and follow a method described in Appendix 16-D of Driscoll, 1986. The annual groundwater flow velocity has been variable, ranging from a low of approximately 4.9 feet per year during the June 3-4, 2014, monitoring event to approximately 17 feet per year during the May 23-24, 2013, monitoring event.

5.0 GROUNDWATER SAMPLING AND ANALYSIS

Groundwater sampling and analysis for the May 30, 2019 monitoring event included sampling of upgradient well MW-1 and downgradient wells MW-2, MW-3, MW-4, and MW-5, and analysis of samples for the approved list of analytes, including volatile organic compounds (VOCs), major ions, metals, and numerous other analytes.

MW-3 was not sampled during the April 24, 2015 groundwater monitoring event due to non-functioning sample pump. The pump was repaired and a sample was collected form MW-3 on July 2, 2015. This sample was found to contain the VOCs toluene and phenol. The NMED-SWB was notified in correspondence dated July 31, 2015 and February 15, 2016. Due to the timing of the sample collection after pump repairs, Golder and the NMED-SWB agreed that the detection of toluene and phenol in the July 2, 2015 sample would not be regarded as confirmed unless these compounds were detected in follow-on groundwater samples collected from MW-3 during regular detection monitoring at the landfill. The May 30, 2019 groundwater sample collected from MW-3 was found to contain no VOCs.

Each of the groundwater monitoring wells is equipped with a dedicated electric submersible sampling pump. Prior to sample collection, groundwater levels were measured to the nearest 0.01 foot in each well. All wells were purged of at least three wellbore volumes before groundwater sample collection, in order to provide representative groundwater for laboratory analyses. The pH, electrical conductivity, oxidation-reduction potential (ORP), temperature, and turbidity of purged groundwater were monitored during well purging, which continued until these parameters stabilized. Appendix C presents a summary of data collected during well purging at each monitoring well. Available completion details for the landfill monitoring wells are shown on the hydrographs in Appendix A and in Table 1.

6.0 SUMMARY OF GROUNDWATER CHEMISTRY DATA

Organic and inorganic groundwater chemistry data compiled from the Agua Fria Landfill groundwater monitoring wells are listed in Tables 2a and 2b, respectively.

6.1 Organic Constituents

Available data indicate that no organic compounds have been detected in any groundwater samples collected from MW-1 or MW-2 at the Agua Fria Landfill. Napthalene + 1,2 Methylnapthalene was detected in a groundwater sample collected from MW-4 following groundwater well installation in March 2000. This compound, and other organic compounds, have not been detected in subsequent groundwater samples collected from MW-4. Organic compounds (2-Butanone and Acetone) were detected in a groundwater sample from MW-5 collected on October 22, 2009. These compounds were not detected in the groundwater samples collected from MW-5 during subsequent monitoring events. Toluene was detected in a groundwater sample collected from MW-3 on July 2, 2015 but was not detected in the samples collected from MW-3 during subsequent monitoring events. It should be noted that organic compounds were detected in the groundwater samples collected from MW-3 and MW-5 immediately after pumps were removed from each of these two wells for maintenance; however, organic constituents have not been detected at MW-3 or MW-5 during subsequent sampling events. Results of all analyses of organic constituents are included in Table 2a.

The history of organic compound detections in wells MW-3 and MW-5 is summarized as follows:

- 2-Butanone (Methyl-Ethyl Ketone, MEK) was first detected in groundwater samples from MW-5 during the September 25, 2008 monitoring event, at a concentration of 11 micrograms per liter (µg/l). This occurrence was attributed to the installation of new polyvinyl chloride (PVC) drop pipe in the well, which took place a few

months prior to sample collection. MEK is well known as a primary ingredient of glue and solvents commonly used to glue together PVC pipe and may have been present on the contractor's hands or gloves during removal and installation of the pump, wire, and drop pipe. During the following sampling event on May 28, 2009, no organic analytes were detected in groundwater samples from MW-5, and it was concluded that the occurrence of MEK was anomalous. However, during the sampling on October 22, 2009, MEK was again detected in the groundwater sample from MW-5 at a concentration of 46 µg/l (above the Presumptive AML of 20 µg/l). MEK was not detected in the samples collected from MW-5 during any of the subsequent groundwater monitoring events.

- Acetone, a common solvent used in many household products such as paint thinner and nail polish remover, was first detected in a sample collected from MW-5 during the October 22, 2009 monitoring event; acetone was not detected in the samples collected from MW-5 during any of the subsequent groundwater monitoring events.
- Toluene, a common solvent and ingredient in adhesives and fuels, was detected in a sample collected from MW-3 on July 2, 2015. This sample was collected immediately after the pumping equipment was removed from the well to address a leak in the drop pipe. Toluene has not been detected in subsequent groundwater samples collected from MW-3.
- Phenol, a compound commonly used in disinfectants, pharmaceuticals and epoxy resins, was detected in a sample collected from MW-3 on July 2, 2015. This sample was collected immediately after the pumping equipment was removed from the well to address a leak in the drop pipe. Phenol has not been detected in subsequent groundwater samples collected from MW-3.

Based upon the lack of successive detections of acetone or MEK in MW-5, toluene or phenol in MW-3, or Napthalene + 1,2 Methylnapthalene in MW-4, Golder has characterized these detections as unconfirmed.

6.2 Metal Constituents

A number of metals have been detected in groundwater samples collected from the landfill monitoring wells. Sample turbidity problems with earlier period of record monitoring have influenced the analyses for iron and manganese. For numerous events beginning with the October 25, 2005 monitoring event, additional groundwater samples were collected and field filtered to eliminate turbidity bias for iron and manganese from the lab results for these samples. Results of these analyses are included in Table 2b.

6.3 Arsenic

Water chemistry data indicate that arsenic concentrations have historically exceeded the GWPS (0.01 mg/L). Arsenic concentrations in site monitoring wells MW-1 through MW-5 (upgradient and downgradient) have consistently exceeded the GWPS throughout the period of record. The highest arsenic concentrations have been measured in upgradient well MW-1; therefore, arsenic is considered to be ambient and not related to the landfill. The arsenic concentrations for the May 30, 2019 monitoring event did not exceed the proposed site-specific AML (0.023 mg/L) for the site.

7.0 CONCLUSIONS

The groundwater monitoring at the Agua Fria Landfill has been performed in accordance with the groundwater monitoring plan submitted to NMED-SWB. Available groundwater monitoring data indicate the following:

- Groundwater flow direction in the area of the Agua Fria Landfill is toward the southwest, and the groundwater gradient is approximately 1.82 feet per mile. Groundwater flow velocity is calculated to be approximately 10.8 feet per year.
- Historical groundwater level data indicate that groundwater levels at the site have been fairly consistent throughout the period of record, with groundwater elevations varying less than 3.5 feet.
- Manganese and iron, detected during several of the early monitoring events at the landfill at concentrations exceeding Presumptive AMLs and NMWQCC standards, are attributed to sample turbidity in early period of record data and not to ambient groundwater conditions.
- No organic analytes were detected in MW-1, MW-2, MW-3, MW-4, or MW-5 during the May 30, 2019 monitoring event.
- Naturally occurring arsenic concentrations exceeding the GWPS were measured at all site monitoring wells during the 2019 annual groundwater monitoring event. Arsenic concentrations do not exceed the proposed site-specific AML for arsenic at the site.

8.0 REFERENCES

Driscoll, Fletcher G. 1986. Groundwater and Wells. St. Paul, Minnesota: H.M. Smyth Company, Inc., 1089 p., Appendix 16-D.

Tables

Table 1: Groundwater Elevation Data, Agua Fria Landfill
Groundwater Monitoring Wells 1-5

Monitor Well ID	Date	Measuring Point Elev. (ft amsl)	Water Level (ft bmp)	Water Table Elev. (ft amsl)	Well Depth (ft)	Water Column (ft)	Screen Interval (ft)	Comments
MW-1	10/31/00	6467.00	300.05	6166.95	465	164.95	388-448	Pump set at 398 ft
	12/12/00		301.15	6165.85		163.85		
	02/06/01		300.20	6166.80		164.80		
	05/08/01		300.56	6166.44		164.44		
	11/14/01		300.07	6166.93		164.93		
	01/09/03		300.16	6166.84		164.84		
	05/12/03		300.41	6166.59		164.59		
	12/12/03		300.00	6167.00		165.00		
	02/06/04		300.38	6166.62		164.62		
	03/24/04		300.26	6166.74		164.74		
	06/22/04		300.45	6166.55		164.55		
	11/04/04		300.63	6166.37		164.37		
	06/30/05	6467.42	301.14	6166.28		163.86		MP: top suface casing +0.42 ft above well sounding tube
	10/25/05	6467.00	301.17	6165.83		163.83		MP: top sounding tube - pump: set @ 405 ft
	02/06/06		301.30	6165.70		163.70		
	05/11/06		301.04	6165.96		163.96		MP: top sounding tube
	01/25/07	6467.42	301.20	6166.22		163.80		MP: top suface casing (+0.42 ft above well sounding tube)
	07/26/07	6467.00	300.84	6166.16		164.16		MP: top sounding tube
	01/30/08		300.89	6166.11		164.11		MP: top sounding tube
	02/14/08		300.65	6166.35		164.35		MP: top sounding tube
	09/24/08		301.29	6165.71		163.71		MP: top sounding tube
	05/28/09		301.24	6165.76		163.76		MP: top sounding tube
	10/22/09		301.18	6165.82		163.82		MP: top sounding tube
	05/05/10		301.30	6165.70		163.70		MP: top sounding tube
	06/20/11		301.29	6165.71		163.71		MP: top sounding tube
	05/17/12		301.53	6165.47		163.47		MP: top sounding tube
	05/23/13		301.52	6165.48		163.48		MP: top sounding tube
	06/03/14		301.71	6165.29		163.29		MP: top sounding tube
	04/24/15		301.66	6165.34		163.34		MP: top sounding tube
	06/16/16		301.88	6165.12		163.12		MP: top sounding tube
	04/27/17		300.91	6166.09		164.09		MP: top sounding tube
	06/22/18		302.33	6164.67		162.67		MP: top sounding tube
	05/30/19		302.50	6164.50		162.50		MP: top sounding tube
MW-2	10/31/00	6448.54	282.90	6165.64	405	122.10	315-375	Pump set at 326 ft
	12/12/00		--	--		--		
	02/06/01		--	--		--		
	05/08/01		282.84	6165.70		122.16		
	11/14/01		281.90	6166.64		123.10		
	01/09/03		281.97	6166.57		123.03		
	05/12/03		282.26	6166.28		122.74		
	12/12/03		281.80	6166.74		123.20		
	02/06/04		282.26	6166.28		122.74		
	03/24/04		282.14	6166.40		122.86		
	06/22/04		282.34	6166.20		122.66		
	11/04/04		282.38	6166.16		122.62		
	06/30/05	6449.26	283.27	6165.99		121.73		MP: top suface casing (+0.72 ft above well sounding tube)
	10/25/05	6448.54	282.95	6165.59	380	122.05		MP: top sounding tube - pump: set @ 325 ft
	02/06/06		283.02	6165.52		121.98		
	05/11/06		282.67	6165.87		122.33		
	01/25/07		282.63	6165.91		122.37		MP: top sounding tube
	07/26/07		282.65	6165.89		122.35		MP: top sounding tube
	02/14/08		282.45	6166.09		122.55		MP: top sounding tube
	09/24/08		283.00	6165.54		122.00		MP: top sounding tube
	05/28/09		283.03	6165.51		121.97		MP: top sounding tube
	10/22/09		283.00	6165.54		122.00		MP: top sounding tube
	05/05/10		283.07	6165.47		121.93		MP: top sounding tube
	06/20/11		283.26	6165.28		121.74		MP: top sounding tube
	05/17/12		283.23	6165.31		121.77		MP: top sounding tube
	05/24/13		283.53	6165.01		121.47		MP: top sounding tube
	06/03/14		283.54	6165.00		121.46		MP: top sounding tube
	04/24/15		283.41	6165.13		121.59		MP: top sounding tube
	06/16/16		283.82	6164.72		121.18		MP: top sounding tube
	04/27/17		282.80	6165.74		122.20		MP: top sounding tube
	06/22/18		284.10	6164.44		120.90		MP: top sounding tube
	05/30/19		284.32	6164.22		120.68		MP: top sounding tube
MW-3	10/31/00	6435.39	269.39	6166.00	340	70.61	260-320	Pump Set at 282 ft
	12/12/00		269.48	6165.91		70.52		
	02/06/01		269.50	6165.89		70.50		
	05/08/01		269.88	6165.51		70.12		
	11/14/01		--	--		--		
	01/09/03		269.60	6165.79		70.40		
	05/12/03		269.78	6165.61		70.22		
	12/12/03		269.34	6166.05		70.66		
	02/06/04		269.79	6165.60		70.21		
	03/24/04		269.57	6165.82		70.43		
	06/22/04		269.82	6165.57		70.18		
	11/04/04		269.90	6165.49		70.10		
	06/30/05		--	--		--		sounding tube separated below grade - no measurement
	10/25/05		270.40	6164.99	312	69.60		MP: top sounding tube - pump set at 291.3 ft
	02/06/06		270.49	6164.90		69.51		New MP not surveyed
	05/11/06		270.28	6165.11		69.72		
	01/25/07		270.19	6165.20		69.81		MP: top sounding tube
	07/26/07		270.12	6165.27		69.88		MP: top sounding tube
	02/14/08		270.05	6165.34		69.95		MP: top sounding tube
	09/25/08		270.51	6164.88		69.49		MP: top sounding tube
	05/28/09		270.55	6164.84		69.45		MP: top sounding tube
	10/22/09		270.90	6164.49		69.10		MP: top sounding tube
	05/05/10		270.55	6164.84		69.45		MP: top sounding tube
	06/20/11		270.71	6164.68		69.29		MP: top sounding tube
	05/17/12		271.63	6163.76		68.37		MP: top sounding tube
	05/23/13		270.92	6164.47		69.08		MP: top sounding tube
	06/03/14		271.46	6163.93		68.54		MP: top sounding tube
	04/24/15		271.30	6164.09		68.70		MP: top sounding tube
	06/16/16		271.98	6163.41		68.02		MP: top sounding tube
	04/27/17		270.94	6164.45		69.06		MP: top sounding tube
	06/22/18		272.13	6163.26		67.87		MP: top sounding tube
	05/30/19		272.61	6162.78		67.39		MP: top sounding tube

Table 1: Groundwater Elevation Data, Agua Fria Landfill
Groundwater Monitoring Wells 1-5

Monitor Well ID	Date	Measuring Point Elev. (ft amsl)	Water Level (ft bmp)	Water Table Elev. (ft amsl)	Well Depth (ft)	Water Column (ft)	Screen Interval (ft)	Comments
MW-4	10/31/00	6440.88	274.15	6166.73	310	35.85		Unknown screen interval
	12/12/00		274.16	6166.72		35.84		
	02/06/01		274.28	6166.60		35.72		
	05/08/01		274.59	6166.29		35.41		
	11/14/01		274.15	6166.73		35.85		
	01/09/03		274.29	6166.59		35.71		
	05/12/03		274.56	6166.32		35.44		
	12/12/03		274.09	6166.79		35.91		
	02/06/04		274.29	6166.59		35.71		
	03/24/04		274.46	6166.42		35.54		
	06/22/04		274.63	6166.25		35.37		
	11/04/04		274.74	6166.14		35.26		
	06/30/05	6441.74	275.71	6166.03		34.29		MP: top suface casing (+0.86 ft above well sounding tube)
	10/25/05	6440.88	275.19	6165.69	301	34.81		MP: top sounding tube
	02/06/06		275.15	6165.73		34.85		
	05/11/06		275.03	6165.85		34.97		
	01/25/07		275.02	6165.86		34.98		MP: top sounding tube
	07/26/07		274.94	6165.94		35.06		MP: top sounding tube
	02/14/08		274.69	6166.19		35.31		MP: top sounding tube
	09/25/08		275.31	6165.57		34.69		MP: top sounding tube
	05/28/09		275.33	6165.55		34.67		MP: top sounding tube
	10/22/09		274.90	6165.98		35.10		MP: top sounding tube
	05/05/10		275.39	6165.49		34.61		MP: top sounding tube
	06/20/11		275.26	6165.62		34.74		MP: top sounding tube
	05/17/12		275.51	6165.37		34.49		MP: top sounding tube
	05/24/13		275.72	6165.16		34.28		MP: top sounding tube
	06/03/14		275.96	6164.92		34.04		MP: top sounding tube
	04/24/15		275.72	6165.16		34.28		MP: top sounding tube
	06/16/16		276.00	6164.88		34.00		MP: top sounding tube
	04/27/17		275.09	6165.79		34.91		MP: top sounding tube
	06/22/18		276.15	6164.73		33.85		MP: top sounding tube
	05/30/19		276.63	6164.25		33.37		MP: top sounding tube
MW-5	11/04/04	6444.51	278.67	6165.84	319.5	40.83	278-318	Pump set at 290 ft
	06/30/05	6444.90	279.09	6165.81		40.41		MP: top suface casing (+0.39 ft above well sounding tube)
	10/25/05	6444.51	279.09	6165.42		40.41		MP: top sounding tube
	02/06/06		279.18	6165.33		40.32		
	05/11/06		278.81	6165.70		40.69		
	01/25/07		278.89	6165.62		40.61		MP: top sounding tube
	07/26/07		278.93	6165.58		40.57		MP: top sounding tube
	02/14/08		278.67	6165.84		40.83		MP: top sounding tube
	09/25/08		279.21	6165.30		40.29		MP: top sounding tube
	05/28/09		279.21	6165.30		40.29		MP: top sounding tube
	10/22/09		279.63	6164.88		39.87		MP: top sounding tube
	05/05/10		279.29	6165.22		40.21		MP: top sounding tube
	06/20/11		279.48	6165.03		40.02		MP: top sounding tube
	05/17/12		279.49	6165.02		40.01		MP: top sounding tube
	05/24/13		279.82	6164.69		39.68		MP: top sounding tube
	06/03/14		279.83	6164.68		39.67		MP: top sounding tube
	04/24/15		279.69	6164.82		39.81		MP: top sounding tube
	06/16/16		279.95	6164.56		39.55		MP: top sounding tube
	04/27/17		279.03	6165.48		40.47		MP: top sounding tube
	06/22/18		280.29	6164.22		39.21		MP: top sounding tube
	05/30/19		280.67	6163.84		38.83		MP: top sounding tube

Notes:
- Measuring point (MP) for all events prior to 6-30-05 assumed to be at top of well sounding tubes
- ft amsl: feet above mean sea leavel
- ft bmp: feet below measuring point

Table 2a: **Organic Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	VOCs																																										PAHS		EDB/DBCP		Polychlorinated Biphenyls						
	8260B																																										8310		504.1		8082						
Analytes	Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Methyl bromide	2-Butanone	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Methyl chloride	Dibromochloromethane	Methylene bromide	o-Dichlorobenzene	p-Dichlorobenzene	trans-1,4-Dichloro-2-butene	1,1-Dichloroethane	1,2-Dichloroethane (EDC)	1,1-Dichloroethene	Methylene chloride (DCM)	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methyl iodide	4-Methyl-2-pentanone (MIBK)	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene (PCE)	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Acetate	Vinyl Chloride	Xylenes (Total)	Napthalene + 1,2 Methylnapthalene	Benzo(a)pyrene	Ethylene dibromide (EDB)	1,2-Dibromo-3-chloropropane (DBCP)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
G.W.P.S			5							5	100		100				600	75		25	5	5	5	5			700				100		10	5	750	60	5	5				1	620	30	0.2	0.05	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PQL	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	2	0.07	0.0092	0.018	0.25	0.25	0.25	0.25	0.25	0.25	0.25
AML presumptive	20	20	2.5	2	2	2	6	20	20	2.5	50	4	50	6	2	2	300	37.5	20	12.5	2.5	2.5	2.5	2.5	2	2	350	20	20	20	50	2	5	2.5	375	30	2.5	2.5	2	4	20	0.5	310	15	0.1	0.025	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
MW-1																																																				
10/31/00	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11/14/01	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	--	--	--	--	--	--	--	--	--
1/9/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	--	--	--	--	--	--	--	--	--
5/12/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
12/12/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
6/22/04	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10/25/05	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/11/06	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/25/07	100	200	1	2	5	15	--	10	100	2	5	10	5	--	5	--	--	--	--	5	1	1	1	0.5	20	10	5	50	--	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
7/26/07	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
1/29/08	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
9/24/08	100	200	1		5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	1	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
5/28/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
10/22/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2											
5/5/10	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2											
6/20/11	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
5/17/12	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
5/23/13	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	--	--	--	--	--	--	--	--	--
6/3/14	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
4/24/15	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
6/16/16	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.02	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4/27/16	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.02	--	--	--	--	--	--	--
6/22/18	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0092	0.018	--	--	--	--	--	--	--
5/30/19	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0095	2	--	--	--	--	--	--	--

Table 2a: **Organic Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	VOCs																																											PAHS		EDB/DBCP		Polychlorinated Biphenyls						
	8260B																																											8310		504.1		8082						
Analytes	Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Methyl bromide	2-Butanone	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Methyl chloride	Dibromochloromethane	Methylene bromide	o-Dichlorobenzene	p-Dichlorobenzene	trans-1,4-Dichloro-2-butene	1,1-Dichloroethane	1,2-Dichloroethane (EDC)	1,1-Dichloroethene	Methylene chloride (DCM)	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methyl iodide	4-Methyl-2-pentanone (MIBK)	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene (PCE)	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Acetate	Vinyl Chloride	Xylenes (Total)	Napthalene + 1,2 Methylnapthalene	Benzo(a)pyrene	Ethylene dibromide (EDB)	1,2-Dibromo-3-chloropropane (DBCP)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
G.W.P.S			5							5	100		100				600	75		25	5	5	5	5			700				100		10	5	750	60	5	5				1	620	30	0.2	0.05	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PQL	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	2	0.07	0.0092	0.018	0.25	0.25	0.25	0.25	0.25	0.25	0.25
AML presumptive	20	20	2.5	2	2	2	6	20	20	2.5	50	4	50	6	2	2	300	37.5	20	12.5	2.5	2.5	2.5	2.5	2	2	350	20	20	20	50	2	5	2.5	375	30	2.5	2.5	2	4	20	0.5	310	15	0.1	0.025	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
MW-2																																																						
10/31/00	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11/14/01	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/9/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/12/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
12/12/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
6/22/04	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10/26/05	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/11/06	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/25/07	100	200	1	2	5	15	--	10	100	2	5	10	5	--	5	--	--	--	--	5	1	1	1	0.5	20	10	5	50	--	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
7/26/07	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
1/30/08	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
9/24/08	100	200	1		5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	1	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
5/28/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
10/22/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2											
5/5/10	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2											
6/20/11	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
5/18/12	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
5/24/13	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	--	--	--	--	--	--	--	--	--
6/4/14	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
4/24/15	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
6/16/16	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.02	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4/27/17	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.02	--	--	--	--	--	--	--
6/22/18	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0093	0.019	--	--	--	--	--	--	--
5/30/19	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0095	2	--	--	--	--	--	--	--

GOLDER

Table 2a: **Organic Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	VOCs																																									PAHS		EDB/DBCP		Polychlorinated Biphenyls						
	8260B																																									8310		504.1		8082						
Analytes	Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Methyl bromide	2-Butanone	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Methyl chloride	Dibromochloromethane	Methylene bromide	o-Dichlorobenzene	p-Dichlorobenzene	trans-1,4-Dichloro-2-butene	1,1-Dichloroethane	1,2-Dichloroethane (EDC)	1,1-Dichloroethene	Methylene chloride (DCM)	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methyl iodide	4-Methyl-2-pentanone (MIBK)	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene (PCE)	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Acetate	Vinyl Chloride	Xylenes (Total)	Napthalene + 1,2 Methylnapthalene	Benzo(a)pyrene	Ethylene dibromide (EDB)	1,2-Dibromo-3-chloropropane (DBCP)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
G.W.P.S			5							5	100		100				600	75		25	5	5	5	5			700				100		10	5	750	60	5	5				1	620	30	0.2	0.05	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PQL	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	2	0.07	0.0092	0.018	0.25	0.25	0.25	0.25	0.25	0.25	0.25
AML presumptive	20	20	2.5	2	2	2	6	20	20	2.5	50	4	50	6	2	2	300	37.5	20	12.5	2.5	2.5	2.5	2.5	2	2	350	20	20	20	50	2	5	2.5	375	30	2.5	2.5	2	4	20	0.5	310	15	0.1	0.025	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
MW-3																																																				
10/31/00	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11/15/01	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/9/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/12/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
12/12/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
6/22/04	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10/26/05	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/11/06	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/25/07	100	200	1	2	5	15	--	10	100	2	5	10	5	--	5	--	--	--	--	5	1	1	1	0.5	20	10	5	50	--	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
7/26/07	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
1/30/08	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
9/25/08	100	200	1		5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	1	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
5/28/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
10/22/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
5/5/10	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
6/20/11	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
5/17/12	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
5/23/13	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	--	--	--	--	--	--	--	--	--
6/3/14	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
4/24/15	Not sampled -- pump not working.																																																			
7/2/15	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	95	1	1	1	1	1	10	0.4	2	--	--	--	--	--	--	--	--	--	--	--
6/16/16	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.02	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4/27/17	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.02	--	--	--	--	--	--	--
6/22/18	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0093	0.019	--	--	--	--	--	--	--
5/30/19	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0094	2	--	--	--	--	--	--	--

Table 2a: **Organic Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	VOCs																																									PAHS		EDB/DBCP		Polychlorinated Biphenyls						
	8260B																																									8310		504.1		8082						
Analytes	Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Methyl bromide	2-Butanone	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Methyl chloride	Dibromochloromethane	Methylene bromide	o-Dichlorobenzene	p-Dichlorobenzene	trans-1,4-Dichloro-2-butene	1,1-Dichloroethane	1,2-Dichloroethane (EDC)	1,1-Dichloroethene	Methylene chloride (DCM)	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methyl iodide	4-Methyl-2-pentanone (MIBK)	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene (PCE)	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Acetate	Vinyl Chloride	Xylenes (Total)	Napthalene + 1,2 Methylnapthalene	Benzo(a)pyrene	Ethylene dibromide (EDB)	1,2-Dibromo-3-chloropropane (DBCP)	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
G.W.P.S			5							5	100		100				600	75		25	5	5	5	5			700				100		10	5	750	60	5	5				1	620	30	0.2	0.05	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PQL	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	2	0.07	0.0092	0.018	0.25	0.25	0.25	0.25	0.25	0.25	0.25
AML presumptive	20	20	2.5	2	2	2	6	20	20	2.5	50	4	50	6	2	2	300	37.5	20	12.5	2.5	2.5	2.5	2.5	2	2	350	20	20	20	50	2	5	2.5	375	30	2.5	2.5	2	4	20	0.5	310	15	0.1	0.025	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
MW-4																																																				
3/31/00	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	7.4	0.2	0.025	--	--	--	--	--	--	--
6/30/00	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	1	0.1	0.01	0.01	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10/31/00	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11/15/01	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
11/27/01	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	0.1	0.025	0.1	--	--	--	--	--	--	--
1/9/03	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
2/6/04	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
6/22/04	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
10/26/05	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/11/06	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/25/07	100	200	1	2	5	15	--	10	100	2	5	10	5	--	5	--	--	--	--	5	1	1	1	0.5	20	10	5	50	--	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
7/26/07	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
1/30/08	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5	10	0.1	0.025	0.1	--	--	--	--	--	--	--
9/25/08	100	200	1		5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	1	50	0.4	5	--	--	0.025	0.1	--	--	--	--	--	--	--
5/28/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
10/22/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
5/5/10	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
6/20/11	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
5/17/12	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.1	--	--	--	--	--	--	--
5/24/13	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	--	--	--	--	--	--	--	--	--
6/3/14	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
4/24/15	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2	--	--	--	--	--	--	--	--	--	--	--
6/16/16	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	2	0.07	0.01	0.02	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4/27/17	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2	--	--	0.01	0.02	--	--	--	--	--	--	--
6/22/18	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0093	0.019	--	--	--	--	--	--	--
5/30/19	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5	--	--	0.0093	2	--	--	--	--	--	--	--

Table 2a: **Organic Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

Analytes	VOCs 8260B: Acetone	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Methyl bromide	2-Butanone	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Methyl chloride	Dibromochloromethane	Methylene bromide	o-Dichlorobenzene	p-Dichlorobenzene	trans-1,4-Dichloro-2-butene	1,1-Dichloroethane	1,2-Dichloroethane (EDC)	1,1-Dichloroethene
G.W.P.S			5							5	100		100				600	75		25	5	5
PQL	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1
AML presumptive	20	20	2.5	2	2	2	6	20	20	2.5	50	4	50	6	2	2	300	37.5	20	12.5	2.5	2.5
MW-5																						
10/27/05	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1
5/11/06	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1
1/25/07	100	200	1	2	5	15	--	10	100	2	5	10	5	--	5	--	--	--	--	5	1	1
7/26/07	100	200	1	2	5	15	20	10	100	2	5	10	5	1	5	20	10	15	100	5	1	1
9/25/08	100	200	1		5	15	20	11 (red)	100	2	5	10	5	1	5	20	10	15	100	5	1	1
5/28/09	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
10/22/09	18 (red)	10	1	2	1	1	2	**46** (boldface red)	10	1	1	2	1	1	1	1	1	1	10	1	1	1
5/5/10	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
6/20/11	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
5/18/12	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
5/24/13	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
6/4/14	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
4/24/15	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
6/16/16	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
4/27/17	10	10	1	2	1	1	2	10	10	1	1	2	1	1	1	1	1	1	10	1	1	1
6/22/18	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1
5/30/19	10	10	1	1	1	1	3	10	10	1	1	2	1	3	1	1	1	1	10	1	1	1

Analytes	VOCs 8260B (cont.): Methylene chloride (DCM)	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	Methyl iodide	4-Methyl-2-pentanone (MIBK)	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethene (PCE)	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	1,2,3-Trichloropropane	Vinyl Acetate	Vinyl Chloride	Xylenes (Total)
G.W.P.S	5	5			700				100		10	5	750	60	5	5				1	620
PQL	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5
AML presumptive	2.5	2.5	2	2	350	20	20	20	50	2	5	2.5	375	30	2.5	2.5	2	4	20	0.5	310
MW-5																					
10/27/05	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5
5/11/06	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5
1/25/07	1	0.5	20	10	5	50	--	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5
7/26/07	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	10	50	0.4	5
9/25/08	1	0.5	20	10	5	50	40	15	10	5	5	0.5	5	5	2	1	10	1	50	0.4	5
5/28/09	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
10/22/09	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
5/5/10	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
6/20/11	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
5/18/12	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
5/24/13	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
6/4/14	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2
4/24/15	1	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.5	2
6/16/16	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
4/27/17	2.5	0.5	1	1	1	10	10	10	1	1	1	0.5	1	1	1	1	1	1	10	0.4	2
6/22/18	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5
5/30/19	3	1	1	1	1	10	10	10	1	1	2	1	1	1	1	1	1	2	10	1	1.5

Analytes	PAHS 8310: Napthalene + 1,2 Methylnapthalene	Benzo(a)pyrene	EDB/DBCP 504.1: Ethylene dibromide (EDB)	1,2-Dibromo-3-chloropropane (DBCP)	Polychlorinated Biphenyls 8082: Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260
G.W.P.S	30	0.2	0.05	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5
PQL	2	0.07	0.0092	0.018	0.25	0.25	0.25	0.25	0.25	0.25	0.25
AML presumptive	15	0.1	0.025	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
MW-5											
10/27/05	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
5/11/06	10	0.1	0.025	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5
1/25/07	--	--	0.025	0.1	--	--	--	--	--	--	--
7/26/07	10	0.1	0.025	0.1	--	--	--	--	--	--	--
9/25/08	--	--	0.025	0.1	--	--	--	--	--	--	--
5/28/09	--	--	0.01	0.1	--	--	--	--	--	--	--
10/22/09	--	--	0.01	0.1	--	--	--	--	--	--	--
5/5/10	--	--	0.01	0.1	--	--	--	--	--	--	--
6/20/11	2	0.07	0.01	0.1	0.25	0.25	0.25	0.25	0.25	0.25	0.25
5/18/12	--	--	0.01	0.1	--	--	--	--	--	--	--
5/24/13	--	--	--	--	--	--	--	--	--	--	--
6/4/14	--	--	--	--	--	--	--	--	--	--	--
4/24/15	--	--	--	--	--	--	--	--	--	--	--
6/16/16	2	0.07	0.01	0.02	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4/27/17	--	--	0.01	0.02	--	--	--	--	--	--	--
6/22/18	--	--	0.0094	0.019	--	--	--	--	--	--	--
5/30/19	--	--	0.0094	2	--	--	--	--	--	--	--

Notes:
All units in micrograms per liter
Analytical results above the PQL are listed in red
Analytes exceeding Presumptive Assessment Monitoring Levels in **boldface red type**
Analytes exceeding groundwater protection standard highlighted yellow
PQLs have changed over period of record. Current PQLs are valid as of 5/30/2019.
The PQLs for EDB and DBCP vary between samples. The non-detect sample result for each well is the sample-specific PQL. The May 30, 2019 DBCP samples were analyzed via EPA Method 8260B with elevated PQLs due to a laboratory sample login error. There are no historic detections of DBCP in site samples.

Table 2b: **Inorganic, Phenols and Total Organic Carbon Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	Inorganics																																							TOC	Total Phenolics	Radium	
Method	**2320B**		**300.0**				**4500 NORG C**		**2540C MOD**	**SM2510B**	**4500 - H+B**	**200.7**		**200.7 & 200.8**																		**200.7 & 200.8**						**Kelada mod**	**245.1**	**9060**		**903.1, 904.0**	
Analytes	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Nitrate	Total Kjeldahl Nitrogen	Total Nitrogen	Total Dissolved Solids	Conductivity	pH	Dissolved Iron	Dissolved Manganese	Aluminum	Barium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Silver	Sodium	Vanadium	Zinc	Antimony	Arsenic	Beryllium	Selenium	Thallium	Uranium	Cyanide	Mercury	Total Organic Carbon	Total Phenolics	Radium 226	Radium 228
G.W.P.S.			250	1.6	600	10			1,000			1	0.2	5	1	0.75	0.005		0.05	0.05	1.0	1.0	0.05			0.2	1.0	0.2		0.05			10	0.006	0.010	0.004	0.05	0.002	0.03	0.2	0.002		0.005	5	5
PQL	20	2.0	5	0.1	0.5	1.0	1.0	1.0	20	5.0	0.1	0.02	0.002	0.02	0.002	0.04	0.002	1.0	0.006	0.006	0.001	0.02	0.0005	1.0	0.002	0.008	0.01	1.0	0.005	1.0	0.05	0.01	0.001	0.001	0.002	0.001	0.0005	0.0005	0.02	0.0002	1.0	2.5	2.5	2.5
AML presumptive			187.5	0.8	450	5.0			750			0.75	0.15	3.75	0.5	0.56	0.0025		0.025	0.0375	0.75	0.75	0.025			0.15	0.75	0.15		0.025		0.098	7.5	0.003	0.005	0.002	0.025	0.001	0.015	0.1	0.001		0.00375	2.5	2.5
MW-1																																												
Background	138.4	2	4.06	0.36	16.38	1.36	1.2	1.24	190	284	7.75	0.02	0.004	3	0.092	0.5	0.002	30.7	0.01	0.03	0.06	0.108	0.01	4.64	0.0266	0.75	0.05	2.3	0.01	26.5	0.08	0.05	0.003	0.019	0.002	0.005	0.001	2.500	0.084	0.001	1.00	0.003	2.5	2.5
Site Specific AML																																		0.023										
Coefficient of Variation	0.06		0.32	0.25	0.06	0.14	0.37	0.20	0.04	0.06					0.44			0.13				0.17		0.11	0.29			0.17		0.10			0.34	0.11					0.43		0.61			
11/14/01	142	--	5	0.4	17.7	1.11	2	1.0	--	--	--	--	--	--	0.02	--	--	23.5	--	--	--	0.1	--	3.8	0.03	--	--	1.7	--	29.3	--	--	--	0.02	--	--	--	--	--	--	2.0	--	--	--
1/9/03	150	2	2.6	0.2	15.2	1.5	1.0	1.0	200	260	7.8	--	--	3	0.11	0.5	0.002	33	0.01	0.03	0.06	0.1	0.01	4.9	0.03	0.75	0.05	**2.6**	0.01	27	0.08	0.05	0.003	0.02	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
5/12/03	130	2	5	0.4	16	1.3	1	1.3	190	270	7.9	--	--	3	0.1	0.5	0.002	33	0.01	0.03	0.06	0.1	0.01	5	0.03	0.75	0.05	**2.7**	0.01	27	0.08	0.05	0.003	0.02	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.003		
12/12/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.6	0.03	0.75	0.05	**2.5**	0.01	27	0.08	0.05	--	--	--	0.005	0.001	2.5	--	0.001	1.0	0.003	2.5	2.5
3/24/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14	--	--	0.013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/22/04	140	2	2.7	0.4	17	1.3	1	1.3	180	290	7.4	--	--	3	0.11	0.5	0.002	31	0.01	0.03	0.06	0.1	0.01	--	--	--	--	--	--	--	--	--	--	0.02	0.002	--	--	--	--	--	--	--	--	2.5	2.5
11/4/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.11	--	--	0.015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/1/05	--	--	--	--	--	--	--	--	--	--	--	0.02	0.0043	--	--	--	--	--	--	--	--	0.05	--	--	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/25/05	130	2	5	0.4	16	1.6	1	1.6	190	300	7.9	0.02	0.0054	3	0.12	0.5	0.002	33	0.01	0.03	0.06	0.1	0.01	4.9	0.03	0.75	0.05	2.2	0.01	22	0.08	0.05	0.003	0.02	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
2/6/06	--	--	--	--	--	--	--	--	--	--	--	0.02	0.0041	--	--	--	--	--	--	--	--	0.05	--	--	0.0054	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/11/06	130	2	5.0	0.4	16	1.5	1	1.8	190	300	7.91	0.02	0.0034	3	0.12	0.5	0.002	35	0.01	0.03	0.06	0.1	0.01	5.1	0.03	0.75	0.05	2.4	0.01	22	0.08	0.05	0.003	0.02	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.003	2.5	2.5
1/25/07	130	--	3.1	--	16	1.6	--	1.6	190	300	7.94	0.02	0.0035	--	--	--	--	33	--	--	--	0.1	--	4.9	0.030	--	--	2.4	--	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/07	130	--	3.2	--	16	1.7	--	--	200	310	7.75	0.02	0.0033	--	--	--	--	32	--	--	--	0.1	--	4.7	0.003	--	--	2	--	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/29/08	--	--	3.4	--	16	1.8	--	--	--	--	--	--	--	--	--	--	--	35	--	--	--	--	--	5	0.0035	--	--	2.1	--	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9/24/08	130	2	3	--	15	1.6	--	--	180	300	7.7	0.02	0.0033	--	--	--	--	37	--	--	--	0.1	--	5.3	0.03	--	--	2.4	--	22	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/28/09	130	2	3.1	--	15	1.6	--	--	200	300	7.96	0.02	0.0020	--	--	--	--	36	--	--	--	0.05	--	5.1	0.0022	--	--	2.5	--	21	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
10/22/09	130	2	3.2	--	15	1.7	--	--	195	300	8.33	0.02	0.0020	--	--	--	--	35	--	--	--	0.05	--	5.0	0.0020	--	--	2.3	--	20	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/5/10	130	2	3.2	--	15	1.6	--	--	190	310	8.08	--	--	--	--	--	--	35	--	--	--	0.05	--	5.1	0.0022	--	--	2.4	--	21	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
6/20/11	140	2	2.9	0.26	15	1.7	1	1.7	196	310	8.18	0.02	0.0022	0.02	0.13	0.051	0.002	36	0.006	0.006	0.006	0.05	0.005	5.1	0.0020	0.008	0.01	2.3	0.005	21	0.05	0.02	0.001	0.015	0.001	0.001	0.001	0.003	0.02	0.0002	1.0	2.5	0.736	0.950
5/17/12	130	2	2.7	--	15	1.6	--	--	190	280	8.1	0.02	0.0020	--	--	--	--	37	--	--	--	0.02	--	5.2	0.0020	--	--	2.5	--	21	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/23/13	130	2	2.9	--	--	1.6	1	1.6	--	300	--	--	--	0.02	0.14	0.053	0.002	--	0.006	0.006	0.0038	0.02	0.001	4.9	0.0020	--	0.01	--	0.005	20	0.05	0.01	0.001	0.013	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
6/3/14	130	2	2.8	--	--	1.6	1	1.6	--	300	--	--	--	0.02	0.14	0.055	0.002	--	0.006	0.006	0.005	0.02	0.001	4.9	0.0020	--	0.01	--	0.005	20	0.05	0.01	0.005	0.014	0.002	0.005	0.005	--	--	0.0002	1.0	--	--	--
4/24/15	131.1	2	2.9	--	15	1.8	1	1.8	--	330	7.83	--	--	0.02	0.14	0.051	0.002	37	0.006	0.006	0.0036	0.02	0.0005	5.0	0.0024	0.008	0.01	2.6	0.005	20	0.05	0.01	0.001	0.012	0.002	0.001	0.0005	--	--	0.0002	1.0	--	--	--
6/16/16	131.4	2	2.9	0.21	15	1.6	1	1.6	189	310	7.86	--	--	0.02	0.13	0.052	0.002	37	0.006	0.006	0.006	0.02	0.0005	5.1	0.0021	0.008	0.01	2.4	0.005	21	0.05	0.01	0.001	0.013	0.002	0.001	0.0005	0.0026	--	0.0002	1.0	2.5	--	--
4/27/17	130.2	2	--	--	15	1.6	1	1.6	--	300	--	--	--	--	0.14	--	0.002	36	0.006	0.006	0.0038	--	0.0005	5.0	--	--	0.01	2.2	0.005	19	0.05	0.01	0.001	0.013	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
6/22/18	129.7	2	5.0	--	14	1.4	2	1.4	184	320	--	0.02	0.0020	--	0.13	--	0.002	36	0.006	0.006	0.010	0.020	0.0005	5.1	0.0020	--	0.01	2.8	0.005	21	--	0.018	0.001	0.013	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
5/30/19	148.2	7.92	--	--	14	1.5	1	1.5	--	310	--	--	--	--	0.12	--	0.002	35	0.006	0.006	0.010	--	0.0005	4.9	--	--	0.01	2.5	0.005	21	0.05	0.015	0.001	0.012	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
MW-2																																												
MW-1 Site Specific AML[1]																																		0.023										
8/6/96	---	---	---	---	---	---	---	---	---	---	---	--	--	---	---	---	---	---	---	---	---	2.10	---	---	0.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--
9/11/96	---	---	---	---	---	---	---	---	---	---	---	--	--	---	---	---	---	---	---	---	---	1.00	---	---	0.12	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--
10/29/96	---	---	---	---	---	---	---	---	---	---	---	--	--	---	---	---	---	---	---	---	---	2.00	---	---	0.17	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--
2/25/97	---	---	---	---	---	---	---	---	---	---	---	--	--	---	---	---	---	---	---	---	---	2.20	---	---	**0.2**	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	--
10/31/00	160	2	5	0.4	17	1.0	2.0	3.0	---	---	---	--	--	---	0.13	--	--	41.2	--	--	---	0.21	---	6.2	0.13	--	--	2.9	--	33.4	---	---	---	0.013	--	---	---	---	---	---	2.0	---	--	--
11/14/01	248	--	5	0.4	44	1.0	1.7	1.0	--	--	--	--	--	--	0.1	--	--	44.3	--	--	--	0.10	0.01	6.1	**0.47**	--	--	2.7	--	72	--	--	--	0.01	--	--	--	--	--	--	2.0	--	--	--
1/9/03	140	2	2.3	0.3	13.6	1.2	1.0	1.2	190	260	7.8	--	--	3	**0.29**	0.5	0.002	49	0.028	0.03	0.06	4.20	0.014	7.2	**0.29**	0.75	0.05	3.1	0.01	19	0.08	0.73	0.003	0.021	0.002	0.005	0.001	2.5	0.1	0.001	0.7	0.003	2.5	2.5
5/12/03	170	2	5	0.4	22	1.0	1.0	1.0	260	330	7.6	--	--	3	0.11	0.5	0.002	40	0.01	0.03	0.06	0.25	0.01	4.8	0.03	0.75	0.05	2.8	0.01	40	0.08	0.06	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	1.8	0.003	2.5	2.5
12/12/03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.64	--	4.6	0.07	0.75	0.05	2.5	0.01	39	0.08	0.05	--	--	--	0.005	0.002	2.5	--	0.001	1.0	0.003	2.5	2.5
3/24/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.50	--	--	0.031	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/22/04	180	2	3.2	0.4	24	1.0	1.0	1.0	240	360	7.4	--	--	3	0.088	0.5	0.002	32	0.01	0.03	0.06	0.25	0.01	--	--	--	--	--	--	--	--	--	--	0.01	0.002	--	--	--	--	--	--	--	--	2.5	2.5
11/4/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.26	--	--	0.052	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/26/05	130	2	5	0.4	14	1.2	1.0	1.2	170	290	7.9	0.02	0.0079	3	0.13	0.5	0.002	35	0.01	0.03	0.06	0.1	0.01	5.1	0.03	0.75	0.05	2.2	0.01	18	0.08	0.05	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
2/6/06	--	--	--	--	--	--	--	--	--	--	--	0.02	0.0067	--	--	--	--	--	--	--	--	0.066	--	--	0.012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/11/06	130	2	5.0	0.4	15	1.5	1.0	1.2	190	290	7.91	0.02	0.0070	3	0.13	0.5	0.002	36	0.01	0.03	0.06	0.1	0.01	5.2	0.03	0.75	0.05	2.4	0.01	21	0.08	0.05	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.003	2.5	2.5
1/25/07	130	--	2.8	--	15	1.1	--	--	180	300	7.86	0.02	0.0053	--	--	--	--	34	--	--	--	0.1	--	5.0	0.030	--	--	2.3	--	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/07	130	--	2.9	--	15	--	--	1.2	180	300	7.73	0.02	0.0039	--	--	--	--	32	--	--	--	0.1	--	4.7	0.03	--	--	2	--	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/30/08	--	--	2.9	--	15	1.3	--	--	--	--	--	--	--	--	--	--	--	35	--	--	--	--	--	5.2	--	--	--	2.1	--	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9/24/08	130	2	2.7	--	14	1.1	--	--	170	300	7.79	0.02	0.0032	--	--	--	--	36	--	--	--	0.1	--	5.3	0.03	--	--	2.3	--	19	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/28/09	130	2	2.8	--	13	1.2	--	--	190	280	7.98	0.02	0.0029	--	--	--	--	35	--	--	--	0.05	--	5.2	0.0052	--	--	2.6	--	19	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
10/22/09	130	2	2.8	--	14	1.5	--	--	180	280	8.31	0.02	0.0024	--	--	--	--	35	--	--	--	0.05	--	5.2	0.0036	--	--	2.5	--	18	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/5/10	120	2	2.8	--	13	1.2	--	--	178	300	8.07	--	--	--	--	--	--	35	--	--	--	0.05	--	5.2	0.0020	--	--	2.3	--	18	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
6/20/11	130	2	2.5	0.31	14	1.2	1	1.2	187	300	8.23	0.02	0.0021	0.021	0.14	0.044	0.002	36	0.006	0.006	0.006	0.05	0.005	5.4	0.0043	0.008	0.01	2.3	0.005	19	0.05	0.02	0.001	0.012	0.001	0.001	0.001	0.004	0.02	0.0002	1.0	2.5	0.525	1.058
5/18/12	130	2	2.4	--	13	1.1	--	--	186	280	8.03	0.02	0.0020	--	--	--	--	36	--	--	--	0.02	--	5.3	0.0026	--	--	2.4	--	19	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/24/13	130	2	2.5	--	--	1.2	1	1.2	--	290	--	--	--	0.044	0.14	0.046	0.002	--	0.006	0.006	0.001	0.02	0.001	5.1	0.0030	--	0.01	--	0.005	17	0.05	0.01	0.001	0.012	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
6/4/14	130	2	2.4	--	--	1.2	1	1.2	--	280	--	--	--	0.026	0.15	0.048	0.002	--	0.006	0.006	0.001	0.025	0.001	5.1	0.0050	--	0.01	--	0.005	18	0.05	0.01	0.001	0.012	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
4/24/15	126.5	2	2.5	--	13	1.3	1	1.3	--	300	7.79	--	--	0.020	0.15	0.044	0.002	35	0.006	0.006	0.001	0.020	0.0005	5.3	0.0048	0.008	0.01	2.4	0.005	17	0.05	0.01	0.001	0.013	0.002	0.001	0.0005	--	--	0.001	1.0	--	--	--
6/16/16	128.0	2	2.5	0.25	13	1.2	1	1.2	176	290	7.91	--	--	0.020	0.14	0.044	0.002	36	0.006	0.006	0.006	0.020	0.0005	5.3	0.0031	0.008	0.01	2.4	0.005	17	0.05	0.01	0.001	0.012	0.002	0.001	0.0005	0.0035	--	0.0002	1.0	2.5	--	--
4/27/17	127.6	2	--	--	12	1.2	1	1.2	--	290	--	--	--	--	0.15	--	0.002	36	0.006	0.006	0.001	--	0.0005	5.3	--	--	0.01	2.3	0.005	17	0.05	0.011	0.001	0.012	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
6/22/18	131.6	2.48	5.0	--	13	1.1	2	1.1	172	300	--	0.02	0.0020	--	0.13	--	0.002	34	0.006	0.006	0.001	0.020	0.0005	5.0	0.0023	--	0.01	2.4	0.005	19	--	0.01	0.001	0.013	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
5/30/19	130.4	2	--	--	13	1.1	1	1.1	--	300	--	--	--	--	0.12	--	0.002	34	0.0065	0.006	0.001	--	0.0005	4.9	--	--	0.01	2.4	0.005	21	0.05	0.01	0.001	0.011	0.002	0.001	0.0005	--	--	--	1.0	--	--	--

Table 2b: **Inorganic, Phenols and Total Organic Carbon Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	Inorganics																																								TOC	Total Phenolics	Radium	
Method	**2320B**		**300.0**				**4500 NORG C**		**2540C MOD**	**SM2510B**	**4500 - H+B**	**200.7**		**200.7 & 200.8**																			**200.7 & 200.8**						**Kelada mod**	**245.1**	**9060**		**903.1, 904.0**	
Analytes	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Nitrate	Total Kjeldahl Nitrogen	Total Nitrogen	Total Dissolved Solids	Conductivity	pH	Dissolved Iron	Dissolved Manganese	Aluminum	Barium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Silver	Sodium	Vanadium	Zinc	Antimony	Arsenic	Beryllium	Selenium	Thallium	Uranium	Cyanide	Mercury	Total Organic Carbon	Total Phenolics	Radium 226	Radium 228
G.W.P.S.			250	1.6	600	10			1,000			1	0.2	5	1	0.75	0.005		0.05	0.05	1.0	1.0	0.05		0.2	1.0	0.2		0.05			10	0.006	0.010	0.004	0.05	0.002	0.03	0.2	0.002		0.005	5	5
PQL	20	2.0	5	0.1	0.5	1.0	1.0	1.0	20	5.0	0.1	0.02	0.002	0.02	0.002	0.04	0.002	1.0	0.006	0.006	0.001	0.02	0.0005	1.0	0.002	0.008	0.01	1.0	0.005	1.0	0.05	0.01	0.001	0.001	0.002	0.001	0.0005	0.0005	0.02	0.0002	1.0	2.5	2.5	2.5
AML presumptive			187.5	0.8	450	5.0			750			0.75	0.15	3.75	0.5	0.56	0.0025		0.025	0.0375	0.75	0.75	0.025		0.15	0.75	0.15		0.025		0.098	7.5	0.003	0.005	0.002	0.025	0.001	0.015	0.1	0.001		0.00375	2.5	2.5
MW-3																																												
MW-1 Site Specific AML[1]																																		0.023										
6/18/96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8/6/96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.05**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9/11/96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/29/96	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2/25/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.04**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/31/00	130	2	5	0.4	13	1.8	7.3	**9.1**	--	--	--	--	--	--	0.15	--	--	41.8	--	--	--	0.1	--	6.9	**0.06**	--	--	2.9	--	16.2	--	--	--	0.01	--	--	--	--	--	--	2.0	--	--	--
11/14/01	178	--	5	0.4	15	1.7	2.0	1.0	--	--	--	--	--	--	0.13	--	--	35.3	--	--	--	0.1	--	5.7	0.03	--	--	2.1	--	13.3	--	--	--	0.01	--	--	--	--	--	--	2.0	--	--	--
1/9/03	130	2	2.5	0.3	13.3	1.9	1	1.9	190	260	7.6	--	--	3	0.15	0.5	0.002	40	0.01	0.03	0.06	0.1	0.01	6.2	0.03	0.75	0.05	2.7	0.01	16	0.08	0.05	0.003	**0.02**	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
5/12/03	120	2	5	0.4	14.0	1.8	1	1.8	190	260	7.8	--	--	3	0.15	0.5	0.002	41	0.01	0.03	0.06	0.1	0.01	6.0	**0.07**	0.75	0.05	2.8	0.01	16	0.08	0.05	0.003	0.01	0.002	0.005	0.01	2.5	0.1	0.001	1.0	0.003	2.5	2.5
3/24/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.32	--	--	0.0081	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/22/04	140	2	3.0	0.4	14	1.6	1	1.6	180	280	7.8	--	--	3	0.15	0.5	0.002	36	0.01	0.03	0.06	0.1	0.01	--	--	--	--	--	--	--	--	--	--	0.01	0.002	--	--	--	--	--	--	--	2.5	2.5
11/4/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.06	--	--	0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/26/05	130	2	5	0.4	14	1.7	1	1.7	170	310	7.4	0.02	0.006	3	0.14	0.5	0.002	39	0.01	0.03	0.06	0.1	0.01	6.1	0.03	0.75	0.05	2.4	0.01	16	0.08	**0.45**	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
2/6/06	--	--	--	--	--	--	--	--	--	--	--	0.02	0.006	--	--	--	--	--	--	--	--	0.85	--	--	0.0095	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/11/06	130	2	3.0	0.17	14	1.7	1	1.7	180	290	7.81	0.02	0.002	3	0.14	0.5	0.002	38	0.01	0.03	0.06	0.6	0.01	5.9	0.03	0.75	0.05	2.4	0.01	15	0.08	0.12	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.003	2.5	2.5
1/25/07	140	--	3.1	--	14	1.7	--	--	180	310	7.24	0.02	0.002	--	--	--	--	38	--	--	--	0.93	--	5.8	0.030	--	--	2.5	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/07	130	--	3.1	--	--	--	--	1.9	180	--	7.38	0.02	0.002	--	--	--	--	37	--	--	--	0.16	--	5.8	0.03	--	--	2.3	--	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/30/08	--	--	3.2	--	15	1.9	--	--	--	--	--	--	--	--	--	--	--	37	--	--	--	**0.28**	--	5.9	--	--	--	2.2	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9/25/08	140	2	2.9	--	14	1.7	--	--	170	300	7.63	0.02	0.002	--	--	--	--	39	--	--	--	0.17	--	6.1	0.03	--	--	2.5	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/28/09	120	2	3	--	13	1.8	--	--	190	290	7.94	0.02	0.002	--	--	--	--	38	--	--	--	0.29	--	5.9	0.002	--	--	2.5	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
10/22/09	120	2	3.1	--	14	1.8	--	--	189	290	8.18	0.025	0.002	--	--	--	--	37	--	--	--	0.29	--	5.8	0.002	--	--	2.5	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/5/10	120	2	3.1	--	14	1.8	--	--	183	300	7.87	--	--	--	--	--	--	37	--	--	--	0.1	--	5.9	0.002	--	--	2.4	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
6/20/11	130	2	2.8	0.29	14	1.8	1	1.8	189	300	8.11	0.02	0.002	0.02	0.14	0.051	0.002	36	0.006	0.006	0.006	0.31	0.005	5.8	0.0020	0.008	0.01	2.2	0.005	15	0.05	0.029	0.001	0.012	0.001	0.001	0.001	0.003	0.02	0.0002	1.0	2.5	0.636	1.267
5/17/12	130	2	2.7	--	13	1.7	--	--	190	290	7.91	0.02	0.002	--	--	--	--	39	--	--	--	0.14	--	6.1	0.0020	--	--	2.5	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/23/13	130	2	2.7	--	--	1.7	1	1.7	--	310	--	--	--	0.02	0.14	0.077	0.002	--	0.006	0.006	0.012	0.60	0.001	5.9	0.0020	--	0.01	--	0.005	16	0.05	0.044	0.001	0.0099	0.002	0.001	0.001	--	--	0.0002	2.0	--	--	--
6/3/14	130	2	2.9	--	--	1.8	1	1.8	--	290	--	--	--	0.02	0.15	0.058	0.002	--	0.006	0.006	0.002	0.56	0.0018	5.7	0.0020	--	0.01	--	0.005	15	0.05	0.038	0.001	0.0110	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
4/24/15	Not sampled -- pump not working.																																											
7/2/15	130.2	2	2.6	--	13	1.7	1	1.7	197	310	7.59	--	--	--	--	0.059	0.002	38	0.006	0.006	--	0.90	0.0006	5.9	0.0044	0.008	0.01	2.5	0.005	15	0.05	0.100	0.001	0.01	--	0.001	0.0005	--	--	--	3.8	4.8	--	--
6/16/16	128.7	2	2.8	0.24	13	1.7	1	1.7	182	300	7.78	--	--	0.02	0.15	0.055	0.002	38	0.006	0.006	0.010	0.13	0.0005	6.0	0.0020	0.008	0.01	2.5	0.005	15	0.05	0.033	0.001	0.01	0.002	0.001	0.0005	0.0031	--	0.0002	1.0	2.5	--	--
4/27/17	128.2	2	--	--	13	1.7	1	1.7	--	290	--	--	--	--	0.15	--	0.002	37	0.006	0.006	0.021	--	0.0005	5.8	--	--	0.01	2.4	0.005	15	0.05	0.028	0.001	0.0091	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
6/22/18	134.1	2	5.0	--	13	1.6	2	1.6	178	310	--	0.020	0.0020	--	0.17	--	0.002	39	0.006	0.006	0.029	1.8	0.0006	6.1	0.0130	--	0.01	2.6	0.005	16	--	0.080	0.001	0.017	0.002	0.001	0.0005	--	--	--	12.0	--	--	--
5/30/19	126.4	2	--	--	13	1.7	1	1.7	--	300	--	--	--	--	0.15	--	0.002	36	0.006	0.006	0.050	--	0.0027	5.6	--	--	0.01	2.6	0.005	16	0.05	0.091	0.001	0.015	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
MW-4																																												
MW-1 Site Specific AML[1]																																		0.023										
6/30/00	114	1	2.8	**0.37**	85	2.5	0.5	2.5	220	290	7.8	--	--	0.1	0.122	0.13	0.005	27	0.02	0.01	0.01	0.04	0.002	4.7	0.013	0.03	0.02	2.4	0.01	16	0.02	0.01	0.003	0.011	0.005	0.003	0.001	0.02	0.01	0.0002	1.0	0.005	--	--
10/31/00	130	2	5	0.4	12	2.3	2.5	4.8	188	287	7.78	--	--	3	0.15	0.5	0.002	41.9	0.01	0.03	0.06	0.10	0.01	7.0	0.03	0.75	0.05	3.0	0.01	16.7	0.08	0.05	0.003	0.011	--	0.005	0.001	---	0.1	0.001	2.0	---	--	--
11/26/01	130	2	3.2	0.27	14	2.1	1.0	--	180	--	--	--	--	--	0.144	--	--	35.2	--	--	--	0.06	--	5.65	0.007	--	--	2.7	--	14.5	--	--	--	0.01	--	--	--	2.5	--	--	1.0	--	2.5	2.5
1/9/03	140	2	2.9	0.3	12.4	2.2	1.0	2.2	200	250	7.8	--	--	3	0.150	0.5	0.002	40	0.01	0.03	0.06	0.1	0.01	6.1	0.03	0.75	0.05	2.7	0.01	16.0	0.08	0.05	0.003	**0.02**	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
2/6/04	140	2	3.3	0.4	13	2.2	1.0	2.2	170	270	8.0	--	--	7.1	**0.21**	0.5	0.002	57	0.019	0.03	0.06	5.2	0.010	8.2	0.38	0.75	0.05	3.8	0.01	16.0	0.08	0.07	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.005	2.5	2.5
3/24/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.13	--	--	0.0088	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6/22/04	130	2	3.3	0.4	13	2.1	1	2.1	180	280	8.0	--	--	3	0.14	0.5	0.002	38	0.01	0.03	0.06	0.1	0.01	--	--	--	--	--	--	--	--	--	--	0.01	0.002	--	--	--	--	--	--	--	2.5	2.5
11/4/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.065	--	--	0.008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/1/05	--	--	--	--	--	--	--	--	--	--	--	0.02	0.002	--	--	--	--	--	--	--	--	0.05	--	--	0.0043	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/26/05	130	2	5	0.4	13	2.2	1.0	2.2	170	290	7.9	0.02	0.002	3	0.14	0.5	0.002	37	0.01	0.03	0.06	0.1	0.01	5.9	0.03	0.75	0.05	2.3	0.01	16	0.08	0.05	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
2/6/06	--	--	--	--	--	--	--	--	--	--	--	0.02	0.002	--	--	--	--	--	--	--	--	0.12	--	--	0.016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/11/06	130	2	5	0.4	13	2.2	1.0	2.2	190	300	7.9	0.02	0.002	3	0.14	0.5	0.002	38	0.01	0.03	0.06	0.1	0.01	6.0	0.03	0.75	0.05	2.5	0.01	15	0.08	0.05	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.003	2.5	2.5
1/25/07	130	--	3.3	--	13	2.1	--	--	170	300	7.87	0.02	0.002	--	--	--	--	36	--	--	--	0.1	--	5.8	0.030	--	--	2.4	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/07	--	--	3.4	--	13	--	--	2.3	180	300	7.68	0.02	0.002	--	--	--	--	36	--	--	--	0.1	--	5.8	0.03	--	--	2.1	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1/30/08	--	--	3.6	--	14	2.5	--	--	--	--	--	--	--	--	--	--	--	38	--	--	--	--	--	6.0	--	--	--	2.3	--	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9/25/08	130	2	3.2	--	13	2.2	--	--	140	300	7.77	0.02	0.002	--	--	--	--	40	--	--	--	0.1	--	6.3	0.03	--	--	2.5	--	16	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/28/09	120	2	3.4	--	12	2.2	--	--	190	290	7.88	0.02	0.002	--	--	--	--	36	--	--	--	0.05	--	5.9	0.0021	--	--	2.7	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
10/22/09	130	2	3.4	--	13	2.3	--	--	188	290	8.26	0.02	0.002	--	--	--	--	37	--	--	--	0.05	--	6.0	0.0025	--	--	2.6	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/5/10	120	2	3.2	--	13	2.3	--	--	183	300	8.06	--	--	--	--	--	--	36	--	--	--	0.05	--	5.9	0.002	--	--	2.5	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
6/20/11	130	2	3.1	0.34	13	2.3	1	2.3	190	300	8.16	0.02	0.002	0.03	0.14	0.055	0.002	37	0.006	0.006	0.006	0.05	0.005	6.0	0.0021	0.008	0.01	2.4	0.005	16	0.05	0.043	0.001	0.012	0.001	0.001	0.001	0.003	0.02	0.0002	1.0	2.5	0.455	0.836
5/17/12	130	2	2.9	--	12	2.2	--	--	189	280	8.01	0.02	0.002	--	--	--	--	38	--	--	--	0.03	--	6.1	0.0032	--	--	2.6	--	16	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/24/13	130	2	3.0	--	--	2.2	1	2.2	--	300	--	--	--	0.02	0.14	0.073	0.002	--	0.006	0.006	0.0024	0.029	0.001	5.6	0.0024	--	0.01	--	0.005	16	0.05	0.042	0.001	0.010	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
6/3/14	130	2	2.9	--	--	2.2	1	2.2	--	290	--	--	--	0.02	0.15	0.061	0.002	--	0.006	0.006	0.0050	0.027	0.005	5.8	0.0021	--	0.01	--	0.005	16	0.05	0.053	0.005	0.010	0.002	0.005	0.005	--	--	0.0002	1.0	--	--	--
4/24/15	127.8	2	3.0	--	12	2.3	1	2.3	--	310	7.81	--	--	0.02	0.14	0.057	0.002	36	0.006	0.006	0.0021	0.035	0.0005	6.0	0.0027	0.008	0.01	2.5	0.005	16	0.05	0.047	0.001	0.011	0.002	0.001	0.0005	--	--	0.0002	1.0	--	--	--
6/16/16	130.6	2	3.0	0.28	12	2.2	1	2.2	182	300	8.13	--	--	0.10	0.15	0.059	0.002	38	0.006	0.006	0.0060	0.087	0.0005	6.2	0.0076	0.008	0.01	2.6	0.005	16	0.05	0.024	0.001	0.011	0.002	0.001	0.0005	0.0036	--	--	1.0	2.5	--	--
4/27/17	127.8	2	--	--	12	2.2	1	2.2	--	300	--	--	--	--	0.15	--	0.002	37	0.006	0.006	0.0012	--	0.0005	5.9	--	--	0.01	2.4	0.005	15	0.05	0.022	0.001	0.010	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
6/22/18	130.3	2.640	5.0	--	12	2.0	2	2.0	182	310	--	0.020	0.0020	--	0.15	--	0.002	38	0.006	0.006	0.0025	0.19	0.0005	6.0	0.0059	--	0.01	2.6	0.005	17	--	0.045	0.001	0.011	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
5/30/19	126.6	2	--	--	12	2.2	1	2.2	--	300	--	--	--	--	0.14	--	0.002	36	0.006	0.006	0.0024	--	0.0005	6.1	--	--	0.01	2.6	0.005	15	0.05	0.024	0.001	0.011	0.002	0.001	0.0005	--	--	--	1.0	--	--	--

Table 2b: **Inorganic, Phenols and Total Organic Carbon Groundwater Chemistry Data, Agua Fria Landfill**
Groundwater Monitoring Wells 1-5

	Inorganics																																							TOC	Total Phenolics	Radium	
Method	**2320B**		**300.0**				**4500 NORG C**		**2540C MOD**	**SM2510B**	**4500 - H+B**	**200.7**		**200.7 & 200.8**																	**200.7 & 200.8**						**Kelada mod**	**245.1**	**9060**		**903.1, 904.0**	
Analytes	Bicarbonate	Carbonate	Chloride	Fluoride	Sulfate	Nitrate	Total Kjeldahl Nitrogen	Total Nitrogen	Total Dissolved Solids	Conductivity	pH	Dissolved Iron	Dissolved Manganese	Aluminum	Barium	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Silver	Sodium	Vanadium	Zinc	Antimony	Arsenic	Beryllium	Selenium	Thallium	Uranium	Cyanide	Mercury	Total Organic Carbon	Total Phenolics	Radium 226	Radium 228
G.W.P.S.			250	1.6	600	10			1,000			1	0.2	5	1	0.75	0.005		0.05	0.05	1.0	1.0	0.05		0.2	1.0	0.2		0.05			10	0.006	0.010	0.004	0.05	0.002	0.03	0.2	0.002		0.005	5	5
PQL	20	2.0	5	0.1	0.5	1.0	1.0	1.0	20	5.0	0.1	0.02	0.002	0.02	0.002	0.04	0.002	1.0	0.006	0.006	0.001	0.02	0.0005	1.0	0.002	0.008	0.01	1.0	0.005	1.0	0.05	0.01	0.001	0.001	0.002	0.001	0.0005	0.0005	0.02	0.0002	1.0	2.5	2.5	2.5
AML presumptive			187.5	0.8	450	5.0			750			0.75	0.15	3.75	0.5	0.56	0.0025		0.025	0.0375	0.75	0.75	0.025		0.15	0.75	0.15		0.025		0.098	7.5	0.003	0.005	0.002	0.025	0.001	0.015	0.1	0.001		0.00375	2.5	2.5
MW-5																																											
MW-1 Site Specific AML[1]																																		0.023									
7/1/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	--	--	0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/1/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02	--	--	0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/27/05	130	2	5.0	0.4	13	1.6	1.0	1.6	160	300	7.9	0.024	0.0069	3.0	0.14	0.5	0.002	36	0.01	0.03	0.06	0.1	0.01	5.9	0.03	0.75	0.05	2.3	0.01	15	0.08	0.05	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	0.5	0.003	2.5	2.5
2/6/06	--	--	--	--	--	--	--	--	--	--	--	0.02	0.002	--	--	--	--	--	--	--	--	0.05	--	--	0.002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/11/06	120	2	5	0.4	13	1.6	1.0	1.9	180	280	7.9	0.02	0.002	3.0	0.15	0.5	0.002	37	0.01	0.03	0.06	0.1	0.01	6.0	0.03	0.75	0.05	2.4	0.01	15	0.08	0.05	0.003	0.01	0.002	0.005	0.001	2.5	0.1	0.001	1.0	0.003	2.5	2.5
1/25/07	130	--	2.9	--	13	1.5	--	--	190	290	7.88	0.02	0.002	--	--	--	--	35	--	--	--	0.10	--	5.7	0.030	--	--	2.3	--	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7/26/07	130	--	2.9	--	14	--	--	1.6	180	290	7.71	0.02	0.002	--	--	--	--	35	--	--	--	0.1	--	5.6	0.03	--	--	2.1	--	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9/25/08	110	2	2.8	--	13	1.5	--	--	150	290	7.78	0.02	0.002	--	--	--	--	38	--	--	--	0.1	--	6.0	0.03	--	--	2.4	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/28/09	120	2	2.7	--	13	1.6	--	--	180	280	7.98	0.02	0.002	--	--	--	--	--	--	--	--	0.05	--	5.8	0.002	--	--	2.4	--	14	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
10/22/09	120	2	2.9	--	13	1.6	--	--	184	280	8.2	0.02	0.002	--	--	--	--	36	--	--	--	0.05	--	5.8	0.002	--	--	2.4	--	14	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/5/10	120	2	3	--	13	1.6	--	--	179	290	8.1	--	--	--	--	--	--	35	--	--	--	0.05	--	5.8	0.002	--	--	2.3	--	14	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
6/20/11	**130**	2	2.6	0.29	14	1.6	1	1.6	182	290	8.19	0.02	0.002	0.02	0.15	0.049	0.002	36	0.006	0.006	0.006	0.05	0.005	5.9	0.002	0.008	0.01	2.2	0.005	15	0.05	0.02	0.001	0.013	0.001	0.001	0.001	0.003	0.02	0.0002	1.0	2.5	0.479	0.978
5/18/12	120	2	2.5	--	13	1.5	--	--	186	280	8.0	0.02	0.002	--	--	--	--	37	--	--	--	0.02	--	6.0	0.002	--	--	2.4	--	15	--	--	--	--	--	--	--	--	--	--	1.0	--	--	--
5/24/13	130	2	2.6	--	--	1.5	1	1.5	--	290	--	--	--	0.02	0.15	0.052	0.002	--	0.006	0.006	0.0017	0.02	0.001	5.7	0.002	--	0.01	--	0.005	14	0.05	0.01	0.001	0.011	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
6/4/14	130	2	2.5	--	--	1.5	1	1.5	--	280	--	--	--	0.02	0.16	0.054	0.002	--	0.006	0.006	0.0020	0.02	0.001	5.7	0.002	--	0.01	--	0.005	14	0.05	0.01	0.001	0.011	0.002	0.001	0.001	--	--	0.0002	1.0	--	--	--
4/24/15	124.1	2	2.5	--	13	1.5	1	1.5	--	300	7.82	--	--	0.02	0.15	0.050	0.002	36	0.006	0.006	0.0021	0.02	0.0005	5.8	0.002	0.008	0.01	2.4	0.005	14	0.05	0.01	0.001	0.012	0.002	0.001	0.0005	--	--	0.0002	1.0	--	--	--
6/16/16	128.1	2	2.5	0.23	13	1.5	1	1.5	170	290	8.13	--	--	0.02	0.15	0.052	0.002	35	0.006	0.006	0.0060	0.02	0.0005	6.0	0.002	0.008	0.01	2.5	0.005	15	0.05	0.01	0.001	0.011	0.002	0.001	0.0005	0.003	--	0.0002	1.0	2.5	--	--
4/27/17	125.4	2	--	--	13	1.5	1	1.5	--	290	--	--	--	--	0.16	--	0.002	36	0.006	0.006	0.0035	--	0.0005	5.8	--	--	0.01	2.3	0.005	14	0.05	0.01	0.001	0.011	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
6/22/18	127.9	2.640	5.0	--	13	1.4	2	1.4	182	300	--	0.020	0.0020	--	0.16	--	0.002	37	0.006	0.006	0.016	0.020	0.0005	5.8	0.0020	--	0.01	2.5	0.005	15	--	0.019	0.001	0.012	0.002	0.001	0.0005	--	--	--	1.0	--	--	--
5/30/19	124.4	2	--	--	13	1.5	1	1.5	--	290	--	--	--	--	0.15	--	0.002	36	0.006	0.006	0.0054	--	0.0005	5.7	--	--	0.01	2.5	0.005	15	0.05	0.01	0.001	0.011	0.002	0.001	0.0005	--	--	--	1.0	--	--	--

Notes:

[1] - Interwell Evaluation Proposed, Site Specific Background and AML for MW-1 for all monitoring wells at the Agua Fria Landfill
All units in milligrams per liter; except electrical conductivity in µs/cm (microsiemens per centimeter) and radium 226 and radium 228 in pCi/L (picocuries per liter).
Analytes above the PQL are listed in red
Analytes exceeding proposed Presumptive or Site Specific Assessment Monitoring Levels (as appropriate) are in **boldface red type**
Analytes exceeding groundwater protection standard highlighted **yellow**
PQLs have changed over period of record. Current PQLs are valid as of 5/30/19.
2nd analysis (all dates) is for dissolved (field-filtered) iron & manganese
Data used to calculate Background and Site Specific AML

Table 3: Groundwater Gradient and Flow Velocity Calculations, Agua Fria Landfill

Aquifer Test Summary Data (July 2005)

Well	Total Depth (ft)	Depth to Top Screen (ft)	Depth to Bottom Screen (ft)	Wetted Screen (ft)	Static Water Level (ft)	Stable Pumping Water Level (ft)	Drawdown (ft)	Pumping Rate (gpm)	Specific Capacity (gpm/ft)	Aquifer T (gpd/ft)	Aquifer T (ft^2/d)	Aquifer K (ft/d)
MW-1	465	388	448	60	301.14	305.27	4.13	2.5	0.61	1059.3	141.6	2.4
MW-1		388	448	60	301.00	305.75	4.75	3.0	0.63	1105.3	147.8	2.5
MW-5	319.5	278	318	37.53	279.09	280.47	1.38	1.4	1.01	1775.4	237.3	6.3
MW-5		278	318	37.26	279.10	280.74	1.64	1.53	0.93	1632.6	218.3	5.9
											Average	4.3

Groundwater Flow Velocity Calculations

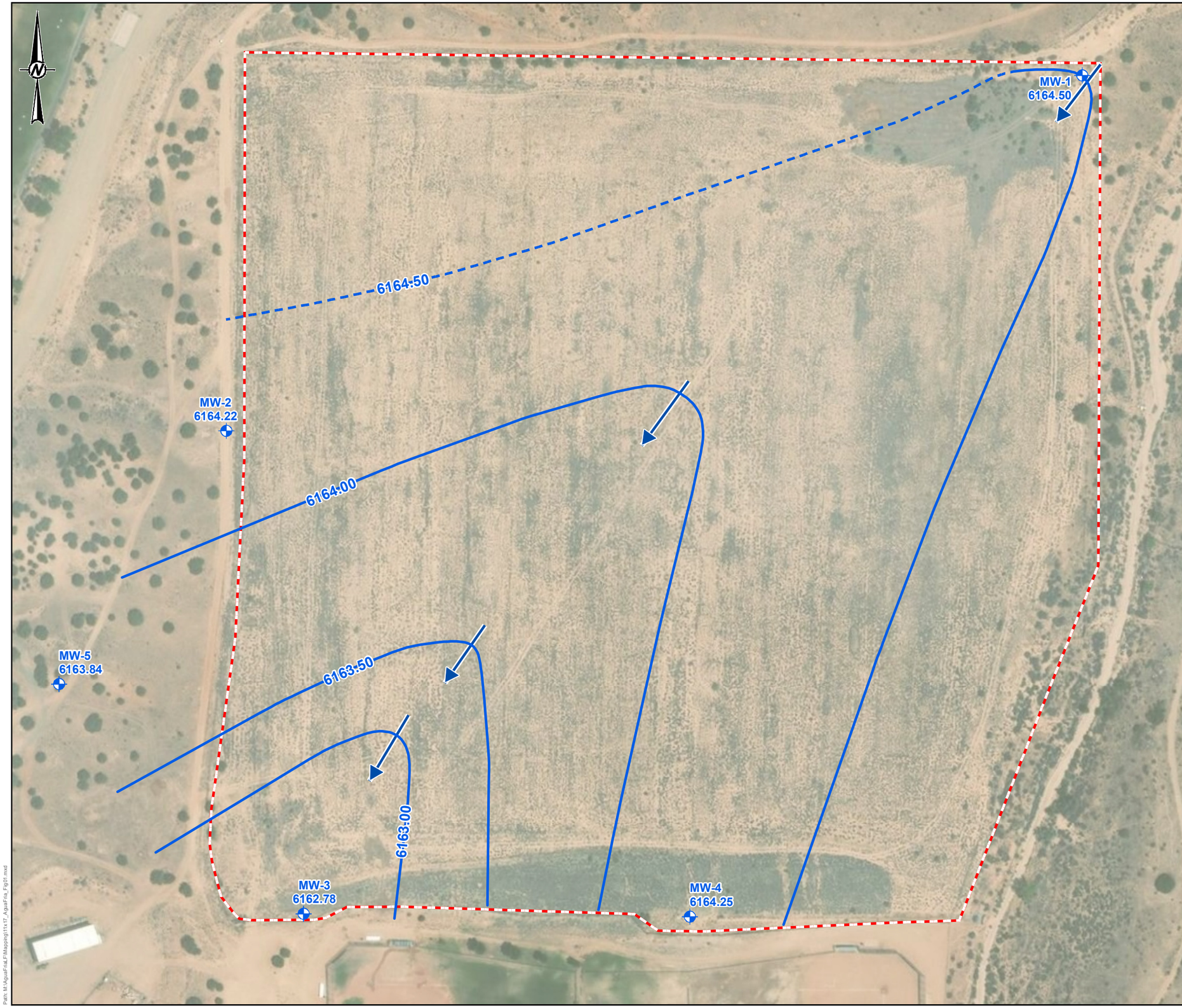
Date	Gradient (ft/ft)	Gradient (ft/mile)	Effective Porosity (f)	GW Flow Velocity (ft/yr)
2/6/2006	2.08E-04	1.10	0.05	6.53
5/11/2006	1.91E-04	1.01	0.05	6.00
1/25/2007	3.13E-04	1.65	0.05	9.81
7/26/2007	3.06E-04	1.62	0.05	9.61
2/14/2008	3.06E-04	1.62	0.05	9.61
9/25/2008	3.17E-04	1.67	0.05	9.95
5/28/2009	3.29E-04	1.74	0.05	10.33
10/22/2009	5.35E-04	2.82	0.05	16.79
5/5/2010	3.25E-04	1.72	0.05	10.20
6/20/2011	3.41E-04	1.80	0.05	10.70
5/18/2012	3.10E-04	1.64	0.05	9.73
5/24/2013	5.40E-04	2.85	0.05	16.95
6/3/2014	1.56E-04	0.82	0.05	4.90
4/24/2015	3.27E-04	1.73	0.05	10.26
6/16/2016	4.00E-04	2.11	0.05	12.56
4/27/2017	3.19E-04	1.68	0.05	10.01
6/22/2018	2.35E-04	1.24	0.05	7.38
5/30/2019	3.45E-04	1.82	0.05	10.82

Notes:

**Using average hydraulic conductivity (K)*

Groundwater Flow Velocity = K x (gradient / porosity)

Figure



LEGEND

- GROUNDWATER MONITORING WELL (WITH WELL ID AND GROUNDWATER ELEVATION IN FT AMSL)
- ESTIMATED GROUNDWATER ELEVATION CONTOUR (FT AMSL)
- GROUNDWATER FLOW DIRECTION
- BOUNDARY FENCE

0 75 150 300 Feet

REFERENCE

1. AERIAL IMAGERY: ESRI, VIVID, DIGITAL GLOBE. IMAGE FLOWN JULY 2018.

CLIENT
SANTA FE COUNTY SOLID WASTE DEPARTMENT

PROJECT
AGUA FRIA LANDFILL
SANTA FE COUNTY, NEW MEXICO

TITLE
MONITORING WELL LOCATIONS AND GROUNDWATER ELEVATION CONTOURS

CONSULTANT
GOLDER

YYYY-MM-DD	2019-07-19
PREPARED	KJC
DESIGN	KJC
REVIEW	MDC
APPROVED	MKS

PROJECT No.
1543135

FIGURE
1

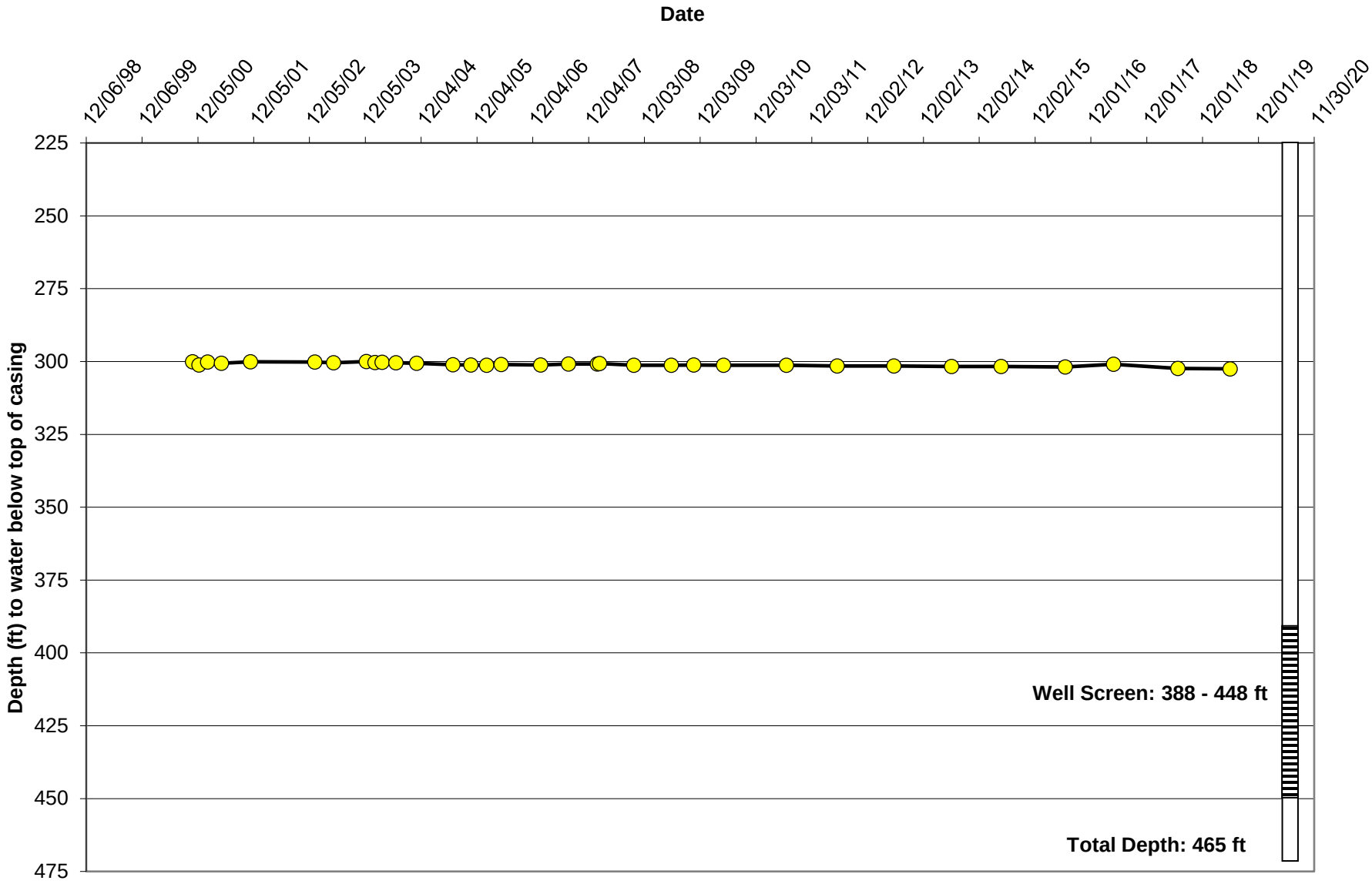
Path: M:\AguaFriaLF\Mapping\11x17_AguaFria_Fig01.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1in

APPENDIX A

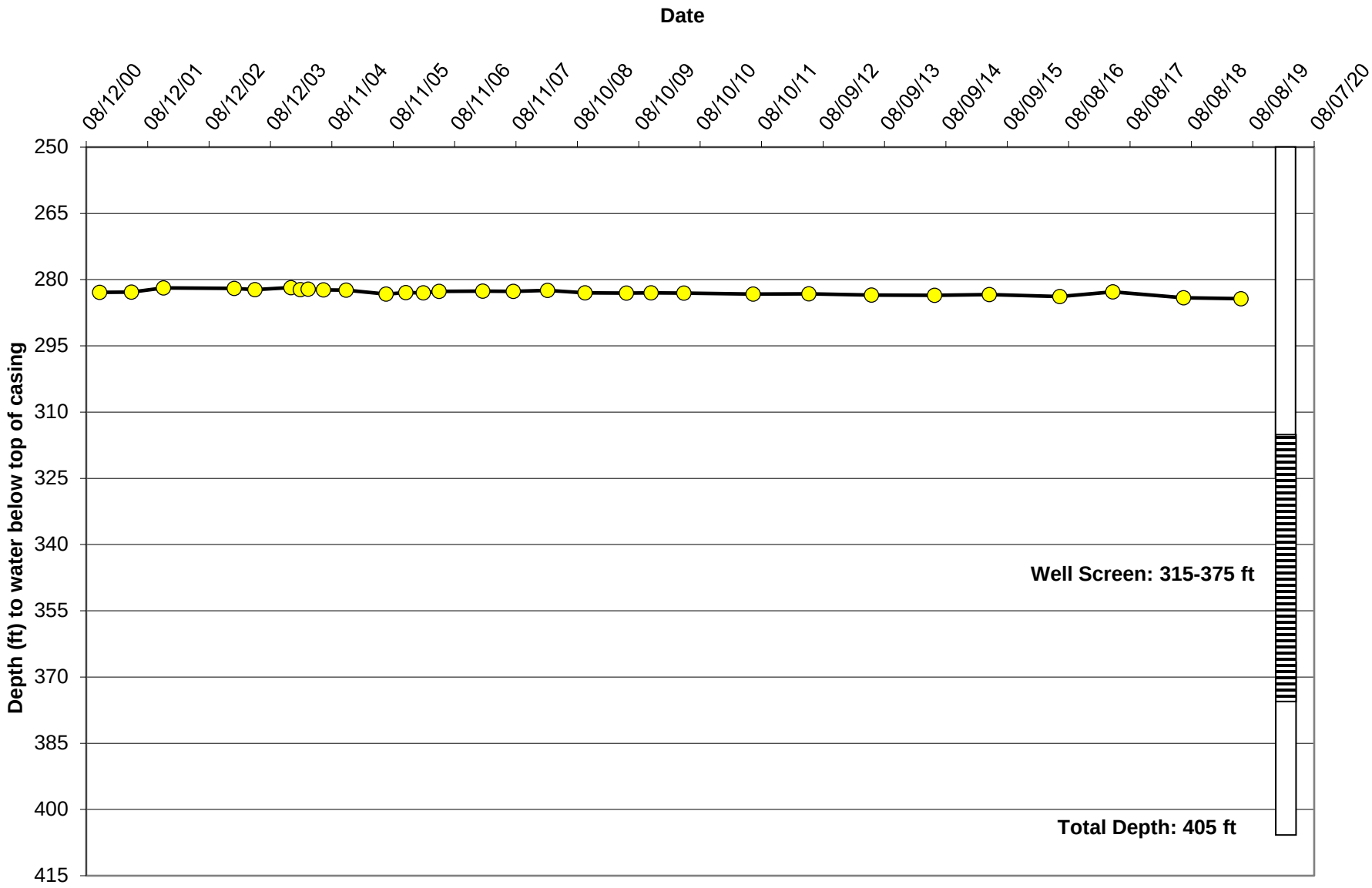
WATER LEVEL HYDROGRAPHS GROUNDWATER MONITORING WELLS 1-5

APPENDIX A
HYDROGRAPH, AGUA FRIA LANDFILL
MW-1



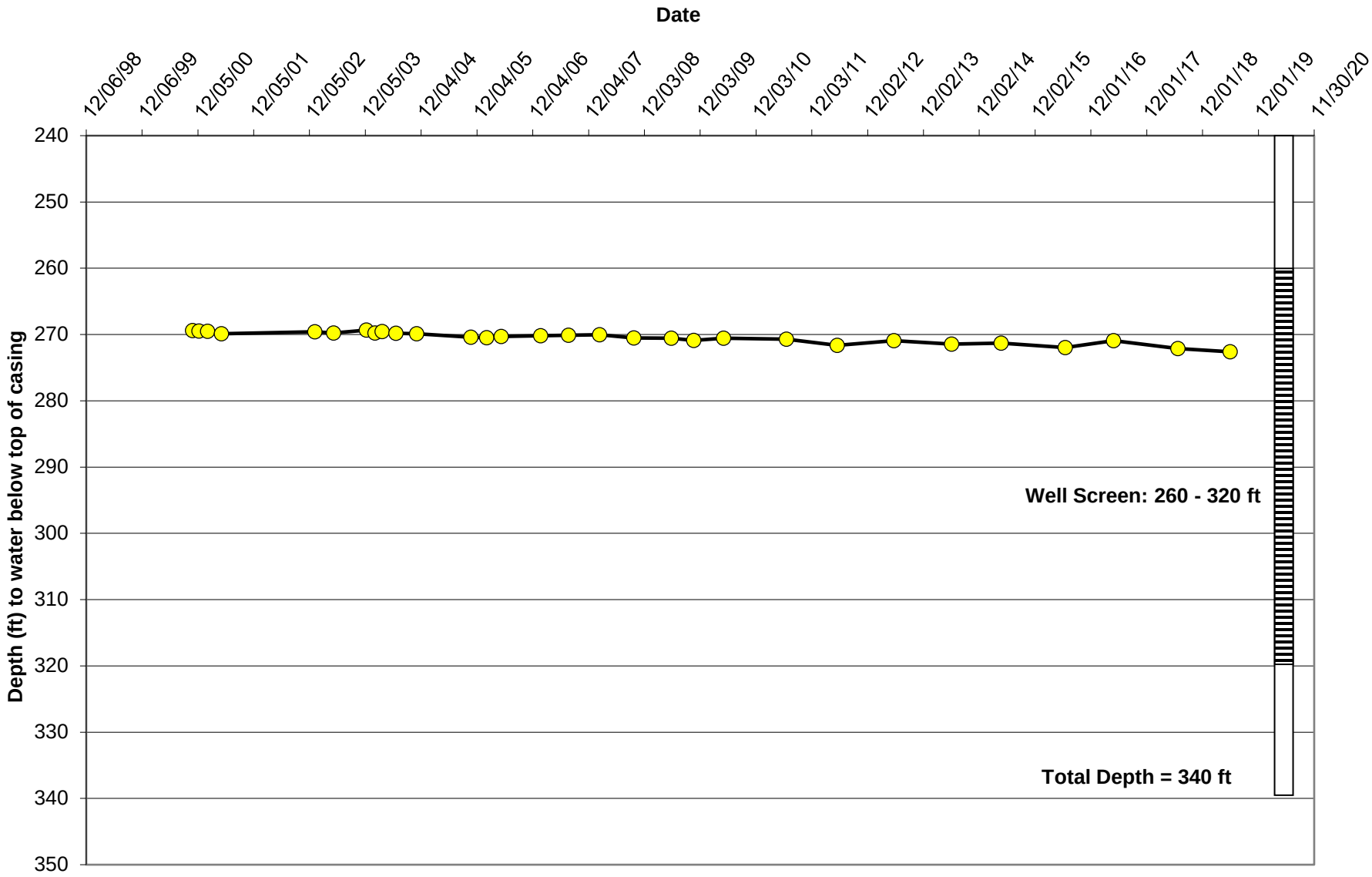
GOLDER

APPENDIX A
HYDROGRAPH, AGUA FRIA LANDFILL
MW-2



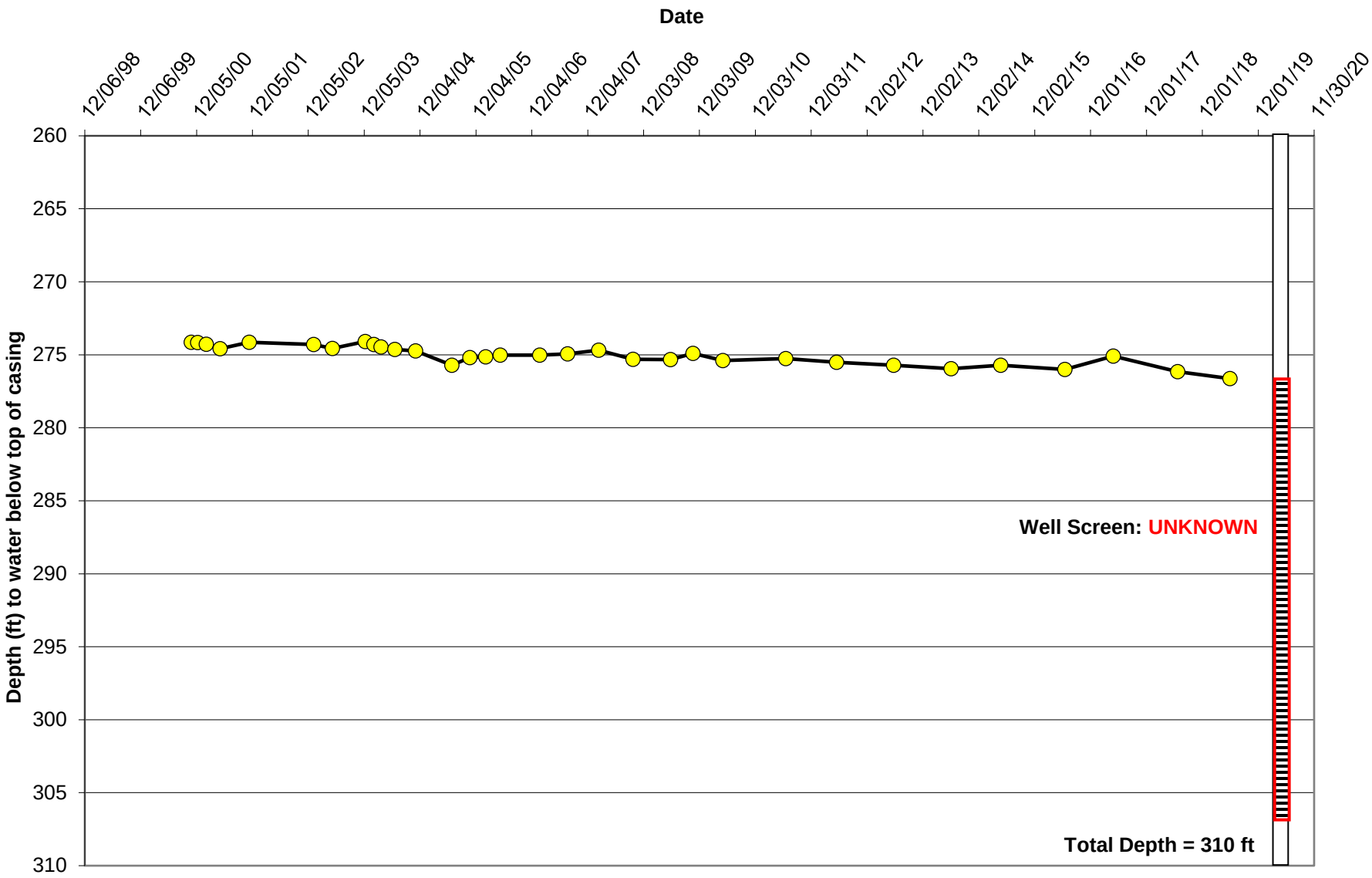
GOLDER

APPENDIX A
HYDROGRAPH, AGUA FRIA LANDFILL
MW-3



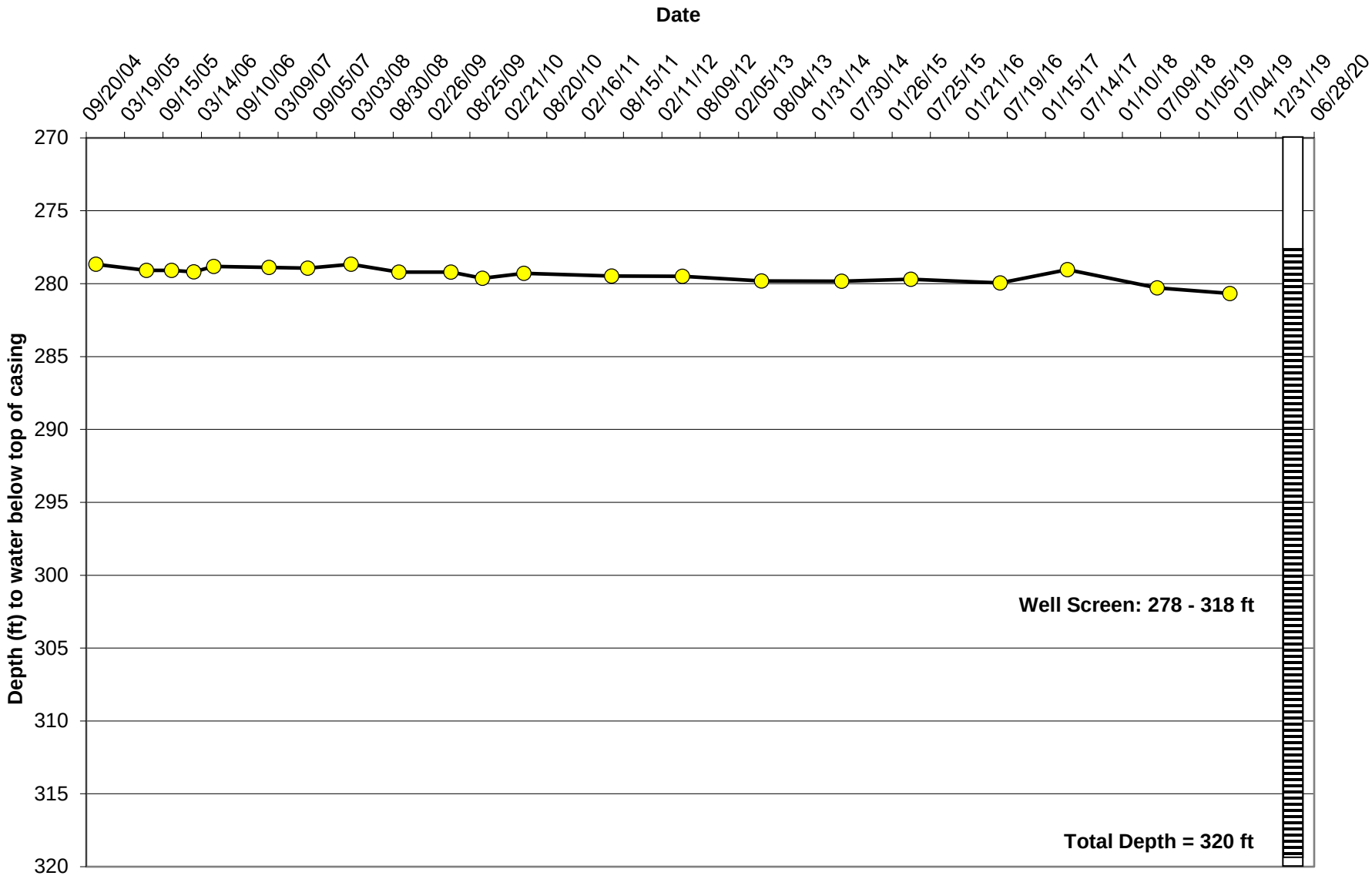
GOLDER

APPENDIX A
HYDROGRAPH, AGUA FRIA LANDFILL
MW-4



GOLDER

APPENDIX A
HYDROGRAPH, AGUA FRIA LANDFILL
MW-5



GOLDER

APPENDIX B

LABORATORY REPORT FOR WATER QUALITY ANALYSES, 5/30/2019

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 25, 2019

Matthew Somogyi
Golder Associates
5200 Pasadena, NE Suite C
Albuquerque, NM 87113
TEL: (505) 821-3043
FAX (505) 821-5273

RE: Agua Fria OrderNo.: 1905F37

Dear Matthew Somogyi:

Hall Environmental Analysis Laboratory received 9 sample(s) on 5/31/2019 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued June 28, 2019.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1905F37**
Date Reported: **7/25/2019**

CLIENT: Golder Associates
Client Sample ID: MW-1
Project: Agua Fria
Collection Date: 5/30/2019 12:05:00 PM
Lab ID: 1905F37-001
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**pmf**
Antimony	ND	0.0010		mg/L	1	6/13/2019 10:59:27 AM	45538
Arsenic	0.012	0.0010	*	mg/L	1	6/13/2019 10:59:27 AM	45538
Copper	0.010	0.0010		mg/L	1	6/13/2019 10:59:27 AM	45538
Lead	ND	0.00050		mg/L	1	6/13/2019 10:59:27 AM	45538
Selenium	ND	0.0010		mg/L	1	6/13/2019 10:59:27 AM	45538
Thallium	ND	0.00050		mg/L	1	6/13/2019 10:59:27 AM	45538
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 1:30:12 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 8:10:42 PM	R60398
Sulfate	14	0.50		mg/L	1	6/4/2019 8:10:42 PM	R60398
Nitrate+Nitrite as N	1.5	1.0		mg/L	5	6/4/2019 11:29:16 PM	R60398
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	310	5.0		µmhos/c	1	6/7/2019 11:07:51 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	148.2	20.00		mg/L Ca	1	6/6/2019 1:41:44 PM	R60464
Carbonate (As CaCO3)	7.920	2.000		mg/L Ca	1	6/6/2019 1:41:44 PM	R60464
Total Alkalinity (as CaCO3)	156.2	20.00		mg/L Ca	1	6/6/2019 1:41:44 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	1.5	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	0.12	0.0020		mg/L	1	6/11/2019 3:38:48 PM	45477
Beryllium	ND	0.0020		mg/L	1	6/11/2019 3:38:48 PM	45477
Cadmium	ND	0.0020		mg/L	1	6/11/2019 3:38:48 PM	45477
Calcium	35	1.0		mg/L	1	6/11/2019 3:38:48 PM	45477
Chromium	ND	0.0060		mg/L	1	6/11/2019 3:38:48 PM	45477
Cobalt	ND	0.0060		mg/L	1	6/11/2019 3:38:48 PM	45477
Magnesium	4.9	1.0		mg/L	1	6/11/2019 3:38:48 PM	45477
Nickel	ND	0.010		mg/L	1	6/11/2019 3:38:48 PM	45477
Potassium	2.5	1.0		mg/L	1	6/11/2019 3:38:48 PM	45477
Silver	ND	0.0050		mg/L	1	6/11/2019 3:38:48 PM	45477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-1
Project: Agua Fria
Collection Date: 5/30/2019 12:05:00 PM
Lab ID: 1905F37-001
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	21	1.0		mg/L	1	6/11/2019 3:38:48 PM	45477
Vanadium	ND	0.050		mg/L	1	6/11/2019 3:38:48 PM	45477
Zinc	0.015	0.010		mg/L	1	6/11/2019 3:38:48 PM	45477
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0095		µg/L	1	6/6/2019 1:24:28 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-1
Project: Agua Fria
Collection Date: 5/30/2019 12:05:00 PM
Lab ID: 1905F37-001
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 5:08:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 5:08:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Vinyl acetate	ND	10		µg/L	1	6/5/2019 5:08:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	6/5/2019 5:08:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
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S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-1
Project: Agua Fria
Collection Date: 5/30/2019 12:05:00 PM
Lab ID: 1905F37-001
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Surr: 4-Bromofluorobenzene	97.1	70-130		%Rec	1	6/5/2019 5:08:00 PM	R60430
Surr: Dibromofluoromethane	102	70-130		%Rec	1	6/5/2019 5:08:00 PM	R60430
Surr: Toluene-d8	94.6	70-130		%Rec	1	6/5/2019 5:08:00 PM	R60430

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-2
Project: Agua Fria
Collection Date: 5/30/2019 3:45:00 PM
Lab ID: 1905F37-002
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**pmf**
Antimony	ND	0.0010		mg/L	1	6/13/2019 11:01:38 AM	45538
Arsenic	0.011	0.0010	*	mg/L	1	6/13/2019 11:01:38 AM	45538
Copper	ND	0.0010		mg/L	1	6/13/2019 11:01:38 AM	45538
Lead	ND	0.00050		mg/L	1	6/13/2019 11:01:38 AM	45538
Selenium	ND	0.0010		mg/L	1	6/13/2019 11:01:38 AM	45538
Thallium	ND	0.00050		mg/L	1	6/13/2019 11:01:38 AM	45538
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 1:46:28 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 8:35:31 PM	R60398
Sulfate	13	0.50		mg/L	1	6/4/2019 8:35:31 PM	R60398
Nitrate+Nitrite as N	1.1	1.0		mg/L	5	6/4/2019 11:41:41 PM	R60398
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	300	5.0		µmhos/c	1	6/7/2019 11:10:51 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	130.4	20.00		mg/L Ca	1	6/6/2019 1:52:44 PM	R60464
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/6/2019 1:52:44 PM	R60464
Total Alkalinity (as CaCO3)	130.4	20.00		mg/L Ca	1	6/6/2019 1:52:44 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	1.1	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	0.12	0.0020		mg/L	1	6/11/2019 3:43:41 PM	45477
Beryllium	ND	0.0020		mg/L	1	6/11/2019 3:43:41 PM	45477
Cadmium	ND	0.0020		mg/L	1	6/11/2019 3:43:41 PM	45477
Calcium	34	1.0		mg/L	1	6/11/2019 3:43:41 PM	45477
Chromium	0.0065	0.0060		mg/L	1	6/11/2019 3:43:41 PM	45477
Cobalt	ND	0.0060		mg/L	1	6/11/2019 3:43:41 PM	45477
Magnesium	4.9	1.0		mg/L	1	6/11/2019 3:43:41 PM	45477
Nickel	ND	0.010		mg/L	1	6/11/2019 3:43:41 PM	45477
Potassium	2.4	1.0		mg/L	1	6/11/2019 3:43:41 PM	45477
Silver	ND	0.0050		mg/L	1	6/11/2019 3:43:41 PM	45477

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-2
Project: Agua Fria
Collection Date: 5/30/2019 3:45:00 PM
Lab ID: 1905F37-002
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	21	1.0		mg/L	1	6/11/2019 3:43:41 PM	45477
Vanadium	ND	0.050		mg/L	1	6/11/2019 3:43:41 PM	45477
Zinc	ND	0.010		mg/L	1	6/11/2019 3:43:41 PM	45477
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0095		µg/L	1	6/6/2019 1:39:29 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430

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Qualifiers:

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ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-2
Project: Agua Fria
Collection Date: 5/30/2019 3:45:00 PM
Lab ID: 1905F37-002
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 5:32:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 5:32:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430

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Qualifiers:

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-2
Project: Agua Fria
Collection Date: 5/30/2019 3:45:00 PM
Lab ID: 1905F37-002
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Vinyl acetate	ND	10		µg/L	1	6/5/2019 5:32:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	113	70-130		%Rec	1	6/5/2019 5:32:00 PM	R60430
Surr: 4-Bromofluorobenzene	98.8	70-130		%Rec	1	6/5/2019 5:32:00 PM	R60430
Surr: Dibromofluoromethane	103	70-130		%Rec	1	6/5/2019 5:32:00 PM	R60430
Surr: Toluene-d8	93.1	70-130		%Rec	1	6/5/2019 5:32:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-3
Project: Agua Fria
Collection Date: 5/30/2019 2:15:00 PM
Lab ID: 1905F37-003
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**pmf**
Antimony	ND	0.0010		mg/L	1	6/13/2019 11:08:15 AM	45538
Arsenic	0.015	0.0010	*	mg/L	1	6/13/2019 11:08:15 AM	45538
Copper	0.050	0.0010		mg/L	1	6/13/2019 11:08:15 AM	45538
Lead	0.0027	0.00050		mg/L	1	6/13/2019 11:08:15 AM	45538
Selenium	ND	0.0010		mg/L	1	6/13/2019 11:08:15 AM	45538
Thallium	ND	0.00050		mg/L	1	6/13/2019 11:08:15 AM	45538
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 2:02:44 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 9:00:20 PM	R60398
Sulfate	13	0.50		mg/L	1	6/4/2019 9:00:20 PM	R60398
Nitrate+Nitrite as N	1.7	1.0		mg/L	5	6/4/2019 11:54:06 PM	R60398
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	300	5.0		µmhos/c	1	6/7/2019 11:13:49 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	126.4	20.00		mg/L Ca	1	6/6/2019 2:02:00 PM	R60464
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/6/2019 2:02:00 PM	R60464
Total Alkalinity (as CaCO3)	126.4	20.00		mg/L Ca	1	6/6/2019 2:02:00 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	1.7	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	0.15	0.0020		mg/L	1	6/11/2019 3:48:09 PM	45477
Beryllium	ND	0.0020		mg/L	1	6/11/2019 3:48:09 PM	45477
Cadmium	ND	0.0020		mg/L	1	6/11/2019 3:48:09 PM	45477
Calcium	36	1.0		mg/L	1	6/11/2019 3:48:09 PM	45477
Chromium	ND	0.0060		mg/L	1	6/11/2019 3:48:09 PM	45477
Cobalt	ND	0.0060		mg/L	1	6/11/2019 3:48:09 PM	45477
Magnesium	5.6	1.0		mg/L	1	6/11/2019 3:48:09 PM	45477
Nickel	ND	0.010		mg/L	1	6/11/2019 3:48:09 PM	45477
Potassium	2.6	1.0		mg/L	1	6/11/2019 3:48:09 PM	45477
Silver	ND	0.0050		mg/L	1	6/11/2019 3:48:09 PM	45477

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-3
Project: Agua Fria
Collection Date: 5/30/2019 2:15:00 PM
Lab ID: 1905F37-003
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	16	1.0		mg/L	1	6/11/2019 3:48:09 PM	45477
Vanadium	ND	0.050		mg/L	1	6/11/2019 3:48:09 PM	45477
Zinc	0.091	0.010		mg/L	1	6/11/2019 3:48:09 PM	45477
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0094		µg/L	1	6/6/2019 2:09:29 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430

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Qualifiers:

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-3
Project: Agua Fria
Collection Date: 5/30/2019 2:15:00 PM
Lab ID: 1905F37-003
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 5:56:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 5:56:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-3
Project: Agua Fria
Collection Date: 5/30/2019 2:15:00 PM
Lab ID: 1905F37-003
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Vinyl acetate	ND	10		µg/L	1	6/5/2019 5:56:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	6/5/2019 5:56:00 PM	R60430
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	6/5/2019 5:56:00 PM	R60430
Surr: Dibromofluoromethane	100	70-130		%Rec	1	6/5/2019 5:56:00 PM	R60430
Surr: Toluene-d8	92.2	70-130		%Rec	1	6/5/2019 5:56:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-4
Project: Agua Fria
Collection Date: 5/30/2019 1:06:00 PM
Lab ID: 1905F37-004
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**DBK**
Antimony	ND	0.0010		mg/L	1	6/6/2019 3:36:25 PM	A60465
Arsenic	0.011	0.0010	*	mg/L	1	6/6/2019 3:36:25 PM	A60465
Copper	0.0024	0.0010		mg/L	1	6/6/2019 3:36:25 PM	A60465
Lead	ND	0.00050		mg/L	1	6/6/2019 3:36:25 PM	A60465
Selenium	ND	0.0010		mg/L	1	6/6/2019 3:36:25 PM	A60465
Thallium	ND	0.00050		mg/L	1	6/6/2019 3:36:25 PM	A60465
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 2:19:00 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 9:25:09 PM	R60398
Sulfate	12	0.50		mg/L	1	6/4/2019 9:25:09 PM	R60398
Nitrate+Nitrite as N	2.2	1.0		mg/L	5	6/5/2019 12:43:44 AM	R60398
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	300	5.0		µmhos/c	1	6/7/2019 11:16:46 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	126.6	20.00		mg/L Ca	1	6/6/2019 2:11:16 PM	R60464
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/6/2019 2:11:16 PM	R60464
Total Alkalinity (as CaCO3)	126.6	20.00		mg/L Ca	1	6/6/2019 2:11:16 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	2.2	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	0.14	0.0020		mg/L	1	6/4/2019 6:34:43 PM	B60394
Beryllium	ND	0.0020		mg/L	1	6/4/2019 6:34:43 PM	B60394
Cadmium	ND	0.0020		mg/L	1	6/4/2019 6:34:43 PM	B60394
Calcium	36	1.0		mg/L	1	6/4/2019 6:34:43 PM	B60394
Chromium	ND	0.0060		mg/L	1	6/4/2019 6:34:43 PM	B60394
Cobalt	ND	0.0060		mg/L	1	6/4/2019 6:34:43 PM	B60394
Magnesium	6.1	1.0		mg/L	1	6/4/2019 6:34:43 PM	B60394
Nickel	ND	0.010		mg/L	1	6/4/2019 6:34:43 PM	B60394
Potassium	2.6	1.0		mg/L	1	6/4/2019 6:34:43 PM	B60394
Silver	ND	0.0050		mg/L	1	6/4/2019 6:34:43 PM	B60394

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-4
Project: Agua Fria
Collection Date: 5/30/2019 1:06:00 PM
Lab ID: 1905F37-004
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	15	1.0		mg/L	1	6/4/2019 6:34:43 PM	B60394
Vanadium	ND	0.050		mg/L	1	6/4/2019 6:34:43 PM	B60394
Zinc	0.024	0.010		mg/L	1	6/4/2019 6:34:43 PM	B60394
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/6/2019 2:24:30 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-4
Project: Agua Fria
Collection Date: 5/30/2019 1:06:00 PM
Lab ID: 1905F37-004
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 6:20:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 6:20:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-4
Project: Agua Fria
Collection Date: 5/30/2019 1:06:00 PM
Lab ID: 1905F37-004
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Vinyl acetate	ND	10		µg/L	1	6/5/2019 6:20:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	6/5/2019 6:20:00 PM	R60430
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	6/5/2019 6:20:00 PM	R60430
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	6/5/2019 6:20:00 PM	R60430
Surr: Toluene-d8	92.2	70-130		%Rec	1	6/5/2019 6:20:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-5
Project: Agua Fria
Collection Date: 5/30/2019 5:16:00 PM
Lab ID: 1905F37-005
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**pmf**
Antimony	ND	0.0010		mg/L	1	6/13/2019 11:10:26 AM	45538
Arsenic	0.011	0.0010	*	mg/L	1	6/13/2019 11:10:26 AM	45538
Copper	0.0054	0.0010		mg/L	1	6/13/2019 11:10:26 AM	45538
Lead	ND	0.00050		mg/L	1	6/13/2019 11:10:26 AM	45538
Selenium	ND	0.0010		mg/L	1	6/13/2019 11:10:26 AM	45538
Thallium	ND	0.00050		mg/L	1	6/13/2019 11:10:26 AM	45538
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 3:23:12 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 10:14:48 PM	R60398
Sulfate	13	0.50		mg/L	1	6/4/2019 10:14:48 PM	R60398
Nitrate+Nitrite as N	1.5	1.0		mg/L	5	6/5/2019 12:56:09 AM	R60398
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	290	5.0		µmhos/c	1	6/7/2019 11:19:41 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	124.4	20.00		mg/L Ca	1	6/6/2019 2:20:23 PM	R60464
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/6/2019 2:20:23 PM	R60464
Total Alkalinity (as CaCO3)	124.4	20.00		mg/L Ca	1	6/6/2019 2:20:23 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	1.5	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	0.15	0.0020		mg/L	1	6/11/2019 3:52:42 PM	45477
Beryllium	ND	0.0020		mg/L	1	6/11/2019 3:52:42 PM	45477
Cadmium	ND	0.0020		mg/L	1	6/11/2019 3:52:42 PM	45477
Calcium	36	1.0		mg/L	1	6/11/2019 3:52:42 PM	45477
Chromium	ND	0.0060		mg/L	1	6/11/2019 3:52:42 PM	45477
Cobalt	ND	0.0060		mg/L	1	6/11/2019 3:52:42 PM	45477
Magnesium	5.7	1.0		mg/L	1	6/11/2019 3:52:42 PM	45477
Nickel	ND	0.010		mg/L	1	6/11/2019 3:52:42 PM	45477
Potassium	2.5	1.0		mg/L	1	6/11/2019 3:52:42 PM	45477
Silver	ND	0.0050		mg/L	1	6/11/2019 3:52:42 PM	45477

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H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-5
Project: Agua Fria
Collection Date: 5/30/2019 5:16:00 PM
Lab ID: 1905F37-005
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	15	1.0		mg/L	1	6/11/2019 3:52:42 PM	45477
Vanadium	ND	0.050		mg/L	1	6/11/2019 3:52:42 PM	45477
Zinc	ND	0.010		mg/L	1	6/11/2019 3:52:42 PM	45477
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0094		µg/L	1	6/6/2019 2:39:33 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-5
Project: Agua Fria
Collection Date: 5/30/2019 5:16:00 PM
Lab ID: 1905F37-005
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 6:44:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 6:44:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: MW-5
Project: Agua Fria
Collection Date: 5/30/2019 5:16:00 PM
Lab ID: 1905F37-005
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Vinyl acetate	ND	10		µg/L	1	6/5/2019 6:44:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	6/5/2019 6:44:00 PM	R60430
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	6/5/2019 6:44:00 PM	R60430
Surr: Dibromofluoromethane	103	70-130		%Rec	1	6/5/2019 6:44:00 PM	R60430
Surr: Toluene-d8	92.4	70-130		%Rec	1	6/5/2019 6:44:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: Blind-Dup
Project: Agua Fria
Collection Date: 5/30/2019 11:56:00 AM
Lab ID: 1905F37-006
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**DBK**
Antimony	ND	0.0010		mg/L	1	6/6/2019 3:39:08 PM	A60465
Arsenic	0.013	0.0010	*	mg/L	1	6/6/2019 3:39:08 PM	A60465
Copper	0.011	0.0010		mg/L	1	6/6/2019 3:39:08 PM	A60465
Lead	ND	0.00050		mg/L	1	6/6/2019 3:39:08 PM	A60465
Selenium	ND	0.0010		mg/L	1	6/6/2019 3:39:08 PM	A60465
Thallium	ND	0.00050		mg/L	1	6/6/2019 3:39:08 PM	A60465
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 3:39:33 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 10:39:38 PM	R60398
Sulfate	14	0.50		mg/L	1	6/4/2019 10:39:38 PM	R60398
Nitrate+Nitrite as N	1.5	1.0		mg/L	5	6/6/2019 12:38:54 AM	R60398
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	310	5.0		µmhos/c	1	6/7/2019 11:22:35 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	132.7	20.00		mg/L Ca	1	6/6/2019 2:29:31 PM	R60464
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/6/2019 2:29:31 PM	R60464
Total Alkalinity (as CaCO3)	132.7	20.00		mg/L Ca	1	6/6/2019 2:29:31 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	1.5	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	0.13	0.0020		mg/L	1	6/4/2019 6:39:16 PM	B60394
Beryllium	ND	0.0020		mg/L	1	6/4/2019 6:39:16 PM	B60394
Cadmium	ND	0.0020		mg/L	1	6/4/2019 6:39:16 PM	B60394
Calcium	35	1.0		mg/L	1	6/4/2019 6:39:16 PM	B60394
Chromium	ND	0.0060		mg/L	1	6/4/2019 6:39:16 PM	B60394
Cobalt	ND	0.0060		mg/L	1	6/4/2019 6:39:16 PM	B60394
Magnesium	5.2	1.0		mg/L	1	6/4/2019 6:39:16 PM	B60394
Nickel	ND	0.010		mg/L	1	6/4/2019 6:39:16 PM	B60394
Potassium	2.6	1.0		mg/L	1	6/4/2019 6:39:16 PM	B60394
Silver	ND	0.0050		mg/L	1	6/4/2019 6:39:16 PM	B60394

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: Blind-Dup
Project: Agua Fria
Collection Date: 5/30/2019 11:56:00 AM
Lab ID: 1905F37-006
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	20	1.0		mg/L	1	6/4/2019 6:39:16 PM	B60394
Vanadium	ND	0.050		mg/L	1	6/4/2019 6:39:16 PM	B60394
Zinc	0.017	0.010		mg/L	1	6/4/2019 6:39:16 PM	B60394
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0094		µg/L	1	6/6/2019 2:54:39 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Project: Agua Fria
Lab ID: 1905F37-006 **Matrix:** AQUEOUS

Client Sample ID: Blind-Dup
Collection Date: 5/30/2019 11:56:00 AM
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 7:07:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 7:07:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Project: Agua Fria
Lab ID: 1905F37-006 **Matrix:** AQUEOUS

Client Sample ID: Blind-Dup
Collection Date: 5/30/2019 11:56:00 AM
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Vinyl acetate	ND	10		µg/L	1	6/5/2019 7:07:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	1	6/5/2019 7:07:00 PM	R60430
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	6/5/2019 7:07:00 PM	R60430
Surr: Dibromofluoromethane	102	70-130		%Rec	1	6/5/2019 7:07:00 PM	R60430
Surr: Toluene-d8	93.2	70-130		%Rec	1	6/5/2019 7:07:00 PM	R60430

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: Field Blank
Project: Agua Fria
Collection Date: 5/30/2019 11:06:00 AM
Lab ID: 1905F37-007
Matrix: AQUEOUS
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: METALS						Analyst:	**DBK**
Antimony	ND	0.0010		mg/L	1	6/6/2019 3:41:51 PM	A60465
Arsenic	ND	0.0010		mg/L	1	6/6/2019 3:41:51 PM	A60465
Copper	ND	0.0010		mg/L	1	6/6/2019 3:41:51 PM	A60465
Lead	ND	0.00050		mg/L	1	6/6/2019 3:41:51 PM	A60465
Selenium	ND	0.0010		mg/L	1	6/6/2019 3:41:51 PM	A60465
Thallium	ND	0.00050		mg/L	1	6/6/2019 3:41:51 PM	A60465
SM 5310B: TOC						Analyst:	**JDC**
Organic Carbon, Total	ND	1.0		mg/L	1	6/8/2019 3:55:49 PM	R60506
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/4/2019 11:04:27 PM	R60398
Sulfate	ND	0.50		mg/L	1	6/4/2019 11:04:27 PM	R60398
Nitrate+Nitrite as N	ND	1.0		mg/L	5	6/6/2019 12:26:02 AM	R60440
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	ND	5.0		µmhos/c	1	6/7/2019 11:25:28 AM	R60482
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	ND	20.00		mg/L Ca	1	6/6/2019 2:38:53 PM	R60464
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	6/6/2019 2:38:53 PM	R60464
Total Alkalinity (as CaCO3)	ND	20.00		mg/L Ca	1	6/6/2019 2:38:53 PM	R60464
SM 4500 NH3: AMMONIA						Analyst:	**OG**
Nitrogen, Ammonia	ND	1.0		mg/L	1	6/13/2019 2:00:00 PM	R60664
TOTAL NITROGEN						Analyst:	**SRM**
Nitrogen, Total	ND	1.0		mg/L	1	6/19/2019 5:46:00 PM	R60777
SM 4500 NORG C: TKN						Analyst:	**OG**
Nitrogen, Kjeldahl, Total	ND	1.0		mg/L	1	6/14/2019 6:10:00 PM	45570
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Barium	ND	0.0020		mg/L	1	6/4/2019 6:43:50 PM	B60394
Beryllium	ND	0.0020		mg/L	1	6/4/2019 6:43:50 PM	B60394
Cadmium	ND	0.0020		mg/L	1	6/4/2019 6:43:50 PM	B60394
Calcium	ND	1.0		mg/L	1	6/4/2019 6:43:50 PM	B60394
Chromium	ND	0.0060		mg/L	1	6/4/2019 6:43:50 PM	B60394
Cobalt	ND	0.0060		mg/L	1	6/4/2019 6:43:50 PM	B60394
Magnesium	ND	1.0		mg/L	1	6/4/2019 6:43:50 PM	B60394
Nickel	ND	0.010		mg/L	1	6/4/2019 6:43:50 PM	B60394
Potassium	ND	1.0		mg/L	1	6/4/2019 6:43:50 PM	B60394
Silver	ND	0.0050		mg/L	1	6/4/2019 6:43:50 PM	B60394

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Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Project: Agua Fria
Lab ID: 1905F37-007 **Matrix:** AQUEOUS

Client Sample ID: Field Blank
Collection Date: 5/30/2019 11:06:00 AM
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: METALS						Analyst:	**bcv**
Sodium	ND	1.0		mg/L	1	6/4/2019 6:43:50 PM	B60394
Vanadium	ND	0.050		mg/L	1	6/4/2019 6:43:50 PM	B60394
Zinc	ND	0.010		mg/L	1	6/4/2019 6:43:50 PM	B60394
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0094		µg/L	1	6/6/2019 3:09:41 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Project: Agua Fria
Lab ID: 1905F37-007 **Matrix:** AQUEOUS

Client Sample ID: Field Blank
Collection Date: 5/30/2019 11:06:00 AM
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 7:31:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 7:31:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Project: Agua Fria
Lab ID: 1905F37-007
Matrix: AQUEOUS
Client Sample ID: Field Blank
Collection Date: 5/30/2019 11:06:00 AM
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
Vinyl acetate	ND	10		µg/L	1	6/5/2019 7:31:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	113	70-130		%Rec	1	6/5/2019 7:31:00 PM	R60430
Surr: 4-Bromofluorobenzene	96.6	70-130		%Rec	1	6/5/2019 7:31:00 PM	R60430
Surr: Dibromofluoromethane	100	70-130		%Rec	1	6/5/2019 7:31:00 PM	R60430
Surr: Toluene-d8	94.0	70-130		%Rec	1	6/5/2019 7:31:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: Trip Blank
Project: Agua Fria
Collection Date:
Lab ID: 1905F37-008
Matrix: TRIP BLANK
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8011/504.1: EDB						Analyst:	**CLP**
1,2-Dibromoethane	ND	0.0093		µg/L	1	6/6/2019 3:24:43 PM	45415
EPA METHOD 8260B: VOLATILES						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Toluene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Ethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Naphthalene	ND	2.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
2-Methylnaphthalene	ND	4.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Acetone	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Bromobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Bromodichloromethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Bromoform	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Bromomethane	ND	3.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
2-Butanone	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Carbon disulfide	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Carbon Tetrachloride	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Chlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Chloroethane	ND	2.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Chloroform	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Chloromethane	ND	3.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
2-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
4-Chlorotoluene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
cis-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Dibromochloromethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Dibromomethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,3-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,4-Dichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Dichlorodifluoromethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1-Dichloroethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1-Dichloroethene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Golder Associates
Client Sample ID: Trip Blank
Project: Agua Fria
Collection Date:
Lab ID: 1905F37-008
Matrix: TRIP BLANK
Received Date: 5/31/2019 3:15:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst: **RAA**	
1,3-Dichloropropane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
2,2-Dichloropropane	ND	2.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Hexachlorobutadiene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
2-Hexanone	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Isopropylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
4-Isopropyltoluene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
4-Methyl-2-pentanone	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Methylene Chloride	ND	3.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
n-Butylbenzene	ND	3.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
n-Propylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
sec-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Styrene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
tert-Butylbenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
trans-1,2-DCE	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1,1-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,1,2-Trichloroethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Trichloroethene (TCE)	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Trichlorofluoromethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
1,2,3-Trichloropropane	ND	2.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Vinyl chloride	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
Xylenes, Total	ND	1.5		µg/L	1	6/5/2019 7:55:00 PM	R60430
Acrylonitrile	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Bromochloromethane	ND	1.0		µg/L	1	6/5/2019 7:55:00 PM	R60430
2-Chloroethyl vinyl ether	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Isopropyl alcohol	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Iodomethane	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
trans-1,4-Dichloro-2-butene	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Vinyl acetate	ND	10		µg/L	1	6/5/2019 7:55:00 PM	R60430
Surr: 1,2-Dichloroethane-d4	115	70-130		%Rec	1	6/5/2019 7:55:00 PM	R60430
Surr: 4-Bromofluorobenzene	99.2	70-130		%Rec	1	6/5/2019 7:55:00 PM	R60430
Surr: Dibromofluoromethane	104	70-130		%Rec	1	6/5/2019 7:55:00 PM	R60430
Surr: Toluene-d8	91.4	70-130		%Rec	1	6/5/2019 7:55:00 PM	R60430

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB-B** SampType: **MBLK** TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW** Batch ID: **B60394** RunNo: **60394**
Prep Date: Analysis Date: **6/4/2019** SeqNo: **2042343** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Magnesium	ND	1.0								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: **LLLCS-B** SampType: **LCSLL** TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC** Batch ID: **B60394** RunNo: **60394**
Prep Date: Analysis Date: **6/4/2019** SeqNo: **2042345** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0024	0.0020	0.002000	0	119	50	150			
Beryllium	ND	0.0020	0.002000	0	97.7	50	150			
Cadmium	ND	0.0020	0.002000	0	92.7	50	150			
Calcium	ND	1.0	0.5000	0	101	50	150			
Chromium	0.0073	0.0060	0.006000	0	122	50	150			
Cobalt	ND	0.0060	0.006000	0	94.1	50	150			
Magnesium	ND	1.0	0.5000	0	104	50	150			
Nickel	ND	0.010	0.005000	0	54.3	50	150			
Potassium	ND	1.0	0.5000	0	105	50	150			
Silver	0.0052	0.0050	0.005000	0	103	50	150			
Sodium	ND	1.0	0.5000	0	84.3	50	150			
Vanadium	ND	0.050	0.01000	0	96.3	50	150			
Zinc	0.011	0.010	0.01000	0	106	50	150			

Sample ID: **LCS-B** SampType: **LCS** TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW** Batch ID: **B60394** RunNo: **60394**
Prep Date: Analysis Date: **6/4/2019** SeqNo: **2042347** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.1	85	115			
Beryllium	0.47	0.0020	0.5000	0	94.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **LCS-B** SampType: **LCS** TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW** Batch ID: **B60394** RunNo: **60394**
Prep Date: Analysis Date: **6/4/2019** SeqNo: **2042347** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.49	0.0020	0.5000	0	98.2	85	115			
Calcium	49	1.0	50.00	0	97.8	85	115			
Chromium	0.48	0.0060	0.5000	0	96.5	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.9	85	115			
Magnesium	50	1.0	50.00	0	99.3	85	115			
Nickel	0.48	0.010	0.5000	0	96.0	85	115			
Potassium	49	1.0	50.00	0	97.0	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Sodium	48	1.0	50.00	0	95.8	85	115			
Vanadium	0.49	0.050	0.5000	0	97.7	85	115			
Zinc	0.48	0.010	0.5000	0	95.1	85	115			

Sample ID: **MB-45477** SampType: **MBLK** TestCode: **EPA Method 200.7: Metals**
Client ID: **PBW** Batch ID: **45477** RunNo: **60557**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2048862** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Magnesium	ND	1.0								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Vanadium	ND	0.050								
Zinc	ND	0.010								

Sample ID: **LLLCS-45477** SampType: **LCSLL** TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC** Batch ID: **45477** RunNo: **60557**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2048864** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0021	0.0020	0.002000	0	104	50	150			
Beryllium	ND	0.0020	0.002000	0	98.1	50	150			
Cadmium	ND	0.0020	0.002000	0	89.3	50	150			
Calcium	ND	1.0	0.5000	0	111	50	150			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **LLLCS-45477** SampType: **LCSLL** TestCode: **EPA Method 200.7: Metals**
Client ID: **BatchQC** Batch ID: **45477** RunNo: **60557**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2048864** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060	0.006000	0	94.2	50	150			
Cobalt	ND	0.0060	0.006000	0	79.4	50	150			
Magnesium	ND	1.0	0.5000	0	101	50	150			
Nickel	ND	0.010	0.005000	0	65.9	50	150			
Potassium	ND	1.0	0.5000	0	110	50	150			
Silver	ND	0.0050	0.005000	0	87.7	50	150			
Sodium	ND	1.0	0.5000	0	110	50	150			
Vanadium	ND	0.050	0.01000	0	106	50	150			
Zinc	0.015	0.010	0.01000	0	149	50	150			

Sample ID: **LCS-45477** SampType: **LCS** TestCode: **EPA Method 200.7: Metals**
Client ID: **LCSW** Batch ID: **45477** RunNo: **60557**
Prep Date: **6/10/2019** Analysis Date: **6/11/2019** SeqNo: **2048866** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.7	85	115			
Beryllium	0.47	0.0020	0.5000	0	94.3	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Calcium	49	1.0	50.00	0	98.7	85	115			
Chromium	0.48	0.0060	0.5000	0	96.1	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.8	85	115			
Magnesium	49	1.0	50.00	0	97.9	85	115			
Nickel	0.48	0.010	0.5000	0	95.8	85	115			
Potassium	49	1.0	50.00	0	98.1	85	115			
Silver	0.096	0.0050	0.1000	0	96.2	85	115			
Sodium	49	1.0	50.00	0	98.8	85	115			
Vanadium	0.49	0.050	0.5000	0	97.0	85	115			
Zinc	0.47	0.010	0.5000	0	94.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA 200.8: Metals**
Client ID: **PBW** Batch ID: **A60465** RunNo: **60465**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045272** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Copper	ND	0.0010								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: **LLLCS** SampType: **LCSLL** TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC** Batch ID: **A60465** RunNo: **60465**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045273** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0011	0.0010	0.001000	0	107	50	150			
Arsenic	ND	0.0010	0.001000	0	97.9	50	150			
Copper	ND	0.0010	0.001000	0	95.6	50	150			
Lead	ND	0.00050	0.0005000	0	98.6	50	150			
Selenium	0.0011	0.0010	0.001000	0	108	50	150			
Thallium	ND	0.00050	0.0005000	0	94.0	50	150			

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA 200.8: Metals**
Client ID: **LCSW** Batch ID: **A60465** RunNo: **60465**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045274** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.025	0.0010	0.02500	0	99.7	85	115			
Copper	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.012	0.00050	0.01250	0	98.2	85	115			
Selenium	0.025	0.0010	0.02500	0	99.8	85	115			
Thallium	0.012	0.00050	0.01250	0	97.6	85	115			

Sample ID: **MB-45538** SampType: **MBLK** TestCode: **EPA 200.8: Metals**
Client ID: **PBW** Batch ID: **45538** RunNo: **60635**
Prep Date: **6/12/2019** Analysis Date: **6/13/2019** SeqNo: **2051401** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
Copper	ND	0.0010								
Lead	ND	0.00050								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB-45538** SampType: **MBLK** TestCode: **EPA 200.8: Metals**
Client ID: **PBW** Batch ID: **45538** RunNo: **60635**
Prep Date: **6/12/2019** Analysis Date: **6/13/2019** SeqNo: **2051401** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								
Thallium	ND	0.00050								

Sample ID: **MSLLLCS-45538** SampType: **LCSLL** TestCode: **EPA 200.8: Metals**
Client ID: **BatchQC** Batch ID: **45538** RunNo: **60635**
Prep Date: **6/12/2019** Analysis Date: **6/13/2019** SeqNo: **2051403** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010	0.001000	0	82.0	50	150			
Arsenic	ND	0.0010	0.001000	0	93.7	50	150			
Copper	0.0011	0.0010	0.001000	0	115	50	150			
Lead	ND	0.00050	0.0005000	0	95.1	50	150			
Selenium	ND	0.0010	0.001000	0	94.0	50	150			
Thallium	ND	0.00050	0.0005000	0	90.7	50	150			

Sample ID: **MSLCS-45538** SampType: **LCS** TestCode: **EPA 200.8: Metals**
Client ID: **LCSW** Batch ID: **45538** RunNo: **60635**
Prep Date: **6/12/2019** Analysis Date: **6/13/2019** SeqNo: **2051405** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.0	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.5	85	115			
Copper	0.025	0.0010	0.02500	0	99.2	85	115			
Lead	0.012	0.00050	0.01250	0	97.9	85	115			
Selenium	0.024	0.0010	0.02500	0	94.0	85	115			
Thallium	0.012	0.00050	0.01250	0	97.8	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW** Batch ID: **R60398** RunNo: **60398**
Prep Date: Analysis Date: **6/4/2019** SeqNo: **2042664** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW** Batch ID: **R60398** RunNo: **60398**
Prep Date: Analysis Date: **6/4/2019** SeqNo: **2042665** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P	4.7	0.50	5.000	0	93.1	90	110			
Sulfate	9.9	0.50	10.00	0	99.0	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.2	90	110			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW** Batch ID: **R60440** RunNo: **60440**
Prep Date: Analysis Date: **6/5/2019** SeqNo: **2044293** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW** Batch ID: **R60440** RunNo: **60440**
Prep Date: Analysis Date: **6/5/2019** SeqNo: **2044294** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **LCS-45415** SampType: **LCS** TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **LCSW** Batch ID: **45415** RunNo: **60461**
Prep Date: **6/6/2019** Analysis Date: **6/6/2019** SeqNo: **2045157** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	0.098	0.010	0.1000	0	97.6	70	130			

Sample ID: **MB-45415** SampType: **MBLK** TestCode: **EPA Method 8011/504.1: EDB**
Client ID: **PBW** Batch ID: **45415** RunNo: **60461**
Prep Date: **6/6/2019** Analysis Date: **6/6/2019** SeqNo: **2045158** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	0.010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **LCSW** Batch ID: **R60430** RunNo: **60430**
Prep Date: Analysis Date: **6/5/2019** SeqNo: **2043731** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	112	70	130			
Toluene	20	1.0	20.00	0	101	70	130			
Chlorobenzene	21	1.0	20.00	0	104	70	130			
1,1-Dichloroethene	21	1.0	20.00	0	104	70	130			
Trichloroethene (TCE)	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	12		10.00		117	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.3	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.3		10.00		93.4	70	130			

Sample ID: **rb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R60430** RunNo: **60430**
Prep Date: Analysis Date: **6/5/2019** SeqNo: **2043732** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **rb**	SampType: **MBLK**	TestCode: **EPA Method 8260B: VOLATILES**	
Client ID: **PBW**	Batch ID: **R60430**	RunNo: **60430**	
Prep Date:	Analysis Date: **6/5/2019**	SeqNo: **2043732**	Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0								
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **rb** SampType: **MBLK** TestCode: **EPA Method 8260B: VOLATILES**
Client ID: **PBW** Batch ID: **R60430** RunNo: **60430**
Prep Date: Analysis Date: **6/5/2019** SeqNo: **2043732** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	12		10.00		116	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.0		10.00		90.4	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **lcs-1 99.0uS eC** SampType: **lcs** TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW** Batch ID: **R60482** RunNo: **60482**
Prep Date: Analysis Date: **6/7/2019** SeqNo: **2045925** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	98	5.0	99.00	0	99.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB** SampType: **MBLK** TestCode: **SM 4500 NH3: Ammonia**
Client ID: **PBW** Batch ID: **R60664** RunNo: **60664**
Prep Date: Analysis Date: **6/13/2019** SeqNo: **2052563** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	ND	1.0								

Sample ID: **LCS** SampType: **LCS** TestCode: **SM 4500 NH3: Ammonia**
Client ID: **LCSW** Batch ID: **R60664** RunNo: **60664**
Prep Date: Analysis Date: **6/13/2019** SeqNo: **2052564** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Ammonia	10	1.0	10.00	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **mb-1 alk** SampType: **mblk** TestCode: **SM2320B: Alkalinity**
Client ID: **PBW** Batch ID: **R60464** RunNo: **60464**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045204** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **lcs-1 alk** SampType: **lcs** TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW** Batch ID: **R60464** RunNo: **60464**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045205** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	75.16	20.00	80.00	0	93.9	90	110			

Sample ID: **mb-2 alk** SampType: **mblk** TestCode: **SM2320B: Alkalinity**
Client ID: **PBW** Batch ID: **R60464** RunNo: **60464**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045227** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **lcs-2 alk** SampType: **lcs** TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW** Batch ID: **R60464** RunNo: **60464**
Prep Date: Analysis Date: **6/6/2019** SeqNo: **2045228** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.40	20.00	80.00	0	96.8	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB** SampType: **MBLK** TestCode: **SM 5310B: TOC**
Client ID: **PBW** Batch ID: **R60506** RunNo: **60506**
Prep Date: Analysis Date: **6/8/2019** SeqNo: **2046896** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.00								

Sample ID: **LCS ST9060-18020 /** SampType: **LCS** TestCode: **SM 5310B: TOC**
Client ID: **LCSW** Batch ID: **R60506** RunNo: **60506**
Prep Date: Analysis Date: **6/8/2019** SeqNo: **2046923** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.70	1.00	4.850	0	96.9	90	110			

Sample ID: **LCSD ST9060-18020** SampType: **LCSD** TestCode: **SM 5310B: TOC**
Client ID: **LCSS02** Batch ID: **R60506** RunNo: **60506**
Prep Date: Analysis Date: **6/8/2019** SeqNo: **2046924** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.82	1.00	4.850	0	99.4	90	110	2.56	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1905F37**
25-Jul-19

Client: Golder Associates
Project: Agua Fria

Sample ID: **MB-45570** SampType: **MBLK** TestCode: **SM 4500 Norg C: TKN**
Client ID: **PBW** Batch ID: **45570** RunNo: **60719**
Prep Date: **6/13/2019** Analysis Date: **6/14/2019** SeqNo: **2054837** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	ND	1.0								

Sample ID: **LCS-45570** SampType: **LCS** TestCode: **SM 4500 Norg C: TKN**
Client ID: **LCSW** Batch ID: **45570** RunNo: **60719**
Prep Date: **6/13/2019** Analysis Date: **6/14/2019** SeqNo: **2054838** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10	1.0	10.00	0	101	80	120			

Sample ID: **1905F37-001DMS** SampType: **MS** TestCode: **SM 4500 Norg C: TKN**
Client ID: **MW-1** Batch ID: **45570** RunNo: **60719**
Prep Date: **6/13/2019** Analysis Date: **6/14/2019** SeqNo: **2054840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10	1.0	10.00	0	101	75	125			

Sample ID: **1905F37-001DMSD** SampType: **MSD** TestCode: **SM 4500 Norg C: TKN**
Client ID: **MW-1** Batch ID: **45570** RunNo: **60719**
Prep Date: **6/13/2019** Analysis Date: **6/14/2019** SeqNo: **2054841** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrogen, Kjeldahl, Total	10	1.0	10.00	0	102	75	125	1.38	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **GOLDER ASSOCIATES** Work Order Number: **1905F37** RcptNo: 1

Received By: **Desiree Dominguez** **5/31/2019 3:15:00 PM** DD

Completed By: **Leah Baca** **5/31/2019 4:51:21 PM** Leah Baca

Reviewed By: DAD 6/3/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Client

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? Yes ☑ No ☐
    (Note discrepancies on chain of custody)
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? Yes ☑ No ☐
    (If no, notify customer for authorization.)

# of preserved bottles checked for pH: 14 (<2 or >12 unless noted)
Adjusted? No
Checked by: JJC 6-3-19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: Date
By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:
Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.9	Good	Not Present			

Chain-of-Custody Record

Client: Golder

Mailing Address: 5200 Pasadena Ave NE
Suite C Albuquerque NM, 87113

Phone #: 505 821 3043

email or Fax#: matthew-somogyi@golder.com

QA/QC Package:
☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Agua Fria

Project #: 1790514

Project Manager: Matt Somogyi

Sampler: Kyle Kirtley

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(including CF): 3.9°c

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1905F37 (LB 5/5/19)	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	~~See Attached~~	See Attached
5/30	12:05	aq	MW-1	(10)	various	-001												X
	15:45		MW-2	(10)		-002												X
	14:15		MW-3	(10)		-003												X
	13:06		MW-4	(10)		-004												X
	17:10		MW-5	(10)		-005												X
	11:56		Blind-Dup	(10)		-006												X
	11:06		Field Blank	(10)		-007												X
			Trip Blank	(3)		-008												X

Date	Time	Relinquished by	Received by	Via	Date	Time
5/31	15:15	Kyle Kirtley	JPB	CDO	5/31/19	15:15
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

QUOTATION

Quote#: **1293**
Date: **11/21/2017**

Company:	Golder Associates	Project:	Annual Groundwater Monitoring
Contact:	Matthew Somogyi	TAT:	10 working days
Address:	44 Union Blvd STE 300	QC Level:	LEVEL II
		Project Manager:	Andy Freeman
	Lakewood, CO 80228	Sales Rep:	
Phone:		Quote Expires:	12/31/2019
Fax:			

Item Description	Test	Matrix	Remarks	Qty	Unit Price	% Disc.	Net Price	Total
Total Organic Nitrogen Aq		Aqueous	+ PO4 and SO4	7	95.00	10.00%	85.50	598.50
EPA Method 8260B: VOLATILES	SW8260B	Aqueous		7	120.00	10.00%	108.00	756.00
EPA Method 8011/504.1: EDB	E504.1	Aqueous		7	55.00	10.00%	49.50	346.50
SM2510B: Specific Conductance	M2510 B	Aqueous		7	25.00	10.00%	22.50	157.50
SM 4500 NH3: Ammonia	M4500-NH3	Aqueous		7	25.00	10.00%	22.50	157.50
SM2320B: Alkalinity	SM2320B	Aqueous		7	25.00	10.00%	22.50	157.50
SM 5310B: TOC	M5310B	Aqueous		7	35.00	10.00%	31.50	220.50
EPA Method 200.7: Metals	E200.7	Aqueous	Ba, Be, Cd, Ca, Cr, Co, Mg, Ni, K, Ag, Na, Zn	7	179.00	10.00%	161.10	1,127.70
EPA 200.8: Metals	E200.8	Aqueous	Sb, As, Cu, Pb, Se, Tl	7	110.00	10.00%	99.00	693.00

Sub Total:	$4,214.70
Misc:	$0.00
Surcharge:	0%
TOTAL:	**$4,214.70**

Sincerely,

Jackie Bolte

Jackie Bolte
Administration
Phone: 505-345-3975
Email: jnb@hallenvironmental.com

Terms and Conditions:

Hall Environmental Analysis Laboratory (HEAL) will provide all sampling containers, coolers, chains of custody and labels. A standard data deliverables package and QC package will be provided with this report, including lab spikes and lab spike duplicates. NM State tax has not been included in this quotation. Thank you, for the opportunity to bid on this project. Please feel free to call with any questions (505) 345-3975.. Invoices can be paid via Visa, Master Card, American Express, Company Check or Cash.

APPENDIX C

GROUNDWATER MONITORING WELL PURGING DATA, 5/30/2019

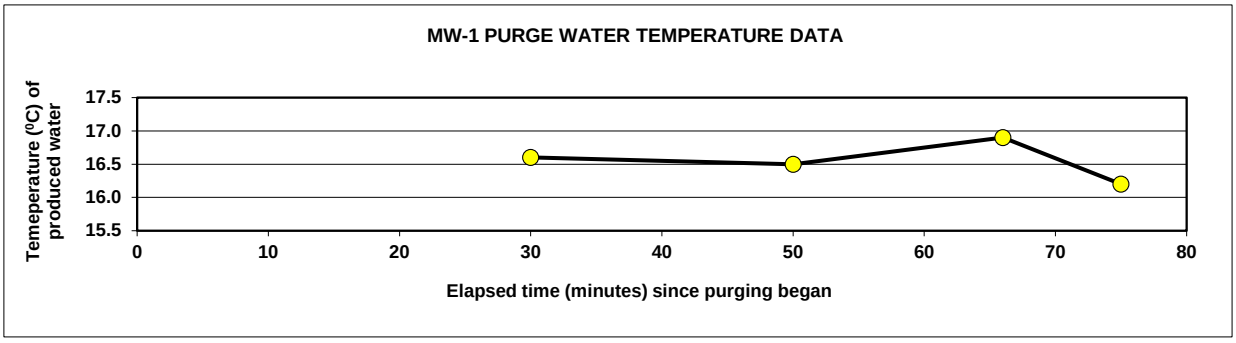
AGUA FRIA LANDFILL GROUNDWATER SAMPLING AND ANALYSIS

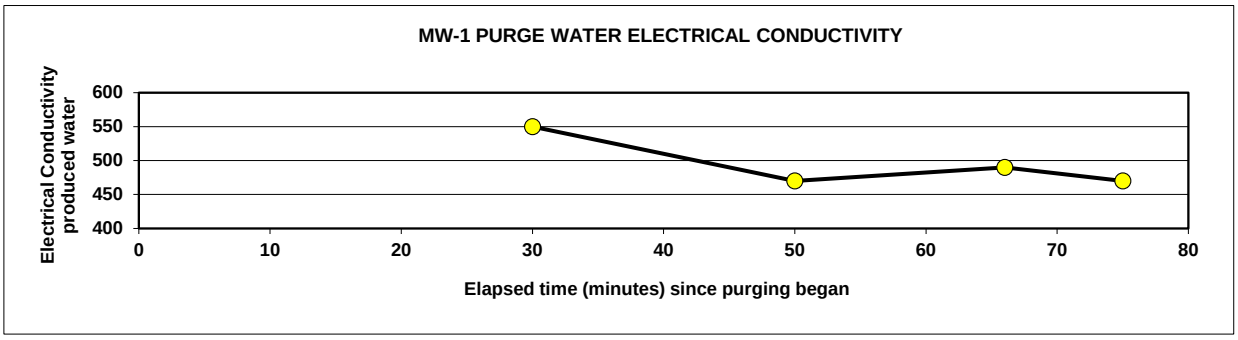
Monitor Well 1

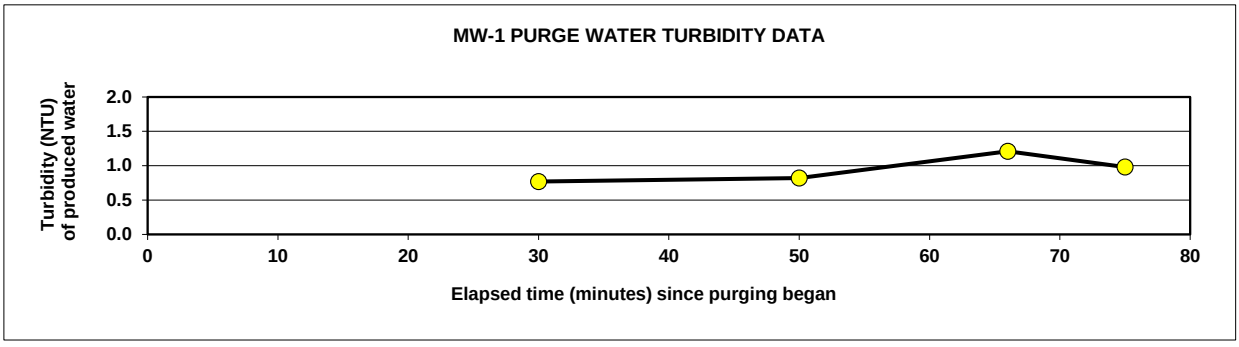
Groundwater Sampling Purge Data

Date:	5/30/19	**Data by:**	K. Kirtley
Well Depth (ft):	465	**Purge Rate (gpm):**	2.7 (average)
Initial Water Level (ft):	302.50	**Specific Capacity (gpm/ft):**	--
Final Water Level (ft)	--	**Wellbore Volume (gal):**	107.3

Time	Elapsed Time (minutes)	Turbidity (NTU)	Temp. (°C)	DO (mg/l)	Conductivity (µS/cm)	pH	ORP (mV)	Q Total (Gallons)	Comments
10:50	0	--	--	--	--	--	--	0	Start well purging
11:20	30	0.77	16.6	--	550	7.8	53	100	
11:40	50	0.82	16.5	--	470	7.7	54	150	
11:56	66	1.21	16.9	--	490	7.7	49	180	
12:05	75	0.98	16.2	--	470	7.7	45	200	







GOLDER

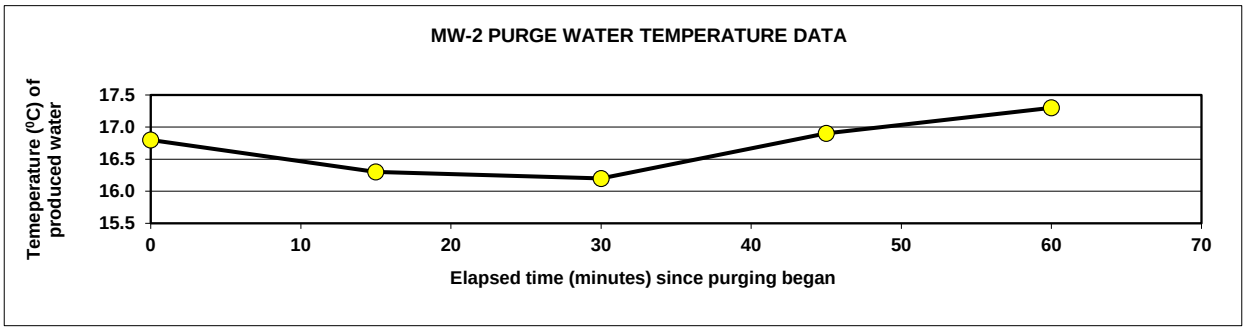
AGUA FRIA LANDFILL GROUNDWATER SAMPLING AND ANALYSIS

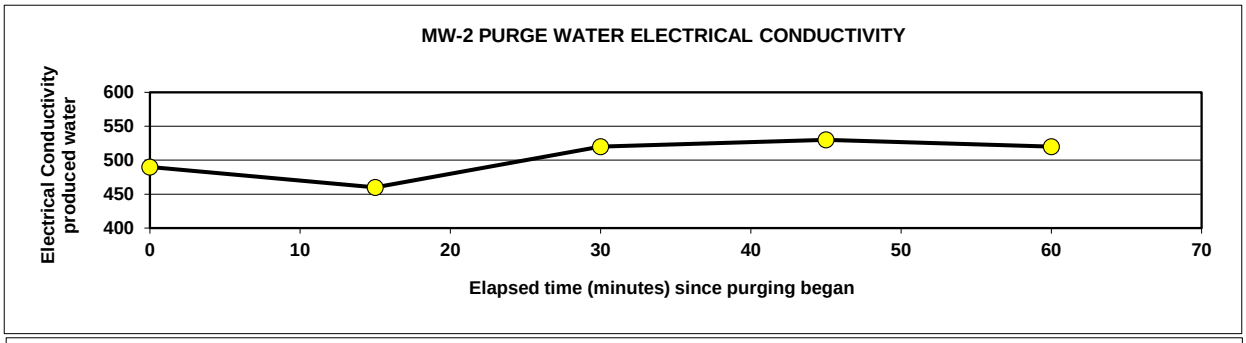
Monitor Well 2

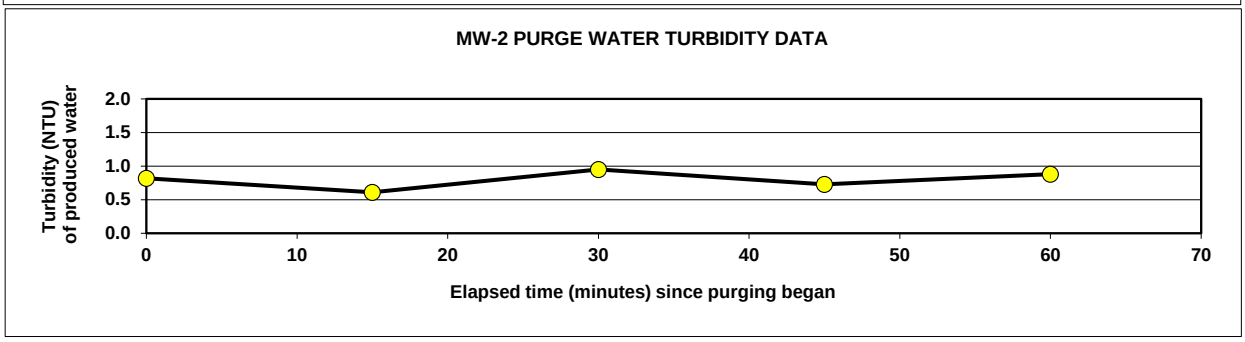
Groundwater Sampling Purge Data

Date:	5/30/19	**Data by:**	K. Kirtley
Well Depth (ft):	380	**Purge Rate (gpm):**	4.6 (average)
Initial Water Level (ft):	284.32	**Specific Capacity (gpm/ft):**	--
Final Water Level (ft)	--	**Wellbore Volume (gal):**	63.1

Time	Elapsed Time (minutes)	Turbidity (NTU)	Temp. (°C)	DO (mg/l)	Conductivity (µS/cm)	pH	ORP (mV)	Q Total (Gallons)	Comments
14:45	0	0.82	16.8	--	490	8.1	88	0.25	Start well purging
15:00	15	0.61	16.3	--	460	8.0	97	75	
15:15	30	0.95	16.2	--	520	7.9	107	150	
15:30	45	0.73	16.9	--	530	7.9	112	225	
15:45	60	0.88	17.3	--	520	7.9	115	275	







GOLDER

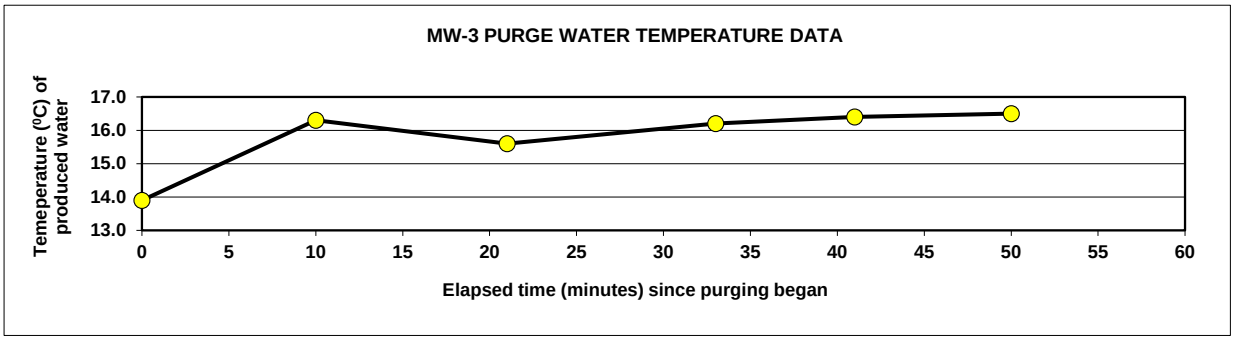
AGUA FRIA LANDFILL GROUNDWATER SAMPLING AND ANALYSIS

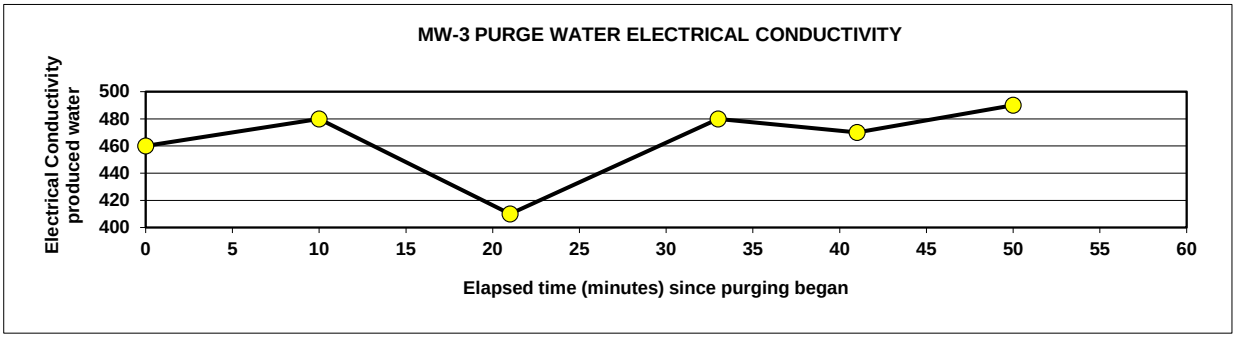
Monitor Well 3

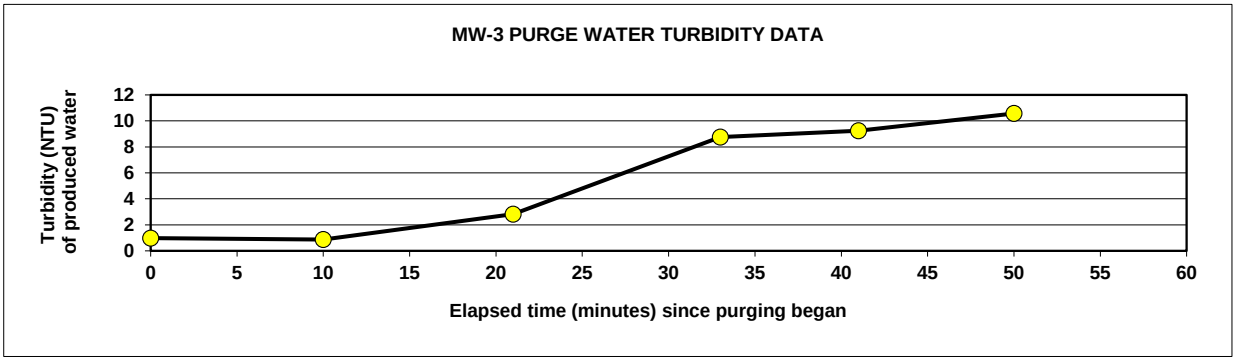
Groundwater Sampling Purge Data

Date:	5/30/19	**Data by:**	K. Kirtley
Well Depth (ft):	312	**Purge Rate (gpm):**	2.8 (average)
Initial Water Level (ft):	272.61	**Specific Capacity (gpm/ft):**	--
Final Water Level (ft)	--	**Wellbore Volume (gal):**	26.0

Time	Elapsed Time (minutes)	Turbidity (NTU)	Temp. (°C)	DO (mg/l)	Conductivity (µS/cm)	pH	ORP (mV)	Q Total (Gallons)	Comments
13:25	0	0.98	13.9	--	460	8.1	52	0.25	Start well purging
13:35	10	0.87	16.3	--	480	8.0	62	25	
13:46	21	2.83	15.6	--	410	7.9	70	60	
13:58	33	8.76	16.2	--	480	7.9	74	100	
14:06	41	9.24	16.4	--	470	7.9	79	120	
14:15	50	10.57	16.5	--	490	7.9	68	140	







GOLDER

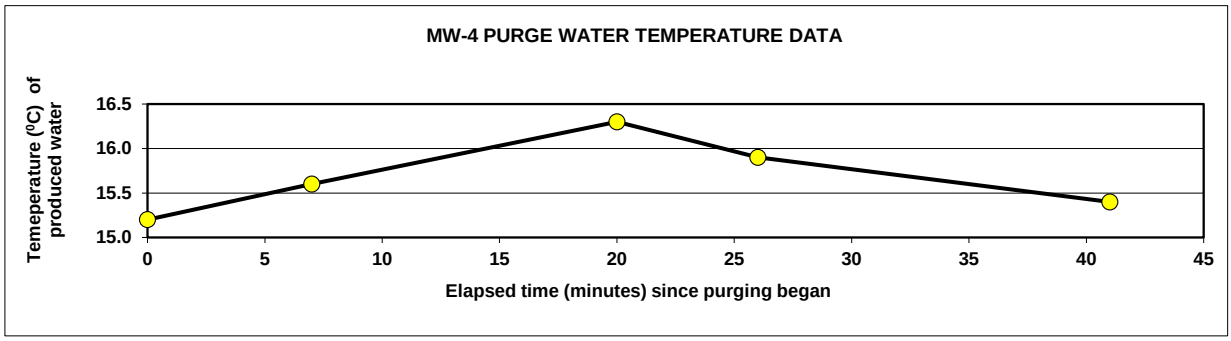
AGUA FRIA LANDFILL GROUNDWATER SAMPLING AND ANALYSIS

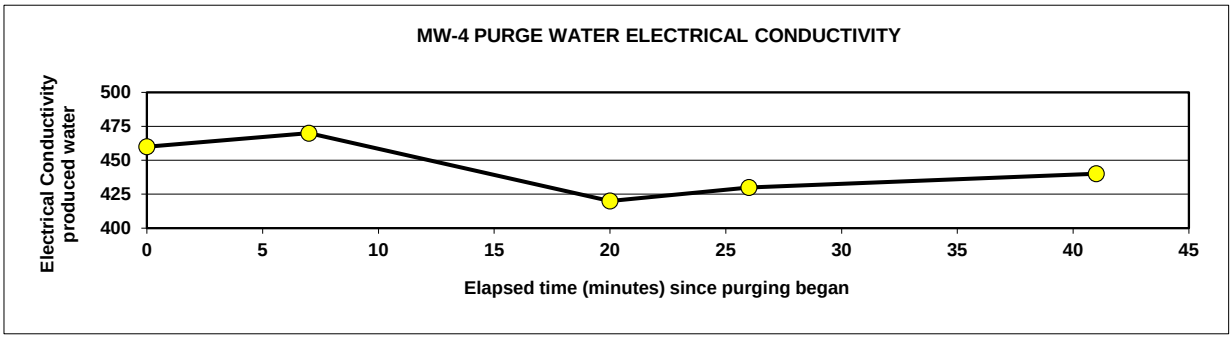
Monitor Well 4

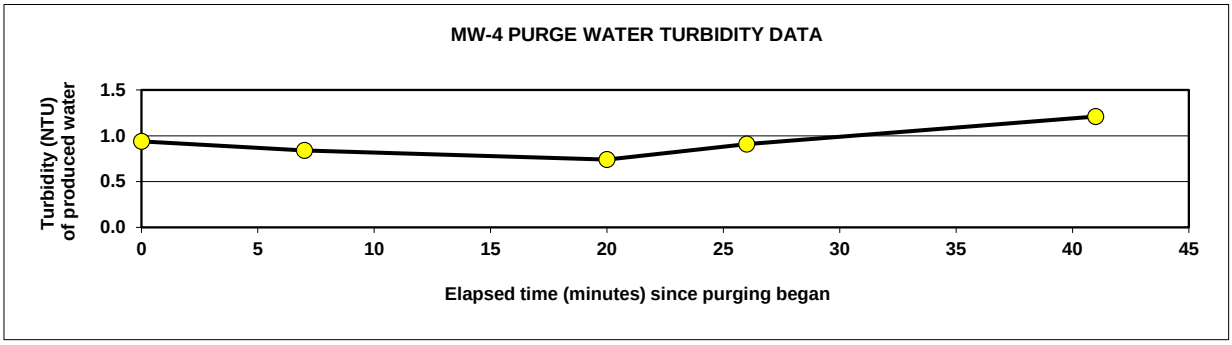
Groundwater Sampling Purge Data

Date:	5/30/19	**Data by:**	K. Kirtley
Well Depth (ft):	301	**Purge Rate (gpm):**	5.4 (average)
Initial Water Level (ft):	276.63	**Specific Capacity (gpm/ft):**	--
Final Water Level (ft)	--	**Wellbore Volume (gal):**	16.1

Time	Elapsed Time (minutes)	Turbidity (NTU)	Temp. (°C)	DO (mg/l)	Conductivity (µS/cm)	pH	ORP (mV)	Q Total (Gallons)	Comments
12:25	0	0.94	15.2	--	460	8.6	56	0.25	Start well purging
12:32	7	0.84	15.6	--	470	8.0	89	40	
12:45	20	0.74	16.3	--	420	7.9	98	120	
12:51	26	0.91	15.9	--	430	7.9	72	180	
13:06	41	1.21	15.4	--	440	7.9	87	220	







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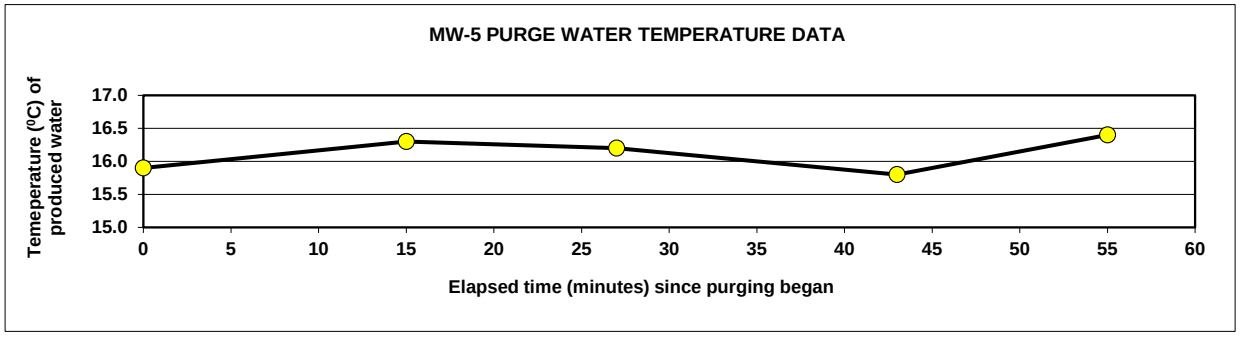
AGUA FRIA LANDFILL GROUNDWATER SAMPLING AND ANALYSIS

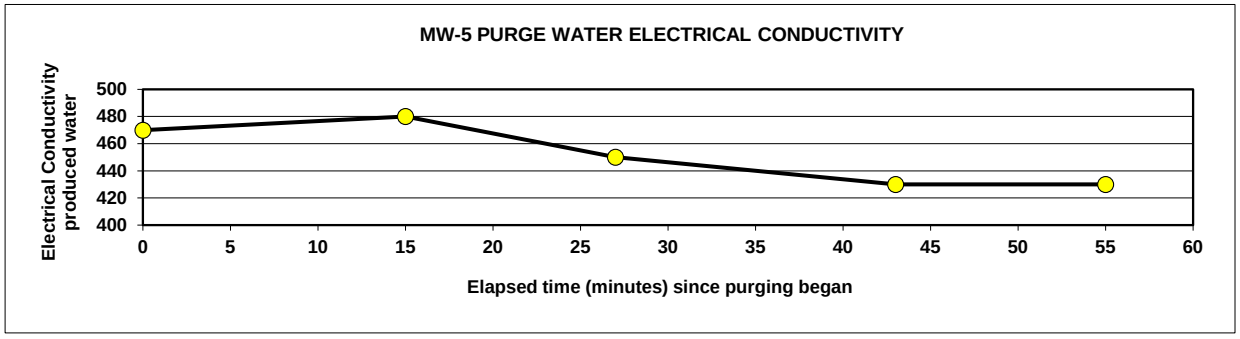
Monitor Well 5

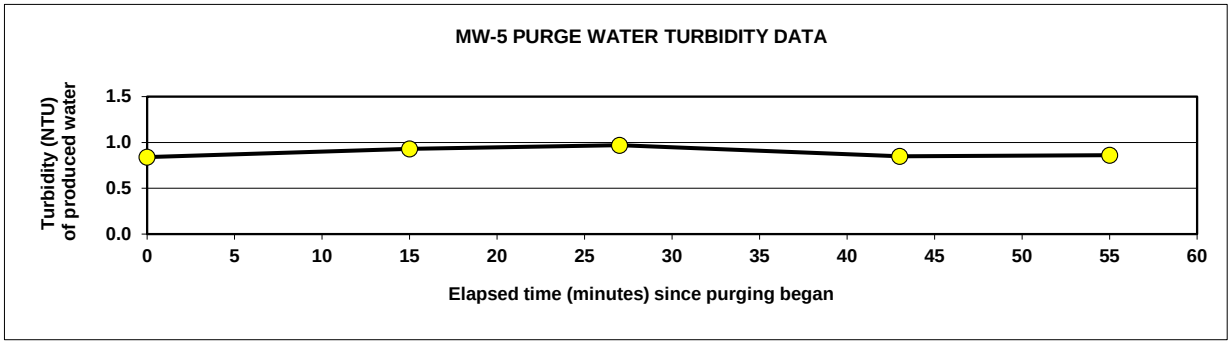
Groundwater Sampling Purge Data

Date:	5/30/19	**Data by:**	K. Kirtley
Well Depth (ft):	319.5	**Purge Rate (gpm):**	4.4 (average)
Initial Water Level (ft):	280.67	**Specific Capacity (gpm/ft):**	--
Final Water Level (ft)	--	**Wellbore Volume (gal):**	25.6

Time	Elapsed Time (minutes)	Turbidity (NTU)	Temp. (°C)	DO (mg/l)	Conductivity (µS/cm)	pH	ORP (mV)	Q Total (Gallons)	Comments
16:15	0	0.84	15.9	--	470	8.2	102	0.25	Start well purging
16:30	15	0.93	16.3	--	480	8.1	111	25	
16:42	27	0.97	16.2	--	450	7.9	118	140	
16:58	43	0.85	15.8	--	430	7.9	120	200	
17:10	55	0.86	16.4	--	430	7.9	126	240	







GOLDER

GOLDER

golder.com

June 12, 2019 1543135

Mr. Jeff Spillers
Santa Fe County Solid Waste Department
424 NM 599
Santa Fe, NM 87507

AGUA FRIA LANDFILL METHANE MONITORING REPORT: MAY 2019

Mr. Spillers:

Golder Associates Inc. (Golder) performed the semi-annual methane monitoring at the Agua Fria Landfill on May 29, 2019. Monitoring was performed at nine perimeter methane monitoring wells (MMW) as well as at the snack bar and workshop facilities located west of the landfill.

Golder used a Landtec GEM-5000 to measure the methane, oxygen, carbon dioxide, and nitrogen (or balance gas). The GEM-5000 is capable of detecting methane at concentrations of 0.1% by volume or 2% of the lower explosive limit (LEL). Golder purged and sampled the nine methane monitoring wells, as well as in worker breathing zone (WBZ) air in nearby structures, including the County park maintenance building and the baseball facility snack bar. Results of the methane measurements are summarized on the attached map (Figure 1). A table and time series plot showing methane concentration data are included in Table 1 and Figure 2, respectively. A landfill gas report conforming to the New Mexico Environment Department Solid Waste Bureau format requirements is included in Table 2. MMW-7 has consistently contained the highest methane concentration with a concentration of 8% LEL reported for the May 2019 monitoring. MMW-9 was completed near MMW-7 but further away from the waste and directly adjacent to the property boundary. MMW-9 has four discrete vapor monitoring points. The methane concentrations in MMW-9 ranged from 0% of LEL in the 5-foot depth probe to 18% of LEL in the 35-foot depth probe. No methane was detected in WBZ areas of the County park maintenance structure or in the baseball complex snack bar.

Golder Associates Inc.
44 Union Boulevard, Suite 300 Lakewood, Colorado, USA 80228 T: +1 303 980-0540 +1 303 985-2080

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Based on the observed data, subsurface methane concentrations do not exceed the regulatory limits at the landfill boundary, or in nearby structures. If you have any questions, please do not hesitate to contact me.

Sincerely,

Golder Associates Inc.

Matt Somogyi
Senior Hydrogeologist

MC/MS/cc

CC: James Dyer, NMED-SWB

Attachments: Table 1 – Methane History, Agua Fria Landfill
Table 2 – Landfill Gas Methane Monitoring Form, 5/29/2019
Figure 1 – Soil Methane Concentrations, 5/29/2019
Figure 2 – Methane History Time Series, Agua Fria Landfill

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Tables

Table 1: Methane History, Agua Fria Landfill

Date	MMW-1	MMW-2	MMW-3	MMW-4	MMW-5	MMW-6	MMW-7*	MMW-8	MMW-9	Shop	Snack Bar	Comments
Monitor Well and Interior Structures Methane Concentrations, % of Lower Explosive Limit												
10/31/00	105	11	0	0	0	120	121	117	--	NM	NM	SMA
2/6/01	83	30	0	0	0	27	106	36	--	0	NM	SMA
4/24/01	1	1	0	0	1	5	85	1	--	0	0	SMA
7/31/01	15	4	0	0	0	18	110	4	--	0	0	SMA
11/14/01	35	0	0	0	0	63	140	44	--	NM	NM	SMA
2/25/02	1	0	0	0	0	0	91	9	--	0	2	SMA
5/21/02	26	1	0	0	0	1	90	14	--	0	0	SMA
9/18/02	31	0	0	0	0	45	192	52	--	0	0	SMA
10/4/02	3	0	0	0	0	0	100	0	--	0	0	SMA
10/11/02	9	0	0	0	0	0	100	26	--	0	0	SMA
10/18/02	49	0	0	0	0	46	100	59	--	NM	NM	SMA
10/25/02	10	0	0	0	0	6	0	4	--	0	0	SMA
11/1/02	6	0	0	0	0	3	100	30	--	NM	NM	SMA
12/10/02	57	0	0	0	0	7	100	0	--	NM	NM	SMA
3/18/03	25	0	0	0	0	0	100	4	--	NM	NM	SMA
6/11/03	14	0	0	0	0	0	100	12	--	0	0	SMA
10/20/03	0	0	0	0	0	0	90	0	--	0	NM	SMA
12/11/03	25	0	0	0	0	0	100	19	--	0	NM	SMA
3/24/04	15	0	0	0	0	0	90	14	--	0	NM	SMA
6/22/04	0	0	0	0	0	0	0	0	--	0	0	SMA
9/22/04	12	0	0	0	0	0	100	11	--	0	0	SMA
4/26/05	0	0	0	0	0	0	0	0	--	0	NM	SMA
6/28/05	12	0	0	0	0	0	70	6	--	0	0	Golder
10/26/05	12	0	0	0	0	14	166	8	--	0	0	Golder
1/9/06	12	0	0	0	0	0	136	0.1	44	0	0	Golder
2/8/06	10	0	0	0	0	0	84	0	36	0	0	Golder
2/1/07	0	0	0	0	0	2	4	0	0	0	0	Golder
7/27/07	0	0	0	0	0	0	122	4	56	0	0	Golder
1/30/08	NM	NM	NM	NM	0	0	NM	4	64	NM	NM	Golder
1/31/08	0	0	0	0	NM	NM	68	NM	NM	0	0	Golder
8/18/08	8	0	0	0	0	2	148	6	60	0	0	Golder
5/27/09	2	0	0	0	0	8	4	8	56	0	0	Golder
10/22/09	2	0	0	0	0	6	90	8	74	0	0	Golder

Table 1: Methane History, Agua Fria Landfill

Date	MMW-1	MMW-2	MMW-3	MMW-4	MMW-5	MMW-6	MMW-7*	MMW-8	MMW-9	Shop	Snack Bar	Comments
Monitor Well and Interior Structures Methane Concentrations, % of Lower Explosive Limit												
5/5/10	0	0	0	0	0	2	68	2	54	0	0	Golder
6/20/11	0	0	0	0	2	0	48	0	28	0	0	Golder
12/21/11	0	0	0	0	2	0	126	0	28	0	0	Golder
5/18/12	0	0	0	0	0	0	50	0	33	0	0	Golder
1/18/13	0	0	0	0	0	0	37	0	24	0	0	Golder
12/26/13	0	0	0	0	0	0	32	0	26	0	0	Golder
6/19/14	0	0	0	0	0	0	25	0	22	0	0	Golder
12/22/14	0.2	0	0	0	0	0	55	0	30	0	0	Golder
4/16/15	0	0	0	0	0	4	29	0	27	0	0	Golder
12/30/15	0	0	0	0	0	0	26	0	10	0	0	Golder
7/8/16	0	0	0	0	0	4	18	0	14	0	0	Golder
12/21/16	0	2	0	0	2	2	40	2	12	0	0	Golder
4/28/17	0	2	0	0	0	0	16	0	14	0	0	Golder
1/3/18	0	0	0	0	0	0	16	0	16	0	0	Golder
6/21/18	0	0	0	0	0	0	18	0	16	0	0	Golder
12/31/18	0	0	0	0	0	0	4	0	16	0	0	Golder
5/29/19	0	0	0	0	0	0	8	0	18	0	0	Golder

Notes:

NM - no measurement

SMA - Souder, Miller and Associates

**values listed at 100% LEL reported as >100%LEL*

Table 2: Landfill Gas Methane Monitoring Form

Landfill Name: Agua Fria Landfill Sampler name: Kyle Kirtley

Date: 5/29/2019 Barometric Pressure (in. Hg): 23.94 Temperature: approximately 60° F

Weather conditions: Cloudy

Wind Direction: E Wind Speed: 5 mph

Instrument: Landtec Gem 5000 Date instrument last calibrated ambient air: 5/29/2019

Methane sampling type: Dedicated Wells/Indoor Air Samples

Well Number	Time Sample Taken	Purge Time (min)	CH_4 (% LEL)	CO_2 (%)	O_2 (%)	N_2 or Balance gas (%)	H_2S (%)
MMW-1	1128	10	0	6.9	14.6	78.5	NA
MMW-2	1147	10	0	1.4	20.6	78.0	NA
MMW-3	1210	10	0	1.7	20.1	78.2	NA
MMW-4	1233	10	0	2.3	19.5	78.2	NA
MMW-5	1255	10	0	2.1	19.2	78.7	NA
MMW-6	1124	10	0	10.4	11.6	78.0	NA
MMW-7	1107	16	8	20.6	0.8	78.2	NA
MMW-8	1536	13	0	3.6	17.6	78.8	NA
MMW-9, 5 ft	1359	18	0	0.6	21.4	78.0	NA
MMW-9, 15 ft	1425	21	4	4.3	16.9	78.6	NA
MMW-9, 25 ft	1448	19	6	4.4	16.7	78.6	NA
MMW-9, 35 ft	1510	19	18	9.1	11.8	78.2	NA
Shop	1552	NA	0	0	20.9	79.1	NA
Snack bar	1559	NA	0	0	21.0	79.0	NA

Notes:
NA = Not applicable

Comments:
Methane sampling location map attached.

Figures

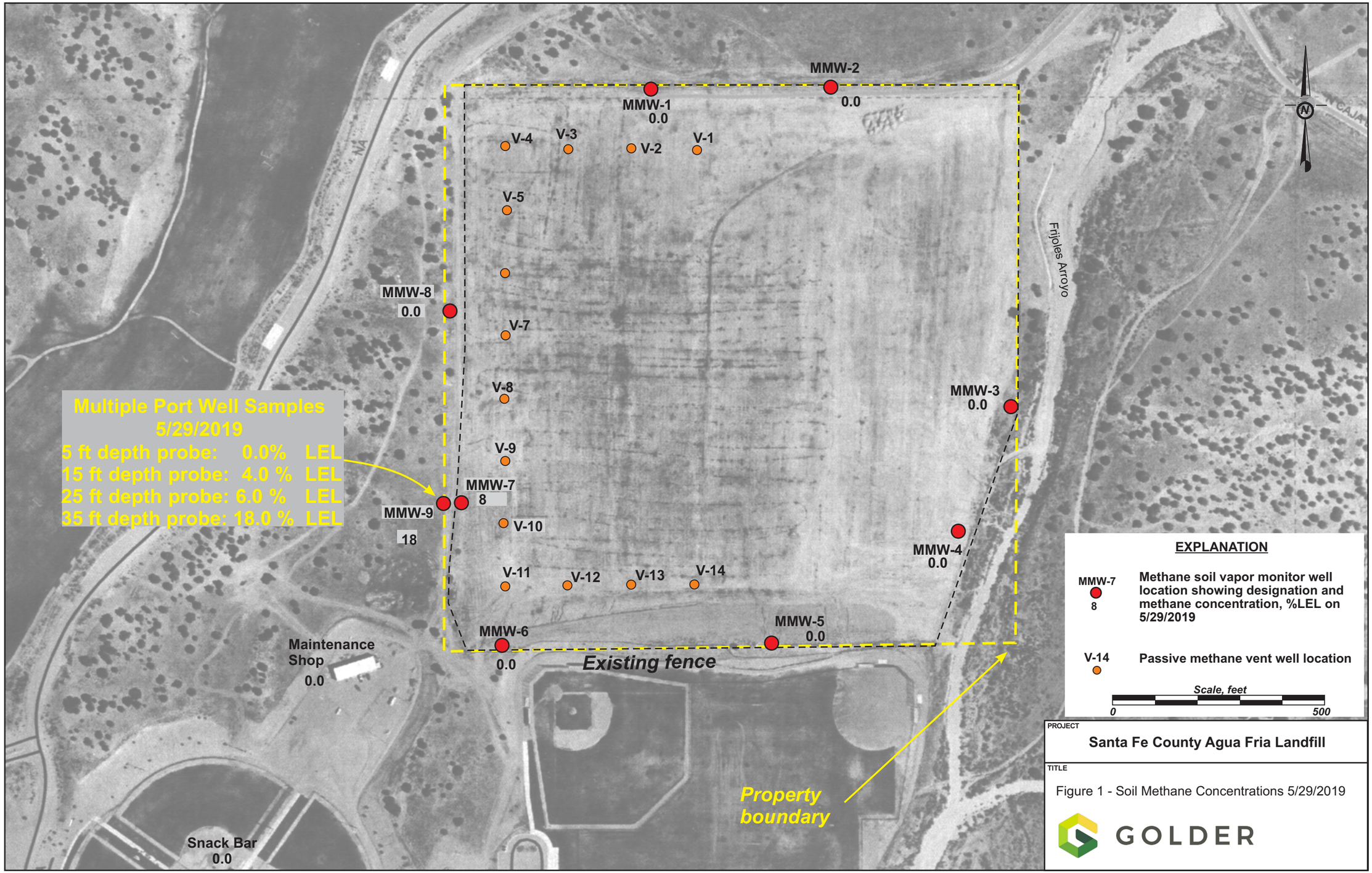
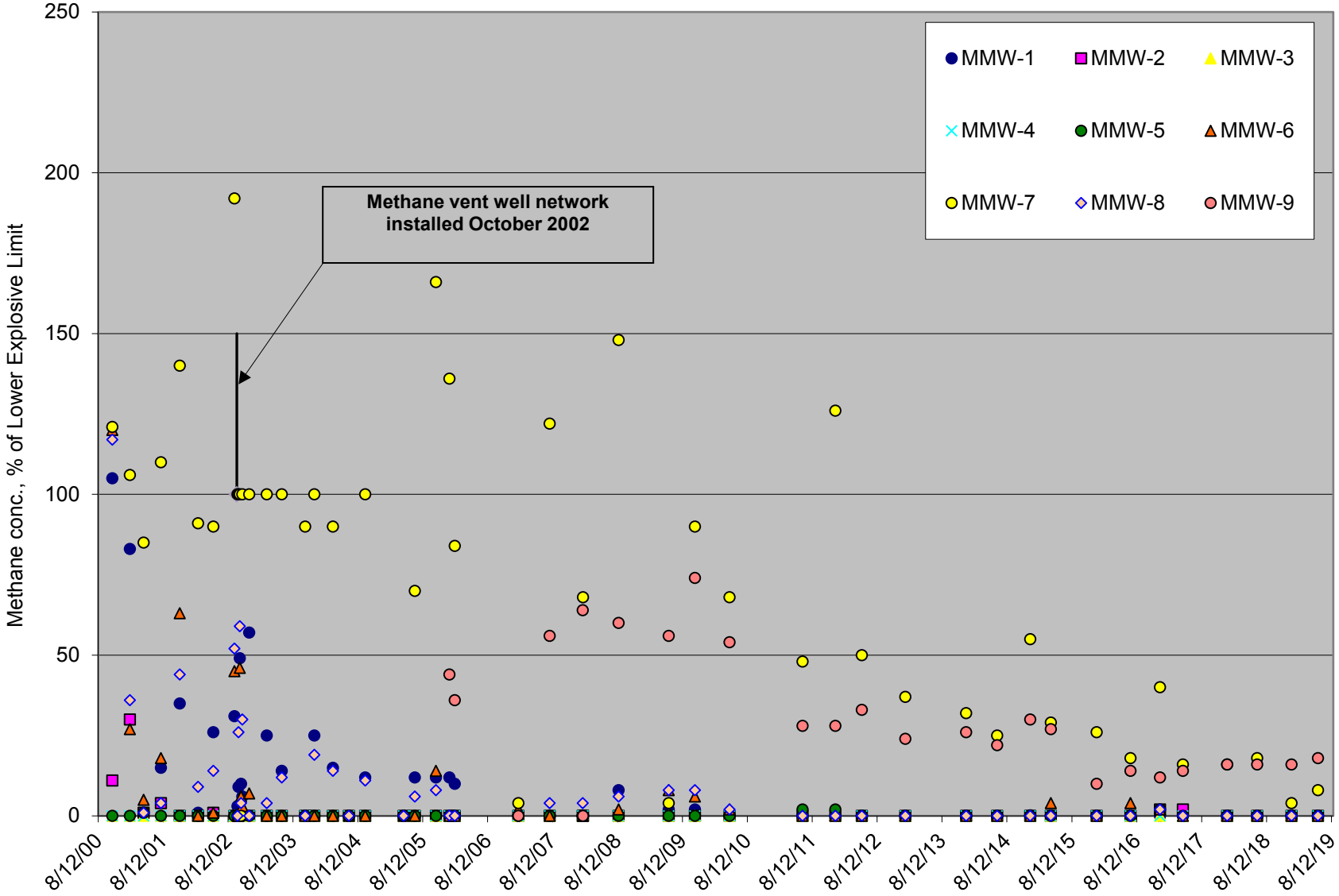

MMW-2
0.0
MMW-1
0.0
V-4
V-3
V-2
V-1
V-5
MMW-8
0.0
V-7
V-8
MMW-3
0.0
V-9
MMW-7
8
MMW-9
18
V-10
MMW-4
0.0
V-11
V-12
V-13
V-14
MMW-6
0.0
MMW-5
0.0
Maintenance
Shop
0.0
Existing fence
Snack Bar
0.0
Frijoles Arroyo
Multiple Port Well Samples
5/29/2019
5 ft depth probe: 0.0% LEL
15 ft depth probe: 4.0 % LEL
25 ft depth probe: 6.0 % LEL
35 ft depth probe: 18.0 % LEL
Property
boundary
EXPLANATION
MMW-7
8
Methane soil vapor monitor well location showing designation and methane concentration, %LEL on 5/29/2019
V-14
Passive methane vent well location
Scale, feet
0
500
PROJECT
Santa Fe County Agua Fria Landfill
TITLE
Figure 1 - Soil Methane Concentrations 5/29/2019
GOLDER

Figure 2: Methane History Time Series, Agua Fria Landfill



GOLDER

Henry P. Roybal
Commissioner, District 1

Anna Hansen
Commissioner, District 2

Rudy N. Garcia
Commissioner, District 3

Anna T. Hamilton
Commissioner, District 4

Ed Moreno
Commissioner, District 5

Katherine Miller
County Manager

PRE PROPOSAL CONFERENCE
RFP NO. 2020-0083-PW/MAM
GROUND WATER MONITORING
SERVICES AGUA FRIA LANDFILL
NOVEMBER 13, 2019
4:00 PM

Contracting Agency: Santa Fe County

- Michelle A. Marmion — Procurement Specialist Senior — Purchasing Division
- Les Francisco — Solid Waste Superintendent — Public Works
- Gabriella Trujillo — Public Works Administrator — Public Works
- Jeffrey Spillers — Collection Maintenance Foreman — Public Works
- Lorina Sanchez — Administrative Manager — Public Works

Santa Fe County is requesting proposals from licensed and qualified scientific and technical consultants or consulting firms to provide landfill monitoring and reporting services for the inactive Agua Fria Landfill.

ATTACHMENTS

APPENDIX F: ***NMED Revised Closure Post-Closure Plan (CPC) monitoring (ground water & methane) requirements determination for the closed Agua Fria Landfill and Parameter list.***

APPENDIX G: ***Location Map Agua Fria Landfill***

CLARIFICATION NO. 1:
Page 3 APPENDICES IS DELETED AND REPLACED AS FOLLOWS:

A. Acknowledgement of Receipt Form
B. Campaign Contribution Disclosure Form
C. Resident Veterans Preference Certification
D. Sample Agreement
E. Cost Proposal Form

F. ***NMED Revised Closure Post-Closure Plan (CPC) monitoring (ground water & methane) requirements determination for the closed Agua Fria Landfill and Parameter list.***
G. ***Location Map***

CLARIFICATION NO. 2:
Page 5, II. CONTRACT OBJECTIVES; A. PROJECT BACKGROUND remove all APPENDIX C reference and replace it with APPENDIX F attached hereto.

Proposal Information

Carefully read the Request for Proposal for requirements, terms & conditions including the Appendix D Sample Agreement (page 31).

- Proposal Organization - Proposal should be organized as outlined in the RFP (page 19).
- Selection of finalist(s) – the most qualified proposal received based on the evaluation criteria outlined in the RFP (pages 21-22) will be scored by a three to four-member evaluation committee.

- Preferences -

  1) N.M. In-State Business Preference Certificate 5% of total weight of all evaluation factors added to score.

  OR

  2) N.M. Resident Veterans Preference Certificate, 10% total weight of all evaluation factors added to score. For more information on State Preference visit www.tax.newmexico.gov

  AND

  3) Santa Fe County Preference, 5% of total weight of all evaluation factors added to score. For more information on County Preference visit www.santafecountynm.gov/departments/purchasing

- Please submit all questions via email to Michelle A. Marmion at mmarmion@santafecountynm.gov. The last day for questions will be **Monday, November 18, 2019.** ***(Any contact during the procurement until an award has been made with any elected official or other county staff member other than the Procurement Manager named in this solicitation may be grounds for disqualification.)***

- Addendum will be issued on **Thursday, November 21, 2019.** *(Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.)*

- **Proposal Submittal - Due Date: Tuesday, December 3, 2019**
  Time: 2:00 PM
  Location: 142 W. Palace Avenue 2nd Floor, Santa Fe, NM
  (Bokum Building)

APPENDIX F

REVISED CLOSURE POST – CLOSURE PLAN (CPC)

TABLE 1 - PARAMETERS

NEW MEXICO
ENVIRONMENT DEPARTMENT

Environmental Protection Division
Solid Waste Bureau

SUSANA MARTINEZ
Governor

JOHN SANCHEZ
Lieutenant Governor

1190 St. Francis Drive, Room S2050
P.O. Box 5469
Santa Fe, New Mexico 87502-5469
Telephone (505) 827-0197
Fax (505) 827-2902
www.nmenv.state.nm.us

F. DAVID MARTIN, P.E.
Secretary

January 13, 2011

Mr. Olivar Barela
Solid Waste Manger –Santa Fe County
PO Box 276
Santa Fe, NM 87504-0276

RE: Revised Closure Post-Closure Plan (CPC) monitoring (ground water & methane) requirements determination for the closed Agua Fria Landfill

Dear Mr. Barela:

After review of the CPC Plan for the Agua Fria Landfill for ground water sampling and after further review of the total tonnages for methane monitoring determination the Bureau has determined the following environmental monitoring should be followed by the Agua Fria Landfill during post-closure:

1. The CPC Plan was approved for annual ground water monitoring plus a reduced parameter list (attached). This is still approved unless an annual ground water sampling event shows an exceedance of the assessment monitoring levels (AML) caused by the landfill. In the case of an AML exceedance, the landfill would then need to comply with 20.9.9.13. NMAC (Assessment Monitoring).
2. In a letter dated 7/13/10 from Darren Padilla of the SWB approved the methane monitoring alternative frequency to be reduced to semi-annual from quarterly. After a re-review of the total cubic yards (887,850) and life span (36 years) for the Agua Fria Landfill and using a conservative compaction rate of 800 pounds per cubic yard and using a conservative estimate of 15 % construction and demolition debris waste (which is not required to be considered in total tonnages in determining methane gas generation because it is mostly inert material) the estimated daily tonnage for the life of the landfill came out to ~23 tons per day. The Bureau has determined that this meets the intent of the 20 ton per day requirement set by EPA in 40 CFR 258.23(c) allowing for an alternative monitoring frequency for methane monitoring – in this case the alternative frequency is reduced to semi-annual by the Bureau. This does no preclude the Bureau in the future from increasing the frequency back to quarterly if methane exceedances are encountered at the property line.

Please use the above determinations in future ground water and methane monitoring events at the Agua Fria Landfill during the post-closure care period.

If you have any questions, please contact me at 505-827-2328.

Sincerely,

Terry Nelson
Permit Section Manager

Attachment: Reduced parameter list

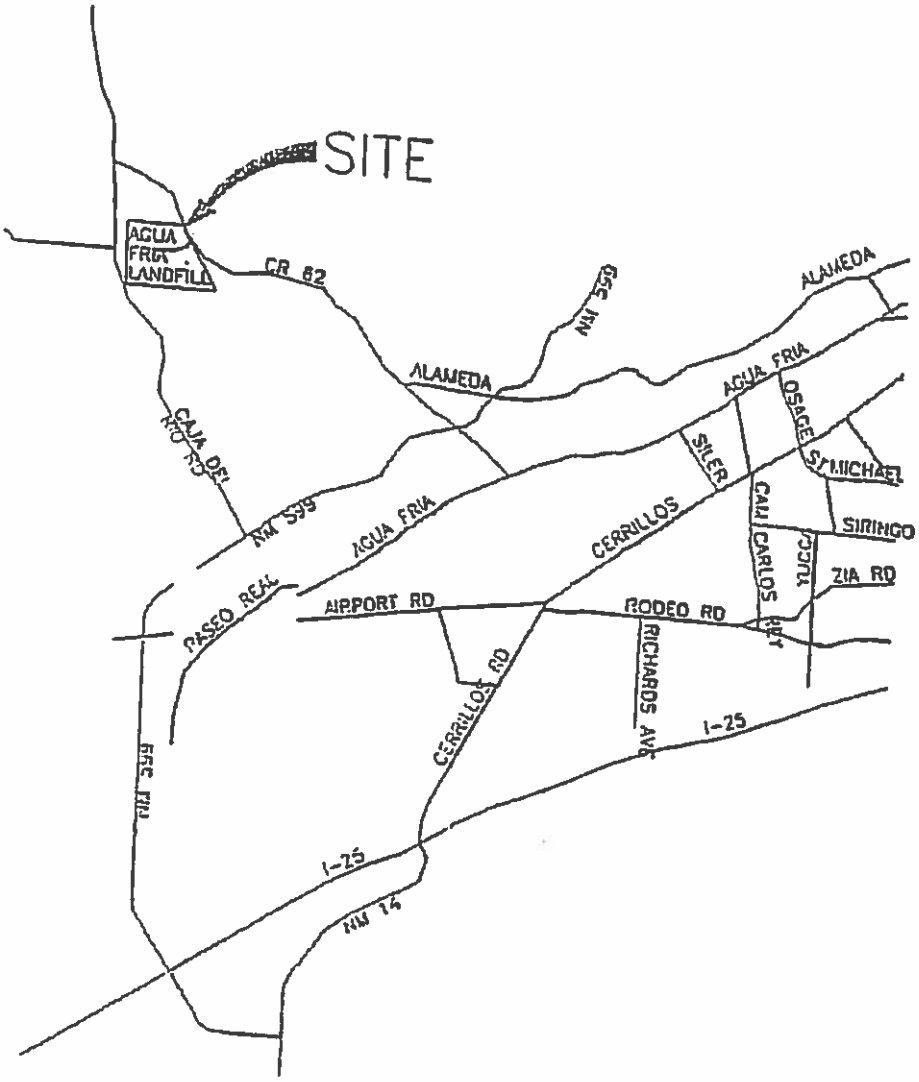
emcc: Chuck Akeley, Enforcement Manager, SWB
James Dyer, Hydrologist, SWB
Ernie Gutierrez, EA 2, SWB
Clay Kilmer, Golder & Assoc.

Alternative Ground Water Parameter List- Agua Fria Landfill 12-16-10

Common Name	Alternate Name(s)	Toxic Pollutant Listed in 20.6.2.7	GWPS	AML (Prescriptive)	Units
Acetone	2-Propanone				
Acrylonitrile	2-Propenenitrile				
Benzene		X			mg/L
Bromochloromethane	Chlorobromethane	X	0.005	0.0025	mg/L
Bromodichloromethane	Dibromochloromethane				mg/L
Bromoform	Tribromomethane	X			mg/L
Carbon disulfide		X			mg/L
Carbon tetrachloride	Tetrachloromethane				mg/L
Chlorobenzene	Monochlorobenzene	X	0.005	0.0025	mg/L
Chloroethane	Ethyl chloride	X	0.1	0.05	mg/L
Chloroform	Trichloromethane				mg/L
Dibromochloromethane	Chlorodibromomethane	X	0.1	0.05	mg/L
o-Dichlorobenzene	1,2-Dichlorobenzene				mg/L
p-Dichlorobenzene	1,4-Dichlorobenzene	X	0.6	0.3	mg/L
trans-1,4-Dichloro-2-butene	1,4-Dichloro-(E)-2-butene	X	0.075	0.0375	mg/L
1,1-Dichloroethane	Ethylidene chloride				mg/L
1,2-Dichloroethane	Ethylene dichloride, EDC	X	0.025	0.0125	mg/L
1,1-Dichloroethylene	1,1-Dichloroethene; Vinylidene chloride; 1,1-	X	0.005	0.0025	mg/L
cis-1,2-Dichloroethylene	cis-1,2-Dichloroethene; 1,2-Dichloro-(Z)-	X	0.005	0.0025	mg/L
trans-1,2-Dichloroethylene	trans-1,2-Dichloroethene; 1,2-Dichloro-(E)-	X	0.07	0.035	mg/L
1,2-Dichloropropane	Propylene dichloride	X	0.1	0.05	mg/L
cis-1,3-Dichloropropene	1,3-Dichloro-(Z)-propene		0.005	0.0025	mg/L
trans-1,3-Dichloropropene	1,3-Dichloro-(E)-propene	X			mg/L
Ethylbenzene		X			mg/L
2-Hexanone	Methyl butyl ketone	X	0.7	0.35	mg/L
Methyl bromide	Bromomethane				mg/L
Methyl chloride	Chloromethane	X			mg/L
Methylene bromide	Dibromomethane	X			mg/L
Methylene chloride	Dichloromethane				mg/L
Methyl ethyl ketone	MEK; 2-Butanone	X	0.005	0.0025	mg/L
Methyl iodide	Iodomethane				mg/L
4-Methyl-2 pentanone	Methyl isobutyl ketone				mg/L
Styrene	Ethenylbenzene				mg/L
1,1,1,2-Tetrachloroethane			0.1	0.05	mg/L
1,1,2,2-Tetrachloroethane					mg/L
Tetrachloroethylene	Tetrachloroethene; Perchloroethylene;	X	0.01	0.005	mg/L
Toluene	Methylbenzene	X	0.005	0.0025	mg/L
1,1,1-Trichloroethane	Methylchloroform	X	0.75	0.375	mg/L
1,1,2-Trichloroethane		X	0.06	0.03	mg/L
Trichloroethylene	Trichloroethene; 1,1,2-Trichloroethylene;	X	0.005	0.0025	mg/L
Trichlorofluoromethane	CFC-11	X	0.005	0.0025	mg/L
1,2,3-Trichloropropane		X			mg/L
Vinyl acetate	Acetic acid ethenyl ester				mg/L
Vinyl Chloride	Chloroethene				mg/L
Xylene (total) (see note 1)	Dimethylbenzene	X	0.001	0.0005	mg/L
Antimony			0.02	0.01	mg/L
Arsenic			0.006	0.003	mg/L
Barium			0.01	0.005	mg/L
Beryllium			1	0.5	mg/L
Cadmium			0.004	0.002	mg/L
Chromium (total)			0.005	0.0025	mg/L
			0.05	0.025	mg/L

obalt					
Copper			0.05	0.025	mg/L
Lead			1	0.5	mg/L
Nickel			0.05	0.025	mg/L
Selenium			0.2	0.1	mg/L
Silver			0.05	0.025	mg/L
Thallium			0.05	0.025	mg/L
Vanadium			0.002	0.001	mg/L
Zinc					mg/L
			5	2.5	mg/L
Aluminum					
Boron			0.2	0.15	mg/L
Chloride			0.75	0.5625	mg/L
Cyanide (as free cyanide)			250	187.5	mg/L
Iron			0.2	0.1	mg/L
Manganese			0.3	0.225	mg/L
Mercury (total)			0.05	0.0375	mg/L
Nitrate (as N)			0.002	0.001	mg/L
Magnesium			10	5	mg/L
Sodium					mg/L
Total Kjeldahl Nitrogen	TKN				mg/L
Total Nitrogen					mg/L
Total Organic Carbon	TOC				mg/L
					mg/L
Bicarbonate Alkalinity					mg/L
Carbonate Alkalinity					
Specific Conductance					mg/L
Temperature					mg/L
Depth to Ground Water					µS/cm
Groundwater Elevation					degree C
					ft bgs
					ft amsl

APPENDIX G



LOCATION MAP AGUA FRIA LANDFILL

SANTA FE COUNTY

RFP # 2020-0083-PW/MAM
GROUND WATER MONITORING
SERVICES AGUA FRIA LANDFILL
NOVEMBER 13, 2019
4:00PM

NAME	COMPANY	TELEPHONE	E-MAIL ADDRESS
Eileen Marcillo	INTERA	505.428.0066	emarcillo@intera.com
Jenice G-Allegos	Wood	505-821-1801	jenice.gallegos@woodplc.com
Will Donahoo	Adelante Consulting	505-340-6353	wdonahoo@adelanteconsulting.com
Clay Kilner	PSC	505-235-4482	ckilner@tzan-psc.com
Gabriella Trujillo	PW	(505) 992-3031	gtrujillo@santafecountynm.gov
Lorina A Sanchez	PW	505.992.3021	lsanchez@santafecountynm.gov
Jerry Spillers	PW	505 992-3020	jspillers@SantaFeCountynm.gov
Les Francisco	SF County PW/SW	505) 992-3068	LFrancisco@SantaFeCountynm.gov
Scott McKitrick	Souder Miller & Assoc.	505.299.0942	scott.mckitrick@souldermiller.com
Michelle Marmi	SFC	—	—