REPORT

OUTFALL 22B IRAM PERFORMANCE MONITORING SECOND QUARTER 2016 REPORT

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1.0 INTRODUCTION

The Outfall 22B storm sewer system consists of a City of Portland (City) storm sewer along NW Front Avenue that discharges to the river upstream of the BNSF railroad bridge (see Figure 1). Private laterals connect to the Outfall 22B storm sewer from the Metro, MMGL (formerly Schnitzer)/Air-Liquide, and Gould properties, and previously from the Arkema property. The Outfall 22B system receives run-off and associated sediments from NW Front Avenue and City right of way (ROW), City property, BNSF, Arkema, ESCO, Gould, MMGL/Air Liquide, Metro, Highway 30 and, during very high rainfall, the former Rhône-Poulenc property. The total length of the City and private Outfall 22B storm sewer system is approximately 8,000 linear feet.

1.1 Background

StarLink Logistics, Inc. (StarLink) began conducting Outfall 22B investigations when deterioration of the storm sewer and groundwater infiltration were identified in April 2004. Detections of constituents of interest (COIs) that could potentially impact Portland Harbor were partially attributed to activities conducted at the former Rhône-Poulenc facility and resulted in StarLink conducting Interim Remedial Action Measures (IRAM) to reduce or eliminate groundwater infiltration into the system. These activities included polyurethane injections at targeted locations and storm sewer repair. A cutoff collar of polyurethane injected foam was installed approximately 50 feet downstream of manhole MH-3 and approximately 290 feet upstream of the outfall to reduce the potential for seepage in the trench backfill surrounding the Outfall 22B pipe. No seepage from the outfall backfill has been observed. A cured-in-place pipe (CIPP) liner was installed throughout most of the system including private laterals, and manhole rehabilitation occurred as part of an Expanded-IRAM (E-IRAM). Figure 1 illustrates the location of the cutoff collar and segments of pipe and manholes that were lined, replaced or abandoned as part of the IRAM and E-IRAM. Most work was completed in 2010 and the lining work was completed in 2014. StarLink received a letter from the City of Portland Bureau of Environmental Services (BES) of substantial completion of the construction in August 2014.

1.2 Sampling and Analysis Plan Objectives

StarLink submitted an Outfall 22B IRAM Performance Monitoring Sampling and Analysis Plan (SAP) to DEQ in December 2014. DEQ finalized this document in February 2015 (DEQ 2015). As described in the SAP, the objective of the performance monitoring is to demonstrate that the Outfall 22B storm sewer system pathway is adequately addressed and does not pose an unacceptable risk to the river. Protectiveness is to be assessed as follows:

- Determine if dry weather flow is present
- Determine if detected constituents exceed site specific screening level values (SLVs) - Table J-1 in the SAP (DEQ 2015)
- Evaluate if exceedances pose an unacceptable risk to the river

- Determine if additional actions are needed

1.3 Second Quarter 2016 Monitoring Event

The second quarter 2016 monitoring event followed two quarters without a qualifying dry period. The previous qualifying monitoring event was conducted in the third quarter of 2015.

In accordance with the SAP, upstream manholes were sampled during the second quarter 2016 monitoring event because organic constituents were detected above Site specific SLVs in samples of outfall discharge during the previous monitoring event. Samples were collected from manholes MH-3, MH-4, MH-5, MH-6, and MH-7 on May 10 and 11, 2016. During monitoring activities on May 11, the field team observed higher than previously recorded flows in manhole MH-8, which prompted investigation of flow in upstream manholes prior to continuing sampling. Flow was observed to be higher than expected in manholes MH-9 and MH-10. The estimated flow rate at MH-10 was 2 to 3 gallons per minute (gpm). Continuing upstream, Golder observed stormwater construction activities at the Metro property and was informed that Metro was constructing a new stormwater treatment plant that required excavation to access the storm sewer pipe between Metro manholes MH-9 and MH-15.

Golder checked for the presence of non-stormwater flow at Metro monitoring point MH-9. At least 2 gpm of water was observed flowing into MH-9 from the direction of MH-15. No flow had been observed in this section of pipe during previous monitoring events. Metro also informed Golder that the pipe between MH-9 and MH-15 would be cut during the evening of May 11. When Golder returned on May 12, the pipe had been cut and new PVC pipe and the base of a new concrete manhole vault had been installed. Metro reported that water had been observed flowing out of the annular space between the concrete host pipe and CIPP liner into the Outfall 22B system at the cut pipe ends and they had not grouted this annular space as of May 12. Golder observed at least 2 gpm flowing through the new manhole vault and approximately 3 gpm flowing out of the downstream manhole MH-9. Based on these observations, the second quarter 2016 sampling event was discontinued and manholes MH-8, MH-9, MH-10, and Metro MH-9 were not sampled.

Stormwater construction activities at the Metro property prior to and during the second quarter 2016 monitoring event disturbed the lined storm sewer pipe at the Metro property resulting in increased flow in the Outfall 22B system. Therefore, analytical results for the samples collected prior to discontinuing the second quarter 2016 monitoring event are not representative of the Outfall 22B IRAM effectiveness.

2.0 PRE-SAMPLING OBSERVATIONS

2.1 Precipitation Monitoring

The SAP specifies that a monitoring event must be preceded by at least 72 hours where no measurable precipitation is recorded at the nearest rain gauge, located at NW Yeon Avenue, Portland, Oregon (part of the City of Portland Bureau of Environmental Services HYDRA rainfall network [USGS 2015]). Dry weather and no run-off input is the first step in obtaining performance monitoring samples that may be representative of groundwater that infiltrates the storm sewer.

Following two quarters without a qualifying dry period, the dry period for the May 2016 monitoring event began at 13:00 PST on Wednesday, May 4, 2016. Golder began monitoring the system for surface water inflow on May 6 and conducted sampling May 10 and 11, approximately 140 hours after the last measured rainfall (Table 1). Sampling began May 10 because the National Oceanic and Atmospheric Administration had forecasted a chance of precipitation on May 8 and May 9 in the vicinity of the Site. It did not rain during the sampling event. Other weather conditions are documented in the field notes (Appendix A). Photos of the outfall are provided in Appendix B and additional sampling notes are provided on the field sheets contained in Appendix C.

2.2 River Stage

The Morrison Bridge, Willamette River gauge height ranged from 7.47 to 8.91 feet on May 10 and 11, 2016 (OWRD 2016). The river gauge datum is 2.92 feet higher than the City of Portland Datum (COPD). The outfall invert is 14.65 feet COPD. The river stage was between 2.8 and 4.3 feet below the Outfall 22B invert during the May 2016 monitoring event.

The outfall was clear of debris at the time of sampling.

2.3 Surface Water Flow

Golder inspected the catch basins connected to the Outfall 22B system for surface water inflow. Surface water was observed trickling into CB-6 at the MMGL/Air Liquide property during the May 2016 monitoring event. Surface water flow was not observed flowing into any of the other Outfall 22B catch basins during the dry weather period leading up to or during the monitoring event. Catch basin observations are recorded in Table 2.

3.0 SAMPLING FLOW OBSERVATIONS AND MEASUREMENTS

Where possible, Golder measured flow conditions at the outfall, manholes and catch basins along the Outfall 22B system May 10 through 13, 2016 (Figure 1).

3.1 Outfall Flow Measurements and Observations

The measured width and depth of outfall flow was 13 inches and 0.75 inches, respectively (Photos 1 and 2). The depth of flow was too shallow to utilize an electronic flow velocity meter. Therefore, Golder conducted manual measurements using a bucket and stopwatch. Outfall 22B discharge measured at 11:30 PDT on May 10, 2016 was approximately 10 gpm. Previously measured flow rates have been recorded as follows:

- September 21, 2015: 2.25 gpm
- June 8, 2015: 3.75 gpm
- February 24, 2015: estimated between 2.5 and 14.7 gpm

Flow measured at the outfall during the second quarter 2016 event was more than 2.5 times higher than the second quarter 2015 monitoring event. This is at least in part due to the construction activity at Metro property prior to and during the monitoring event. Therefore, the flow measured at the outfall is not representative of the effectiveness of the Outfall 22B IRAM.

3.2 Manhole Observations

Golder observed City manholes MH-3, MH-4, MH-5, MH-6, MH-7, MH-8, MH-9, MH-10, and Metro manhole MH-9 from street level for flow and/or infiltration in accordance with the SAP. Photographs of the manholes are included in Appendix B as Photo 3 through Photo 11. Observations recorded at additional Outfall 22B manholes are included in Table 2.

Golder measured and recorded flow width and depth in the main channel of each manhole where possible. Velocity could not be measured in the manholes because the depth of flow in all channels was too shallow to allow measurement with an electronic flow meter. The shape and size of the manhole channels are inconsistent and are generally not semi-circular, making it impractical to calculate flow rate using traditional calculation methods of discharge in a partially filled pipe. Therefore, no estimate of flow rate has been made of flow observed in manhole channels; rather qualitative observations of flow relative between manholes are provided.

- General Outfall 22B system flow: One third or more of the flow observed at the outfall appeared to have originated within the Metro laterals based on observations of flow conditions in Metro manholes. Observations of flow in manholes along NW Front Avenue indicated flow further increased within the system between MH-10 and the outfall.
- Infiltration was observed in two manholes. A weep with an indiscernible flow rate was observed in the MH-9 vault below an abandoned lateral (Photo 9). Infiltration was also observed in Metro MH-8 at the contact between the CIPP channel and the manhole structure bench.

- On May 12, following removal and replacement of the section of pipe between Metro MH-9 and MH-15, Golder visually checked the flow rate at City MH-10. Flow entering the manhole was estimated to be at least 5 gpm with a measured turbidity of 15.2 nephelometric turbidity units (NTU), indicating that the flow of water entering MH-10 had increased since the afternoon of May 11, likely from Metro activities.

3.3 Road Underdrains and Catch Basins

No flow was observed in road underdrains inspected during the May 2016 monitoring event. Golder observed infiltration in catch basins CB-7E, CB-7W, CB-8E, and CB-8W. The combined flow was estimated to be less than 1 gpm. Additional field observation details are provided in Table 2.

3.4 Well Network and Groundwater Elevation Measurements

Golder measured groundwater levels on May 11 and 12, 2016 in shallow monitoring wells ASW-05 and W-15-S on the Metro property and W-16-S, W-11-S, W-04-S and W-03-S adjacent to NW Front Avenue.

Table 3 provides measured groundwater elevations and pipe invert elevations. Measured groundwater elevations were above nearby pipe invert elevations except at the Metro property. Of the five Metro manholes with pipe inverts compared to groundwater elevations, only MH-6 was found to be lower than the measured groundwater level.

3.5 Seepage through Outfall Backfill

An inspection of the soil immediately surrounding the 22B outfall was conducted on May 10, 2016. No seepage was observed (Appendix B, Photo 1).

4.0 OUTFALL AND MANHOLE SAMPLING

Golder collected one primary sample and one field duplicate sample of flow from the outfall and one rinsate blank. Non-stormwater flow was collected and sampled from the flow channel invert at City manholes MH-3, MH-4, MH-5, MH-6, and MH-7 on May 10 and 11, 2016. As described in Section 1.3, Golder did not sample manholes MH-8, MH-9, MH-10 or Metro MH-9 because we observed increased flow from the vicinity of the Metro stormwater treatment plant construction. We also observed that a portion of the pipe upstream of the remaining sampling locations and on Metro property had been cut and replaced on the evening of May 11. Therefore, sampling was discontinued for the second quarter 2016 performance monitoring event because the flow in the pipe was not considered representative of the effectiveness of the Outfall 22B IRAM.

4.1 Sample Collection

Sampling was conducted following the SAP.

4.2 Field Parameter Results

Table 4 presents the field parameter monitoring results. Observations noted in the field parameter results are as follows:

pH: pH measured at Outfall 22B and City manholes MH-3, MH-4, MH-5, and MH-6 ranged from 8.82 at the outfall to 9.77 at MH-6. Upstream of MH-6 the pH drops to 8.60 at MH-7. High pH groundwater was described in the RI as being associated with areas near ESCO, NL-Gould, Air Liquide and Arkema (RI/SCE Section 8.3 [AMEC 2010]). Air Liquide historically discharged calcium carbonate waste from acetylene production to former Doane Lake. Lime was also added to former Doane Lake in 1965 to increase pH.

Turbidity: Turbidity measured at Outfall 22B was less than 5 NTU.

5.0 DEVIATIONS FROM THE SAP

No samples were collected and flow width and depth were not recorded from manholes MH-8, MH-9, MH-10, and Metro MH-9. Section 1.3 describes the sequence of events leading up to the decision to terminate sampling before collecting samples from the remaining manholes.

6.0 LABORATORY RESULTS

Constituents detected in Outfall 22B samples and comparison of the results to site-specific SLVs are included in Table 5.

Data validation resulted in some qualification of sample results as estimated (J, J+) or undetected and/or estimated (U, UJ) due to low level detections in the sample and associated method or rinsate blanks, minor exceedance of a holding time, detections below the lowest point of the calibration curve, diluted and detected above the calibration curve or due to matrix interference. Estimated Maximum Potential Concentration (EMPC) results reported for selected dioxin/furan and polychlorinated biphenyl (PCB) congener sample results were reported as undetected (EMPC, U) by the laboratory. A summary of all validated laboratory results is provided in Table 6.

6.1 Comparison to Site-Specific SLVs

6.1.1 Filtered and Unfiltered Metals

Concentrations of unfiltered metals above SLVs include arsenic, barium, lead (outfall and MH-3), manganese, and hexavalent chromium. Filtered metal concentrations above SLVs include arsenic, barium and manganese.

Arsenic, barium and manganese concentrations are below naturally occurring concentrations or surface water background concentrations as reported in Table 14b of the Outfall 22B IRAM Technical Memorandum (AMEC 2008).

6.1.2 VOCs

Benzene was detected above SLVs in MH-5 and MH-6.

6.1.3 SVOCs

2,4,6-Trichlorophenol and pentachlorophenol were detected at concentrations above their respective SLVs at the outfall and City manholes MH-3, MH-4, MH-5, and MH-6. The concentrations of 2,4,6-trichlorophenol and pentachlorophenol detected in the outfall are generally lower than previously detected concentrations.

6.1.4 Chlorinated Herbicides

No chlorinated herbicides were detected above SLVs in the outfall or manhole samples.

6.1.5 Chlorinated Insecticides

Chlorinated insecticides were detected at concentrations above SLVs in the outfall and manhole samples and at concentrations above what has been detected in previous sampling events.

6.1.6 Dioxins/Furans

1,2,3,4,6,7,8-HpCDD, 1,2,3,4,6,7,8-HpCDF, and OCDD were reported at estimated concentrations in MH-3 and MH-6 (OCDD only). OCDD was also reported at estimated maximum potential concentrations (EMPC) above the SLV in manholes MH-4 and MH-5. 1,2,3,4,6,7,8-HpCDD was detected at estimate maximum potential concentrations (EMPC) at the outfall. 1,2,3,7,8,9-HxCDF, OCDD and OCDF were detected at estimated concentrations above the SLVs in the outfall duplicate sample. The concentrations of dioxin/furans detected in the outfall are similar to previously detected concentrations.

6.1.7 PCB Congeners

PCB congeners detected at concentrations above SLVs include PCB-77 and PCB-106/118. The detected concentration of Total PCBs was also above the SLV, but lower than previous outfall sampling events.

Results for PCB congeners were also evaluated against the standard homolog and congener composition for Aroclors and non-Aroclor sources as follows:

- The homolog and congener composition weight percentages suggest the presence of a mixture of multiple Aroclors consistent with urban stormwater.
- The presence of PCB-11 (Table 6) is indicative of a non-Aroclor source and consistent with urban stormwater.

6.1.8 Total Petroleum Hydrocarbons

Gasoline range organics were detected above the method reporting limit of 50 micrograms per Liter (µg/L) in samples from City manholes MH-5 and MH-6. There is no site-specific SLV for total petroleum hydrocarbons (TPH).

6.2 Permitted Discharges Near Outfall 22B

Second quarter 2016 Outfall 22B performance monitoring results were compared to nearby recently permitted discharge limits (see table below). Key observations include:

- VOCs: Second quarter 2016 sampling results for benzene were below the SLV and recently permitted discharge limit with the exception of benzene detected in the sample at MH-6 (0.969 ug/L) where gasoline-range organics were also detected (116 ug/L).
- SVOCs: 2-Chlorophenol was detected in the outfall and manhole samples at concentrations ranging from 0.568 ug/L (MH-3) to 1.07 ug/L (MH-6) but below the recently permitted limit of 5 ug/L.
- Chlorinated insecticides: Recent sampling results for DDT and degradates (DDx) are significantly lower than recently permitted discharge limits for DDD (0.05 µg/L), DDE (0.05 µg/L), and DDT (0.05 µg/L). Permit limits are greater than comparable SLVs.
- Filtered and unfiltered metals: Results are well below nearby permitted discharge limits for arsenic and hexavalent chromium. Permit limits are greater than comparable SLVs.

Arkema – Permitted Discharge Limits		
Constituent Group	**Constituent**	**Discharge Limit (µg/L)**
VOCs	Benzene	<0.7
SVOCs	2-Chlorophenol	<5
Chlorinated Insecticide	DDD DDE DDT	<0.05 <0.05 <0.05
Metals	Arsenic Chromium VI	<10 <16

7.0 SUMMARY AND EVALUATION OF PROTECTIVENESS

The SAP specifies that the objective of the Outfall 22B performance monitoring is to demonstrate that the storm sewer system pathway is adequately addressed and does not pose an unacceptable risk to the river. Protectiveness is to be assessed as follows:

- Determine if dry weather flow is present
- Determine if detected constituents exceed site-specific SLVs
- Evaluate if exceedances pose an unacceptable risk to the river
- Determine if additional actions are needed

Each of the above objectives is summarized below.

7.1 Dry Weather Flow

Outfall 22B discharge samples were collected following a qualifying dry weather period without the input of stormwater, however the samples are not representative of dry weather flow due to inflow from Metro laterals of an unknown source. Outfall flow (approximately 10 gpm) was higher than a previous comparable sampling event (June 2015, 3.75 gpm) at least in part because Metro was conducting work on the storm sewer system and other subsurface utilities which disrupted the storm sewer pipe and contributed to increased non-stormwater flow from the Metro facility.

7.2 Comparison to JSCS SLVs and Previous Sampling Results

Outfall 22B sampling results show variable detections of COIs above site-specific SLVs. The outfall sample results compared to previous results indicate the results are similar although results for insecticides are higher than previous results. Results from this sampling event should not be considered representative of the effectiveness of the Outfall 22B IRAM due to construction activities occurring at Metro, which were observed to have resulted in increased non-stormwater flow in the Outfall 22B system.

7.3 Risk Evaluation

Risk is qualitatively evaluated as follows:

- Detected concentrations of selected parameters, are two orders of magnitude lower than detection limits for the same parameters required in nearby permitted discharge permits.
- Risk to the river would generally be caused by constituent loading through solids transport and risk of solids loading is still considered low because 22B discharge turbidity was 5 NTU which is below typical industrial stormwater discharge benchmark limits of 25 NTU.

7.4 Recommended Actions

We assume that the liner integrity for the storm sewer system will be restored as part of the permit for the construction work observed at Metro. The next sampling round is scheduled for August 2016, but StarLink proposes to postpone the monitoring event until Metro stormwater treatment plant construction is complete

and the integrity of IRAM has been restored. If DEQ concurs, StarLink will need to be notified by DEQ when construction is complete and sampling can proceed.

8.0 CLOSING AND SUMMARY OF NEXT SAMPLING

The next round of sampling (3rd Quarter 2016) is scheduled for August 2016 but StarLink proposes to postpone the monitoring event until Metro stormwater treatment plant construction is complete and the integrity of IRAM has been restored.

GOLDER ASSOCIATES INC.

Expires 6/30/17

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RS/AM

9.0 REFERENCES

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OWRD. 2016. OWRD Near Real Time Hydrographic Data, Station 1421170, Willamette R at Portland, OR (http://apps.wrd.state.or.us/apps/sw/hydro_near_real_time/display_hydro_graph.aspx?station_nbr=14211720). Accessed May 26, 2016.

USGS. 2015. Rainfall at Yeon Rain Gage, 3395 NW. Yeon St. (http://or.water.usgs.gov/non-usgs/bes/yeon.rain). Accessed May 26, 2016.

TABLES

TABLE 1
Rainfall Data
Outfall 22B IRAM Performance Monitoring
Second Quarter 2016 Report

Date	Daily Total	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
05/04/16	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
05/05/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/06/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/07/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/08/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/09/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/10/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/11/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/12/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05/13/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Notes & Legend

- Rainfall data are raw and uncorrected from the City of Portland HYDRA rainfall network Yeon Rain Gage located at 3395 NW Yeon Avenue, Portland, OR.
- Rainfall totals are measured in number of tips of the rain gauge bucket. One tip equals 0.01 inches of rainfall.

Initial 72 hour dry period leading up to sampling event

Sample collection dates

Golder Associates

TABLE 2
Field Observations
Outfall 22B IRAM Perfromance Monitoring
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Location	Date	Flow Depth* (inches)	Flow Width* (inches)	Flow Estimate (gpm)	Comments
BNSF					
Outfall 22B	5/10/2016	3/4	13	10	Flow measured with bucket and stopwatch.
CB-1E	5/11/2016	-	-	dry	
CB-1W	5/11/2016	-	-	dry	
MH-3	5/10/2016	1/2	11	NR	Slight belly in manhole channel. Flow rate appeared to be consistent with the outfall.
City of Portland					
CB-2E	5/11/2016	-	-	dry	
CB-2W	5/11/2016	-	-	dry	
MH-4	5/11/2016	1.5	18	NR	Slight belly in manhole channel. Flow rate appeared to be consistent with MH-5.
CB-3E	5/11/2016	-	-	0	Wet with small pool in CB floor.
CB-3W	5/11/2016	-	-	0	Wet with small pool in CB floor. No flow into CB from CB-3E lateral. No discernible flow out of CB.
MH-5	5/10/2016	NR	NR	NR	Configuration of manhole prevented flow measurement though the flow rate appeared to be consistent with MH-4. Sample collected from slight belly in manhole channel near outlet.
CB-4E	5/11/2016	-	-	dry	
CB-4W	5/11/2016	-	-	dry	
MH-6	5/11/2016	3/4	17	NR	Slight belly in manhole channel. Flow in MH-6 appeared to be consistent with MH-5.
CB-5E	5/11/2016	-	-	dry	
CB-5W	5/11/2016	-	-	dry	
CB-6E	5/11/2016	-	-	0	Pooled water in CB floor, no flow.
CB-6W	5/11/2016	-	-	dry	
MH-7	5/11/2016	1/2	7	NR	Slightly less flow observed in MH-7 than in downstream MH-6. Heard dripping water echoing in pipe. Depth/width measurements recorded in narrow portion of channel.
CB-7E	5/11/2016	-	-	<1/4	Infiltration from bottom of cement plug in curbside wall and minor infiltration from cracks in CB walls.
CB-7W	5/11/2016	-	-	<1/2	Infiltration from bottom of cement plug in curbside wall.
MH-8	5/11/2016	NR	NR	NR	No sample collected. Belly in manhole channel. Non-turbulent flow difficult to estimate flow rate in relation to downstream MH.
CB-8E	5/13/2016	-	-	<0.02	Floor of CB wet. Trickle of flow exiting CB into lateral.
CB-8W	5/13/2016	-	-	<0.08	Trickle of flow from floor of CB.
MH-9	5/11/2016	NR	NR	>=3	No sample collected.
CB-9E	5/13/2016	-	-	0	Floor of CB damp.
CB-9W	5/13/2016	-	-	0	Damp at base of pipe penetration.
MH-10	5/11/2016	NR	NR	2 to 3	No sample collected. On 5/12/16 observed increased flow rate to >=5 gpm and a turbidity reading was collected (15.2 NTU).
Gould					
MH-4	-	-	-	-	
MH-3	-	-	-	-	
IB-3	5/10/2016	-	-	dry	
MH-2	-	-	-	-	
IB-2	-	-	-	-	
MH-1	-	-	-	-	
IB-1	-	-	-	-	

TABLE 2
Field Observations
Outfall 22B IRAM Perfromance Monitoring
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Location	Date	Flow Depth* (inches)	Flow Width* (inches)	Flow Estimate (gpm)	Comments
MMGL/Air Liquide					
MH-1	-	-	-	-	
CB-3	-	-	-	-	
CB-4	-	-	-	-	
CB-6	5/13/2016	-	-	<1/2	Water pooling around CB. Trickle of flow entering CB.
MH-21	-	-	-	-	
MH-20	-	-	-	-	
MH-19	-	-	-	-	
MH-18	-	-	-	-	
MH-17	-	-	-	-	
Metro					
MH-9	5/11/2016	NR	NR	>=3	No sample collected. At least 2 gpm flowing from MH-15 lateral. Approximately 1 gpm flowing from MH-8 lateral.
MH-8	5/12/2016	NR	NR	NR	Infiltration on west side of channel from contact between manhole bench and CIPP liner. Less than 100 mL/min from western lateral.

Notes:
gpm gallons per minute
NR not recorded
* Manhole channel dimensions and slopes are not consistent, thus flow width and depths at each mahole should only be used for comparison to other measurements at the same manhole.

TABLE 3
Groundwater Level and Pipe Invert Elevations
Outfall 22B IRAM Performance Monitoring
Second Quarter 2016 Report

Date	Monitoring Well	Ground Surface Elevation (ft COPD)	Casing Elevation (ft COPD)	Water Level Elevation (ft COPD)	Respective Manhole	Downstream Pipe Invert Elevation (ft COPD)	Invert Elevation vs. Groundwater Elevation	Below Water Table
5/12/2016	ASW-05	39.70	39.70*	31.90	Metro MH-1	37.14	5.24	no
					Metro MH-2	35.28	3.38	no
5/12/2016	W-15-S	41.67	41.56	31.17	Metro MH-5	31.76	0.59	no
					Metro MH-6	29.87	-1.30	yes
					Metro MH-7	31.50	0.33	no
5/13/2016	W-16-S	34.95	37.39	32.10	MH-9	19.97	-12.13	yes
5/12/2016	W-04-S	30.80**	35.23	30.72	MH-8	18.92	-11.80	yes
5/12/2016	W-03-S	32.20**	35.40	31.02	MH-7	17.39	-13.63	yes
5/12/2016	W-11-S	39.10	40.90	30.73	MH-6	16.79	-13.94	yes

Notes:

DTW Depth to water
BTOC Below top of casing
COPD City of Portland Datum

- Invert elevations of Outfall 22B piping from GIS data were provided by the City of Portland Bureau of Environmental Services, October 13, 2010; and from Metro and Schnitzer plan drawings C-6A and C-6C dated February 1990.

* Casing elevation for ASW-05 is unknown for this flush-mount monitoring well. Water level elevation calculated from ground surface elevation.

** Ground surface elevations for W-03-S and W-04-S not resurveyed following Gould Early Remedial Action. Measurements shown may be lower than actual elevations.

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TABLE 4
Field Parameters
Outfall 22B IRAM Performance Monitoring
Second Quarter 2016 Report

Parameter	Outfall 22B	MH-3	MH-4	MH-5	MH-6	MH-7	MH-8	MH-9	MH-10	Metro MH-9
Air Temp (°C)	16	21	14	23	20	25	- - -	- - -	- - -	- - -
Water Temp (°C)	12.81	14.14	12.53	14.52	14.11	14.86	- - -	- - -	- - -	- - -
Sample Depth (inches)	<0.5	<1/2	<1	NA	<3/4	<1/2	- - -	- - -	- - -	- - -
pH (S.U.)	8.82	9.33	9.15	9.61	9.77	8.60	- - -	- - -	- - -	- - -
ORP (mV)	333.0	156.6	200.1	26.8	-42.9	77.8	- - -	- - -	- - -	- - -
Conductivity (uS/cm)	367	366	367	363	363	378	- - -	- - -	- - -	- - -
Turbidity (NTU)	4.58	4.94	3.45	1.42	1.24	0.90	- - -	- - -	- - -	- - -
Dissolved Oxygen (mg/L)	6.50	6.20	6.29	7.12	8.04	9.69	- - -	- - -	- - -	- - -

Notes:
- - - No sample collected.

Golder Associates

TABLE 5
Summary of 2015 to 2016 Quarterly Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
Second Quarter 2016 Report

	Sampling Area:	Outfall Samples								Manhole Samples				
	Sampling Round:	1		2		3		6 (Q2 2016)		6 (Q2 2016)				
Constituent	JSCS Site Specific SLV	Outfall 22B 22B-U-S-022315 2/23/15	Outfall 22B 22B-U-D-022315 2/23/15	Outfall 22B 22B-U-S-060815 6/8/15	Outfall 22B 22B-U-D-060815 6/8/15	Outfall 22B 22B-U-S-092115 9/21/15	Outfall 22B 22B-U-D-092115 9/21/15	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B 22B-U-D-100516 5/10/16	MH-3 22B-U-MH3-100516 5/10/16	MH-4 22B-U-MH4-110516 5/11/16	MH-5 22B-U-MH5-100516 5/10/16	MH-6 22B-U-MH6-110516 5/11/16	MH-7 22B-U-MH7-110516 5/11/16
PCDD/PCDFs (ug/L)														
1,2,3,4,6,7,8-HpCDD	***0.000000051***	***0.00000399 J***	***0.00000419 J***	0.00000209 U	0.00000125 U	0.0000246 U	0.0000248 U	***0.00000216 EMPC, U***	***0.00000205 EMPC, U***	***0.00000299 J***	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,4,6,7,8-HpCDF	***0.000000051***	0.0000243 U	0.0000253 U	0.0000247 U	0.0000248 U	0.0000246 U	***0.00000163 J***	0.0000252 U	0.0000264 U	***0.000000973 J***	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,7,8,9-HxCDF	***0.0000000051***	0.0000243 U	0.0000253 U	0.0000247 U	0.0000248 U	0.0000246 U	0.0000248 U	0.0000252 U	***0.000000937 J***	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
OCDD	***0.0000017***	***0.0000371 J***	***0.0000294 J***	***0.0000133 J***	***0.0000126 J***	***0.0000202 J***	***0.0000262 J***	***0.0000179 J***	***0.0000306 J***	***0.0000271 J***	***0.00000746 EMPC, U***	***0.00000413 EMPC, U***	***0.00000539 J***	0.000052 U
OCDF	***0.0000017***	0.00000203 U	***0.00000221 J***	0.0000495 U	0.0000497 U	0.0000492 U	***0.00000246 J***	0.0000504 U	***0.00000549 J***	0.0000518 U	0.0000524 U	0.000054 U	0.0000515 U	0.000052 U
PCBs (ug/L)*														
PCB 105	***0.000017***	***0.0000192***	***0.0000184***	0.0000152	0.0000159	***0.0000245***	***0.0000255***	0.0000162	0.0000148	0.0000159	0.0000138	0.0000092	0.00000695	0.00000492 J
PCB 114	0.000017	0.00000124 J	0.000000971 J	0.00000489 U	0.00000485 U	0.00000158 J	0.00000135 J	0.0000011 J	0.00000088 J	0.000000856 J	0.000000701 J	0.000000624 J	0.000000503 J	0.000000228 EMPC, U
PCB 156	0.000017	0.00000732	0.00000702	0.0000048 J	0.00000639	0.00000676	0.00000709	0.00000619	0.00000506	0.00000543	0.00000488 J	0.00000278 J	0.00000239 J	0.00000186 J
PCB 157	0.000017	0.00000246 J	0.00000206 J	0.00000184 J	0.00000241 J	0.00000153 U	0.0000018 J	0.00000154 J	0.00000154 J	0.00000159 J	0.00000121 J	0.00000101 J	0.000000726 J	0.000000603 J
PCB 189	0.000017	0.00000108 J	0.00000113 J	0.000000716 J	0.00000485 U	0.000000657 J	0.000000707 J	0.00000079 J	0.000000537 J	0.000000657 J	0.00000065 J	0.000000353 J	0.000000179 J	0.000000218 J
PCB 77	***0.00000052***	0.00000507 U	***0.00000314 J***	***0.00000338 J***	***0.00000343 J***	***0.00000518***	***0.00000482 J***	***0.00000256 J***	***0.00000253 J***	***0.00000245 J***	***0.00000213 J***	***0.00000136 J***	***0.000000566 J***	***0.000000948 J***
PCB106 & 118	***0.000017***	***0.0000516***	***0.0000536***	***0.0000527***	***0.0000575***	***0.0000677***	***0.0000685***	***0.0000485***	***0.0000413***	***0.0000449***	***0.0000388***	***0.0000251***	***0.0000224***	0.0000157
Total Aroclors	***0.0000064***	***0.00171***	***0.00188***	***0.00213***	***0.00228***	***0.00239 B***	***0.00237 B***	***0.0017***	***0.00152***	***0.00166***	***0.00143***	***0.00122***	***0.00128***	***0.000761***
Insecticides (ug/L)														
2,4'-DDD	***0.000031***	***0.000246***	***0.000255***	***0.000109 J***	***0.0008 U***	***0.0000703***	***0.0000705***	***0.000366***	***0.00036***	***0.000386***	***0.000353***	***0.000354***	***0.000269***	***0.000488***
2,4'-DDE	0.000022	0.0000169 J	0.0000179 J	0.0016 U	0.0016 U	0.0000142 J	0.0000171 J	0.0000156 J	0.0000163 J	0.0000181 J	0.0000164 J	0.0000176 J	0.0000158 J	0.0000131 J
2,4'-DDT	***0.000022***	***0.0000331 J***	***0.0000359 J***	0.0016 U	0.0016 U	***0.0000265 J***	***0.0000257 J***	***0.000427***	***0.000412***	***0.000367***	***0.00043***	***0.000324***	***0.000304***	***0.0005***
4,4'-DDD	***0.000031***	***0.000501***	***0.0005***	0.000211 U	***0.000217 J***	***0.000149***	***0.000151***	***0.000794***	***0.000754***	***0.000773***	***0.000682***	***0.000612***	***0.000409***	***0.000685***
4,4'-DDE	***0.000022***	***0.000259***	***0.00026***	***0.00018 J***	***0.000208 J***	***0.000153***	***0.000154***	***0.00022***	***0.000219***	***0.000234***	***0.000235***	***0.000209***	***0.000233***	***0.000231***
4,4'-DDT	***0.000022***	***0.000195***	***0.000215***	0.0016 U	0.0016 U	***0.0000889 J+***	***0.0000946 J+***	***0.00216***	***0.0019***	***0.00173***	***0.00248***	***0.00174***	***0.00148***	***0.0021***
Aldrin	***0.000005***	***0.0000124 J***	***0.000014 J***	0.0008 U	0.0008 U	0.0000398 U	0.0000395 U	***0.000103***	***0.000101***	***0.000102***	***0.000138***	***0.000097***	***0.0001***	***0.000129***
alpha-BHC	***0.00049***	0.000259	0.000251	0.000192 J	0.000175 J	0.0000265 J	0.0000302 J	***0.203 D***	***0.204 D***	***0.203 D***	***0.205 D***	***0.233 D***	***0.219 D***	***0.341 D***
alpha-Chlordane	***0.000081***	***0.00014***	***0.000122***	0.0000866 U	***0.000139 J***	***0.000186***	***0.000178***	***0.000678***	***0.00166***	***0.00167***	***0.00107***	***0.00178***	***0.00135***	***0.00329***
beta-BHC	***0.0017***	0.000436	0.000434	0.000152 J	0.000192 J	0.0000309 J	0.0000357 J	***0.12 D***	***0.12 D***	***0.147 D***	***0.123 D***	***0.126 D***	***0.135 D***	***0.17 D***
cis-Nonachlor	0.000081	0.0000226 U	0.000024 J	0.0000321 U	0.0008 U	0.0000335 J	0.0000509	0.0000392 U	0.0000394 U	0.0000389 U	0.0000618	0.0000391 U	0.0000395 U	0.0000398 U
delta-BHC	***0.037***	0.0000835	0.0000878	0.0008 U	0.0008 U	0.00000585 U	0.0000102 U	***0.0611 D***	***0.061 D***	***0.0682 D***	***0.0784 D***	***0.0762 D***	***0.0719 D***	***0.135 D***
Dieldrin	***0.0000054***	***0.00261***	***0.00243 D***	***0.000403 J***	***0.000431 J***	***0.000327***	***0.000333***	***0.157 D***	***0.179 D***	***0.184 D***	***0.199 D***	***0.196 D***	***0.282 D***	***0.474 D***
Endosulfan I	0.051	0.000847 U	0.000792 U	0.000139 U	0.000195 U	0.000797 U	0.000789 U	0.000196 U	0.000197 U	0.000195 U	0.000194 U	0.000195 U	0.000197 U	0.000199 U
Endosulfan II	0.051	0.000423 U	0.000396 U	0.008 U	0.008 U	0.000398 U	0.000395 U	0.000196 U	0.000197 U	0.000195 U	0.000194 U	0.000195 U	0.000197 U	0.000199 U
Endosulfan Sulfate	0.051	0.0001 J	0.0000773 J	0.008 U	0.008 U	0.0000788 J	0.0000842 J+	0.000196 U	0.000131 J	0.000195 U	0.000194 U	0.000195 U	0.000197 U	0.000305
Endrin	***0.0023***	0.000173	0.000165	0.0000729 U	0.0016 U	0.0000279 J	0.0000789 U	***0.0121***	***0.013***	***0.0125***	***0.0155***	***0.0165***	***0.0179***	***0.0448 D***
Endrin Aldehyde	***0.0023***	0.0000548 J	0.000396 U	0.000559 U	0.000316 U	0.000398 U	0.000395 U	***0.0203***	0.000888	0.000801	***0.0147***	0.00183	***0.00785***	***0.006***
Endrin Ketone	***0.0023***	0.000614	0.00064	0.00032 U	0.000277 U	0.0000307 J	0.000395 U	***0.0831 D***	***0.102 D***	***0.105 D***	***0.113 D***	***0.135 D***	***0.126 D***	***0.216 D***
gamma-BHC (Lindane)	***0.08***	0.000157	0.000148	0.000154 J	0.000178 J	0.000186	0.000196	***0.306 J***	***0.285 D***	***0.281 D***	***0.32 D***	***0.34 D***	***0.281 D***	***0.408 D***
gamma-Chlordane	***0.000081***	***0.000123***	***0.000111***	***0.000119 J***	***0.000131 J***	***0.000176***	***0.000174***	***0.000382***	***0.000393***	***0.000365***	***0.000361***	***0.000374***	***0.000419***	***0.000679***
Heptachlor	***0.0000079***	0.00000968 U	0.0000088 U	0.004 U	0.004 U	***0.0000214 J***	0.0000195 U	***0.0000354 J***	***0.0000333 J***	***0.0000322 J***	***0.0000355 J***	***0.0000295 J***	***0.0000275 J***	***0.0000337 J***
Heptachlor Epoxide	***0.0000039***	***0.000056***	***0.0000618***	0.0008 U	0.0008 U	***0.0000234 J***	0.0000395 U	***0.000523***	***0.000593***	***0.000596***	***0.000657***	***0.000732***	***0.000709***	***0.00131***
Hexachlorobenzene	***0.000029***	***0.000164 B***	***0.000165 B***	0.0008 U	0.0008 U	***0.0000614 J+***	***0.0000673 J+***	***0.0000769***	***0.0000752***	***0.0000783***	***0.000078***	***0.0000894***	***0.0000965***	***0.0001***
Methoxychlor	0.019	0.0000628 J	0.0000608 J	0.008 U	0.008 U	0.000172 J+	0.000151 J+	0.000334	0.000343	0.000281	0.000284	0.000244	0.000186	0.000238
trans-Heptachlor Epoxide	***0.0000039***	***0.0105***	***0.0124***	0.0008 U	0.0008 U	0.0000398 U	0.0000395 U	***0.604 J***	***2.19 J***	***1.4 J***	***1.83 J***	***3.38 J***	***2.58 J***	***5.69 J***
trans-Nonachlor	***0.000081***	0.000059	0.0000613	0.0008 U	0.0008 U	***0.0000993***	***0.000102***	***0.000133***	***0.000141***	***0.000134***	***0.000117***	***0.0000646***	0.0000395 U	0.0000398 U
Unfiltered Metals (ug/L)														
Arsenic	***0.014***	***4.37***	***4.41***	***6.4***	***6.31***	***4.8***	***4.94***	***4.16***	***3.92***	***4.07***	***4.17***	***3.79***	***3.27***	***3.28***
Barium	***4***	***20.5***	***20.2***	***9.67***	***9.48***	***8.73***	***8.76***	***23***	***23***	***23.2***	***21.1***	***23.3***	***21.9***	***33***
Cadmium	0.09	0.0667 J	0.04 U	0.04 U	0.04 U	0.0556 J	0.0778 J	0.0444 J	0.0444 J	0.0889 J	0.04	0.0667 J	0.0667 J	0.04
Calcium	116000	37700	37600	27000	29000	24000	23800	33800	34000	33500	34400	33300	34500	41100
Chromium	74	0.844 J+	0.744 J+	1 J	0.756 J	0.4 U	0.4 U	0.467 J	0.489 J	0.556 J	0.4	0.444 J	0.4	0.4
Copper	***2.7***	2.64	***2.9***	1.06	0.867 J	1.03	1.06	1.21	1.17	1.16	1	0.933 J	1	1
Iron	1000	840	829	448	433	347	344	596	599	593	490	478	225	269
Lead	***0.54***	***0.922***	***0.989***	***0.767***	***0.767***	***1.2***	***1.3***	***0.633***	***0.611***	***0.633***	0.378	0.233	0.244	0.1
Magnesium	82000	9810	9710	3080	3120	746	755	8460	8720	8370	7890	8170	7380	11500
Manganese	***10***	***201***	***199***	***62.9***	***63***	***40***	***40***	***96.6***	***95.9***	***104***	***79.6***	***87.9***	***34.2***	***56.4***
Mercury	0.012	0.011	0.011	0.0039	0.0043	0.0059	0.0056	0.0012	0.003	0.0033	0.0024	0.0047	0.0025	0.0022
Nickel	16	2.79	2.79	1.92	1.87	1.89	1.91	10.2	10.2	10.3	9.79	10	9.89	14.9
Selenium	5	1.22 J	0.944 J	3.92	4.09	2.91	2.93	2	2	2	1.3	2	0.5	0.5
Zinc	33	20.4	21.5	5.66	4.47	5.73	5.71	5.94	5.8	6.29	5.21	4.24	3.94	6.52
Hexavalent Chromium	***0.043***	***0.2 J+***	***0.2 J+***	***0.081***	***0.061***	0.033	***0.056***	***0.052 J+***	***0.078 J+***	***0.12 J+***	***0.086 J+***	***0.13 J+***	***0.11 J+***	***0.11 J+***
Filtered Metals (ug/L)														
Arsenic	***0.014***	***4.29***	***4.25***	***5.64***	***6.06***	***4.92***	***4.8***	***4.32***	***4.21***	***4.14***	***4***	***4.01***	***3.39***	***3.52***
Barium	***4***	***18.2***	***17.3***	***8.01***	***8.04***	***7.71***	***7.73***	***20.7***	***21.4***	***22.3***	***20.7***	***23.5***	***22.5***	***32.3***
Cadmium	0.09	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	116000	37300	37200	31400	29800	24700	24800	33600	33600	34700	34200	34900	34200	40800
Chromium	74	0.511 J	0.544 J	0.567 J	0.889 J	0.5 U	0.5 U	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Copper	2.7	1.13	1.01	0.622 J	0.5 J	0.656 J	0.7 J	0.5	0.567 J	0.5	0.5	0.5	0.5	0.911 J
Iron	1000	402	343	218	212	226	221	276	273	293	283	271	164	203
Lead	***0.54***	0.167 J	0.111 J	0.289	0.289	***0.667***	***0.667***	0.156 J	0.133 J	0.144 J	0.144 J	0.122 J	0.144 J	0.1
Magnesium	82000	9160	9030	3570	3490	767	754	8200	7920	8170	8760	8060	7960	12600
Manganese	***10***	***185***	***173***	***44.5***	***44.2***	***27.3***	***27.5***	***80.8***	***80.9***	***97.8***	***67.8***	***82.8***	***32.7***	***54.6***
Mercury	0.012	0.005	0.0045	0.0031	0.0028	0.0052 J	0.0041 J	0.003	0.0035	0.0061	0.0011	0.0021	0.0015	0.00097
Nickel	16	2.77	2.58	1.61	1.52	1.98	1.8	9.84	9.81	9.89	9.72	10.1	9.6	14.4

TABLE 5
Summary of 2015 to 2016 Quarterly Laboratory Analytical Results - Detected Compounds
Outfall 22B IRAM Performance Monitoring
Second Quarter 2016 Report

	Sampling Area:	**Outfall Samples**								**Manhole Samples**				
	Sampling Round:	**1**		**2**		**3**		**6 (Q2 2016)**		**6 (Q2 2016)**				
Constituent	**JSCS Site Specific SLV**	**Outfall 22B 22B-U-S-022315 2/23/15**	**Outfall 22B 22B-U-D-022315 2/23/15**	**Outfall 22B 22B-U-S-060815 6/8/15**	**Outfall 22B 22B-U-D-060815 6/8/15**	**Outfall 22B 22B-U-S-092115 9/21/15**	**Outfall 22B 22B-U-D-092115 9/21/15**	**Outfall 22B 22B-U-S-100516 5/10/16**	**Outfall 22B 22B-U-D-100516 5/10/16**	**MH-3 22B-U-MH3-100516 5/10/16**	**MH-4 22B-U-MH4-110516 5/11/16**	**MH-5 22B-U-MH5-100516 5/10/16**	**MH-6 22B-U-MH6-110516 5/11/16**	**MH-7 22B-U-MH7-110516 5/11/16**
Selenium	5	1.36	1.64	1.83	2.28	2.69	2.33	2	2	2	2	2	2	2
Zinc	33	8.3	4.59	2.21 J	2.17 J	4.54	3.64 J	2	2	2	2.11	2	2.42	6.02
Herbicides (ug/L)														
2,4,5-T	4	0.08	0.38	2 U	2 U	3.7	3.7	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4-D	4	0.73 J	0.66 J	2 U	2 U	2.7	2.8	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4-DB	4	0.66	0.63	2 U	2 U	2.7	2.8	2 U	2 U	2 U	2 U	2 U	2 U	2 U
MCPA	2.6	0.23	0.21	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Pentachlorophenol	0.3	0.25	0.27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOCs (ug/L)														
1,2,4-Trimethylbenzene	7.3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	1500	10 U	10 U	13 J	10.3 J	12.4 J	12.4 J+	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	***0.41***	0.17 J	0.17 J	0.18 J	0.17 J	0.2 J	0.19 J	0.176 J	0.204 J+	0.293	0.335	***0.57***	***0.969***	0.1 U
Ethylbenzene	1.5	1.17	1.23	0.34 J	0.31 J	0.46 J	0.42 J	0.399 J	0.434 J	0.677	0.35 J	0.368 J	0.492 J	0.357 J
Styrene	100	0.82 J	0.87 J	0.5 U	0.5 U	0.5 U	0.5 U	1.25	0.5 U	0.573 J	1.96	8.02	25.7	1.2
SVOCs (ug/L)														
2,3,4,6-Tetrachlorophenol	1	0.51 U	0.49 U	1.92 U	1.94 U	0.618 J	0.473 J	0.481 U	0.481 U	0.481 U	0.476 U	0.481 U	0.481 U	0.0481 U
2,4,5-Trichlorophenol	***3.2***	2	1.89	***5.54***	***4.59***	***7.32***	***6.52***	1.94	2.13	1.98	2.05	2.37	2.6	0.0481 U
2,4,6-Trichlorophenol	***0.24***	***0.934 J***	***0.937 J***	***3 J***	***2.74 J***	***3.09***	***2.67***	***1***	***1.16***	***1.03***	***1.04***	***1.15***	***1.25***	0.0677 J
2,4-Dichlorophenol	***29***	6.93	7.38	22.9 J	16.5 J	26.1	***29.7***	8.39	8.68	8.5	9.16	11.9	16.3	0.192
2,4-Dimethylphenol	42	0.605 J	0.633 J	12.3 U	1.94 U	1.03	1.13	0.596 J	0.657 J	0.608 J	0.696 J	0.845 J	1.21	0.0481 U
2-Chlorophenol	15	0.51 U	0.49 U	1.92 U	1.94 U	2.1	2.32	0.617 J	0.618 J	0.568 J	0.681 J	0.717 J	1.07	0.0481 U
2-Methylphenol	13	1.57	1.65	0.962 U	0.971 U	0.236 U	0.236 U	1.17	1.08	1.49	1.79	2.96	4.98	0.0548
3&4-Methylphenol	13	0.492 J	0.465 J	0.962 U	0.971 U	0.236 U	0.236 U	0.391 J	0.35 J	0.6	0.768	1.37	2.24	0.0312 J
Diethylphthalate	3	2.04 U	1.96 U	7.69 U	7.77 U	1.89 U	1.89 U	1.92 U	1.92 U	1.92 U	1.9 U	1.92 U	1.92 U	0.237 J
Pentachlorophenol	***0.3***	***1.09 J***	***1.03 J***	3.85 U	3.88 U	***1.82 J***	***1.59 J***	***1.01 J***	***1.03 J***	***1.06 J***	***1.08 J***	***1.03 J***	***1.12 J***	0.129 J
Petroleum Hydrocarbons (ug/L)														
Gasoline-Range Organics (GRO)	- - -	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	76.5 J	116	50 U

Notes:
Results formatted with bold and italics indicate constituents were detected above the corresponding JSCS Site Specific SLVs.
*Only PCB congeners with JSCS site-specific SLVs reported. See laboratory results (Table 6) for complete list.
- - - No JSCS site-specific SLV listed.
B: This compound was also detected in the method blank.
D: Dilution
U: The constituent was analyzed for, but was not detected above the reported sample quantitation limit.
UJ: The constituent was not detected; the associated quantitation limit is an estimated value because quality control criteria were not met.
J+: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.
NA: Not analyzed
EMPC, U: Estimated Maximum Potential Concentration, The EMPC qualifier is applied to a sample result when the S/N ratio is at least 2.5:1 for both quantitation ions, but the ion abundance ratio criteria are not met. The laboratory reported the constituent as not detected.

TABLE 6
Summary of Second Quarter 2016 Laboratory Analytical Results - All Compounds
Outfall 22B IRAM Performance Monitoring
Second Quarter 2016 Report

	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	**Outfall 22B 22B-U-S-100516 5/10/16**	**Outfall 22B 22B-U-D-100516 5/10/16**	**Outfall 22B 22B-U-RB-110516 5/11/16**	**MH-3 22B-U-MH3-100516 5/10/16**	**MH-4 22B-U-MH4-110516 5/11/16**	**MH-5 22B-U-MH5-100516 5/10/16**	**MH-6 22B-U-MH6-110516 5/11/16**	**MH-7 22B-U-MH7-110516 5/11/16**
PCDD/PCDFs, µg/L								
1,2,3,4,6,7,8-HpCDD	0.00000216 EMPC, U	0.00000205 EMPC, U	0.0000264 U	0.00000299 J	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,4,6,7,8-HpCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.000000973 J	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,4,7,8,9-HpCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,4,7,8-HxCDD	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,4,7,8-HxCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,6,7,8-HxCDD	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,6,7,8-HxCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,7,8,9-HxCDD	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,7,8,9-HxCDF	0.0000252 U	0.000000937 J	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,7,8-PeCDD	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
1,2,3,7,8-PeCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
2,3,4,6,7,8-HxCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
2,3,4,7,8-PeCDF	0.0000252 U	0.0000264 U	0.0000264 U	0.0000259 U	0.0000262 U	0.000027 U	0.0000257 U	0.000026 U
2,3,7,8-TCDD	0.00000504 U	0.00000527 U	0.00000528 U	0.00000518 U	0.00000524 U	0.0000054 U	0.00000515 U	0.0000052 U
2,3,7,8-TCDF	0.00000504 U	0.00000527 U	0.00000528 U	0.00000518 U	0.00000524 U	0.0000054 U	0.00000515 U	0.0000052 U
OCDD	0.0000179 J	0.0000306 J	0.0000528 U	0.0000271 J	0.00000746 EMPC, U	0.00000413 EMPC, U	0.00000539 J	0.000052 U
OCDF	0.0000504 U	0.00000549 J	0.0000528 U	0.0000518 U	0.0000524 U	0.000054 U	0.0000515 U	0.000052 U
PCBs, µg/L								
PCB 1	0.0000126	0.00000914	0.000000484 J	0.0000103	0.0000124	0.000014	0.0000175	0.00000147 J
PCB 100	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 103	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.000000421 EMPC, U	0.00000499 U	0.000000537 J	0.00000493 U
PCB 104	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 105	0.0000162	0.0000148	0.00000502 U	0.0000159	0.0000138	0.0000092	0.00000695	0.00000492 J
PCB 11	0.0000494 J+	0.0000465 J+	0.0000101 J+	0.0000469 J+	0.0000276 J+	0.0000258 J+	0.0000182 J+	0.0000111 J+
PCB 110	0.0000757	0.0000659	0.00000502 U	0.0000747	0.0000684	0.0000565	0.000061	0.0000343
PCB 113	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 114	0.0000011 J	0.00000088 J	0.00000502 U	0.000000856 J	0.000000701 J	0.000000624 J	0.000000503 J	0.000000228 EMPC, U
PCB 119	0.000000772 J	0.000000821 J	0.00000502 U	0.000000565 EMPC, U	0.000000633 J	0.000000768 J	0.000000763 J	0.000000334 EMPC, U
PCB 12	0.00000978 U	0.00000981 U	0.00001 U	0.00001 U	0.00000998 U	0.00000997 U	0.00000992 U	0.00000987 U
PCB 120	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 121	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 122	0.00000489 U	0.000000402 J	0.00000502 U	0.000000374 EMPC, U	0.000000435 J	0.000000437 J	0.00000496 U	0.00000493 U
PCB 123	0.000000665 EMPC, U	0.000000733 J	0.00000502 U	0.000000779 J	0.00000499 U	0.000000615 EMPC, U	0.000000486 J	0.000000335 EMPC, U
PCB 124	0.00000245 J	0.00000228 J	0.00000502 U	0.00000231 EMPC, U	0.00000217 J	0.0000016 J	0.00000124 J	0.000001 J
PCB 126	0.00000058 J	0.00000491 U	0.00000502 U	0.00000501 U	0.000000523 J	0.000000402 J	0.00000496 U	0.00000493 U
PCB 127	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 129	0.00000349 J	0.00000323 J	0.00000502 U	0.0000032 J	0.00000291 J	0.00000198 J	0.00000206 J	0.00000128 J
PCB 130	0.00000422 J	0.00000391 J	0.00000502 U	0.00000352 EMPC, U	0.00000406 J	0.00000298 J	0.00000243 J	0.00000138 EMPC, U

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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B 22B-U-D-100516 5/10/16	Outfall 22B 22B-U-RB-110516 5/11/16	MH-3 22B-U-MH3-100516 5/10/16	MH-4 22B-U-MH4-110516 5/11/16	MH-5 22B-U-MH5-100516 5/10/16	MH-6 22B-U-MH6-110516 5/11/16	MH-7 22B-U-MH7-110516 5/11/16
PCB 131	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 135	0.00000826	0.00000707	0.00000502 U	0.00000763	0.00000596	0.00000516	0.0000053	0.00000312 J
PCB 136	0.00000966	0.00000672	0.00000502 U	0.00000791	0.00000687	0.00000549	0.00000729	0.00000294 J
PCB 137	0.00000316 J	0.00000257 J	0.00000502 U	0.00000239 EMPC, U	0.00000222 J	0.00000196 J	0.00000155 J	0.0000011 J
PCB 14	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 140	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 141	0.0000113	0.00000956	0.00000502 U	0.0000114	0.00000888	0.00000688	0.0000059	0.00000365 J
PCB 144	0.00000306 J	0.00000265 J	0.00000502 U	0.00000246 J	0.00000206 J	0.00000143 EMPC, U	0.00000196 J	0.00000102 J
PCB 145	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 147	0.00000489 U	0.0000014 J	0.00000502 U	0.00000118 J	0.00000109 J	0.00000103 J	0.0000011 J	0.00000051 J
PCB 148	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 15	0.00000802	0.00000711	0.00000502 U	0.00000767	0.00000539	0.00000453 J	0.00000363 J	0.00000565
PCB 150	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 151	0.000016	0.0000123	0.00000502 U	0.0000141	0.0000112	0.00000865	0.0000081	0.000005
PCB 152	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 153	0.0000513 J+	0.0000442 J+	0.000000641 J+	0.0000501 J+	0.0000448 J+	0.0000293 J+	0.0000251 J+	0.0000176 J+
PCB 154	0.000000559 EMPC, U	0.000000518 J	0.00000502 U	0.00000501 U	0.000000675 J	0.00000499 U	0.000000493 J	0.00000493 U
PCB 155	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 156	0.00000619	0.00000506	0.00000502 U	0.00000543	0.00000488 J	0.00000278 J	0.00000239 J	0.00000186 J
PCB 157	0.00000154 J	0.00000154 J	0.00000502 U	0.00000159 J	0.00000121 J	0.00000101 J	0.000000726 J	0.000000603 J
PCB 159	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 166	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 167	0.00000279 J	0.00000235 J	0.00000502 U	0.00000263 J	0.00000232 J	0.00000155 J	0.0000011 J	0.00000109 J
PCB 168	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 169	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 17	0.0000209	0.0000161	0.000000986 J	0.0000167	0.0000118	0.0000103	0.0000108	0.0000104
PCB 170	0.0000161	0.0000129	0.00000502 U	0.0000145	0.0000116	0.00000789	0.00000637	0.00000452 J
PCB 171	0.00000478 J	0.00000396 J	0.00000502 U	0.00000395 J	0.00000354 J	0.00000222 J	0.00000216 J	0.00000102 EMPC, U
PCB 172	0.0000035 J	0.00000266 J	0.00000502 U	0.00000267 J	0.00000268 J	0.00000158 J	0.00000104 J	0.000000879 J
PCB 173	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 174	0.0000217	0.0000181	0.00000502 U	0.0000187	0.0000173	0.0000121	0.00000913	0.00000587
PCB 175	0.000000935 J	0.000000752 J	0.00000502 U	0.000000549 J	0.00000499 U	0.000000576 J	0.000000488 J	0.00000493 U
PCB 176	0.00000292 J	0.0000022 J	0.00000502 U	0.00000211 J	0.00000191 J	0.00000155 J	0.00000125 J	0.000000626 J
PCB 177	0.000011	0.00000868	0.00000502 U	0.0000096	0.00000824	0.00000568	0.00000422 EMPC, U	0.00000321 J
PCB 178	0.00000416 J	0.00000398 J	0.00000502 U	0.00000353 J	0.00000366 J	0.00000252 J	0.00000168 J	0.00000165 J
PCB 179	0.0000103	0.0000081	0.00000502 U	0.00000845	0.00000712	0.00000516	0.00000442 J	0.00000293 J
PCB 18	0.0000608	0.000048	0.00000116 J	0.0000502	0.0000367	0.0000331	0.0000337	0.0000333
PCB 180	0.0000449	0.0000362	0.000000433 EMPC, U	0.0000404	0.0000318	0.0000243	0.0000166	0.0000118
PCB 181	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U

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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B 22B-U-D-100516 5/10/16	Outfall 22B 22B-U-RB-110516 5/11/16	MH-3 22B-U-MH3-100516 5/10/16	MH-4 22B-U-MH4-110516 5/11/16	MH-5 22B-U-MH5-100516 5/10/16	MH-6 22B-U-MH6-110516 5/11/16	MH-7 22B-U-MH7-110516 5/11/16
PCB 183	0.0000124	0.0000104	0.00000502 U	0.0000107	0.00000924	0.0000076	0.0000049 J	0.00000332 J
PCB 184	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 185	0.00000277 J	0.00000289 J	0.00000502 U	0.00000274 J	0.00000247 J	0.00000151 J	0.000000867 EMPC, U	0.000000796 J
PCB 186	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 188	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 189	0.00000079 J	0.000000537 J	0.00000502 U	0.000000657 J	0.00000065 J	0.000000353 J	0.000000179 J	0.000000218 J
PCB 19	0.0000114	0.00000916	0.00000502 U	0.00000916	0.00000938	0.00000858	0.00000956	0.0000103
PCB 190	0.00000388 J	0.00000294 J	0.00000502 U	0.00000367 J	0.00000292 J	0.00000194 J	0.00000133 J	0.00000118 J
PCB 191	0.000000708 J	0.00000048 J	0.00000502 U	0.000000621 EMPC, U	0.000000585 J	0.000000472 J	0.000000331 EMPC, U	0.00000493 U
PCB 192	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 193	0.0000022 J	0.00000184 J	0.00000502 U	0.00000217 J	0.00000178 J	0.00000103 J	0.000000854 J	0.00000493 U
PCB 194	0.0000134 J+	0.000011 J+	0.000000734 J+	0.0000121 J+	0.0000108 J+	0.00000733 J+	0.00000508 J+	0.00000495 J+
PCB 195	0.00000531	0.00000402 J	0.00000502 U	0.00000495 J	0.00000389 J	0.00000245 J	0.00000186 J	0.00000167 J
PCB 197	0.00000489 U	0.00000491 U	0.00000502 U	0.000000691 J	0.000000608 J	0.000000509 J	0.00000496 U	0.00000493 U
PCB 198	0.00000101 J	0.000000786 J	0.00000502 U	0.000000996 EMPC, U	0.00000073 J	0.00000499 U	0.00000934	0.00000493 U
PCB 199	0.0000256	0.0000191	0.00000502 U	0.0000222	0.0000172	0.0000124	0.0000095	0.00000772
PCB 2	0.00000489 U	0.000000776 J	0.00000502 U	0.000000884 J	0.00000499 U	0.000000852 J	0.000000723 J	0.00000493 U
PCB 200	0.00000307 J	0.00000219 J	0.00000502 U	0.00000221 EMPC, U	0.00000213 J	0.00000138 J	0.00000123 J	0.000000881 J
PCB 201	0.00000259 J	0.00000213 J	0.00000502 U	0.00000237 J	0.0000017 J	0.0000016 J	0.000001 J	0.000000855 J
PCB 202	0.00000448 EMPC, U	0.0000033 EMPC, U	0.00000502 U	0.00000467 J	0.00000351 J	0.00000285 J	0.00000208 J	0.00000195 J
PCB 204	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 205	0.000000616 EMPC, U	0.000000475 J	0.00000502 U	0.000000663 J	0.000000653 J	0.000000341 J	0.000000222 J	0.000000253 EMPC, U
PCB 206	0.0000119	0.0000111	0.00000502 U	0.0000112	0.00000819	0.00000619	0.0000056	0.00000632
PCB 207	0.00000173 J	0.00000126 J	0.00000502 U	0.00000136 J	0.00000105 J	0.000000892 J	0.000000638 J	0.000000667 J
PCB 208	0.00000381 J+	0.00000313 J+	0.00000502 U	0.00000338 J+	0.00000256 J+	0.0000018 J+	0.00000163 J+	0.00000139 J+
PCB 209	0.00000839	0.00000557	0.00000127 J	0.00000563	0.0000041 J	0.0000037 J	0.00000336 J	0.00000259 J
PCB 22	0.000015	0.000015	0.00000364 J	0.0000153	0.0000109	0.00000821	0.00000815	0.00000648
PCB 23	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 25	0.00000282 J	0.00000265 J	0.00000502 U	0.00000302 J	0.00000186 EMPC, U	0.0000015 J	0.00000127 J	0.00000138 J
PCB 26	0.00000539	0.00000565	0.00000502 U	0.0000057	0.00000442 J	0.00000312 J	0.00000251 EMPC, U	0.00000281 J
PCB 28	0.0000258	0.0000302	0.00000123 J	0.000031	0.0000227	0.0000156	0.0000141	0.0000164
PCB 29	0.00000489 U	0.00000034 J	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 3	0.00000164 J	0.00000132 J	0.00000502 U	0.00000135 J	0.00000104 J	0.00000134 J	0.00000129 J	0.00000493 U
PCB 30	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 31	0.0000286	0.0000282	0.000000805 EMPC, U	0.00003	0.0000211	0.0000152	0.0000141	0.0000125
PCB 34	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 35	0.000000858 J	0.000000829 J	0.00000502 U	0.000000841 J	0.000000497 J	0.00000499 U	0.000000292 J	0.00000493 U
PCB 36	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 37	0.00000722	0.00000794	0.00000502 U	0.00000769	0.00000516	0.00000367 J	0.00000322 J	0.00000382 J

TABLE 6
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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B 22B-U-D-100516 5/10/16	Outfall 22B 22B-U-RB-110516 5/11/16	MH-3 22B-U-MH3-100516 5/10/16	MH-4 22B-U-MH4-110516 5/11/16	MH-5 22B-U-MH5-100516 5/10/16	MH-6 22B-U-MH6-110516 5/11/16	MH-7 22B-U-MH7-110516 5/11/16
PCB 38	0.00000168 J	0.000000812 J	0.00000172 J	0.00000127 J	0.000000776 J	0.00000181 J	0.00000197 J	0.0000011 J
PCB 39	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 40	0.00000546 EMPC, U	0.00000601	0.00000502 U	0.00000694	0.00000479 J	0.00000466 J	0.00000499	0.00000435 J
PCB 44	0.0000443	0.0000452	0.00000502 U	0.0000496	0.0000434	0.0000394	0.0000516	0.0000204
PCB 45	0.00000582	0.0000067	0.00000502 U	0.0000065	0.00000495 J	0.0000045 J	0.00000552	0.00000505
PCB 46	0.0000028 J	0.00000302 J	0.00000502 U	0.00000284 J	0.00000196 J	0.00000235 J	0.0000026 J	0.00000247 J
PCB 47	0.0000238 J+	0.0000259 J+	0.0000717 J+	0.0000429 J+	0.0000426 J+	0.0000675 J+	0.0000847 J+	0.0000418 J+
PCB 50	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 51	0.0000469	0.0000458	0.0000788	0.0000569	0.0000477	0.0000645	0.0000752	0.0000561
PCB 53	0.00000602	0.00000675	0.000000336 EMPC, U	0.00000702	0.00000578	0.00000581	0.00000702	0.00000519
PCB 54	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 55	0.000000589 J	0.000000477 EMPC, U	0.00000502 U	0.00000501 U	0.000000407 J	0.00000041 J	0.000000367 J	0.00000493 U
PCB 57	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 58	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 6	0.00000546	0.00000411 J	0.00000502 U	0.00000481 J	0.00000432 J	0.00000324 J	0.00000235 J	0.00000493 U
PCB 62	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 63	0.00000063 J	0.000000779 J	0.00000502 U	0.000000786 J	0.000000616 J	0.000000419 J	0.000000323 EMPC, U	0.00000493 U
PCB 65	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 67	0.000000547 EMPC, U	0.000000683 J	0.00000502 U	0.000000486 EMPC, U	0.000000478 J	0.00000499 U	0.000000272 J	0.00000493 U
PCB 68	0.000013	0.0000113	0.0000242	0.0000127	0.0000178	0.00002	0.0000282	0.0000141
PCB 73	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 74	0.00000852	0.00000905	0.00000502 U	0.00000983	0.00000773	0.00000582	0.00000564	0.00000337 J
PCB 77	0.00000256 J	0.00000253 J	0.00000502 U	0.00000245 J	0.00000213 J	0.00000136 J	0.000000566 J	0.000000948 J
PCB 78	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 79	0.000000598 EMPC, U	0.000000494 J	0.00000502 U	0.000000704 J	0.000000587 J	0.000000496 J	0.000000317 EMPC, U	0.00000493 U
PCB 80	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 81	0.000000303 J	0.000000359 J	0.00000502 U	0.000000325 J	0.000000174 J	0.00000031 J	0.000000288 J	0.00000493 U
PCB 82	0.00000853	0.00000765	0.00000502 U	0.00000854	0.00000716	0.00000537	0.00000658	0.00000289 J
PCB 83	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 86	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 88	0.0000102	0.00000969	0.00000502 U	0.0000107	0.0000103	0.00000963	0.0000115	0.00000534
PCB 89	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.000000813 J	0.00000493 U
PCB 93	0.00000489 U	0.00000491 U	0.00000502 U	0.00000501 U	0.00000499 U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 94	0.00000489 U	0.000000439 EMPC, U	0.00000502 U	0.00000501 U	0.000000474 EMPC, U	0.00000499 U	0.00000496 U	0.00000493 U
PCB 96	0.00000079 J	0.000000728 J	0.00000502 U	0.000000642 EMPC, U	0.000000527 EMPC, U	0.000000815 EMPC, U	0.00000106 J	0.00000493 U
PCB 97	0.0000189	0.0000166	0.00000502 U	0.0000181	0.0000178	0.0000148	0.0000158	0.00000705
PCB 99	0.0000241	0.0000202	0.00000502 U	0.0000224	0.000021	0.0000168	0.000019	0.00000965
PCB004 & 010	0.0000224	0.0000229	0.00001 U	0.0000224	0.0000242	0.0000228	0.000025	0.0000282
PCB005 & 008	0.0000249	0.0000215	0.00001 U	0.0000222	0.0000147	0.0000122	0.0000115	0.00000217 J

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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	**Outfall 22B 22B-U-S-100516 5/10/16**	**Outfall 22B 22B-U-D-100516 5/10/16**	**Outfall 22B 22B-U-RB-110516 5/11/16**	**MH-3 22B-U-MH3-100516 5/10/16**	**MH-4 22B-U-MH4-110516 5/11/16**	**MH-5 22B-U-MH5-100516 5/10/16**	**MH-6 22B-U-MH6-110516 5/11/16**	**MH-7 22B-U-MH7-110516 5/11/16**
PCB007 & 009	0.00000978 U	0.00000981 U	0.00001 U	0.00000254 J	0.00000998 U	0.00000997 U	0.00000184 J	0.00000987 U
PCB016 & 032	0.0000408	0.000031	0.00000125 J	0.0000305	0.0000225	0.00002	0.0000218	0.0000213
PCB020 & 021 & 033	0.0000166	0.0000204	0.000000741 EMPC, U	0.0000222	0.0000132 J	0.00000892 J	0.0000089 J	0.00000359 J
PCB024 & 027	0.00000518 J	0.00000387 J	0.00001 U	0.00000401 J	0.00000304 J	0.00000292 J	0.00000298 J	0.00000329 J
PCB041 & 064 & 071 & 072	0.0000277	0.0000278	0.000000573 J	0.0000307	0.0000226	0.0000197 J	0.0000216	0.0000144 J
PCB042 & 059	0.00000855 J	0.00000934 J	0.00001 U	0.0000096 J	0.00000722 J	0.00000574 J	0.00000634 J	0.00000547 J
PCB043 & 049	0.0000254	0.0000249	0.00000235 J	0.0000277	0.000025	0.0000223	0.000025	0.0000136
PCB048 & 075	0.00000503 J	0.00000506 J	0.00001 U	0.00000504 J	0.00000306 J	0.00000253 J	0.00000255 J	0.0000021 J
PCB052 & 069	0.0000623	0.0000624	0.000000813 J	0.0000675	0.0000712	0.0000695	0.0000842	0.0000276
PCB056 & 060	0.000012	0.0000117	0.00001 U	0.0000124	0.000009 J	0.00000647 J	0.00000655 J	0.00000471 J
PCB061 & 070	0.0000313 J+	0.0000318 J+	0.000000646 J+	0.0000341 J+	0.0000289 J+	0.0000216 J+	0.0000232 J+	0.0000118 J+
PCB066 & 076	0.0000149	0.0000152	0.000000387 J	0.0000163	0.0000131	0.00000934 J	0.00000943 J	0.0000066 J
PCB084 & 092	0.0000331	0.0000294	0.00001 U	0.0000308	0.0000296	0.0000262	0.0000344	0.0000141
PCB085 & 116	0.00000944 J	0.00000837 J	0.00001 U	0.00000944 J	0.00000908 J	0.0000066 J	0.00000702 J	0.00000393 J
PCB087 & 117 & 125	0.0000258	0.0000221	0.0000151 U	0.0000255	0.0000238	0.0000188	0.0000209	0.00000881 J
PCB090 & 101	0.0000664	0.0000568	0.00001 U	0.0000627	0.0000602	0.0000494	0.0000583	0.000023
PCB095 & 098 & 102	0.0000661	0.0000602	0.0000151 U	0.0000673	0.0000704	0.0000664	0.0000798	0.0000306
PCB106 & 118	0.0000485	0.0000413	0.00001 U	0.0000449	0.0000388	0.0000251	0.0000224	0.0000157
PCB107 & 109	0.00000319 J	0.00000281 J	0.00001 U	0.00000297 J	0.00000237 J	0.00000179 J	0.00000171 J	0.00000104 EMPC, U
PCB108 & 112	0.00000275 J	0.00000237 J	0.00001 U	0.00000255 J	0.00000274 J	0.00000233 J	0.00000257 J	0.0000013 J
PCB111 & 115	0.00000106 J	0.00000101 J	0.00001 U	0.000000671 EMPC, U	0.00000101 J	0.00000997 U	0.000000707 J	0.000000409 J
PCB128 & 162	0.00000988	0.00000819 J	0.00001 U	0.0000101	0.00000757 J	0.00000501 J	0.00000543 J	0.00000395 J
PCB132 & 161	0.0000174	0.0000162	0.00001 U	0.0000159	0.0000144	0.0000117	0.0000112	0.00000629 J
PCB133 & 142	0.00000186 J	0.00000145 EMPC, U	0.00001 U	0.00000168 J	0.00000149 J	0.00000121 J	0.00000102 J	0.000000501 EMPC, U
PCB134 & 143	0.00000354 J	0.00000287 J	0.00001 U	0.00000368 J	0.00000287 J	0.00000226 J	0.00000205 J	0.00000138 J
PCB138 & 163 & 164	0.0000606	0.0000522	0.000000776 J	0.0000602	0.0000517	0.0000353	0.0000308	0.0000228
PCB139 & 149	0.0000588	0.0000457	0.000000917 EMPC, U	0.0000496	0.0000401	0.0000302	0.0000341	0.0000188
PCB146 & 165	0.00000801 J	0.00000707 J	0.00001 U	0.00000804 J	0.00000704 J	0.00000483 J	0.00000396 J	0.00000309 J
PCB158 & 160	0.00000761 J	0.00000637 J	0.00001 U	0.00000718 J	0.00000616 J	0.00000413 J	0.00000336 J	0.00000264 J
PCB182 & 187	0.0000393	0.0000291	0.00001 U	0.0000329	0.0000283	0.0000214	0.0000135	0.00000993
PCB196 & 203	0.0000236	0.0000179	0.00001 U	0.0000212	0.0000169	0.0000118	0.00000807 J	0.00000801 J
Total Aroclors	0.0017	0.00152	0.000203	0.00166	0.00143	0.00122	0.00128	0.000761
Insecticides, µg/L								
2,4'-DDD	0.000366	0.00036	0.000039 U	0.000386	0.000353	0.000354	0.000269	0.000488
2,4'-DDE	0.0000156 J	0.0000163 J	0.000039 U	0.0000181 J	0.0000164 J	0.0000176 J	0.0000158 J	0.0000131 J
2,4'-DDT	0.000427	0.000412	0.000039 U	0.000367	0.00043	0.000324	0.000304	0.0005
4,4'-DDD	0.000794	0.000754	0.000039 U	0.000773	0.000682	0.000612	0.000409	0.000685
4,4'-DDE	0.00022	0.000219	0.000039 U	0.000234	0.000235	0.000209	0.000233	0.000231
4,4'-DDT	0.00216	0.0019	0.000039 U	0.00173	0.00248	0.00174	0.00148	0.0021

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Aldrin	0.000103	0.000101	0.000039 U	0.000102	0.000138	0.000097	0.0001	0.000129
alpha-BHC	0.203 D	0.204 D	0.0000129 J	0.203 D	0.205 D	0.233 D	0.219 D	0.341 D
alpha-Chlordane	0.000678	0.00166	0.000039 U	0.00167	0.00107	0.00178	0.00135	0.00329
beta-BHC	0.12 D	0.12 D	0.000039 U	0.147 D	0.123 D	0.126 D	0.135 D	0.17 D
cis-Nonachlor	0.0000392 U	0.0000394 U	0.000039 U	0.0000389 U	0.0000618	0.0000391 U	0.0000395 U	0.0000398 U
delta-BHC	0.0611 D	0.061 D	0.000039 U	0.0682 D	0.0784 D	0.0762 D	0.0719 D	0.135 D
Dieldrin	0.157 D	0.179 D	0.00000472 J	0.184 D	0.199 D	0.196 D	0.282 D	0.474 D
Endosulfan I	0.000196 U	0.000197 U	0.000195 U	0.000195 U	0.000194 U	0.000195 U	0.000197 U	0.000199 U
Endosulfan II	0.000196 U	0.000197 U	0.000195 U	0.000195 U	0.000194 U	0.000195 U	0.000197 U	0.000199 U
Endosulfan Sulfate	0.000196 U	0.000131 J	0.000195 U	0.000195 U	0.000194 U	0.000195 U	0.000197 U	0.000305
Endrin	0.0121	0.013	0.000039 U	0.0125	0.0155	0.0165	0.0179	0.0448 D
Endrin Aldehyde	0.0203	0.000888	0.000195 U	0.000801	0.0147	0.00183	0.00785	0.006
Endrin Ketone	0.0831 D	0.102 D	0.000195 U	0.105 D	0.113 D	0.135 D	0.126 D	0.216 D
gamma-BHC (Lindane)	0.306 J	0.285 D	0.0000127 EMPC, U	0.281 D	0.32 D	0.34 D	0.281 D	0.408 D
gamma-Chlordane	0.000382	0.000393	0.000039 U	0.000365	0.000361	0.000374	0.000419	0.000679
Heptachlor	0.0000354 J	0.0000333 J	0.000039 U	0.0000322 J	0.0000355 J	0.0000295 J	0.0000275 J	0.0000337 J
Heptachlor Epoxide	0.000523	0.000593	0.000039 U	0.000596	0.000657	0.000732	0.000709	0.00131
Hexachlorobenzene	0.0000769 J+	0.0000752 J+	0.00000377 U	0.0000783 J+	0.000078 J+	0.0000894 J+	0.0000965 J+	0.0001 J+
Methoxychlor	0.000334	0.000343	0.000039 U	0.000281	0.000284	0.000244	0.000186	0.000238
Mirex	0.0000392 U	0.0000394 U	0.000039 U	0.0000389 U	0.0000388 U	0.0000391 U	0.0000395 U	0.0000398 U
Oxychlordane	0.0000392 U	0.0000394 U	0.000039 U	0.0000389 U	0.0000388 U	0.0000391 U	0.0000395 U	0.0000398 U
trans-Heptachlor Epoxide	0.604 J	2.19 J	0.0000419	1.4 J	1.83 J	3.38 J	2.58 J	5.69 J
trans-Nonachlor	0.000133	0.000141	0.000039 U	0.000134	0.000117	0.0000646	0.0000395 U	0.0000398 U
Unfiltered Metals, µg/L								
Arsenic	4.16	3.92	0.5 U	4.07	4.17	3.79	3.27	3.28
Barium	23	23	0.889 J	23.2	21.1	23.3	21.9	33
Cadmium	0.0444 J	0.0444 J	0.04 U	0.0889 J	0.04 U	0.0667 J	0.0667 J	0.04 U
Calcium	33800	34000	254	33500	34400	33300	34500	41100
Chromium	0.467 J	0.489 J	0.4 U	0.556 J	0.4 U	0.444 J	0.4 U	0.4 U
Copper	1.21	1.17	1 U	1.16	1 U	0.933 J	1 U	1 U
Iron	596	599	50 U	593	490	478	225	269
Lead	0.633	0.611	0.1 U	0.633	0.378	0.233	0.244	0.1 U
Magnesium	8460	8720	25 U	8370	7890	8170	7380	11500
Manganese	96.6	95.9	0.5 U	104	79.6	87.9	34.2	56.4
Mercury	0.0012	0.003	0.0016	0.0033	0.0024	0.0047	0.0025	0.0022
Nickel	10.2	10.2	0.5 U	10.3	9.79	10	9.89	14.9
Selenium	2 U	2 U	0.5 U	2 U	1.3	2 U	0.5 U	0.5 U
Silver	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	5.94	5.8	2 U	6.29	5.21	4.24	3.94 J	6.52

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Hexavalent Chromium	0.052 J+	0.078 J+	0.15 J+	0.12 J+	0.086 J+	0.13 J+	0.11 J+	0.11 J+
Filtered Metals, µg/L								
Arsenic	4.32	4.21	0.5 U	4.14	4	4.01	3.39	3.52
Barium	20.7	21.4	0.922 J	22.3	20.7	23.5	22.5	32.3
Cadmium	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Calcium	33600	33600	164	34700	34200	34900	34200	40800
Chromium	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Copper	0.5 U	0.567 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.911 J
Iron	276	273	50 U	293	283	271	164	203
Lead	0.156 J	0.133 J	0.1 U	0.144 J	0.144 J	0.122 J	0.144 J	0.1 U
Magnesium	8200	7920	25 U	8170	8760	8060	7960	12600
Manganese	80.8	80.9	0.5 U	97.8	67.8	82.8	32.7	54.6
Mercury	0.003	0.0035	0.00031 U	0.0061	0.0011	0.0021	0.0015	0.00097
Nickel	9.84	9.81	0.5 U	9.89	9.72	10.1	9.6	14.4
Selenium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Silver	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Zinc	2 U	2 U	2 U	2 U	2.11 J	2 U	2.42 J	6.02
Herbicides, µg/L								
2,4,5-T	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4,5-TP (Silvex)	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,4-D	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
2,4-DB	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Bromoxynil	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Dicamba	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dichlorprop	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dinoseb	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
MCPA	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
MCPP	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
VOCs, µg/L								
1,1,1,2-Tetrachloroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,1-Trichloroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2,2-Tetrachloroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1,2-Trichloroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloroethene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

TABLE 6
Summary of Second Quarter 2016 Laboratory Analytical Results - All Compounds
Outfall 22B IRAM Performance Monitoring
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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	Outfall 22B 22B-U-S-100516 5/10/16	Outfall 22B 22B-U-D-100516 5/10/16	Outfall 22B 22B-U-RB-110516 5/11/16	MH-3 22B-U-MH3-100516 5/10/16	MH-4 22B-U-MH4-110516 5/11/16	MH-5 22B-U-MH5-100516 5/10/16	MH-6 22B-U-MH6-110516 5/11/16	MH-7 22B-U-MH7-110516 5/11/16
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,2-Dibromoethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone (MEK)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloroethyl Vinyl Ether	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone (MIBK)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acrolein	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acrylonitrile	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	0.176 J	0.204 J+	0.1 U	0.293	0.335	0.57	0.969	0.1 U
Bromobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
cis-1,2-Dichloroethene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane (Freon 12)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	0.399 J	0.434 J	0.25 U	0.677	0.35 J	0.368 J	0.492 J	0.357 J
Hexachlorobutadiene	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U

TABLE 6
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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	**Outfall 22B 22B-U-S-100516 5/10/16**	**Outfall 22B 22B-U-D-100516 5/10/16**	**Outfall 22B 22B-U-RB-110516 5/11/16**	**MH-3 22B-U-MH3-100516 5/10/16**	**MH-4 22B-U-MH4-110516 5/11/16**	**MH-5 22B-U-MH5-100516 5/10/16**	**MH-6 22B-U-MH6-110516 5/11/16**	**MH-7 22B-U-MH7-110516 5/11/16**
Iodomethane	NR	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.831 J	0.5 U
Methyl tert-Butyl Ether (MTBE)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
Naphthalene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
o-Xylene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.316 J	0.25 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	1.25	0.5 U	0.5 U	0.573 J	1.96	8.02	25.7	1.2
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trichlorofluoromethane (Freon 11)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
SVOCs, µg/L								
1,2,4-Trichlorobenzene	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
1,2-Dichlorobenzene	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
1,2-Dinitrobenzene	2.4 U	2.4 U	0.238 U	2.4 U	2.38 U	2.4 U	2.4 U	0.24 U
1,3-Dichlorobenzene	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
1,3-Dinitrobenzene	2.4 U	2.4 U	0.238 U	2.4 U	2.38 U	2.4 U	2.4 U	0.24 U
1,4-Dichlorobenzene	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
1,4-Dinitrobenzene	2.4 U	2.4 U	0.238 U	2.4 U	2.38 U	2.4 U	2.4 U	0.24 U
1-Methylnaphthalene	0.192 U	0.192 U	0.019 U	0.192 U	0.19 U	0.192 U	0.192 U	0.0192 U
2,3,4,6-Tetrachlorophenol	0.481 U	0.481 U	0.0476 U	0.481 U	0.476 U	0.481 U	0.481 U	0.0481 U
2,3,5,6-Tetrachlorophenol	0.481 U	0.481 U	0.0476 U	0.481 U	0.476 U	0.481 U	0.481 U	0.0481 U
2,4,5-Trichlorophenol	1.94	2.13	0.0476 U	1.98	2.05	2.37	2.6	0.0481 U
2,4,6-Trichlorophenol	1	1.16	0.0476 U	1.03	1.04	1.15	1.25	0.0677 J
2,4-Dichlorophenol	8.39	8.68	0.101	8.5	9.16	11.9	16.3	0.192
2,4-Dimethylphenol	0.596 J	0.657 J	0.0476 U	0.608 J	0.696 J	0.845 J	1.21	0.0481 U
2,4-Dinitrophenol	2.4 UJ	2.4 U	0.238 U	2.4 U	2.38 U	2.4 U	2.4 U	0.24 U
2,4-Dinitrotoluene	0.962 UJ	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
2,6-Dinitrotoluene	0.962 UJ	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
2-Chloronaphthalene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
2-Chlorophenol	0.617 J	0.618 J	0.0476 U	0.568 J	0.681 J	0.717 J	1.07	0.0481 U

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	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	**Outfall 22B 22B-U-S-100516 5/10/16**	**Outfall 22B 22B-U-D-100516 5/10/16**	**Outfall 22B 22B-U-RB-110516 5/11/16**	**MH-3 22B-U-MH3-100516 5/10/16**	**MH-4 22B-U-MH4-110516 5/11/16**	**MH-5 22B-U-MH5-100516 5/10/16**	**MH-6 22B-U-MH6-110516 5/11/16**	**MH-7 22B-U-MH7-110516 5/11/16**
2-Methyl-4,6-Dinitrophenol	2.4 U	2.4 U	0.238 U	2.4 U	2.38 U	2.4 U	2.4 U	0.24 U
2-Methylnaphthalene	0.192 U	0.192 U	0.019 U	0.192 U	0.19 U	0.192 U	0.192 U	0.0192 U
2-Methylphenol	1.17	1.08	0.028 J	1.49	1.79	2.96	4.98	0.0548
2-Nitroaniline	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
2-Nitrophenol	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
3&4-Methylphenol	0.391 J	0.35 J	0.0238 U	0.6	0.768	1.37	2.24	0.0312 J
3,3'-Dichlorobenzidine	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
3-Nitroaniline	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
4-Bromophenyl phenyl ether	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
4-Chloro-3-Methylphenol	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
4-Chloroaniline	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
4-Chlorophenyl phenyl ether	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
4-Nitroaniline	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
4-Nitrophenol	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
Acenaphthene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Acenaphthylene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Analine	0.481 U	0.481 U	0.0476 U	0.481 U	0.476 U	0.481 U	0.481 U	0.0481 U
Anthracene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Azobenzene	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
Benzo(a)anthracene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Benzo(a)pyrene	0.144 U	0.144 U	0.0143 U	0.144 U	0.143 U	0.144 U	0.144 U	0.0144 U
Benzo(b)fluoranthene	0.144 U	0.144 U	0.0143 U	0.144 U	0.143 U	0.144 U	0.144 U	0.0144 U
Benzo(g,h,i)Perylene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Benzo(k)Fluoranthene	0.144 U	0.144 U	0.0143 U	0.144 U	0.143 U	0.144 U	0.144 U	0.0144 U
Benzoic Acid	12 U	12 U	1.19 U	12 U	11.9 U	12 U	12 U	1.2 U
Benzyl Alcohol	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
bis(2-Chloroethoxy)methane	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
bis(2-Chloroethyl)ether	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
bis(2-Chloroisopropyl)ether	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
bis(2-Ethylhexyl)phthalate	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
Butylbenzylphthalate	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
Carbazole	0.144 U	0.144 U	0.0143 U	0.144 U	0.143 U	0.144 U	0.144 U	0.0144 U
Chrysene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Dibenzo(a,h)anthracene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Dibenzofuran	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Diethylphthalate	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.237 J
Dimethylphthalate	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
Di-n-butylphthalate	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
di-n-Octyl Phthalate	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U

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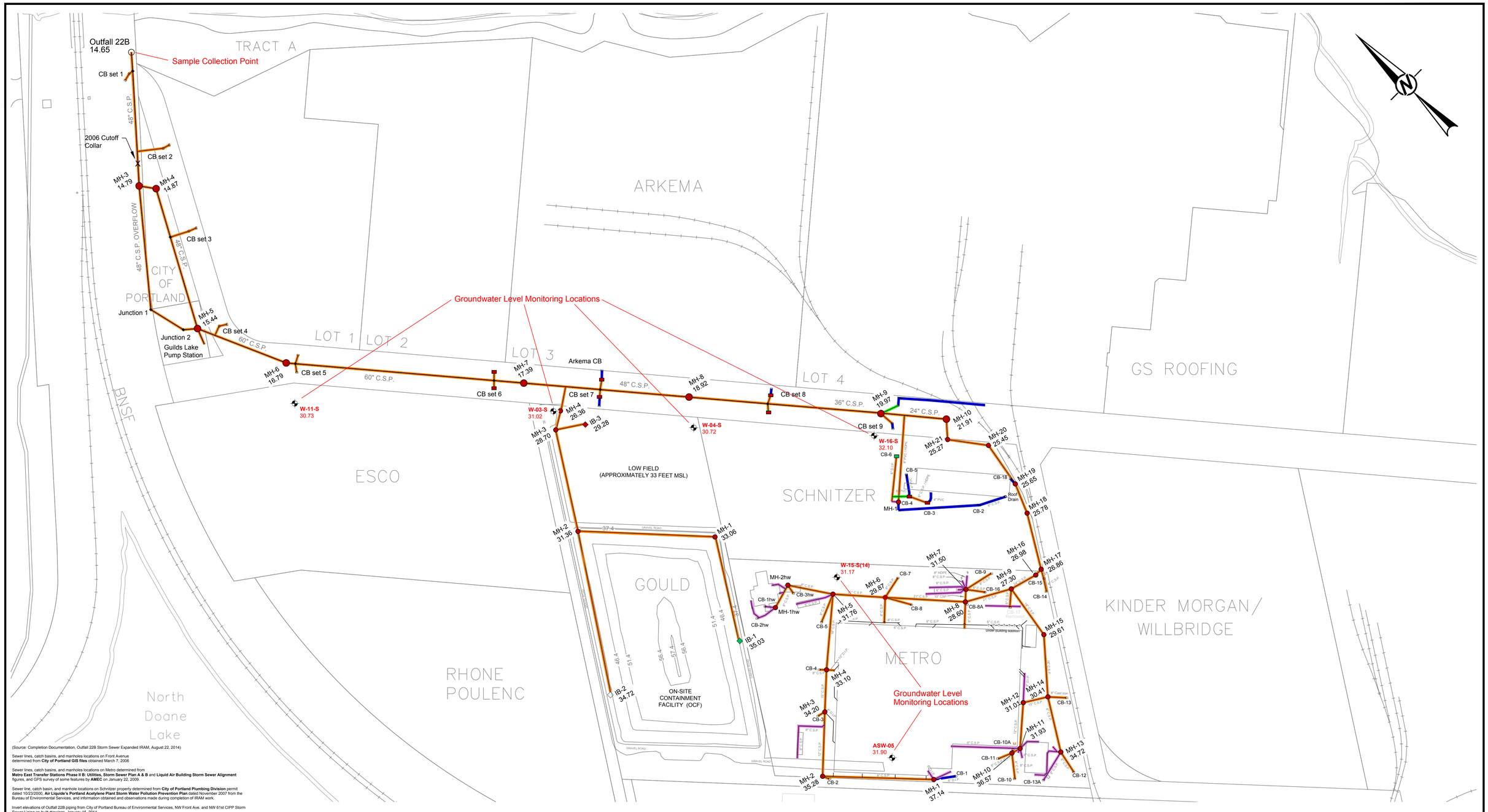
	2nd Quarter 2016 Sampling Round							
	Outfall Samples		Field Blank	Manhole Samples				
Constituent	**Outfall 22B 22B-U-S-100516 5/10/16**	**Outfall 22B 22B-U-D-100516 5/10/16**	**Outfall 22B 22B-U-RB-110516 5/11/16**	**MH-3 22B-U-MH3-100516 5/10/16**	**MH-4 22B-U-MH4-110516 5/11/16**	**MH-5 22B-U-MH5-100516 5/10/16**	**MH-6 22B-U-MH6-110516 5/11/16**	**MH-7 22B-U-MH7-110516 5/11/16**
Dioctyl Adipate	2.4 U	2.4 U	0.238 U	2.4 U	2.38 U	2.4 U	2.4 U	0.24 U
Fluoranthene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Fluorene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Hexachlorobenzene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Hexachlorobutadiene	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
Hexachlorocyclopentadiene	0.481 U	0.481 U	0.0476 U	0.481 U	0.476 U	0.481 U	0.481 U	0.0481 U
Hexachloroethane	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
Indeno(1,2,3-cd)pyrene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Isophorone	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
Naphthalene	0.192 U	0.192 U	0.019 U	0.192 U	0.19 U	0.192 U	0.192 U	0.0192 U
Nitrobenzene	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
n-Nitrosodimethylamine	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
n-Nitrosodi-n-propyl amine	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
n-Nitrosodiphenylamine	0.24 U	0.24 U	0.0238 U	0.24 U	0.238 U	0.24 U	0.24 U	0.024 U
Pentachlorophenol	1.01 J	1.03 J	0.0952 U	1.06 J	1.08 J	1.03 J	1.12 J	0.129 J
Phenanthrene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Phenol	1.92 U	1.92 U	0.19 U	1.92 U	1.9 U	1.92 U	1.92 U	0.192 U
Pyrene	0.0962 U	0.0962 U	0.00952 U	0.0962 U	0.0952 U	0.0962 U	0.0962 U	0.00962 U
Pyridine	0.962 U	0.962 U	0.0952 U	0.962 U	0.952 U	0.962 U	0.962 U	0.0962 U
Petroleum Hydrocarbons, mg/L								
Diesel Range Organics (NWTPH-Dx-SGT)	0.121 U	0.119 U	0.119 U	0.119 U	0.121 U	0.119 U	0.12 U	0.119 U
Oil Range Organics (NWTPH-Dx-SGT)	0.243 U	0.238 U	0.238 U	0.238 U	0.243 U	0.238 U	0.24 U	0.238 U
Gasoline Range Organics (NWTPH-GX)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.0765 J	0.116	0.05 U
Diesel-Range Organics (NWTPH-HCID)	0.243 U	0.238 U	0.238 U	0.238 U	0.243 U	0.238 U	0.24 U	0.238 U
Gasoline Range Organics (NWTPH-HCID)	0.0971 U	0.0952 U	0.0952 U	0.0952 U	0.0971 U	0.0952 U	DET	0.0952 U
Oil Range Organics (NWTPH-HCID)	0.243 U	0.238 U	0.238 U	0.238 U	0.243 U	0.238 U	0.24 U	0.238 U

Notes:

B: This compound was also detected in the method blank.
D: Dilution.
U: The constituent was analyzed for, but was not detected above the reported sample quantitation limit.
UJ: The constituent was not detected; the associated quantitation limit is an estimated value because quality control criteria were not met.
J -: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.
J+: The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.
DET: Indicates qualitative detection of petroleum products within the analyte elution range.
EMPC, U: Estimated Maximum Potential Concentration, The EMPC qualifier is applied to a sample result when the S/N ratio is at least 2.5:1 for both quantitation ions, but the ion abundance ratio criteria are not met. The laboratory reported the constituent as not detected.
NR: not reported.

FIGURES



(Source: Completion Documentation, Outfall 22B Storm Sewer Expanded IRAM, August 22, 2014)

Sewer lines, catch basins, and manholes locations on Front Avenue determined from **City of Portland GIS files** obtained March 7, 2006

Sewer lines, catch basins, and manholes locations on Metro determined from **Metro East Transfer Stations Phase II B: Utilities, Storm Sewer Plan A & B** and **Liquid Air Building Storm Sewer Alignment** figures, and GPS survey of some features by **AMEC** on January 22, 2009.

Sewer line, catch basin, and manhole locations on Schnitzer property determined from **City of Portland Plumbing Division** permit dated 10/23/2000, **Air Liquide's Portland Acetylene Plant Storm Water Pollution Prevention Plan** dated November 2007 from the Bureau of Environmental Services, and information obtained and observations made during completion of IRAM work.

Invert elevations of Outfall 22B piping from City of Portland Bureau of Environmental Services, NW Front Ave. and NW 61st CIPP Storm Sewer Lining as-built drawings, January 15, 2014.

LEGEND

- Tax Lot Boundary & Existing Features
- Surface Water Features
- Railroad Tracks
- Outfall 22B Storm Sewer Line
- Catch Basin
- Manhole
- C.S.P. Concrete Sewer Pipe
- D.I.P Ductile Iron Pipe
- CIPP Cure-In-Place Pipe
- PVC Polyvinyl Chloride
- HDPE High Density Polyethylene

- IRAM Interim Remedial Action Measure
- 14.79 Lined Outfall 22B System Piping and Invert Elevations (feet, COPD)
- Abandoned
- Replaced
- Not Lined – Limited or No Access
- MH-10 Lined and/or Sealed Manhole
- Lined and/or Sealed Catch Basin
- Replaced Vault or Catch Basin

W-11-S 30.73 Groundwater Monitoring Well and Groundwater Elevation (feet, COPD), May 12 to 13, 2016.

0 120 240
1" = 120' FEET

Golder Associates

9 MONROE PARKWAY
SUITE 270
LAKE OSWEGO, OR. 97035

DRAWN BY:

QC BY:

DATE DRAWN:

DATUM / PROJECTION: NAD83 / OR SP N Int Ft

PROJECT NO:

TITLE:

FIGURE 1
OUTFALL 22B MONITORING LOCATIONS AND GROUNDWATER ELEVATIONS

REPORT:

OUTFALL 22B IRAM PERFORMANCE MONITORING
SECOND QUARTER 2016

APPENDICES

APPENDIX A
FIELD NOTES

Location Rhone Poulenc Date 5/10/16

Project / Client OF22B IRAM Perf. Monit / STARLINK

10393514 12.605.02 Weather: clear, 54°F, WSW 6mph

0630 R. Stringfellow onsite
calibrating YSI RP-1

Std		Before	After	Temp	Lot #
pH	7	6.98	7.00	16.95	501
	4	4.10	4.00	16.79	501
	10	10.11	10.02	17.21	501
Sp. cond	1.413	1.414	1.413	17.28	501
ORP	220	218.2	220.0	17.38	SQ1
DO	100%	102.4	100.9	15.29	767.2

0730 D. Bida (Golder) onsite w/ ice

0830 Setting up at OF22B

~~Water Quality Parameters~~ RSS

0845 22B-U-S-100516
22B-F-S-100516

1000 22B-U-D-100516
22B-F-D-100516

1242 Begin pumping MH-~~5~~ 3

1300 Sample 22B-U-MH3-100516
22B-F-MH3-100516

1500 Sample 22B-U-MH5-100516
22B-F-MH5-100516

Note: Sampled MH5 before MH4 due to need to make sampling schedule work w/ City schedule to access Guilds Lake Pump Station

Location Rhone Poulenc Date 5/10/16

Project / Client OF22B IRAM Performance Monitoring

10393514 12.605.02 Weather: 74°F, NNE 6

1630 lock Guilds Lake Pump Station fence gate
- return to site

1720 - locked trailers, set alarms, locked gates offsite

1722 No ponded water observed behind MMGL/(Shriver) Air Liquide
- small puddle ~~and possible~~ observed by/around CB-6 in Northern corner of facility
- No ponded water noted at Gould

1726 - Depart for day

RSS
5/10/16

Location Rhone Poulenc Date 5-11-2016

Project / Client Outfall 22B Performance Monitoring

1039351412.605.02 Weather: sunny breezy, 73°F

0645 Arrived onsite (R. Stringfellow)

0200 Calibration YSI 556 RP-1

Std		Before	After	Temp	Lot #
pH	7	7.03	7.00	17.85	501
	4	4.06	4.00	17.81	501
	10	10.04	10.01	17.85	501
Sp. Cond	1.413 mS/cm	1.405	1.413	17.77	501
ORP	220	220.6	220.0	17.88	501
DO	100%	102.9	100.6	19.74	Baro 764.0

0730 D. Bide onsite

0745 Arrive at MH-4

0830 Collect sample 22B-U-MH4-110516

22B-F-MH4-110516

0945 MH-6

1030 ~~1030~~ collect sample 22B-U-MH6-110516

22B-F-MH6-110516

1040 RS checking catch basins

CB set 1: dry

CB set 2: dry

CB-3E: wet with small pool in CB floor

CB-3W: wet with small pool of water in CB floor

no flow into CB from CB-3E lateral

no discernible flow out of CB

Location Rhone Poulenc Date 5.11.2016

Project / Client Outfall 22B IRAM Perf. Monit.

1039351412.605.02 Weather: sunny 70s breezy

CB set 4: dry

CB set 5: dry

1200 lunch

1245 ~~Setting~~ (RS) begin purging water from MH-7

1330 Sampled 22B-U-MH7-110516

22B-F-MH7-110516

1350 CB-6E pooled water in CB floor, no flow

CB-6W: dry

1356 CB-7E: infiltration from ~~below~~ bottom of plug in curbside wall; minor infiltration from cracks in CB walls. < 1/4 gal per minute

CB-7W: infiltration from bottom of plug in curbside wall

1415 Arrive at MH-8, belly in channel with non-turbulent flow

1420 Check MH-9 Flow appears to be at least 3 gpm

Puddles still present around CB-6 at Air Liquide. Does not appear to be much flow

(RS) ~~1415~~ 1425 check MH-10

2 to 3 gpm flowing from upstream

1430 Arrive @ Metro

Location Rhone Poulenc Date 5-11-16

Project / Client Outfall 22B IRAM Perf. Monitoring

103935141 2.605.01 Weather: Sunny, 82°F

1445 Talk with Bob Brandenburg and Greg Moore (Recolgy)
Check MH-9, at least 2 gpm flowing into MH-9 from direction of upstream MH-15 and approx. 1 gpm from upstream MH-8
- 15' of pipe b/w MH-15 and MH-9 exposed by excavation. Pipe not cut, broken, punctured
- Construction crew says they are not discharging to storm sewer and no stormwater pipe has been breached
- Talked w/ Bob (Metro) says no storm sewer replaced this week but crew is planning to cut into pipe b/w MH-15 and MH-9 tonight and install ~~MH~~ a new manhole as part of new storm water treatment plant

1545 Depart Metro, pack up traffic control

1630 collect 22B-U-RB-110516
22B-F-RB-110516

1717 Apex picked up samples at site

1745 Set alarm, locked trailers/gates

1800 offsite

RSS
5-11-16

Location Rhone Poulenc Date 5-12-16

Project / Client Outfall 22B IRAM Performance Monitoring

103935141 2.605.02 Weather: Sunny, 82

0745 R. Stringfellow arrive at Metro
- Last night contractors installed bottom piece of manhole vault along pipe b/w MH-9 and MH-15. Pipe penetrations have been grouted and PVC pipe connected to concrete sewer pipe with rubber fernco? collar
- water is flowing into new manhole vault from upstream pipe. Water appears clear, ≥ 2 gpm.
- checked MH-9 (Metro). Flow appears consistent with observations made 5-11-16

0805 Checked out at office

0820 Preparing for water level collection

0830 Project communication

0945	AL-2-17	
	DTW: 10.40	
0956	RP-17-25	DTW: 6.09
1004	RP-18-30	DTW: 12.81
1009	~~RP~~ W-11-21	DTW: 10.17
1014	RP-19-25	DTW: 11.20
1017	W-12-20	DTW: 10.66
1023	RP-26-39	DTW: 9.51

Location Rhone Poulenc Date 5-12-2016

Project / Client Outfall 22B IRAM Perf. Monit.

103535 1412.605.02 Weather sunny, 60s

1045 Checked in at Metro

1055 opened monitoring well ASW-05 to vent and stabilize

1105 opened monitoring well W-15-S to vent

1115 checked MH-8

infiltration on west side from contact b/w manhole channel/bench and liner

small amount of flow (< 100 mL/min) from western lateral

1120 W-15-S DTW = 10.39

1123 ASW-05 DTW = 7.80

1130 Signed out.

1140 Collected water for turbidity reading at MH-10 in Front Ave

Turbidity = 15.2 NTU

- Flow appears to have increased since yesterday, rate ≥ 5 gpm

1155 W-04-16 DTW = 4.51

1217 W-03-17 DTW = 4.38

1230 Arrive at Contractors' Trailers

packing up equipment

1250 Depart Site (R. Stringfellow / D. Bida)

RSS
5-12-16

Location Rhone Poulenc Date 5-13-2016

Project / Client Outfall 22B IRAM Performance Monit

103935 1412.605.02 Weather:

08:30 R. Stringfellow onsite at MMG2

08:57 - water level

W-16-S DTW = 5.29

0945 - Called Damien Vickerman per access agreement to inform him of possibility of non-stormwater flow originating from AL facility

took photos of CB-6 where water is pooling around CB and flowing into it

no flow into CBs in rear of facility apparent

1000 CB-9E : floor of CB damp

CB-9W : damp at base of pipe penetration

1005 CB-8E : floor of CB wet ~~visibly~~ A trickle of flow exiting CB into lateral ≤ 50 mL/min

1010 CB-8W : trickle of flow from floor of CB, Less than 300 mL/min

1015 Depart site

RSS
5-13-16

APPENDIX B
PHOTOGRAPH LOG

Project Title: Outfall 22B IRAM Performance Monitoring – Second Quarter 2016	
PHOTO 1 Outfall 22B discharge. Date Taken: 5/10/2016	
PHOTO 2 Outfall 22B discharge. Date Taken: 5/10/2016	

PHOTO 3 MH-3 Date Taken: 5/10/2016	
PHOTO 4 MH-4 Date Taken: 5/11/2016	

PHOTO 5 MH-5 Date Taken: 5/10/2016	
PHOTO 6 MH-6 Date Taken: 5/11/2016	

PHOTO 7 MH-7 Date Taken: 5/11/2016	
PHOTO 8 MH-8. Note that flow appeared to be at least 2 gpm higher than flows observed during previous Outfall 22B IRAM performance monitoring events. Metro had begun earthwork for a new stormwater treatment facility at the transfer station. Date Taken: 5/11/2016	

PHOTO 9 MH-9. Note that flow appeared to be at least 2 gpm higher than flows observed during previous Outfall 22B IRAM performance monitoring events. Metro had begun earthwork for a new stormwater treatment facility at the transfer station. Date Taken: 5/11/2016	
PHOTO 10 MH-10. Note that flow appeared to be at least 2 gpm higher than flows observed during previous Outfall 22B IRAM performance monitoring events. Metro had begun earthwork for a new stormwater treatment facility at the transfer station. Date Taken: 5/11/2016	

PHOTO 11 Metro MH-9. Note that flow appeared to be at least 2 gpm higher than flows observed during previous Outfall 22B IRAM performance monitoring events. Metro had begun earthwork for a new stormwater treatment facility at the transfer station. Date Taken: 5/12/2016	

APPENDIX C
OUTFALL SAMPLING WORKSHEET

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: Outfall 22B	DATE: 5-10-16	START TIME: 08:30
PERSONNEL: R. Stringfellow / D. Bida	WEATHER: Clear	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	16°C	weather app	
WATER TEMPERATURE (°C)	12.21	YSI 556	
SAMPLE DEPTH (TWC)	< 0.5"	ruler	
pH	8.82	YSI 556	
ORP	333.0	"	
CONDUCTIVITY	367	"	
TURBIDITY	4.58	Hach 2100P	
FERROUS IRON	–	—	
DISSOLVED OXYGEN	6.50	YSI 556	
OBSERVATIONS	clear, ~~pos~~ (FS)		

ADDITIONAL COMMENTS/OBSERVATION

Duplicate 22B-U-D-100516
22B-F-D-100516
Sample Time Field Dup : 1000

SAMPLE COLLECTION

SAMPLE NUMBER	22B-F-S-100516 22B-U-S-100516	QA/QC SAMPLE NO.		SAMPLE TIME:	0845
SAMPLE COMMENTS:					
LABORATORY (1)		COC #			
LABORATORY (2)		COC #			
LABORATORY (3)		COC #			
LABORATORY (4)		COC #			

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C			Y	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C			Y	
Hexavalent Chromium EPA ~~7195 or EPA 7196A~~ 218.6	1 250ml HDPE cool 4°C			Y	
Volatile Organic Compounds (VOCs) EPA 8260B + MTBE	3 40 mL Glass Vials, HCL pH<2, cool 4°C			Y	
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C			Y	
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C			Y	
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C			Y	
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C			Y	
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C			Y	
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C			Y	

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED: peristaltic Pump
QA/QC SAMPLE COLL/DESCRIBE: Field Dup	SAMPLE TYPE (GRAB, SPLIT, ETC.): Grab
CHAIN OF CUSTODY COMPLETED? (YES)/NO:	INSTRUMENT CALIBRATION (DATE/TIME): 5-10-16 / 0700
WASTE DISPOSAL METHOD: site debris bin	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

measured flow rate w/ bucket and stop watch.
Flow rate 10 gpm, flow width = 13" depth = 3/4"

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: MH-3		DATE: 5-10-16	START TIME: 12:42
PERSONNEL: R. Stringfellow / D. Bida		WEATHER: Clear, ESE 6 mph	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	21°C	weather app	
WATER TEMPERATURE (°C)	14.14	YSI 556	
SAMPLE DEPTH (TWC)	≥ 1/2"	Ruler	
pH	9.33	YSI 556	
ORP	156.6	"	
CONDUCTIVITY uS/cm	366	"	
TURBIDITY	4.94	Hach 2100P	
FERROUS IRON	—	—	
DISSOLVED OXYGEN	6.20	YSI 556	
OBSERVATIONS			

ADDITIONAL COMMENTS/OBSERVATION

22B-U-MH3-100516 SAMPLE COLLECTION

SAMPLE NUMBER	22B-F-MH3-100516	QA/QC SAMPLE NO.		SAMPLE TIME:	1300
SAMPLE COMMENTS:	clear,				
LABORATORY (1)		COC #			
LABORATORY (2)		COC #			
LABORATORY (3)		COC #			
LABORATORY (4)		COC #			

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C			Y	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C			Y	
Hexavalent Chromium ~~EPA 7195 or EPA 7196A~~ 218.6	1 250ml HDPE cool 4°C			Y	
Volatile Organic Compounds (VOCs) EPA 8260B + misc	3 40 mL Glass Vials, HCL pH<2, cool 4°C			Y	
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C			Y	
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C			Y	
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C			Y	
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C			Y	
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C			Y	
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C			Y	

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED: peristaltic pump
QA/QC SAMPLE COLL/DESCRIBE: NA	SAMPLE TYPE (GRAB, SPLIT, ETC.): Grab
CHAIN OF CUSTODY COMPLETED? (YES)/NO:	INSTRUMENT CALIBRATION (DATE/TIME): 5/15/16 / 0700
WASTE DISPOSAL METHOD: RP Site Debris Bin	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

~~Ehh (?) Channel (?)~~ Channel Flow width = 11" depth = ≤ 1/2"
Flow rate through manhole appears consistent w/ outfall

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: MH-4		DATE: 5-11-16	START TIME: 0745
PERSONNEL: R. Stringfellow, D. Bida		WEATHER: clear, NE 5 mph	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	14°C	Weather App	
WATER TEMPERATURE (°C)	12.53	YSI 556	
SAMPLE DEPTH (TWC)	~~31~~ 25 ≤ 1-inch		
pH	9.15	YSI 556	
ORP	200.1	"	
CONDUCTIVITY	367	"	
TURBIDITY	3.45	Hach 2100P	
FERROUS IRON	—		
DISSOLVED OXYGEN	6.29	YSI 556	
OBSERVATIONS			

ADDITIONAL COMMENTS/OBSERVATION

SAMPLE COLLECTION

SAMPLE NUMBER	22B-U-MH4-110516	QA/QC SAMPLE NO.	NA	SAMPLE TIME:	08:30
SAMPLE COMMENTS:	clear, no odor				
LABORATORY (1)		COC #			
LABORATORY (2)		COC #			
LABORATORY (3)		COC #			
LABORATORY (4)		COC #			

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C			Y	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C			Y	
Hexavalent Chromium EPA 7195 or EPA 7196A	1 250ml HDPE cool 4°C			Y	
Volatile Organic Compounds (VOCs) EPA 8260C	3 40 mL Glass Vials, HCL pH<2, cool 4°C			Y	
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C			Y	
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C			Y	
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C			Y	
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C			Y	
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C			Y	
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C			Y	

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED: peristaltic pump
QA/QC SAMPLE COLL/DESCRIBE: NA	SAMPLE TYPE (GRAB, SPLIT, ETC.): grab
CHAIN OF CUSTODY COMPLETED? (YES)/NO:	INSTRUMENT CALIBRATION (DATE/TIME): 5.11.16 / 0700
WASTE DISPOSAL METHOD: site debris bin	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

Flow channel width: 18" depth: 1.5"
Flow rate through manhole appears consistent with manhole MH-3

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: MH-5		DATE: 5/10/16	START TIME: 1420
PERSONNEL: R. Stringfellow / D. Bida		WEATHER: clear, ESE 6 mph	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	23°C	weather app	
WATER TEMPERATURE (°C)	14.52	YSI 556	
SAMPLE DEPTH (TWC)	not measured	—	
pH	9.61	YSI 556	
ORP	26.8	"	
CONDUCTIVITY	363	"	
TURBIDITY	1.42	Hach 2100P	
FERROUS IRON	—	—	
DISSOLVED OXYGEN	7.12	YSI 556	
OBSERVATIONS	clear, no odor		

ADDITIONAL COMMENTS/OBSERVATION

22B-U-MH5-100516 SAMPLE COLLECTION

SAMPLE NUMBER	22B-F-MH5-100516	QA/QC SAMPLE NO.		SAMPLE TIME:	1500
SAMPLE COMMENTS:	clear, no odor				
LABORATORY (1)		COC #			
LABORATORY (2)		COC #			
LABORATORY (3)		COC #			
LABORATORY (4)		COC #			

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C			Y	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C			Y	
Hexavalent Chromium EPA ~~7195 or EPA 7196~~A 218.6	1 250ml HDPE cool 4°C			Y	
Volatile Organic Compounds (VOCs) EPA 8260B 524.4 mod.	3 40 mL Glass Vials, HCL pH<2, cool 4°C			Y	
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C			Y	
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C			Y	
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C			Y	
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C			Y	
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C			Y	
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C			Y	

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED: Peristaltic Pump
QA/QC SAMPLE COLL/DESCRIBE: NA	SAMPLE TYPE (GRAB, SPLIT, ETC.): Grab
CHAIN OF CUSTODY COMPLETED? (YES)/NO:	INSTRUMENT CALIBRATION (DATE/TIME): 5/10/16 / 0700
WASTE DISPOSAL METHOD: site debris bin	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

Flow channel not measurable due to orientation of manhole structure
Flow rate through manhole appears consistent with MH-4

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: MH-6		DATE: 5-11-2016	START TIME: 10:30
PERSONNEL: R. Stringfellow / D. Bida		WEATHER: clear, ENE 3	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	20°C	Weather App	
WATER TEMPERATURE (°C)	14.11	YSI 556	
SAMPLE DEPTH (TWC)	≤3/4 inch		
pH	9.77	YSI 556	
ORP	-42.9	"	
CONDUCTIVITY	363	"	
TURBIDITY	1.24	Hach 2100P	
FERROUS IRON	—	—	
DISSOLVED OXYGEN	8.04	YSI 556	
OBSERVATIONS			

ADDITIONAL COMMENTS/OBSERVATION

22B-U-MH6-110516

SAMPLE COLLECTION

SAMPLE NUMBER	22B-F-MH6-110516	QA/QC SAMPLE NO.	NA	SAMPLE TIME:	10:30
SAMPLE COMMENTS:	clear, no odor				
LABORATORY (1)		COC #			
LABORATORY (2)		COC #			
LABORATORY (3)		COC #			
LABORATORY (4)		COC #			

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C			Y	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C			Y	
Hexavalent Chromium EPA 7195 or EPA 7196A	1 250ml HDPE cool 4°C			Y	
Volatile Organic Compounds (VOCs) EPA 8260C	3 40 mL Glass Vials, HCL pH<2, cool 4°C			Y	
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C			Y	
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C			Y	
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C			Y	
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C			Y	
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C			Y	
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C			Y	

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED: peristaltic Pump
QA/QC SAMPLE COLL/DESCRIBE: NA	SAMPLE TYPE (GRAB, SPLIT, ETC.): grab
CHAIN OF CUSTODY COMPLETED? YES/NO:	INSTRUMENT CALIBRATION (DATE/TIME): 5.11.16 / 07:00
WASTE DISPOSAL METHOD: site debris bin	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

Flow in channel: width: 17-inch depth: 3/4"
Flow through manhole appears consistent with MH-5

OUTFALL 22B PERFORMANCE MONITORING
SURFACE WATER AND OUTFALL SAMPLING WORKSHEET

SAMPLE LOCATION: MH-7		DATE: 5-11-16	START TIME: 13:30
PERSONNEL: R. Stringfellow / D. Bida		WEATHER: clear, W 7 mph	

MEASUREMENT TYPE	VALUE/UNITS	INSTRUMENT	COMMENTS
AIR TEMP (°C)	25°C	weather app	
WATER TEMPERATURE (°C)	14.86	YSI 556	
SAMPLE DEPTH (TWC)	≤ 1/2"		
pH	8.60	YSI 556	
ORP	77.8	"	
CONDUCTIVITY	378	"	
TURBIDITY	0.90	"	
FERROUS IRON	—	—	
DISSOLVED OXYGEN	9.69	YSI 556	
OBSERVATIONS			

ADDITIONAL COMMENTS/OBSERVATION

sample collected from small belly in channel near outlet

SAMPLE COLLECTION

SAMPLE NUMBER	22B-U-MH7-110516	QA/QC SAMPLE NO.	NA	SAMPLE TIME:	1330
SAMPLE COMMENTS:	clear, no odor				
LABORATORY (1)		COC #			
LABORATORY (2)		COC #			
LABORATORY (3)		COC #			
LABORATORY (4)		COC #			

PARAMETERS	PRESERVATION/SIZE	NUMBER/VOLUME	LABORATORY #	ICED (Y/N)	COMMENTS
Total/Dissolved Metals EPA 200.7 or EPA 200.8	1 500ml HDPE HNO3 pH<2, cool 4°C			Y	
Total/Dissolved Mercury EPA 1631E	1 250ml HDPE HNO3 pH<2, cool 4°C			Y	
Hexavalent Chromium EPA 7195 or EPA 7196A	1 250ml HDPE cool 4°C			Y	
Volatile Organic Compounds (VOCs) EPA 8260C	3 40 mL Glass Vials, HCL pH<2, cool 4°C			Y	
Semivolatile Organic Compounds (SVOCs) EPA 8270D	2 1L Amber Glass, cool 4°C			Y	
Polycyclic Aromatic Hydrocarbons (PAHs) EPA 8270 SIM	2 1L Amber Glass, cool 4°C			Y	
Organochlorine Pesticides EPA 1699	2 1L Amber Glass, cool 4°C			Y	
Chlorinated Herbicides EPA 8151A	2 1L Amber Glass, cool 4°C			Y	
PCDDs/PCDFs EPA 1613B	2 1L Amber Glass, cool 4°C			Y	
Petroleum Hydrocarbon Identification NWTPH-HCID	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Diesel Quantitation NWTPH-Dx	1 500ml Glass, HCL pH<2, cool 4°C			Y	
Gasoline Quantitation NWTPH-Gx	3 40ml Glass Vials, HCL pH<2, cool 4°C			Y	

SOP-3: DECONTAMINATION PROCEDURES FOLLOWED? YES/NO:	SAMPLE METHOD USED: p. pump
QA/QC SAMPLE COLL/DESCRIBE: NA	SAMPLE TYPE (GRAB, SPLIT, ETC.): grab
CHAIN OF CUSTODY COMPLETED? YES/NO:	INSTRUMENT CALIBRATION (DATE/TIME): 5-11-16 / 07:00
WASTE DISPOSAL METHOD: side debris bin	CALIBRATION STANDARD:

ADDITIONAL COMMENTS:

Flow in channel width = 7" depth = ≤ 1/2" (fastest moving portion & manhole channel)
slightly less flow in MH-7 than MH-6

APPENDIX D
LABORATORY DATA REPORTS

Apex Labs

AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, June 23, 2016

Ryan Stringfellow
Golder Associates Inc.
9 Monroe Parkway, Suite 270
Lake Oswego, OR 97035

RE: OF22B IRAM Performance Monitoring / OF22B Dry Weat

Enclosed are the results of analyses for work order A6E0284, which was received by the laboratory on 5/10/2016 at 4:45:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Labs

AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22B-U-S-100516	A6E0284-01	Water	05/10/16 08:45	05/10/16 16:45
22B-F-S-100516	A6E0284-02	Water	05/10/16 08:45	05/10/16 16:45
22B-U-D-100516	A6E0284-03	Water	05/10/16 10:00	05/10/16 16:45
22B-F-D-100516	A6E0284-04	Water	05/10/16 10:00	05/10/16 16:45
22B-U-MH3-100516	A6E0284-05	Water	05/10/16 13:00	05/10/16 16:45
22B-F-MH3-100516	A6E0284-06	Water	05/10/16 13:00	05/10/16 16:45
22B-U-MH5-100516	A6E0284-07	Water	05/10/16 15:00	05/10/16 16:45
22B-F-MH5-100516	A6E0284-08	Water	05/10/16 15:00	05/10/16 16:45
22B-U-TB-100516	A6E0284-09	Water	05/10/16 00:00	05/10/16 16:45

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL CASE NARRATIVE

Work Order: A6E0284

Amended Report Revision 1:

Additional Analysis-

This report supersedes all previous reports.

The final report has been amended to include lead (Pb).

Darwin Thomas
Business Development Director

6/22/2016

Amended Report Revision 2:

Additional Analysis-

This report supersedes all previous reports.

The final report has been amended to include additional metals.

Darwin Thomas
Business Development Director

6/23/2016

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0971	0.0971	mg/L	1	05/12/16 01:41	NWTPH-HCID	
Diesel Range Organics	ND	0.243	0.243	"	"	"	"	
Oil Range Organics	ND	0.243	0.243	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*52 %*	*Limits: 10-120 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/12/16 02:03	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*58 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/12/16 02:25	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*47 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/12/16 02:47	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*49 %*	*Limits: 10-120 %*	"	"	"	

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Darwin Thomas, Business Development Director

Apex Labs

AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.121	0.243	mg/L	1	05/13/16 22:33	NWTPH-Dx/SG	
Oil	ND	0.243	0.485	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 22:54	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 23:16	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 23:38	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	

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AMENDED REPORT

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Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/11/16 17:13	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*111 %*	*Limits: 50-150 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/11/16 18:18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*112 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/11/16 17:47	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*113 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	**0.0765**	0.0500	0.100	mg/L	1	05/11/16 18:58	NWTPH-Gx (MS)	J
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 108 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050305**			
Acrolein	ND	5.00	10.0	ug/L	1	05/11/16 17:13	EPA 8260B	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
22B-U-S-100516 (A6E0284-01RE2)			**Matrix: Water**		**Batch: 6050541**			**A-01**
Acetone	ND	10.0	20.0	ug/L	1	05/19/16 20:22	EPA 8260B	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.176**	0.100	0.200	"	"	"	"	J
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE2)			**Matrix: Water**		**Batch: 6050541**			**A-01**
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.399**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**1.25**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 105 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE2)			**Matrix: Water**		**Batch: 6050541**			**A-01**
Surrogate: Toluene-d8 (Surr)			*Recovery: 113 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
4-Bromofluorobenzene (Surr)			*110 %*	*Limits: 80-120 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 18:18	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.204**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
cis-1,2-Dichloroethene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.434**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
o-Xylene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 119 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*113 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 17:47	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.293**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
1,1-Dichloroethane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.677**	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**0.573**	0.500	1.00	"	"	"	"	J
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	

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12232 S.W. Garden Place
Tigard, OR 97223
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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*114 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 18:58	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.570**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.368**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**8.02**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	"	EPA 8260B	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
22B-U-TB-100516 (A6E0284-09)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 14:58	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-100516 (A6E0284-09)			**Matrix: Water**		**Batch: 6050305**			
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-100516 (A6E0284-09)			**Matrix: Water**		**Batch: 6050305**			
1,1,1-Trichloroethane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 11:15	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.617**	0.481	0.962	"	"	"	"	J
2,4-Dichlorophenol	**8.39**	0.481	0.962	"	"	"	"	
2,4-Dimethylphenol	**0.596**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**1.17**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**0.391**	0.240	0.481	"	"	"	"	J
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.01**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**1.94**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.00**	0.481	0.962	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	ug/L	10	"	EPA 8270D	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	ug/L	10	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 52 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*56 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*14 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*90 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*23 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*74 %*	*Limits: 43-140 %*	"	"	"	
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 14:26	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.618**	0.481	0.962	"	"	"	"	J

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**8.68**	0.481	0.962	ug/L	10	"	EPA 8270D	
2,4-Dimethylphenol	**0.657**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**1.08**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**0.350**	0.240	0.481	"	"	"	"	J
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.03**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**2.13**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.16**	0.481	0.962	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	"	"	"	"	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**		**Batch: 6050350**			
4-Chlorophenyl phenyl ether	ND	0.240	0.481	ug/L	10	"	EPA 8270D	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 51 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*57 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*15 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*92 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*23 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*87 %*	*Limits: 43-140 %*	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 15:04	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.568**	0.481	0.962	"	"	"	"	J
2,4-Dichlorophenol	**8.50**	0.481	0.962	"	"	"	"	
2,4-Dimethylphenol	**0.608**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**1.49**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**0.600**	0.240	0.481	"	"	"	"	
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.06**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**1.98**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.03**	0.481	0.962	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	ug/L	10	"	EPA 8270D	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	ug/L	10	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 42 %*	*Limits: 44-120 %*	"	"	"	*S-06*
2-Fluorobiphenyl (Surr)			*44 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*12 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*92 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*19 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*86 %*	*Limits: 43-140 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 15:43	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.717**	0.481	0.962	"	"	"	"	J

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**11.9**	0.481	0.962	ug/L	10	"	EPA 8270D	
2,4-Dimethylphenol	**0.845**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**2.96**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**1.37**	0.240	0.481	"	"	"	"	
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.03**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**2.37**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.15**	0.481	0.962	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	"	"	"	"	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**		**Batch: 6050350**			
4-Chlorophenyl phenyl ether	ND	0.240	0.481	ug/L	10	"	EPA 8270D	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 45 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*45 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*13 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*90 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*20 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*85 %*	*Limits: 43-140 %*	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**					
Batch: 6050481								
Arsenic	**4.16**	0.500	1.00	ug/L	1	05/20/16 12:18	EPA 200.8	
Barium	**23.0**	0.500	1.00	"	"	"	"	
Cadmium	**0.0444**	0.0400	0.200	"	"	"	"	J
Calcium	**33800**	100	200	"	"	"	"	
Chromium	**0.467**	0.400	1.00	"	"	"	"	J
Copper	**1.21**	0.500	1.00	"	"	"	"	
Iron	**596**	50.0	100	"	"	"	"	
Lead	**0.633**	0.100	0.200	"	"	"	"	
Magnesium	**8460**	25.0	50.0	"	"	"	"	
Manganese	**96.6**	0.500	1.00	"	"	"	"	
Nickel	**10.2**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**5.94**	2.00	4.00	"	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**					
Batch: 6050481								
Arsenic	**3.92**	0.500	1.00	ug/L	1	05/20/16 12:29	EPA 200.8	
Barium	**23.0**	0.500	1.00	"	"	"	"	
Cadmium	**0.0444**	0.0400	0.200	"	"	"	"	J
Calcium	**34000**	100	200	"	"	"	"	
Chromium	**0.489**	0.400	1.00	"	"	"	"	J
Iron	**599**	50.0	100	"	"	"	"	
Lead	**0.611**	0.100	0.200	"	"	"	"	
Magnesium	**8720**	25.0	50.0	"	"	"	"	
Manganese	**95.9**	0.500	1.00	"	"	"	"	
Nickel	**10.2**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**5.80**	2.00	4.00	"	"	"	"	
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**					
Batch: 6050481								
Copper	**1.17**	0.500	1.00	ug/L	1	05/23/16 12:02	EPA 200.8	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**					
Batch: 6050481								

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**					
Arsenic	**4.07**	0.500	1.00	ug/L	1	05/20/16 12:32	EPA 200.8	
Barium	**23.2**	0.500	1.00	"	"	"	"	
Cadmium	**0.0889**	0.0400	0.200	"	"	"	"	J
Calcium	**33500**	100	200	"	"	"	"	
Chromium	**0.556**	0.400	1.00	"	"	"	"	J
Iron	**593**	50.0	100	"	"	"	"	
Lead	**0.633**	0.100	0.200	"	"	"	"	
Magnesium	**8370**	25.0	50.0	"	"	"	"	
Manganese	**104**	0.500	1.00	"	"	"	"	
Nickel	**10.3**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**6.29**	2.00	4.00	"	"	"	"	
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**					
Batch: 6050481								
Copper	**1.16**	0.500	1.00	ug/L	1	05/23/16 12:05	EPA 200.8	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**					
Batch: 6050481								
Arsenic	**3.79**	0.500	1.00	ug/L	1	05/20/16 12:35	EPA 200.8	
Barium	**23.3**	0.500	1.00	"	"	"	"	
Cadmium	**0.0667**	0.0400	0.200	"	"	"	"	J
Calcium	**33300**	100	200	"	"	"	"	
Chromium	**0.444**	0.400	1.00	"	"	"	"	J
Iron	**478**	50.0	100	"	"	"	"	
Lead	**0.233**	0.100	0.200	"	"	"	"	
Magnesium	**8170**	25.0	50.0	"	"	"	"	
Manganese	**87.9**	0.500	1.00	"	"	"	"	
Nickel	**10.0**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**4.24**	2.00	4.00	"	"	"	"	
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**					
Batch: 6050481								
Copper	**0.933**	0.500	1.00	ug/L	1	05/23/16 12:08	EPA 200.8	J

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-S-100516 (A6E0284-02)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.32**	0.500	1.00	ug/L	1	05/20/16 15:27	EPA 200.8 (Diss)	
Barium	**20.7**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**33600**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**276**	50.0	100	"	"	"	"	
Lead	**0.156**	0.100	0.200	"	"	"	"	J
Magnesium	**8200**	25.0	50.0	"	"	"	"	
Manganese	**80.8**	0.500	1.00	"	"	"	"	
Nickel	**9.84**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-S-100516 (A6E0284-02RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	ND	0.500	1.00	ug/L	1	05/23/16 13:25	EPA 200.8 (Diss)	
22B-F-D-100516 (A6E0284-04)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.21**	0.500	1.00	ug/L	1	05/20/16 15:30	EPA 200.8 (Diss)	
Barium	**21.4**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**33600**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**273**	50.0	100	"	"	"	"	
Lead	**0.133**	0.100	0.200	"	"	"	"	J
Magnesium	**7920**	25.0	50.0	"	"	"	"	
Manganese	**80.9**	0.500	1.00	"	"	"	"	
Nickel	**9.81**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-D-100516 (A6E0284-04RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	**0.567**	0.500	1.00	ug/L	1	05/23/16 13:28	EPA 200.8 (Diss)	J

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-MH3-100516 (A6E0284-06)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.14**	0.500	1.00	ug/L	1	05/20/16 15:33	EPA 200.8 (Diss)	
Barium	**22.3**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**34700**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**293**	50.0	100	"	"	"	"	
Lead	**0.144**	0.100	0.200	"	"	"	"	J
Magnesium	**8170**	25.0	50.0	"	"	"	"	
Manganese	**97.8**	0.500	1.00	"	"	"	"	
Nickel	**9.89**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-MH3-100516 (A6E0284-06RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	ND	0.500	1.00	ug/L	1	05/23/16 13:31	EPA 200.8 (Diss)	
22B-F-MH5-100516 (A6E0284-08)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.01**	0.500	1.00	ug/L	1	05/20/16 15:39	EPA 200.8 (Diss)	
Barium	**23.5**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**34900**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**271**	50.0	100	"	"	"	"	
Lead	**0.122**	0.100	0.200	"	"	"	"	J
Magnesium	**8060**	25.0	50.0	"	"	"	"	
Manganese	**82.8**	0.500	1.00	"	"	"	"	
Nickel	**10.1**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-MH5-100516 (A6E0284-08RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	ND	0.500	1.00	ug/L	1	05/23/16 13:36	EPA 200.8 (Diss)	

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Hexavalent Chromium by IC

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.052**	0.0048	0.020	ug/l	1	05/17/16 14:59	EPA 218.6	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.078**	0.0048	0.020	ug/l	1	05/17/16 15:12	EPA 218.6	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.12**	0.0048	0.020	ug/l	1	05/17/16 15:24	EPA 218.6	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.13**	0.0048	0.020	ug/l	1	05/17/16 15:36	EPA 218.6	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Mercury - Low Level by CVAFS

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0012**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-S-100516 (A6E0284-02)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0030**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0030**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-D-100516 (A6E0284-04)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0035**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0033**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH3-100516 (A6E0284-06)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0061**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0047**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH5-100516 (A6E0284-08)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0021**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050322 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (6050322-BLK1)						Prepared: 05/11/16 14:06	Analyzed: 05/12/16 00:36					
NWTPH-HCID												
Gasoline Range Organics	ND	0.0909	0.0909	mg/L	1	---	---	---	---	---	---	
Diesel Range Organics	ND	0.227	0.227	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	0.227	0.227	"	"	---	---	---	---	---	---	

Surr: o-Terphenyl (Surr)	*Recovery: 91 %*	*Limits: 50-150 %*	*Dilution: 1x*
4-Bromofluorobenzene (Surr)	*68 %*	*10-120 %*	*"*

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050400 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid							**Water**					
Blank (6050400-BLK1)					Prepared: 05/11/16 14:06		Analyzed: 05/13/16 21:27					
NWTPH-Dx/SG												
Diesel	ND	0.114	0.227	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.227	0.455	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (6050400-BS1)					Prepared: 05/11/16 14:06		Analyzed: 05/13/16 21:49					
NWTPH-Dx/SG												
Diesel	1.03	0.125	0.250	mg/L	1	1.25	---	83	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 91 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (6050400-BSD1)					Prepared: 05/11/16 14:06		Analyzed: 05/13/16 22:11					**Q-19**
NWTPH-Dx/SG												
Diesel	1.13	0.125	0.250	mg/L	1	1.25	---	91	58-115%	9	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
Blank (6050305-BLK1)					Prepared: 05/11/16 10:19		Analyzed: 05/11/16 12:50					
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 103 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*109 %*	*50-150 %*			*"*					
LCS (6050305-BS2)					Prepared: 05/11/16 10:19		Analyzed: 05/11/16 12:18					
NWTPH-Gx (MS)												
Gasoline Range Organics	0.527	0.0500	0.100	mg/L	1	0.500	---	105	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
Blank (6050305-BLK1)						Prepared: 05/11/16 10:19	Analyzed: 05/11/16 12:50					
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrolein	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
Blank (6050305-BLK1)					Prepared: 05/11/16 10:19 Analyzed: 05/11/16 12:50							
1,1-Dichloroethane	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Iodomethane	ND	10.0	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
Blank (6050305-BLK1)					Prepared: 05/11/16 10:19 Analyzed: 05/11/16 12:50							
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 112 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*110 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*100 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*		*"*					
LCS (6050305-BS1)					Prepared: 05/11/16 10:19 Analyzed: 05/11/16 11:48							
EPA 8260B												
Acetone	43.8	10.0	20.0	ug/L	1	40.0	---	109	70-130%	---	---	
Acrolein	18.2	5.00	10.0	"	"	20.0	---	91	"	---	---	
Acrylonitrile	21.9	1.00	2.00	"	"	"	---	109	"	---	---	
Benzene	25.9	0.100	0.200	"	"	"	---	129	"	---	---	
Bromobenzene	21.9	0.250	0.500	"	"	"	---	109	"	---	---	
Bromochloromethane	25.9	0.500	1.00	"	"	"	---	130	"	---	---	
Bromodichloromethane	24.7	0.500	1.00	"	"	"	---	124	"	---	---	
Bromoform	18.0	0.500	1.00	"	"	"	---	90	"	---	---	
Bromomethane	31.4	5.00	5.00	"	"	"	---	157	"	---	---	Q-41
2-Butanone (MEK)	46.1	5.00	10.0	"	"	40.0	---	115	"	---	---	
n-Butylbenzene	22.0	0.500	1.00	"	"	20.0	---	110	"	---	---	
sec-Butylbenzene	22.6	0.500	1.00	"	"	"	---	113	"	---	---	
tert-Butylbenzene	21.1	0.500	1.00	"	"	"	---	106	"	---	---	
Carbon tetrachloride	24.7	0.500	1.00	"	"	"	---	124	"	---	---	
Chlorobenzene	23.0	0.250	0.500	"	"	"	---	115	"	---	---	
Chloroethane	29.7	5.00	5.00	"	"	"	---	148	"	---	---	Q-41

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
LCS (6050305-BS1)					Prepared: 05/11/16 10:19 Analyzed: 05/11/16 11:48							
2-Chloroethyl vinyl ether	17.3	5.00	10.0	ug/L	"	"	---	87	"	---	---	
Chloroform	25.9	0.500	1.00	"	"	"	---	130	"	---	---	
Chloromethane	25.6	2.50	5.00	"	"	"	---	128	"	---	---	
2-Chlorotoluene	22.1	0.500	1.00	"	"	"	---	111	"	---	---	
4-Chlorotoluene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,2-Dibromo-3-chloropropane	19.8	2.50	5.00	"	"	"	---	99	"	---	---	
Dibromochloromethane	21.5	0.500	1.00	"	"	"	---	107	"	---	---	
1,2-Dibromoethane (EDB)	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
Dibromomethane	24.5	0.500	1.00	"	"	"	---	123	"	---	---	
1,2-Dichlorobenzene	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
1,3-Dichlorobenzene	22.0	0.250	0.500	"	"	"	---	110	"	---	---	
1,4-Dichlorobenzene	22.1	0.250	0.500	"	"	"	---	111	"	---	---	
Dichlorodifluoromethane	25.2	0.500	1.00	"	"	"	---	126	"	---	---	
1,1-Dichloroethane	26.5	0.250	0.500	"	"	"	---	132	"	---	---	Q-29
1,2-Dichloroethane (EDC)	25.2	0.250	0.500	"	"	"	---	126	"	---	---	
1,1-Dichloroethene	28.2	0.250	0.500	"	"	"	---	141	"	---	---	Q-29
cis-1,2-Dichloroethene	25.4	0.250	0.500	"	"	"	---	127	"	---	---	
trans-1,2-Dichloroethene	25.7	0.250	0.500	"	"	"	---	129	"	---	---	
1,2-Dichloropropane	26.7	0.250	0.500	"	"	"	---	134	"	---	---	Q-29
1,3-Dichloropropane	22.6	0.500	1.00	"	"	"	---	113	"	---	---	
2,2-Dichloropropane	23.2	0.500	1.00	"	"	"	---	116	"	---	---	
1,1-Dichloropropene	26.1	0.500	1.00	"	"	"	---	130	"	---	---	
cis-1,3-Dichloropropene	21.5	0.500	1.00	"	"	"	---	107	"	---	---	
trans-1,3-Dichloropropene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
Ethylbenzene	23.2	0.250	0.500	"	"	"	---	116	"	---	---	
Hexachlorobutadiene	20.4	2.50	5.00	"	"	"	---	102	"	---	---	
2-Hexanone	40.0	5.00	10.0	"	"	40.0	---	100	"	---	---	
Iodomethane	38.3	10.0	10.0	"	"	"	---	96	"	---	---	
Isopropylbenzene	22.5	0.500	1.00	"	"	20.0	---	112	"	---	---	
4-Isopropyltoluene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
LCS (6050305-BS1)					Prepared: 05/11/16 10:19 Analyzed: 05/11/16 11:48							
4-Methyl-2-pentanone (MiBK)	41.1	5.00	10.0	ug/L	"	40.0	---	103	"	---	---	
Methyl tert-butyl ether (MTBE)	19.7	0.500	1.00	"	"	20.0	---	98	"	---	---	
Methylene chloride	26.0	1.50	3.00	"	"	"	---	130	"	---	---	
Naphthalene	20.5	1.00	2.00	"	"	"	---	103	"	---	---	
n-Propylbenzene	22.9	0.250	0.500	"	"	"	---	115	"	---	---	
Styrene	22.9	0.500	1.00	"	"	"	---	114	"	---	---	
1,1,1,2-Tetrachloroethane	23.0	0.250	0.500	"	"	"	---	115	"	---	---	
1,1,2,2-Tetrachloroethane	23.3	0.250	0.500	"	"	"	---	116	"	---	---	
Tetrachloroethene (PCE)	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Toluene	22.5	0.500	1.00	"	"	"	---	113	"	---	---	
1,2,3-Trichlorobenzene	20.9	1.00	2.00	"	"	"	---	105	"	---	---	
1,2,4-Trichlorobenzene	19.9	1.00	2.00	"	"	"	---	100	"	---	---	
1,1,1-Trichloroethane	24.7	0.250	0.500	"	"	"	---	123	"	---	---	
1,1,2-Trichloroethane	23.2	0.250	0.500	"	"	"	---	116	"	---	---	
Trichloroethene (TCE)	24.2	0.250	0.500	"	"	"	---	121	"	---	---	
Trichlorofluoromethane	32.5	1.00	2.00	"	"	"	---	163	"	---	---	Q-41
1,2,3-Trichloropropane	21.9	0.500	1.00	"	"	"	---	109	"	---	---	
1,2,4-Trimethylbenzene	22.5	0.500	1.00	"	"	"	---	113	"	---	---	
1,3,5-Trimethylbenzene	22.2	0.500	1.00	"	"	"	---	111	"	---	---	
Vinyl acetate	18.3	5.00	10.0	"	"	"	---	91	"	---	---	
Vinyl chloride	31.1	0.250	0.500	"	"	"	---	155	"	---	---	Q-29
m,p-Xylene	46.5	0.500	1.00	"	"	40.0	---	116	"	---	---	
o-Xylene	22.2	0.250	0.500	"	"	20.0	---	111	"	---	---	
Isobutyl alcohol	545	250	250	"	"	500	---	109	"	---	---	
trans-1,4-Dichloro-2-buten e	23.1	5.00	10.0	"	"	20.0	---	116	"	---	---	
n-Hexane	22.3	5.00	10.0	"	"	"	---	112	"	---	---	
1,1,2-Trichloro-1,2,2-triflu oroethane (Freon-113)	25.3	2.00	2.00	"	"	"	---	127	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 115 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*109 %*	*80-120 %*	*"*

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
LCS (6050305-BS1)					Prepared: 05/11/16 10:19		Analyzed: 05/11/16 11:48					
Surr: Toluene-d8 (Surr)			*Recovery: 98 %*		*Limits: 80-120 %*		*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*93 %*		*80-120 %*		*"*					
LCS (6050305-BS3)					Prepared: 05/11/16 13:52		Analyzed: 05/11/16 13:52					
EPA 8260B												
Acetone	42.4	10.0	20.0	ug/L	1	40.0	---	106	70-130%	---	---	
Acrolein	15.6	5.00	10.0	"	"	20.0	---	78	"	---	---	
Acrylonitrile	20.6	1.00	2.00	"	"	"	---	103	"	---	---	
Benzene	24.0	0.100	0.200	"	"	"	---	120	"	---	---	
Bromobenzene	20.9	0.250	0.500	"	"	"	---	105	"	---	---	
Bromochloromethane	24.6	0.500	1.00	"	"	"	---	123	"	---	---	
Bromodichloromethane	23.5	0.500	1.00	"	"	"	---	118	"	---	---	
Bromoform	17.3	0.500	1.00	"	"	"	---	87	"	---	---	
Bromomethane	29.8	5.00	5.00	"	"	"	---	149	"	---	---	Q-41
2-Butanone (MEK)	43.3	5.00	10.0	"	"	40.0	---	108	"	---	---	
n-Butylbenzene	20.6	0.500	1.00	"	"	20.0	---	103	"	---	---	
sec-Butylbenzene	21.1	0.500	1.00	"	"	"	---	106	"	---	---	
tert-Butylbenzene	19.6	0.500	1.00	"	"	"	---	98	"	---	---	
Carbon tetrachloride	22.9	0.500	1.00	"	"	"	---	114	"	---	---	
Chlorobenzene	21.9	0.250	0.500	"	"	"	---	109	"	---	---	
Chloroethane	29.8	5.00	5.00	"	"	"	---	149	"	---	---	Q-41
2-Chloroethyl vinyl ether	14.5	5.00	10.0	"	"	"	---	72	"	---	---	
Chloroform	24.4	0.500	1.00	"	"	"	---	122	"	---	---	
Chloromethane	22.8	2.50	5.00	"	"	"	---	114	"	---	---	
2-Chlorotoluene	20.9	0.500	1.00	"	"	"	---	104	"	---	---	
4-Chlorotoluene	20.5	0.500	1.00	"	"	"	---	103	"	---	---	
1,2-Dibromo-3-chloroprop ane	19.2	2.50	5.00	"	"	"	---	96	"	---	---	
Dibromochloromethane	20.6	0.500	1.00	"	"	"	---	103	"	---	---	
1,2-Dibromoethane (EDB)	21.1	0.250	0.500	"	"	"	---	106	"	---	---	
Dibromomethane	23.3	0.500	1.00	"	"	"	---	117	"	---	---	
1,2-Dichlorobenzene	21.2	0.250	0.500	"	"	"	---	106	"	---	---	

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AMENDED REPORT

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503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
LCS (6050305-BS3)					Prepared: 05/11/16 13:52 Analyzed: 05/11/16 13:52							
1,3-Dichlorobenzene	20.9	0.250	0.500	ug/L	"	"	---	104	"	---	---	
1,4-Dichlorobenzene	21.1	0.250	0.500	"	"	"	---	106	"	---	---	
Dichlorodifluoromethane	22.5	0.500	1.00	"	"	"	---	112	"	---	---	
1,1-Dichloroethane	24.2	0.250	0.500	"	"	"	---	121	"	---	---	Q-29
1,2-Dichloroethane (EDC)	23.8	0.250	0.500	"	"	"	---	119	"	---	---	
1,1-Dichloroethene	25.5	0.250	0.500	"	"	"	---	127	"	---	---	Q-29
cis-1,2-Dichloroethene	23.2	0.250	0.500	"	"	"	---	116	"	---	---	
trans-1,2-Dichloroethene	23.4	0.250	0.500	"	"	"	---	117	"	---	---	
1,2-Dichloropropane	24.8	0.250	0.500	"	"	"	---	124	"	---	---	Q-29
1,3-Dichloropropane	21.4	0.500	1.00	"	"	"	---	107	"	---	---	
2,2-Dichloropropane	22.3	0.500	1.00	"	"	"	---	112	"	---	---	
1,1-Dichloropropene	23.9	0.500	1.00	"	"	"	---	120	"	---	---	
cis-1,3-Dichloropropene	20.2	0.500	1.00	"	"	"	---	101	"	---	---	
trans-1,3-Dichloropropene	20.9	0.500	1.00	"	"	"	---	105	"	---	---	
Ethylbenzene	21.7	0.250	0.500	"	"	"	---	108	"	---	---	
Hexachlorobutadiene	19.0	2.50	5.00	"	"	"	---	95	"	---	---	
2-Hexanone	37.5	5.00	10.0	"	"	40.0	---	94	"	---	---	
Iodomethane	34.3	10.0	10.0	"	"	"	---	86	"	---	---	
Isopropylbenzene	20.8	0.500	1.00	"	"	20.0	---	104	"	---	---	
4-Isopropyltoluene	20.3	0.500	1.00	"	"	"	---	102	"	---	---	
4-Methyl-2-pentanone (MiBK)	38.5	5.00	10.0	"	"	40.0	---	96	"	---	---	
Methyl tert-butyl ether (MTBE)	18.4	0.500	1.00	"	"	20.0	---	92	"	---	---	
Methylene chloride	24.4	1.50	3.00	"	"	"	---	122	"	---	---	
Naphthalene	19.7	1.00	2.00	"	"	"	---	99	"	---	---	
n-Propylbenzene	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
Styrene	21.6	0.500	1.00	"	"	"	---	108	"	---	---	
1,1,1,2-Tetrachloroethane	22.0	0.250	0.500	"	"	"	---	110	"	---	---	
1,1,2,2-Tetrachloroethane	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Tetrachloroethene (PCE)	21.2	0.250	0.500	"	"	"	---	106	"	---	---	
Toluene	20.8	0.500	1.00	"	"	"	---	104	"	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050305 - EPA 5030B							**Water**					
LCS (6050305-BS3)					Prepared: 05/11/16 13:52		Analyzed: 05/11/16 13:52					
1,2,3-Trichlorobenzene	20.3	1.00	2.00	"	"	"	---	101	"	---	---	
1,2,4-Trichlorobenzene	18.8	1.00	2.00	"	"	"	---	94	"	---	---	
1,1,1-Trichloroethane	22.8	0.250	0.500	"	"	"	---	114	"	---	---	
1,1,2-Trichloroethane	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
Trichloroethene (TCE)	23.0	0.250	0.500	"	"	"	---	115	"	---	---	
Trichlorofluoromethane	30.1	1.00	2.00	"	"	"	---	151	"	---	---	Q-41
1,2,3-Trichloropropane	20.9	0.500	1.00	"	"	"	---	104	"	---	---	
1,2,4-Trimethylbenzene	21.0	0.500	1.00	"	"	"	---	105	"	---	---	
1,3,5-Trimethylbenzene	20.8	0.500	1.00	"	"	"	---	104	"	---	---	
Vinyl chloride	28.6	0.250	0.500	"	"	"	---	143	"	---	---	Q-29
m,p-Xylene	43.5	0.500	1.00	"	"	40.0	---	109	"	---	---	
o-Xylene	20.8	0.250	0.500	"	"	20.0	---	104	"	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*113 %*	*Limits:*	*80-120 %*	*Dilution:* *1x*
	1,4-Difluorobenzene (Surr)		*108 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*98 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*94 %*		*80-120 %*	*"*

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)						Prepared: 05/13/16 15:13	Analyzed: 05/13/16 23:25					
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrolein	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

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Tigard, OR 97223
503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 23:25							
1,1-Dichloroethane	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	Q-31
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Iodomethane	ND	10.0	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	Q-31
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 23:25							
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*100 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*110 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*105 %*		*80-120 %*		*"*					
LCS (6050381-BS1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 22:26							
EPA 8260B												
Acetone	48.4	10.0	20.0	ug/L	1	40.0	---	121	70-130%	---	---	
Acrolein	16.7	5.00	10.0	"	"	20.0	---	83	"	---	---	
Acrylonitrile	23.5	1.00	2.00	"	"	"	---	118	"	---	---	
Benzene	21.7	0.100	0.200	"	"	"	---	109	"	---	---	
Bromobenzene	21.3	0.250	0.500	"	"	"	---	107	"	---	---	
Bromochloromethane	20.3	0.500	1.00	"	"	"	---	101	"	---	---	
Bromodichloromethane	21.2	0.500	1.00	"	"	"	---	106	"	---	---	
Bromoform	18.0	0.500	1.00	"	"	"	---	90	"	---	---	
Bromomethane	18.2	5.00	5.00	"	"	"	---	91	"	---	---	
2-Butanone (MEK)	49.4	5.00	10.0	"	"	40.0	---	124	"	---	---	
n-Butylbenzene	21.6	0.500	1.00	"	"	20.0	---	108	"	---	---	
sec-Butylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
tert-Butylbenzene	21.9	0.500	1.00	"	"	"	---	109	"	---	---	
Carbon tetrachloride	19.7	0.500	1.00	"	"	"	---	98	"	---	---	
Chlorobenzene	21.0	0.250	0.500	"	"	"	---	105	"	---	---	
Chloroethane	22.1	5.00	5.00	"	"	"	---	110	"	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
LCS (6050381-BS1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 22:26							
2-Chloroethyl vinyl ether	18.5	5.00	10.0	ug/L	"	"	---	92	"	---	---	
Chloroform	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
Chloromethane	22.4	2.50	5.00	"	"	"	---	112	"	---	---	
2-Chlorotoluene	21.2	0.500	1.00	"	"	"	---	106	"	---	---	
4-Chlorotoluene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
1,2-Dibromo-3-chloropropane	23.0	2.50	5.00	"	"	"	---	115	"	---	---	
Dibromochloromethane	20.7	0.500	1.00	"	"	"	---	104	"	---	---	
1,2-Dibromoethane (EDB)	21.7	0.250	0.500	"	"	"	---	109	"	---	---	
Dibromomethane	21.1	0.500	1.00	"	"	"	---	106	"	---	---	
1,2-Dichlorobenzene	21.6	0.250	0.500	"	"	"	---	108	"	---	---	
1,3-Dichlorobenzene	21.1	0.250	0.500	"	"	"	---	106	"	---	---	
1,4-Dichlorobenzene	21.0	0.250	0.500	"	"	"	---	105	"	---	---	
Dichlorodifluoromethane	19.8	0.500	1.00	"	"	"	---	99	"	---	---	
1,1-Dichloroethane	22.7	0.250	0.500	"	"	"	---	114	"	---	---	
1,2-Dichloroethane (EDC)	22.8	0.250	0.500	"	"	"	---	114	"	---	---	
1,1-Dichloroethene	14.9	0.250	0.500	"	"	"	---	74	"	---	---	Q-31
cis-1,2-Dichloroethene	22.5	0.250	0.500	"	"	"	---	113	"	---	---	
trans-1,2-Dichloroethene	22.2	0.250	0.500	"	"	"	---	111	"	---	---	
1,2-Dichloropropane	23.4	0.250	0.500	"	"	"	---	117	"	---	---	
1,3-Dichloropropane	22.8	0.500	1.00	"	"	"	---	114	"	---	---	
2,2-Dichloropropane	14.6	0.500	1.00	"	"	"	---	73	"	---	---	
1,1-Dichloropropene	22.1	0.500	1.00	"	"	"	---	110	"	---	---	
cis-1,3-Dichloropropene	20.0	0.500	1.00	"	"	"	---	100	"	---	---	
trans-1,3-Dichloropropene	20.8	0.500	1.00	"	"	"	---	104	"	---	---	
Ethylbenzene	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
Hexachlorobutadiene	22.7	2.50	5.00	"	"	"	---	113	"	---	---	
2-Hexanone	48.7	5.00	10.0	"	"	40.0	---	122	"	---	---	
Iodomethane	32.5	10.0	10.0	"	"	"	---	81	"	---	---	
Isopropylbenzene	21.3	0.500	1.00	"	"	20.0	---	107	"	---	---	
4-Isopropyltoluene	21.6	0.500	1.00	"	"	"	---	108	"	---	---	

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AMENDED REPORT

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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
LCS (6050381-BS1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 22:26							
4-Methyl-2-pentanone (MiBK)	49.4	5.00	10.0	ug/L	"	40.0	---	123	"	---	---	
Methyl tert-butyl ether (MTBE)	17.6	0.500	1.00	"	"	20.0	---	88	"	---	---	Q-31
Methylene chloride	21.6	1.50	3.00	"	"	"	---	108	"	---	---	
Naphthalene	22.2	1.00	2.00	"	"	"	---	111	"	---	---	
n-Propylbenzene	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Styrene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,1,1,2-Tetrachloroethane	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
1,1,2,2-Tetrachloroethane	23.9	0.250	0.500	"	"	"	---	119	"	---	---	
Tetrachloroethene (PCE)	20.7	0.250	0.500	"	"	"	---	104	"	---	---	
Toluene	21.3	0.500	1.00	"	"	"	---	106	"	---	---	
1,2,3-Trichlorobenzene	21.7	1.00	2.00	"	"	"	---	108	"	---	---	
1,2,4-Trichlorobenzene	20.1	1.00	2.00	"	"	"	---	101	"	---	---	
1,1,1-Trichloroethane	20.2	0.250	0.500	"	"	"	---	101	"	---	---	
1,1,2-Trichloroethane	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Trichloroethene (TCE)	19.8	0.250	0.500	"	"	"	---	99	"	---	---	
Trichlorofluoromethane	18.5	1.00	2.00	"	"	"	---	93	"	---	---	
1,2,3-Trichloropropane	23.5	0.500	1.00	"	"	"	---	118	"	---	---	
1,2,4-Trimethylbenzene	22.3	0.500	1.00	"	"	"	---	112	"	---	---	
1,3,5-Trimethylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
Vinyl chloride	23.4	0.250	0.500	"	"	"	---	117	"	---	---	
m,p-Xylene	44.8	0.500	1.00	"	"	40.0	---	112	"	---	---	
o-Xylene	21.8	0.250	0.500	"	"	20.0	---	109	"	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*105 %*	*Limits:* *80-120 %*	*Dilution:* *1x*
	1,4-Difluorobenzene (Surr)		*99 %*	*80-120 %*	*"*
	Toluene-d8 (Surr)		*108 %*	*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*103 %*	*80-120 %*	*"*

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050541 - EPA 5030B							**Water**					
Blank (6050541-BLK1)						Prepared: 05/19/16 09:49	Analyzed: 05/19/16 12:04					
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050541 - EPA 5030B							**Water**					
Blank (6050541-BLK1)					Prepared: 05/19/16 09:49 Analyzed: 05/19/16 12:04							
1,1-Dichloroethene	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050541 - EPA 5030B							**Water**					
Blank (6050541-BLK1)					Prepared: 05/19/16 09:49		Analyzed: 05/19/16 12:04					
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 99 %*		*Limits: 80-120 %*			*Dilution: 1x*				
1,4-Difluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
Toluene-d8 (Surr)			*113 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*112 %*		*80-120 %*			*"*				
LCS (6050541-BS1)					Prepared: 05/19/16 09:49		Analyzed: 05/19/16 11:10					
EPA 8260B												
Acetone	41.2	10.0	20.0	ug/L	1	40.0	---	103	70-130%	---	---	
Acrylonitrile	21.8	1.00	2.00	"	"	20.0	---	109	"	---	---	
Benzene	21.5	0.100	0.200	"	"	"	---	108	"	---	---	
Bromobenzene	23.3	0.250	0.500	"	"	"	---	117	"	---	---	
Bromochloromethane	21.0	0.500	1.00	"	"	"	---	105	"	---	---	
Bromodichloromethane	20.5	0.500	1.00	"	"	"	---	102	"	---	---	
Bromoform	20.0	0.500	1.00	"	"	"	---	100	"	---	---	
Bromomethane	15.2	5.00	5.00	"	"	"	---	76	"	---	---	
2-Butanone (MEK)	44.1	5.00	10.0	"	"	40.0	---	110	"	---	---	
n-Butylbenzene	22.9	0.500	1.00	"	"	20.0	---	114	"	---	---	
sec-Butylbenzene	23.9	0.500	1.00	"	"	"	---	119	"	---	---	
tert-Butylbenzene	22.9	0.500	1.00	"	"	"	---	114	"	---	---	
Carbon tetrachloride	19.8	0.500	1.00	"	"	"	---	99	"	---	---	
Chlorobenzene	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Chloroethane	19.1	5.00	5.00	"	"	"	---	95	"	---	---	
Chloroform	21.7	0.500	1.00	"	"	"	---	108	"	---	---	
Chloromethane	20.8	2.50	5.00	"	"	"	---	104	"	---	---	
2-Chlorotoluene	23.3	0.500	1.00	"	"	"	---	117	"	---	---	
4-Chlorotoluene	22.9	0.500	1.00	"	"	"	---	114	"	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050541 - EPA 5030B							**Water**					
LCS (6050541-BS1)					Prepared: 05/19/16 09:49 Analyzed: 05/19/16 11:10							
1,2-Dibromo-3-chloropropane	24.0	2.50	5.00	ug/L	"	"	---	120	"	---	---	
Dibromochloromethane	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,2-Dibromoethane (EDB)	22.7	0.250	0.500	"	"	"	---	113	"	---	---	
Dibromomethane	20.6	0.500	1.00	"	"	"	---	103	"	---	---	
1,2-Dichlorobenzene	23.1	0.250	0.500	"	"	"	---	115	"	---	---	
1,3-Dichlorobenzene	22.9	0.250	0.500	"	"	"	---	114	"	---	---	
1,4-Dichlorobenzene	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Dichlorodifluoromethane	19.1	0.500	1.00	"	"	"	---	95	"	---	---	
1,1-Dichloroethane	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
1,2-Dichloroethane (EDC)	21.3	0.250	0.500	"	"	"	---	107	"	---	---	
1,1-Dichloroethene	21.9	0.250	0.500	"	"	"	---	109	"	---	---	
cis-1,2-Dichloroethene	21.8	0.250	0.500	"	"	"	---	109	"	---	---	
trans-1,2-Dichloroethene	22.0	0.250	0.500	"	"	"	---	110	"	---	---	
1,2-Dichloropropane	22.2	0.250	0.500	"	"	"	---	111	"	---	---	
1,3-Dichloropropane	23.3	0.500	1.00	"	"	"	---	117	"	---	---	
2,2-Dichloropropane	19.7	0.500	1.00	"	"	"	---	98	"	---	---	
1,1-Dichloropropene	22.3	0.500	1.00	"	"	"	---	111	"	---	---	
cis-1,3-Dichloropropene	20.8	0.500	1.00	"	"	"	---	104	"	---	---	
trans-1,3-Dichloropropene	22.4	0.500	1.00	"	"	"	---	112	"	---	---	
Ethylbenzene	23.0	0.250	0.500	"	"	"	---	115	"	---	---	
Hexachlorobutadiene	26.5	2.50	5.00	"	"	"	---	132	"	---	---	Q-29
2-Hexanone	46.4	5.00	10.0	"	"	40.0	---	116	"	---	---	
Isopropylbenzene	22.9	0.500	1.00	"	"	20.0	---	115	"	---	---	
4-Isopropyltoluene	23.5	0.500	1.00	"	"	"	---	117	"	---	---	
4-Methyl-2-pentanone (MiBK)	46.6	5.00	10.0	"	"	40.0	---	117	"	---	---	
Methyl tert-butyl ether (MTBE)	17.7	0.500	1.00	"	"	20.0	---	88	"	---	---	
Methylene chloride	21.4	1.50	3.00	"	"	"	---	107	"	---	---	
Naphthalene	23.1	1.00	2.00	"	"	"	---	116	"	---	---	
n-Propylbenzene	23.6	0.250	0.500	"	"	"	---	118	"	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050541 - EPA 5030B							**Water**					
LCS (6050541-BS1)					Prepared: 05/19/16 09:49		Analyzed: 05/19/16 11:10					
Styrene	22.6	0.500	1.00	ug/L	"	"	---	113	"	---	---	
1,1,1,2-Tetrachloroethane	23.5	0.250	0.500	"	"	"	---	118	"	---	---	
1,1,2,2-Tetrachloroethane	24.1	0.250	0.500	"	"	"	---	121	"	---	---	
Tetrachloroethene (PCE)	23.6	0.250	0.500	"	"	"	---	118	"	---	---	
Toluene	22.4	0.500	1.00	"	"	"	---	112	"	---	---	
1,2,3-Trichlorobenzene	23.7	1.00	2.00	"	"	"	---	118	"	---	---	
1,2,4-Trichlorobenzene	22.6	1.00	2.00	"	"	"	---	113	"	---	---	
1,1,1-Trichloroethane	20.9	0.250	0.500	"	"	"	---	104	"	---	---	
1,1,2-Trichloroethane	23.5	0.250	0.500	"	"	"	---	118	"	---	---	
Trichloroethene (TCE)	20.8	0.250	0.500	"	"	"	---	104	"	---	---	
Trichlorofluoromethane	14.9	1.00	2.00	"	"	"	---	75	"	---	---	
1,2,3-Trichloropropane	23.9	0.500	1.00	"	"	"	---	120	"	---	---	
1,2,4-Trimethylbenzene	24.0	0.500	1.00	"	"	"	---	120	"	---	---	
1,3,5-Trimethylbenzene	23.6	0.500	1.00	"	"	"	---	118	"	---	---	
Vinyl chloride	20.6	0.250	0.500	"	"	"	---	103	"	---	---	
m,p-Xylene	46.6	0.500	1.00	"	"	40.0	---	117	"	---	---	
o-Xylene	23.2	0.250	0.500	"	"	20.0	---	116	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 98 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*93 %*	*80-120 %*	*"*
Toluene-d8 (Surr)	*111 %*	*80-120 %*	*"*
4-Bromofluorobenzene (Surr)	*110 %*	*80-120 %*	*"*

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
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503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (6050350-BLK1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 17:46							
EPA 8270D												
Acenaphthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Anthracene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Chrysene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Fluoranthene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Fluorene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	**0.0193**	0.0182	0.0364	"	"	---	---	---	---	---	---	B-02, J
Naphthalene	**0.0267**	0.0182	0.0364	"	"	---	---	---	---	---	---	B-02, J
Phenanthrene	**0.0138**	0.00909	0.0182	"	"	---	---	---	---	---	---	B-02, J
Pyrene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Carbazole	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
2-Chlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	0.227	0.455	"	"	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	0.227	0.455	"	"	---	---	---	---	---	---	
2-Methylphenol	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
2-Nitrophenol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
4-Nitrophenol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (6050350-BLK1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 17:46							
Pentachlorophenol (PCP)	ND	0.0909	0.182	ug/L	"	---	---	---	---	---	---	
Phenol	ND	0.182	0.364	"	"	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,3,5,6-Tetrachlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Diethylphthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Dimethylphthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Di-n-butylphthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Chloroisopropyl) ether	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
Hexachloroethane	**0.0242**	0.0227	0.0455	"	"	---	---	---	---	---	---	B-02, J
2-Chloronaphthalene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (6050350-BLK1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 17:46							
4-Chlorophenyl phenyl ether	ND	0.0227	0.0455	ug/L	"	---	---	---	---	---	---	
Aniline	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
4-Chloroaniline	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
2-Nitroaniline	ND	0.182	0.364	"	"	---	---	---	---	---	---	
3-Nitroaniline	ND	0.182	0.364	"	"	---	---	---	---	---	---	
4-Nitroaniline	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Nitrobenzene	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
Benzoic acid	ND	1.14	2.27	"	"	---	---	---	---	---	---	
Benzyl alcohol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
Isophorone	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	0.227	0.455	"	"	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	0.227	0.455	"	"	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	0.227	0.455	"	"	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	0.227	0.455	"	"	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	0.227	0.455	"	"	---	---	---	---	---	---	
Pyridine	ND	0.0909	0.182	"	"	---	---	---	---	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 87 %*	*Limits: 44-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*85 %*	*44-120 %*	*"*
Phenol-d6 (Surr)	*29 %*	*10-120 %*	*"*
p-Terphenyl-d14 (Surr)	*106 %*	*50-133 %*	*"*
2-Fluorophenol (Surr)	*44 %*	*19-120 %*	*"*
2,4,6-Tribromophenol (Surr)	*83 %*	*43-140 %*	*"*

LCS (6050350-BS1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 18:24						
EPA 8270D											
Acenaphthene	3.43	0.0100	0.0200	ug/L	1	4.00	---	86	47-122%	---	---
Acenaphthylene	3.61	0.0100	0.0200	"	"	"	---	90	41-130%	---	---
Anthracene	4.09	0.0100	0.0200	"	"	"	---	102	57-123%	---	---
Benz(a)anthracene	4.37	0.0100	0.0200	"	"	"	---	109	58-125%	---	---

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (6050350-BS1)					Prepared: 05/12/16 11:28	Analyzed: 05/12/16 18:24						
Benzo(a)pyrene	4.32	0.0150	0.0300	ug/L	"	"	---	108	54-128%	---	---	
Benzo(b)fluoranthene	4.25	0.0150	0.0300	"	"	"	---	106	53-131%	---	---	
Benzo(k)fluoranthene	4.38	0.0150	0.0300	"	"	"	---	109	57-129%	---	---	
Benzo(g,h,i)perylene	4.53	0.0100	0.0200	"	"	"	---	113	50-134%	---	---	
Chrysene	4.26	0.0100	0.0200	"	"	"	---	107	59-123%	---	---	
Dibenz(a,h)anthracene	4.50	0.0100	0.0200	"	"	"	---	112	51-134%	---	---	
Fluoranthene	4.34	0.0100	0.0200	"	"	"	---	109	57-128%	---	---	
Fluorene	3.81	0.0100	0.0200	"	"	"	---	95	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	4.22	0.0100	0.0200	"	"	"	---	105	52-133%	---	---	
1-Methylnaphthalene	3.28	0.0200	0.0400	"	"	"	---	82	41-120%	---	---	
2-Methylnaphthalene	3.27	0.0200	0.0400	"	"	"	---	82	40-121%	---	---	B-02
Naphthalene	3.05	0.0200	0.0400	"	"	"	---	76	"	---	---	B-02
Phenanthrene	3.88	0.0100	0.0200	"	"	"	---	97	59-120%	---	---	B-02
Pyrene	4.31	0.0100	0.0200	"	"	"	---	108	57-126%	---	---	
Carbazole	4.27	0.0150	0.0300	"	"	"	---	107	60-122%	---	---	
Dibenzofuran	3.71	0.0100	0.0200	"	"	"	---	93	53-120%	---	---	
4-Chloro-3-methylphenol	3.87	0.100	0.200	"	"	"	---	97	52-120%	---	---	
2-Chlorophenol	3.39	0.0500	0.100	"	"	"	---	85	38-120%	---	---	
2,4-Dichlorophenol	3.60	0.0500	0.100	"	"	"	---	90	47-121%	---	---	
2,4-Dimethylphenol	3.11	0.0500	0.100	"	"	"	---	78	31-124%	---	---	
2,4-Dinitrophenol	4.05	0.250	0.500	"	"	"	---	101	23-143%	---	---	
4,6-Dinitro-2-methylphenol	4.15	0.250	0.500	"	"	"	---	104	44-137%	---	---	
2-Methylphenol	3.29	0.0250	0.0500	"	"	"	---	82	30-120%	---	---	
3+4-Methylphenol(s)	3.05	0.0250	0.0500	"	"	"	---	76	29-120%	---	---	
2-Nitrophenol	3.49	0.100	0.200	"	"	"	---	87	47-123%	---	---	
4-Nitrophenol	1.77	0.100	0.200	"	"	"	---	44	5-120%	---	---	
Pentachlorophenol (PCP)	4.14	0.100	0.200	"	"	"	---	104	35-138%	---	---	
Phenol	1.46	0.200	0.400	"	"	"	---	37	5-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.94	0.0500	0.100	"	"	"	---	99	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	3.86	0.0500	0.100	"	"	"	---	97	50-121%	---	---	
2,4,5-Trichlorophenol	3.78	0.0500	0.100	"	"	"	---	95	53-123%	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (6050350-BS1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 18:24							
2,4,6-Trichlorophenol	3.67	0.0500	0.100	ug/L	"	"	---	92	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	4.69	0.200	0.400	"	"	"	---	117	55-135%	---	---	
Butyl benzyl phthalate	4.54	0.200	0.400	"	"	"	---	113	53-134%	---	---	
Diethylphthalate	4.25	0.200	0.400	"	"	"	---	106	55-125%	---	---	
Dimethylphthalate	4.07	0.200	0.400	"	"	"	---	102	45-127%	---	---	
Di-n-butylphthalate	4.73	0.200	0.400	"	"	"	---	118	59-127%	---	---	
Di-n-octyl phthalate	4.49	0.200	0.400	"	"	"	---	112	51-140%	---	---	
N-Nitrosodimethylamine	2.02	0.0250	0.0500	"	"	"	---	51	6-120%	---	---	
N-Nitroso-di-n-propylamine	3.83	0.0250	0.0500	"	"	"	---	96	49-120%	---	---	
N-Nitrosodiphenylamine	4.23	0.0250	0.0500	"	"	"	---	106	51-123%	---	---	
Bis(2-Chloroethoxy) methane	3.49	0.0250	0.0500	"	"	"	---	87	48-120%	---	---	
Bis(2-Chloroethyl) ether	3.24	0.0250	0.0500	"	"	"	---	81	43-120%	---	---	
Bis(2-Chloroisopropyl) ether	3.22	0.0250	0.0500	"	"	"	---	80	37-130%	---	---	
Hexachlorobenzene	3.82	0.0100	0.0200	"	"	"	---	95	52-125%	---	---	
Hexachlorobutadiene	2.65	0.0250	0.0500	"	"	"	---	66	22-124%	---	---	
Hexachlorocyclopentadiene	3.05	0.0500	0.100	"	"	"	---	76	5-127%	---	---	
Hexachloroethane	2.68	0.0250	0.0500	"	"	"	---	67	21-120%	---	---	B-02
2-Chloronaphthalene	3.40	0.0100	0.0200	"	"	"	---	85	40-120%	---	---	
1,2-Dichlorobenzene	2.74	0.0250	0.0500	"	"	"	---	68	32-120%	---	---	
1,3-Dichlorobenzene	2.63	0.0250	0.0500	"	"	"	---	66	28-120%	---	---	
1,4-Dichlorobenzene	2.65	0.0250	0.0500	"	"	"	---	66	29-120%	---	---	
1,2,4-Trichlorobenzene	2.82	0.0250	0.0500	"	"	"	---	71	"	---	---	
4-Bromophenyl phenyl ether	4.02	0.0250	0.0500	"	"	"	---	101	54-124%	---	---	
4-Chlorophenyl phenyl ether	3.79	0.0250	0.0500	"	"	"	---	95	53-121%	---	---	
Aniline	3.22	0.0500	0.100	"	"	"	---	81	6-120%	---	---	
4-Chloroaniline	3.27	0.0250	0.0500	"	"	"	---	82	33-120%	---	---	
2-Nitroaniline	3.85	0.200	0.400	"	"	"	---	96	54-127%	---	---	
3-Nitroaniline	4.02	0.200	0.400	"	"	"	---	100	41-128%	---	---	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (6050350-BS1)					Prepared: 05/12/16 11:28		Analyzed: 05/12/16 18:24					
4-Nitroaniline	4.15	0.200	0.400	ug/L	"	"	---	104	35-120%	---	---	
Nitrobenzene	3.60	0.100	0.200	"	"	"	---	90	45-121%	---	---	
2,4-Dinitrotoluene	3.97	0.100	0.200	"	"	"	---	99	57-128%	---	---	
2,6-Dinitrotoluene	3.85	0.100	0.200	"	"	"	---	96	57-124%	---	---	
Benzoic acid	2.39	1.25	1.25	"	"	8.00	---	30	5-120%	---	---	
Benzyl alcohol	3.25	0.100	0.200	"	"	4.00	---	81	31-120%	---	---	
Isophorone	3.73	0.0250	0.0500	"	"	"	---	93	42-124%	---	---	
Azobenzene (1,2-DPH)	3.83	0.0250	0.0500	"	"	"	---	96	61-120%	---	---	
Bis(2-Ethylhexyl) adipate	4.80	0.250	0.500	"	"	"	---	120	40-125%	---	---	
3,3'-Dichlorobenzidine	14.3	0.250	0.500	"	"	8.00	---	179	27-129%	---	---	Q-29
1,2-Dinitrobenzene	4.02	0.250	0.500	"	"	4.00	---	100	59-120%	---	---	
1,3-Dinitrobenzene	3.93	0.250	0.500	"	"	"	---	98	49-128%	---	---	
1,4-Dinitrobenzene	3.87	0.250	0.500	"	"	"	---	97	40-120%	---	---	
Pyridine	2.07	0.100	0.200	"	"	"	---	52	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 87 %*	*Limits: 44-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*81 %*	*44-120 %*	*"*
Phenol-d6 (Surr)	*33 %*	*10-120 %*	*"*
p-Terphenyl-d14 (Surr)	*101 %*	*50-133 %*	*"*
2-Fluorophenol (Surr)	*44 %*	*19-120 %*	*"*
2,4,6-Tribromophenol (Surr)	*89 %*	*43-140 %*	*"*

LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28		Analyzed: 05/12/16 19:02					**Q-19**
EPA 8270D												
Acenaphthene	3.48	0.0100	0.0200	ug/L	1	4.00	---	87	47-122%	1	30%	
Acenaphthylene	3.66	0.0100	0.0200	"	"	"	---	91	41-130%	1	30%	
Anthracene	3.95	0.0100	0.0200	"	"	"	---	99	57-123%	4	30%	
Benz(a)anthracene	4.17	0.0100	0.0200	"	"	"	---	104	58-125%	5	30%	
Benzo(a)pyrene	4.11	0.0150	0.0300	"	"	"	---	103	54-128%	5	30%	
Benzo(b)fluoranthene	4.10	0.0150	0.0300	"	"	"	---	102	53-131%	4	30%	
Benzo(k)fluoranthene	4.15	0.0150	0.0300	"	"	"	---	104	57-129%	5	30%	
Benzo(g,h,i)perylene	4.33	0.0100	0.0200	"	"	"	---	108	50-134%	5	30%	
Chrysene	4.07	0.0100	0.0200	"	"	"	---	102	59-123%	5	30%	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28	Analyzed: 05/12/16 19:02						**Q-19**
Dibenz(a,h)anthracene	4.31	0.0100	0.0200	ug/L	"	"	---	108	51-134%	4	30%	
Fluoranthene	4.14	0.0100	0.0200	"	"	"	---	104	57-128%	5	30%	
Fluorene	3.81	0.0100	0.0200	"	"	"	---	95	52-124%	0.04	30%	
Indeno(1,2,3-cd)pyrene	4.07	0.0100	0.0200	"	"	"	---	102	52-133%	3	30%	
1-Methylnaphthalene	3.44	0.0200	0.0400	"	"	"	---	86	41-120%	5	30%	
2-Methylnaphthalene	3.43	0.0200	0.0400	"	"	"	---	86	40-121%	5	30%	B-02
Naphthalene	3.25	0.0200	0.0400	"	"	"	---	81	"	6	30%	B-02
Phenanthrene	3.76	0.0100	0.0200	"	"	"	---	94	59-120%	3	30%	B-02
Pyrene	4.11	0.0100	0.0200	"	"	"	---	103	57-126%	5	30%	
Carbazole	4.13	0.0150	0.0300	"	"	"	---	103	60-122%	3	30%	
Dibenzofuran	3.74	0.0100	0.0200	"	"	"	---	94	53-120%	0.8	30%	
4-Chloro-3-methylphenol	3.90	0.100	0.200	"	"	"	---	97	52-120%	0.7	30%	
2-Chlorophenol	3.55	0.0500	0.100	"	"	"	---	89	38-120%	5	30%	
2,4-Dichlorophenol	3.69	0.0500	0.100	"	"	"	---	92	47-121%	2	30%	
2,4-Dimethylphenol	2.68	0.0500	0.100	"	"	"	---	67	31-124%	15	30%	
2,4-Dinitrophenol	4.12	0.250	0.500	"	"	"	---	103	23-143%	2	30%	
4,6-Dinitro-2-methylphenol	4.12	0.250	0.500	"	"	"	---	103	44-137%	0.8	30%	
2-Methylphenol	3.36	0.0250	0.0500	"	"	"	---	84	30-120%	2	30%	
3+4-Methylphenol(s)	3.15	0.0250	0.0500	"	"	"	---	79	29-120%	3	30%	
2-Nitrophenol	3.63	0.100	0.200	"	"	"	---	91	47-123%	4	30%	
4-Nitrophenol	1.81	0.100	0.200	"	"	"	---	45	5-120%	2	30%	
Pentachlorophenol (PCP)	4.09	0.100	0.200	"	"	"	---	102	35-138%	1	30%	
Phenol	1.58	0.200	0.400	"	"	"	---	40	5-120%	8	30%	
2,3,4,6-Tetrachlorophenol	3.93	0.0500	0.100	"	"	"	---	98	50-128%	0.2	30%	
2,3,5,6-Tetrachlorophenol	3.86	0.0500	0.100	"	"	"	---	97	50-121%	0.1	30%	
2,4,5-Trichlorophenol	3.87	0.0500	0.100	"	"	"	---	97	53-123%	2	30%	
2,4,6-Trichlorophenol	3.69	0.0500	0.100	"	"	"	---	92	50-125%	0.7	30%	
Bis(2-ethylhexyl)phthalate	4.56	0.200	0.400	"	"	"	---	114	55-135%	3	30%	
Butyl benzyl phthalate	4.34	0.200	0.400	"	"	"	---	108	53-134%	4	30%	
Diethylphthalate	4.12	0.200	0.400	"	"	"	---	103	55-125%	3	30%	
Dimethylphthalate	4.02	0.200	0.400	"	"	"	---	101	45-127%	1	30%	

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AMENDED REPORT

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Tigard, OR 97223
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28	Analyzed: 05/12/16 19:02						**Q-19**
Di-n-butylphthalate	4.57	0.200	0.400	ug/L	"	"	---	114	59-127%	3	30%	
Di-n-octyl phthalate	4.35	0.200	0.400	"	"	"	---	109	51-140%	3	30%	
N-Nitrosodimethylamine	2.20	0.0250	0.0500	"	"	"	---	55	6-120%	8	30%	
N-Nitroso-di-n-propylamine	3.91	0.0250	0.0500	"	"	"	---	98	49-120%	2	30%	
N-Nitrosodiphenylamine	4.15	0.0250	0.0500	"	"	"	---	104	51-123%	2	30%	
Bis(2-Chloroethoxy) methane	3.55	0.0250	0.0500	"	"	"	---	89	48-120%	2	30%	
Bis(2-Chloroethyl) ether	3.41	0.0250	0.0500	"	"	"	---	85	43-120%	5	30%	
Bis(2-Chloroisopropyl) ether	3.39	0.0250	0.0500	"	"	"	---	85	37-130%	5	30%	
Hexachlorobenzene	3.75	0.0100	0.0200	"	"	"	---	94	52-125%	2	30%	
Hexachlorobutadiene	3.01	0.0250	0.0500	"	"	"	---	75	22-124%	13	30%	
Hexachlorocyclopentadiene	3.49	0.0500	0.100	"	"	"	---	87	5-127%	13	30%	
Hexachloroethane	3.10	0.0250	0.0500	"	"	"	---	78	21-120%	15	30%	B-02
2-Chloronaphthalene	3.58	0.0100	0.0200	"	"	"	---	89	40-120%	5	30%	
1,2-Dichlorobenzene	3.07	0.0250	0.0500	"	"	"	---	77	32-120%	11	30%	
1,3-Dichlorobenzene	2.94	0.0250	0.0500	"	"	"	---	73	28-120%	11	30%	
1,4-Dichlorobenzene	2.98	0.0250	0.0500	"	"	"	---	75	29-120%	12	30%	
1,2,4-Trichlorobenzene	3.11	0.0250	0.0500	"	"	"	---	78	"	10	30%	
4-Bromophenyl phenyl ether	3.99	0.0250	0.0500	"	"	"	---	100	54-124%	0.9	30%	
4-Chlorophenyl phenyl ether	3.80	0.0250	0.0500	"	"	"	---	95	53-121%	0.3	30%	
Aniline	3.36	0.0500	0.100	"	"	"	---	84	6-120%	4	30%	
4-Chloroaniline	3.32	0.0250	0.0500	"	"	"	---	83	33-120%	2	30%	
2-Nitroaniline	3.91	0.200	0.400	"	"	"	---	98	54-127%	1	30%	
3-Nitroaniline	3.93	0.200	0.400	"	"	"	---	98	41-128%	2	30%	
4-Nitroaniline	4.02	0.200	0.400	"	"	"	---	100	35-120%	3	30%	
Nitrobenzene	3.72	0.100	0.200	"	"	"	---	93	45-121%	3	30%	
2,4-Dinitrotoluene	3.88	0.100	0.200	"	"	"	---	97	57-128%	2	30%	
2,6-Dinitrotoluene	3.82	0.100	0.200	"	"	"	---	96	57-124%	0.7	30%	
Benzoic acid	2.84	1.25	2.50	"	"	8.00	---	35	5-120%	17	30%	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28		Analyzed: 05/12/16 19:02					**Q-19**
Benzyl alcohol	3.40	0.100	0.200	ug/L	"	4.00	---	85	31-120%	4	30%	
Isophorone	3.76	0.0250	0.0500	"	"	"	---	94	42-124%	0.9	30%	
Azobenzene (1,2-DPH)	3.82	0.0250	0.0500	"	"	"	---	95	61-120%	0.4	30%	
Bis(2-Ethylhexyl) adipate	4.62	0.250	0.500	"	"	"	---	115	40-125%	4	30%	
3,3'-Dichlorobenzidine	13.8	0.250	0.500	"	"	8.00	---	172	27-129%	4	30%	Q-29
1,2-Dinitrobenzene	3.96	0.250	0.500	"	"	4.00	---	99	59-120%	1	30%	
1,3-Dinitrobenzene	3.91	0.250	0.500	"	"	"	---	98	49-128%	0.5	30%	
1,4-Dinitrobenzene	3.87	0.250	0.500	"	"	"	---	97	40-120%	0.04	30%	
Pyridine	2.27	0.100	0.200	"	"	"	---	57	5-120%	9	30%	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 91 %*	*Limits: 44-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*83 %*	*44-120 %*	*"*
Phenol-d6 (Surr)	*36 %*	*10-120 %*	*"*
p-Terphenyl-d14 (Surr)	*98 %*	*50-133 %*	*"*
2-Fluorophenol (Surr)	*48 %*	*19-120 %*	*"*
2,4,6-Tribromophenol (Surr)	*90 %*	*43-140 %*	*"*

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050481 - EPA 3015A							**Water**					
Blank (6050481-BLK1)					Prepared: 05/17/16 13:55 Analyzed: 05/20/16 11:54							
EPA 200.8												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	0.0400	0.200	"	"	---	---	---	---	---	---	
Calcium	ND	100	200	"	"	---	---	---	---	---	---	
Chromium	ND	0.400	1.00	"	"	---	---	---	---	---	---	
Copper	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Iron	ND	50.0	100	"	"	---	---	---	---	---	---	
Lead	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Magnesium	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	2.00	4.00	"	"	---	---	---	---	---	---	
Silver	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	"	"	---	---	---	---	---	---	
LCS (6050481-BS1)					Prepared: 05/17/16 13:55 Analyzed: 05/20/16 11:57							
EPA 200.8												
Arsenic	52.4	0.500	1.00	ug/L	1	55.6	---	94	85-115%	---	---	
Barium	53.9	0.500	1.00	"	"	"	---	97	"	---	---	
Cadmium	51.2	0.0400	0.200	"	"	"	---	92	"	---	---	
Calcium	5470	100	200	"	"	5560	---	98	"	---	---	
Chromium	54.8	0.400	1.00	"	"	55.6	---	99	"	---	---	
Copper	55.1	0.500	1.00	"	"	"	---	99	"	---	---	
Iron	5380	50.0	100	"	"	5560	---	97	"	---	---	
Lead	54.2	0.100	0.200	"	"	55.6	---	98	"	---	---	
Magnesium	5260	25.0	50.0	"	"	5560	---	95	"	---	---	
Manganese	55.5	0.500	1.00	"	"	55.6	---	100	"	---	---	
Nickel	53.7	0.500	1.00	"	"	"	---	97	"	---	---	
Selenium	26.9	2.00	4.00	"	"	27.8	---	97	"	---	---	
Silver	27.3	0.100	0.200	"	"	"	---	98	"	---	---	

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050481 - EPA 3015A							**Water**					
LCS (6050481-BS1)					Prepared: 05/17/16 13:55 Analyzed: 05/20/16 11:57							
Zinc	52.7	2.00	4.00	ug/L	"	55.6	---	95	"	---	---	

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050485 - Matrix Matched Direct Inject							**Water**					
Blank (6050485-BLK1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:21					
EPA 200.8 (Diss)												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Calcium	ND	100	200	"	"	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Copper	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Iron	ND	50.0	100	"	"	---	---	---	---	---	---	
Lead	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Magnesium	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	2.00	4.00	"	"	---	---	---	---	---	---	
Silver	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	"	"	---	---	---	---	---	---	
LCS (6050485-BS1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:24					
EPA 200.8 (Diss)												
Arsenic	55.6	0.500	1.00	ug/L	1	55.6	---	100	85-115%	---	---	
Barium	53.3	0.500	1.00	"	"	"	---	96	"	---	---	
Cadmium	55.7	0.100	0.200	"	"	"	---	100	"	---	---	
Calcium	5370	100	200	"	"	5560	---	97	"	---	---	
Chromium	52.6	0.500	1.00	"	"	55.6	---	95	"	---	---	
Copper	53.7	0.500	1.00	"	"	"	---	97	"	---	---	
Iron	5150	50.0	100	"	"	5560	---	93	"	---	---	
Lead	55.4	0.100	0.200	"	"	55.6	---	100	"	---	---	
Magnesium	5160	25.0	50.0	"	"	5560	---	93	"	---	---	
Manganese	51.9	0.500	1.00	"	"	55.6	---	93	"	---	---	
Nickel	51.5	0.500	1.00	"	"	"	---	93	"	---	---	
Selenium	26.4	2.00	4.00	"	"	27.8	---	95	"	---	---	
Silver	28.3	0.100	0.200	"	"	"	---	102	"	---	---	

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050485 - Matrix Matched Direct Inject							**Water**					
LCS (6050485-BS1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:24					
Zinc	52.7	2.00	4.00	ug/L	"	55.6	---	95	"	---	---	
Duplicate (6050485-DUP1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:36					
QC Source Sample: 22B-F-MH3-100516 (A6E0284-06)												
EPA 200.8 (Diss)												
Arsenic	**4.28**	0.500	1.00	ug/L	1	---	4.14	---	---	3	20%	
Barium	**21.8**	0.500	1.00	"	"	---	22.3	---	---	2	20%	
Cadmium	ND	0.100	0.200	"	"	---	ND	---	---	---	20%	
Calcium	**34500**	100	200	"	"	---	34700	---	---	0.5	20%	
Chromium	ND	0.500	1.00	"	"	---	ND	---	---	---	20%	
Iron	**286**	50.0	100	"	"	---	293	---	---	2	20%	
Lead	**0.144**	0.100	0.200	"	"	---	0.144	---	---	0	20%	J
Magnesium	**8310**	25.0	50.0	"	"	---	8170	---	---	2	20%	
Manganese	**94.8**	0.500	1.00	"	"	---	97.8	---	---	3	20%	
Nickel	**9.83**	0.500	1.00	"	"	---	9.89	---	---	0.6	20%	
Selenium	ND	2.00	4.00	"	"	---	ND	---	---	---	20%	
Silver	ND	0.100	0.200	"	"	---	ND	---	---	---	20%	
Zinc	**2.01**	2.00	4.00	"	"	---	ND	---	---		20%	J
Duplicate (6050485-DUP2)					Prepared: 05/17/16 15:03		Analyzed: 05/23/16 13:34					
QC Source Sample: 22B-F-MH3-100516 (A6E0284-06)												
EPA 200.8 (Diss)												
Copper	**0.511**	0.500	1.00	ug/L	1	---	0.511	---	---	0	20%	Q-16, J
Matrix Spike (6050485-MS1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:42					
QC Source Sample: 22B-F-MH5-100516 (A6E0284-08)												
EPA 200.8 (Diss)												
Arsenic	61.7	0.500	1.00	ug/L	1	55.6	4.01	104	70-130%	---	---	
Barium	75.8	0.500	1.00	"	"	"	23.5	94	"	---	---	
Cadmium	57.5	0.100	0.200	"	"	"	ND	103	"	---	---	
Calcium	39700	100	200	"	"	5560	34900	85	"	---	---	
Chromium	52.8	0.500	1.00	"	"	55.6	ND	95	"	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050485 - Matrix Matched Direct Inject							**Water**					
Matrix Spike (6050485-MS1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:42					
QC Source Sample: 22B-F-MH5-100516 (A6E0284-08)												
Iron	5410	50.0	100	ug/L	"	5560	271	92	"	---	---	
Lead	56.0	0.100	0.200	"	"	55.6	0.122	101	"	---	---	
Magnesium	13300	25.0	50.0	"	"	5560	8060	93	"	---	---	
Manganese	131	0.500	1.00	"	"	55.6	82.8	86	"	---	---	
Nickel	61.6	0.500	1.00	"	"	"	10.1	93	"	---	---	
Selenium	26.8	2.00	4.00	"	"	27.8	ND	96	"	---	---	
Silver	28.1	0.100	0.200	"	"	"	ND	101	"	---	---	
Zinc	55.3	2.00	4.00	"	"	55.6	ND	100	"	---	---	
Matrix Spike (6050485-MS4)					Prepared: 05/17/16 15:03		Analyzed: 05/23/16 13:39					
QC Source Sample: 22B-F-MH5-100516 (A6E0284-08RE1)												
EPA 200.8 (Diss)												
Copper	54.6	0.500	1.00	ug/L	1	55.6	ND	98	70-130%	---	---	Q-16

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

QUALITY CONTROL (QC) SAMPLE RESULTS

Hexavalent Chromium by IC

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch W6E0914 - EPA 218.6							**Water**					
Blank (W6E0914-BLK1)					Prepared: 05/17/16 09:38		Analyzed: 05/17/16 10:16					
EPA 218.6												
Chromium 6+	ND	0.0048	0.020	ug/l	1	---	---	---	---	---	---	
LCS (W6E0914-BS1)					Prepared: 05/17/16 09:38		Analyzed: 05/17/16 10:28					
EPA 218.6												
Chromium 6+	4.81	0.0048	0.020	ug/l	1	5.00	---	96	90-110%	---	---	

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

QUALITY CONTROL (QC) SAMPLE RESULTS

Mercury - Low Level by CVAFS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch W6E0849 - General Preparation							**Water**					
Blank (W6E0849-BLK1)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
EPA 1631E												
Mercury, Total	ND	0.00031	0.00050	ug/l	1	---	---	---	---	---	---	
Mercury, Dissolved	ND	0.00031	0.00050	"	"	---	---	---	---	---	---	
LCS (W6E0849-BS1)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
EPA 1631E												
Mercury, Total	0.00470	0.00031	0.00050	ug/l	1	0.00500	---	94	84-113%	---	---	
Mercury, Dissolved	0.00470	0.00031	0.00050	"	"	"	---	94	"	---	---	
Matrix Spike (W6E0849-MS1)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
QC Source Sample: A6E0284-01 (A6E0284-01)												
EPA 1631E												
Mercury, Total	0.00583	0.00031	0.00050	ug/l	1	0.00500	0.00117	93	67-110%	---	---	
Mercury, Dissolved	0.00583	0.00031	0.00050	"	"	"	0.00117	93	"	---	---	
Matrix Spike Dup (W6E0849-MSD1)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
QC Source Sample: A6E0284-01 (A6E0284-01)												
EPA 1631E												
Mercury, Total	0.00566	0.00031	0.00050	ug/l	1	0.00500	0.00117	90	67-110%	3	20%	
Mercury, Dissolved	0.00566	0.00031	0.00050	"	"	"	0.00117	90	"	3	20%	

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050322							
A6E0284-01	Water	NWTPH-HCID	05/10/16 08:45	05/11/16 14:06	1030mL/5mL	1000mL/5mL	0.97
A6E0284-03	Water	NWTPH-HCID	05/10/16 10:00	05/11/16 14:06	1050mL/5mL	1000mL/5mL	0.95
A6E0284-05	Water	NWTPH-HCID	05/10/16 13:00	05/11/16 14:06	1050mL/5mL	1000mL/5mL	0.95
A6E0284-07	Water	NWTPH-HCID	05/10/16 15:00	05/11/16 14:06	1050mL/5mL	1000mL/5mL	0.95

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050400							
A6E0284-01	Water	NWTPH-Dx/SG	05/10/16 08:45	05/11/16 14:06	1030mL/5mL	1000mL/5mL	0.97
A6E0284-03	Water	NWTPH-Dx/SG	05/10/16 10:00	05/11/16 14:06	1050mL/5mL	1000mL/5mL	0.95
A6E0284-05	Water	NWTPH-Dx/SG	05/10/16 13:00	05/11/16 14:06	1050mL/5mL	1000mL/5mL	0.95
A6E0284-07	Water	NWTPH-Dx/SG	05/10/16 15:00	05/11/16 14:06	1050mL/5mL	1000mL/5mL	0.95

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050305							
A6E0284-01	Water	NWTPH-Gx (MS)	05/10/16 08:45	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-03	Water	NWTPH-Gx (MS)	05/10/16 10:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-05	Water	NWTPH-Gx (MS)	05/10/16 13:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-07	Water	NWTPH-Gx (MS)	05/10/16 15:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050305							
A6E0284-01	Water	EPA 8260B	05/10/16 08:45	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-03	Water	EPA 8260B	05/10/16 10:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-05	Water	EPA 8260B	05/10/16 13:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-07	Water	EPA 8260B	05/10/16 15:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00
A6E0284-09	Water	EPA 8260B	05/10/16 00:00	05/11/16 14:24	5mL/5mL	5mL/5mL	1.00

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050541							
A6E0284-01RE2	Water	EPA 8260B	05/10/16 08:45	05/19/16 11:58	5mL/5mL	5mL/5mL	1.00

Semivolatile Organic Compounds by EPA 8270D

Prep: EPA 3510C (Acid/Base Neutral)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050350							
A6E0284-01RE1	Water	EPA 8270D	05/10/16 08:45	05/12/16 11:28	1040mL/1mL	1000mL/1mL	0.96
A6E0284-03RE1	Water	EPA 8270D	05/10/16 10:00	05/12/16 11:28	1040mL/1mL	1000mL/1mL	0.96
A6E0284-05RE1	Water	EPA 8270D	05/10/16 13:00	05/12/16 11:28	1040mL/1mL	1000mL/1mL	0.96
A6E0284-07RE1	Water	EPA 8270D	05/10/16 15:00	05/12/16 11:28	1040mL/1mL	1000mL/1mL	0.96

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050481							
A6E0284-01	Water	EPA 200.8	05/10/16 08:45	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00
A6E0284-03	Water	EPA 200.8	05/10/16 10:00	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00
A6E0284-03RE1	Water	EPA 200.8	05/10/16 10:00	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00
A6E0284-05	Water	EPA 200.8	05/10/16 13:00	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00
A6E0284-05RE1	Water	EPA 200.8	05/10/16 13:00	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00
A6E0284-07	Water	EPA 200.8	05/10/16 15:00	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00
A6E0284-07RE1	Water	EPA 200.8	05/10/16 15:00	05/17/16 13:55	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050485							
A6E0284-02	Water	EPA 200.8 (Diss)	05/10/16 08:45	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0284-02RE1	Water	EPA 200.8 (Diss)	05/10/16 08:45	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0284-04	Water	EPA 200.8 (Diss)	05/10/16 10:00	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0284-04RE1	Water	EPA 200.8 (Diss)	05/10/16 10:00	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0284-06	Water	EPA 200.8 (Diss)	05/10/16 13:00	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00

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AMENDED REPORT

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

SAMPLE PREPARATION INFORMATION

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6E0284-06RE1	Water	EPA 200.8 (Diss)	05/10/16 13:00	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0284-08	Water	EPA 200.8 (Diss)	05/10/16 15:00	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0284-08RE1	Water	EPA 200.8 (Diss)	05/10/16 15:00	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

SAMPLE PREPARATION INFORMATION

Hexavalent Chromium by IC

Prep: EPA 218.6

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: W6E0914							
A6E0284-01	Water	EPA 218.6	05/10/16 08:45	05/17/16 09:38	5ml/5ml	5ml/5ml	1.00
A6E0284-03	Water	EPA 218.6	05/10/16 10:00	05/17/16 09:38	5ml/5ml	5ml/5ml	1.00
A6E0284-05	Water	EPA 218.6	05/10/16 13:00	05/17/16 09:38	5ml/5ml	5ml/5ml	1.00
A6E0284-07	Water	EPA 218.6	05/10/16 15:00	05/17/16 09:38	5ml/5ml	5ml/5ml	1.00

Mercury - Low Level by CVAFS

Prep: General Preparation

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: W6E0849							
A6E0284-01	Water	EPA 1631E	05/10/16 08:45	05/10/16 08:45	40ml/40ml	40ml/40ml	1.00
A6E0284-02	Water	EPA 1631E	05/10/16 08:45	05/10/16 08:45	40ml/40ml	40ml/40ml	1.00
A6E0284-03	Water	EPA 1631E	05/10/16 10:00	05/10/16 10:00	40ml/40ml	40ml/40ml	1.00
A6E0284-04	Water	EPA 1631E	05/10/16 10:00	05/10/16 10:00	40ml/40ml	40ml/40ml	1.00
A6E0284-05	Water	EPA 1631E	05/10/16 13:00	05/10/16 13:00	40ml/40ml	40ml/40ml	1.00
A6E0284-06	Water	EPA 1631E	05/10/16 13:00	05/10/16 13:00	40ml/40ml	40ml/40ml	1.00
A6E0284-07	Water	EPA 1631E	05/10/16 15:00	05/10/16 15:00	40ml/40ml	40ml/40ml	1.00
A6E0284-08	Water	EPA 1631E	05/10/16 15:00	05/10/16 15:00	40ml/40ml	40ml/40ml	1.00

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Notes and Definitions

Qualifiers:

A-01	HCL VOA used. pH <2
B-02	Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
B-field	No field blank was either received or specified in this batch. Therefore, samples were analyzed without field blank.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
Q-16	Reanalysis of an original Batch QC sample.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-31	Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
S-06	Surrogate recovery is outside of established control limits.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses. For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor. Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

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9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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APEX LABS **CHAIN OF CUSTODY** Lab # A6E0284 COC 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Golder | Project Mgr: Ryan Stringfellow | Project Name: Outfall 22B | Project # 103935/412.605.02

Address: 405 9 Monroe Pkwy Suite 270, Lake Oswego | Phone: 503-607-1820 | Fax: | Email: rstringfellow@golder.com

Sampled by:

Site Location: OR WA Other:

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC + Misc.	8260 RBDM VOCs	8260 BTEX	8270 SVOC 8270D	8270 SIM PAHs	8082 PCBs 1668 A	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Sn, Ag, Na, Tl, V, Zn	TOTAL DISS TCLP	1200-COLS	1200-Z	8151A Herbicides	1669 Insecticides	1613B Dioxin/Furan	218.6 Hex Chrome	1631 LL Hg	1631 Dissolved LL Hg
1	22B-U-S-100516		5/10/16	0845	W	25	X	X	X	X			X		X				X				X	X	X	X	X	
2	22B-F-S-100516			0845															X									X
3	22B-U-D-100516			1000			X	X	X	X			X		X				X				X	X	X	X	X	
4	22B-F-D-100516			1000															X									X
5	22B-U-MH3-100516			1300			X	X	X	X			X		X				X				X	X	X	X	X	
6	22B-F-MH3-100516			1300															X									X
7	22B-U-MH5-100516			1500			X	X	X	X			X		X				X				X	X	X	X	X	
8	22B-F-MH5-100516			1500															X									X
9	22B-U-TB-100516		5/10/16			1				X																		
10																												

Normal Turn Around Time (TAT) = 7-10 Business Days YES NO

TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other:

SPECIAL INSTRUCTIONS:
Dissolved samples field filtered.
* MH5 VOCs 8260B UNPRESERVED *

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: Ryan Stringfellow Date: 5/10/16 Printed Name: Ryan Stringfellow Time: 1645 Company: Golder

RECEIVED BY: Signature: [signature] Date: 5-10-16 Printed Name: [signature] Time: 16:45 Company: Apex

RELINQUISHED BY: Signature: Date: Printed Name: Time: Company:

RECEIVED BY: Signature: Date: Printed Name: Time: Company:

Apex Laboratories

Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, June 23, 2016

Ryan Stringfellow
Golder Associates Inc.
9 Monroe Parkway, Suite 270
Lake Oswego, OR 97035

RE: OF22B IRAM Performance Monitoring / 1039351412.605.

Enclosed are the results of analyses for work order A6E0342, which was received by the laboratory on 5/11/2016 at 5:17:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: dthomas@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
22B-U-MH4-110516	A6E0342-01	Water	05/11/16 08:30	05/11/16 17:17
22B-F-MH4-110516	A6E0342-02	Water	05/11/16 08:30	05/11/16 17:17
22B-U-MH6-110516	A6E0342-03	Water	05/11/16 10:30	05/11/16 17:17
22B-F-MH6-110516	A6E0342-04	Water	05/11/16 10:30	05/11/16 17:17
22B-U-MH7-110516	A6E0342-05	Water	05/11/16 13:30	05/11/16 17:17
22B-F-MH7-110516	A6E0342-06	Water	05/11/16 13:30	05/11/16 17:17
22B-U-RB-110516	A6E0342-07	Water	05/11/16 16:30	05/11/16 17:17
22B-F-RB-110516	A6E0342-08	Water	05/11/16 16:30	05/11/16 17:17
22B-U-TB-110516	A6E0342-09	Water	05/11/16 00:00	05/11/16 17:17

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL CASE NARRATIVE

Work Order: A6E0342

Amended Report Revision 1:

Additional Analysis-

This report supersedes all previous reports.

The final report has been amended to various metals per client request.

Darwin Thomas
Business Development Director

6/22/2016

Amended Report Revision 2:

Additional Analysis-

This report supersedes all previous reports.

The final report has been amended to include additional metals.

Darwin Thomas
Business Development Director

6/23/2016

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
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503-718-0333 Fax

AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	ND	0.0971	0.0971	mg/L	1	05/13/16 19:38	NWTPH-HCID	
Diesel Range Organics	ND	0.243	0.243	"	"	"	"	
Oil Range Organics	ND	0.243	0.243	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*45 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	DET	0.0962	0.0962	mg/L	1	05/13/16 20:00	NWTPH-HCID	
Diesel Range Organics	ND	0.240	0.240	"	"	"	"	
Oil Range Organics	ND	0.240	0.240	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*40 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/13/16 20:22	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*36 %*	*Limits: 10-120 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/13/16 20:44	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*44 %*	*Limits: 10-120 %*	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.121	0.243	mg/L	1	05/13/16 20:49	NWTPH-Dx/SG	
Oil	ND	0.243	0.485	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.120	0.240	mg/L	1	05/13/16 21:09	NWTPH-Dx/SG	
Oil	ND	0.240	0.481	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 21:29	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 21:49	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/12/16 16:15	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*111 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
Gasoline Range Organics	**0.116**	0.0500	0.100	mg/L	1	05/14/16 00:52	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*100 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/12/16 16:50	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/12/16 15:07	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
Acetone	ND	10.0	20.0	ug/L	1	05/12/16 16:15	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.335**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.350**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**1.96**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
Surrogate: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
4-Bromofluorobenzene (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
Acetone	ND	10.0	20.0	ug/L	1	05/14/16 00:52	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.969**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
cis-1,2-Dichloroethene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.492**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**25.7**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	**0.831**	0.500	1.00	"	"	"	"	J
o-Xylene	**0.316**	0.250	0.500	"	"	"	"	J

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 104 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
1,4-Difluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
Acetone	ND	10.0	20.0	ug/L	1	05/12/16 16:50	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
1,2-Dichloroethane (EDC)	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.357**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**1.20**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
Vinyl chloride	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
Acetone	ND	10.0	20.0	ug/L	1	05/12/16 15:07	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 112 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
22B-U-TB-110516 (A6E0342-09)			**Matrix: Water**		**Batch: 6050468**			**H-01**
Acetone	ND	10.0	20.0	ug/L	1	05/17/16 14:19	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-110516 (A6E0342-09)			**Matrix: Water**		**Batch: 6050468**			**H-01**
Dibromomethane	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-110516 (A6E0342-09)			**Matrix: Water**		**Batch: 6050468**			**H-01**
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 107 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0952	0.190	ug/L	10	05/13/16 11:53	EPA 8270D	
Acenaphthylene	ND	0.0952	0.190	"	"	"	"	
Anthracene	ND	0.0952	0.190	"	"	"	"	
Benz(a)anthracene	ND	0.0952	0.190	"	"	"	"	
Benzo(a)pyrene	ND	0.143	0.286	"	"	"	"	
Benzo(b)fluoranthene	ND	0.143	0.286	"	"	"	"	
Benzo(k)fluoranthene	ND	0.143	0.286	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0952	0.190	"	"	"	"	
Chrysene	ND	0.0952	0.190	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0952	0.190	"	"	"	"	
Fluoranthene	ND	0.0952	0.190	"	"	"	"	
Fluorene	ND	0.0952	0.190	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0952	0.190	"	"	"	"	
1-Methylnaphthalene	ND	0.190	0.381	"	"	"	"	
2-Methylnaphthalene	ND	0.190	0.381	"	"	"	"	
Naphthalene	ND	0.190	0.381	"	"	"	"	
Phenanthrene	ND	0.0952	0.190	"	"	"	"	
Pyrene	ND	0.0952	0.190	"	"	"	"	
Carbazole	ND	0.143	0.286	"	"	"	"	
Dibenzofuran	ND	0.0952	0.190	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.952	1.90	"	"	"	"	
2-Chlorophenol	**0.681**	0.476	0.952	"	"	"	"	J
2,4-Dichlorophenol	**9.16**	0.476	0.952	"	"	"	"	
2,4-Dimethylphenol	**0.696**	0.476	0.952	"	"	"	"	J
2,4-Dinitrophenol	ND	2.38	4.76	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.38	4.76	"	"	"	"	
2-Methylphenol	**1.79**	0.238	0.476	"	"	"	"	
3+4-Methylphenol(s)	**0.768**	0.238	0.476	"	"	"	"	
2-Nitrophenol	ND	0.952	1.90	"	"	"	"	
4-Nitrophenol	ND	0.952	1.90	"	"	"	"	
Pentachlorophenol (PCP)	**1.08**	0.952	1.90	"	"	"	"	J
Phenol	ND	1.90	3.81	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.476	0.952	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.476	0.952	"	"	"	"	
2,4,5-Trichlorophenol	**2.05**	0.476	0.952	"	"	"	"	
2,4,6-Trichlorophenol	**1.04**	0.476	0.952	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	1.90	3.81	ug/L	10	"	EPA 8270D	
Butyl benzyl phthalate	ND	1.90	3.81	"	"	"	"	
Diethylphthalate	ND	1.90	3.81	"	"	"	"	
Dimethylphthalate	ND	1.90	3.81	"	"	"	"	
Di-n-butylphthalate	ND	1.90	3.81	"	"	"	"	
Di-n-octyl phthalate	ND	1.90	3.81	"	"	"	"	
N-Nitrosodimethylamine	ND	0.238	0.476	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.238	0.476	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.238	0.476	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.238	0.476	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.238	0.476	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.238	0.476	"	"	"	"	
Hexachlorobenzene	ND	0.0952	0.190	"	"	"	"	
Hexachlorobutadiene	ND	0.238	0.476	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.476	0.952	"	"	"	"	
Hexachloroethane	ND	0.238	0.476	"	"	"	"	
2-Chloronaphthalene	ND	0.0952	0.190	"	"	"	"	
1,2-Dichlorobenzene	ND	0.238	0.476	"	"	"	"	
1,3-Dichlorobenzene	ND	0.238	0.476	"	"	"	"	
1,4-Dichlorobenzene	ND	0.238	0.476	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.238	0.476	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.238	0.476	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.238	0.476	"	"	"	"	
Aniline	ND	0.476	0.952	"	"	"	"	
4-Chloroaniline	ND	0.238	0.476	"	"	"	"	
2-Nitroaniline	ND	1.90	3.81	"	"	"	"	
3-Nitroaniline	ND	1.90	3.81	"	"	"	"	
4-Nitroaniline	ND	1.90	3.81	"	"	"	"	
Nitrobenzene	ND	0.952	1.90	"	"	"	"	
2,4-Dinitrotoluene	ND	0.952	1.90	"	"	"	"	
2,6-Dinitrotoluene	ND	0.952	1.90	"	"	"	"	
Benzoic acid	ND	11.9	23.8	"	"	"	"	
Benzyl alcohol	ND	0.952	1.90	"	"	"	"	
Isophorone	ND	0.238	0.476	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.238	0.476	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	2.38	4.76	ug/L	10	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.952	1.90	"	"	"	"	
1,2-Dinitrobenzene	ND	2.38	4.76	"	"	"	"	
1,3-Dinitrobenzene	ND	2.38	4.76	"	"	"	"	
1,4-Dinitrobenzene	ND	2.38	4.76	"	"	"	"	
Pyridine	ND	0.952	1.90	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 44 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*45 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*13 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*90 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*21 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*82 %*	*Limits: 43-140 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 12:31	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**1.07**	0.481	0.962	"	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**16.3**	0.481	0.962	ug/L	10	"	EPA 8270D	
2,4-Dimethylphenol	**1.21**	0.481	0.962	"	"	"	"	M-04
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**4.98**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**2.24**	0.240	0.481	"	"	"	"	
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.12**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**2.60**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.25**	0.481	0.962	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	"	"	"	"	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050350**			
4-Chlorophenyl phenyl ether	ND	0.240	0.481	ug/L	10	"	EPA 8270D	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 52 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*51 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*16 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*24 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*83 %*	*Limits: 43-140 %*	"	"	"	

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.00962	0.0192	ug/L	1	05/13/16 16:22	EPA 8270D	
Acenaphthylene	ND	0.00962	0.0192	"	"	"	"	
Anthracene	ND	0.00962	0.0192	"	"	"	"	
Benz(a)anthracene	ND	0.00962	0.0192	"	"	"	"	
Benzo(a)pyrene	ND	0.0144	0.0288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.0144	0.0288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.0144	0.0288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.00962	0.0192	"	"	"	"	
Chrysene	ND	0.00962	0.0192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00962	0.0192	"	"	"	"	
Fluoranthene	ND	0.00962	0.0192	"	"	"	"	
Fluorene	ND	0.00962	0.0192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00962	0.0192	"	"	"	"	
1-Methylnaphthalene	ND	0.0192	0.0385	"	"	"	"	
2-Methylnaphthalene	ND	0.0192	0.0385	"	"	"	"	
Naphthalene	ND	0.0192	0.0385	"	"	"	"	
Phenanthrene	ND	0.00962	0.0192	"	"	"	"	
Pyrene	ND	0.00962	0.0192	"	"	"	"	
Carbazole	ND	0.0144	0.0288	"	"	"	"	
Dibenzofuran	ND	0.00962	0.0192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.0962	0.192	"	"	"	"	
2-Chlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,4-Dichlorophenol	**0.192**	0.0481	0.0962	"	"	"	"	
2,4-Dimethylphenol	ND	0.0481	0.0962	"	"	"	"	
2,4-Dinitrophenol	ND	0.240	0.481	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.240	0.481	"	"	"	"	
2-Methylphenol	**0.0548**	0.0240	0.0481	"	"	"	"	
3+4-Methylphenol(s)	**0.0312**	0.0240	0.0481	"	"	"	"	J
2-Nitrophenol	ND	0.0962	0.192	"	"	"	"	
4-Nitrophenol	ND	0.0962	0.192	"	"	"	"	
Pentachlorophenol (PCP)	**0.129**	0.0962	0.192	"	"	"	"	J
Phenol	ND	0.192	0.385	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,4,6-Trichlorophenol	**0.0677**	0.0481	0.0962	"	"	"	"	J

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	0.192	0.385	ug/L	1	"	EPA 8270D	
Butyl benzyl phthalate	ND	0.192	0.385	"	"	"	"	
Diethylphthalate	**0.237**	0.192	0.385	"	"	"	"	J
Dimethylphthalate	ND	0.192	0.385	"	"	"	"	
Di-n-butylphthalate	ND	0.192	0.385	"	"	"	"	
Di-n-octyl phthalate	ND	0.192	0.385	"	"	"	"	
N-Nitrosodimethylamine	ND	0.0240	0.0481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.0240	0.0481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.0240	0.0481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.0240	0.0481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.0240	0.0481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.0240	0.0481	"	"	"	"	
Hexachlorobenzene	ND	0.00962	0.0192	"	"	"	"	
Hexachlorobutadiene	ND	0.0240	0.0481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.0481	0.0962	"	"	"	"	
Hexachloroethane	ND	0.0240	0.0481	"	"	"	"	
2-Chloronaphthalene	ND	0.00962	0.0192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.0240	0.0481	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.0240	0.0481	"	"	"	"	
Aniline	ND	0.0481	0.0962	"	"	"	"	
4-Chloroaniline	ND	0.0240	0.0481	"	"	"	"	
2-Nitroaniline	ND	0.192	0.385	"	"	"	"	
3-Nitroaniline	ND	0.192	0.385	"	"	"	"	
4-Nitroaniline	ND	0.192	0.385	"	"	"	"	
Nitrobenzene	ND	0.0962	0.192	"	"	"	"	
2,4-Dinitrotoluene	ND	0.0962	0.192	"	"	"	"	
2,6-Dinitrotoluene	ND	0.0962	0.192	"	"	"	"	
Benzoic acid	ND	1.20	2.40	"	"	"	"	
Benzyl alcohol	ND	0.0962	0.192	"	"	"	"	
Isophorone	ND	0.0240	0.0481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.0240	0.0481	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	0.240	0.481	ug/L	1	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.0962	0.192	"	"	"	"	
1,2-Dinitrobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dinitrobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dinitrobenzene	ND	0.240	0.481	"	"	"	"	
Pyridine	ND	0.0962	0.192	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 42 %*	*Limits: 44-120 %*	"	"	"	*S-06*
2-Fluorobiphenyl (Surr)			*41 %*	*Limits: 44-120 %*	"	"	"	*S-06*
Phenol-d6 (Surr)			*13 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*95 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*20 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*76 %*	*Limits: 43-140 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.00952	0.0190	ug/L	1	05/13/16 17:01	EPA 8270D	
Acenaphthylene	ND	0.00952	0.0190	"	"	"	"	
Anthracene	ND	0.00952	0.0190	"	"	"	"	
Benz(a)anthracene	ND	0.00952	0.0190	"	"	"	"	
Benzo(a)pyrene	ND	0.0143	0.0286	"	"	"	"	
Benzo(b)fluoranthene	ND	0.0143	0.0286	"	"	"	"	
Benzo(k)fluoranthene	ND	0.0143	0.0286	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.00952	0.0190	"	"	"	"	
Chrysene	ND	0.00952	0.0190	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00952	0.0190	"	"	"	"	
Fluoranthene	ND	0.00952	0.0190	"	"	"	"	
Fluorene	ND	0.00952	0.0190	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00952	0.0190	"	"	"	"	
1-Methylnaphthalene	ND	0.0190	0.0381	"	"	"	"	
2-Methylnaphthalene	ND	0.0190	0.0381	"	"	"	"	
Naphthalene	ND	0.0190	0.0381	"	"	"	"	
Phenanthrene	ND	0.00952	0.0190	"	"	"	"	
Pyrene	ND	0.00952	0.0190	"	"	"	"	
Carbazole	ND	0.0143	0.0286	"	"	"	"	
Dibenzofuran	ND	0.00952	0.0190	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.0952	0.190	"	"	"	"	
2-Chlorophenol	ND	0.0476	0.0952	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**0.101**	0.0476	0.0952	ug/L	1	"	EPA 8270D	
2,4-Dimethylphenol	ND	0.0476	0.0952	"	"	"	"	
2,4-Dinitrophenol	ND	0.238	0.476	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.238	0.476	"	"	"	"	
2-Methylphenol	**0.0280**	0.0238	0.0476	"	"	"	"	J
3+4-Methylphenol(s)	ND	0.0238	0.0476	"	"	"	"	
2-Nitrophenol	ND	0.0952	0.190	"	"	"	"	
4-Nitrophenol	ND	0.0952	0.190	"	"	"	"	
Pentachlorophenol (PCP)	ND	0.0952	0.190	"	"	"	"	
Phenol	ND	0.190	0.381	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.0476	0.0952	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.0476	0.0952	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.0476	0.0952	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.0476	0.0952	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.190	0.381	"	"	"	"	
Butyl benzyl phthalate	ND	0.190	0.381	"	"	"	"	
Diethylphthalate	ND	0.190	0.381	"	"	"	"	
Dimethylphthalate	ND	0.190	0.381	"	"	"	"	
Di-n-butylphthalate	ND	0.190	0.381	"	"	"	"	
Di-n-octyl phthalate	ND	0.190	0.381	"	"	"	"	
N-Nitrosodimethylamine	ND	0.0238	0.0476	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.0238	0.0476	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.0238	0.0476	"	"	"	"	
Hexachlorobenzene	ND	0.00952	0.0190	"	"	"	"	
Hexachlorobutadiene	ND	0.0238	0.0476	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.0476	0.0952	"	"	"	"	
Hexachloroethane	ND	0.0238	0.0476	"	"	"	"	
2-Chloronaphthalene	ND	0.00952	0.0190	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0238	0.0476	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0238	0.0476	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0238	0.0476	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0238	0.0476	"	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**		**Batch: 6050350**			
4-Bromophenyl phenyl ether	ND	0.0238	0.0476	ug/L	1	"	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	0.0238	0.0476	"	"	"	"	
Aniline	ND	0.0476	0.0952	"	"	"	"	
4-Chloroaniline	ND	0.0238	0.0476	"	"	"	"	
2-Nitroaniline	ND	0.190	0.381	"	"	"	"	
3-Nitroaniline	ND	0.190	0.381	"	"	"	"	
4-Nitroaniline	ND	0.190	0.381	"	"	"	"	
Nitrobenzene	ND	0.0952	0.190	"	"	"	"	
2,4-Dinitrotoluene	ND	0.0952	0.190	"	"	"	"	
2,6-Dinitrotoluene	ND	0.0952	0.190	"	"	"	"	
Benzoic acid	ND	1.19	2.38	"	"	"	"	
Benzyl alcohol	ND	0.0952	0.190	"	"	"	"	
Isophorone	ND	0.0238	0.0476	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	0.238	0.476	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.0952	0.190	"	"	"	"	
1,2-Dinitrobenzene	ND	0.238	0.476	"	"	"	"	
1,3-Dinitrobenzene	ND	0.238	0.476	"	"	"	"	
1,4-Dinitrobenzene	ND	0.238	0.476	"	"	"	"	
Pyridine	ND	0.0952	0.190	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 46 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*41 %*	*Limits: 44-120 %*	"	"	"	*S-06*
Phenol-d6 (Surr)			*15 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*22 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*52 %*	*Limits: 43-140 %*	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**					
Batch: 6050512								
Arsenic	**4.17**	0.500	1.00	ug/L	1	05/23/16 19:25	EPA 200.8	
Barium	**21.1**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.0400	0.200	"	"	"	"	
Calcium	**34400**	50.0	100	"	"	"	"	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	**490**	50.0	100	"	"	"	"	
Lead	**0.378**	0.100	0.200	"	"	"	"	
Magnesium	**7890**	25.0	50.0	"	"	"	"	
Manganese	**79.6**	0.500	1.00	"	"	"	"	
Nickel	**9.79**	0.500	1.00	"	"	"	"	
Selenium	**1.30**	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**5.21**	2.00	4.00	"	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**					
Batch: 6050512								
Arsenic	**3.27**	0.500	1.00	ug/L	1	05/23/16 19:28	EPA 200.8	
Barium	**21.9**	0.500	1.00	"	"	"	"	
Cadmium	**0.0667**	0.0400	0.200	"	"	"	"	J
Calcium	**34500**	50.0	100	"	"	"	"	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	**225**	50.0	100	"	"	"	"	
Lead	**0.244**	0.100	0.200	"	"	"	"	
Magnesium	**7380**	25.0	50.0	"	"	"	"	
Manganese	**34.2**	0.500	1.00	"	"	"	"	
Nickel	**9.89**	0.500	1.00	"	"	"	"	
Selenium	ND	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**3.94**	2.00	4.00	"	"	"	"	J
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**					
Batch: 6050512								
Arsenic	**3.28**	0.500	1.00	ug/L	1	05/23/16 19:39	EPA 200.8	
Barium	**33.0**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.0400	0.200	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**					
Calcium	**41100**	50.0	100	ug/L	1	"	EPA 200.8	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	**269**	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Magnesium	**11500**	25.0	50.0	"	"	"	"	
Manganese	**56.4**	0.500	1.00	"	"	"	"	
Nickel	**14.9**	0.500	1.00	"	"	"	"	
Selenium	ND	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**6.52**	2.00	4.00	"	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**					
Batch: 6050512								
Arsenic	ND	0.500	1.00	ug/L	1	05/23/16 19:42	EPA 200.8	
Cadmium	ND	0.0400	0.200	"	"	"	"	
Calcium	**254**	50.0	100	"	"	"	"	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	ND	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Magnesium	ND	25.0	50.0	"	"	"	"	
Manganese	ND	0.500	1.00	"	"	"	"	
Nickel	ND	0.500	1.00	"	"	"	"	
Selenium	ND	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**					
Batch: 6050512								
Barium	**0.889**	0.500	1.00	ug/L	1	05/25/16 12:55	EPA 200.8	J

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-MH4-110516 (A6E0342-02)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.00**	0.500	1.00	ug/L	1	05/20/16 16:11	EPA 200.8 (Diss)	
Barium	**20.7**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**283**	50.0	100	"	"	"	"	
Lead	**0.144**	0.100	0.200	"	"	"	"	J
Manganese	**67.8**	0.500	1.00	"	"	"	"	
Nickel	**9.72**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**2.11**	2.00	4.00	"	"	"	"	J
22B-F-MH4-110516 (A6E0342-02RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**34200**	50.0	100	ug/L	1	05/23/16 12:55	EPA 200.8 (Diss)	
Copper	ND	0.500	1.00	"	"	"	"	
Magnesium	**8760**	25.0	50.0	"	"	"	"	
22B-F-MH6-110516 (A6E0342-04)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**3.39**	0.500	1.00	ug/L	1	05/20/16 16:14	EPA 200.8 (Diss)	
Barium	**22.5**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Copper	ND	0.500	1.00	"	"	"	"	
Iron	**164**	50.0	100	"	"	"	"	
Lead	**0.144**	0.100	0.200	"	"	"	"	J
Manganese	**32.7**	0.500	1.00	"	"	"	"	
Nickel	**9.60**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**2.42**	2.00	4.00	"	"	"	"	J
22B-F-MH6-110516 (A6E0342-04RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**34200**	50.0	100	ug/L	1	05/23/16 12:58	EPA 200.8 (Diss)	
Magnesium	**7960**	25.0	50.0	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-MH7-110516 (A6E0342-06)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**3.52**	0.500	1.00	ug/L	1	05/20/16 16:17	EPA 200.8 (Diss)	
Barium	**32.3**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**203**	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Manganese	**54.6**	0.500	1.00	"	"	"	"	
Nickel	**14.4**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**6.02**	2.00	4.00	"	"	"	"	
22B-F-MH7-110516 (A6E0342-06RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**40800**	50.0	100	ug/L	1	05/23/16 13:16	EPA 200.8 (Diss)	
Copper	**0.911**	0.500	1.00	"	"	"	"	J
Magnesium	**12600**	25.0	50.0	"	"	"	"	
22B-F-RB-110516 (A6E0342-08)			**Matrix: Water**					
Batch: 6050485								
Arsenic	ND	0.500	1.00	ug/L	1	05/20/16 16:20	EPA 200.8 (Diss)	
Barium	**0.922**	0.500	1.00	"	"	"	"	J
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Copper	ND	0.500	1.00	"	"	"	"	
Iron	ND	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Manganese	ND	0.500	1.00	"	"	"	"	
Nickel	ND	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-RB-110516 (A6E0342-08RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**164**	50.0	100	ug/L	1	05/23/16 13:19	EPA 200.8 (Diss)	
Magnesium	ND	25.0	50.0	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Hexavalent Chromium by IC

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.086**	0.0048	0.020	ug/l	1	05/19/16 10:40	EPA 218.6	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.11**	0.0048	0.020	ug/l	1	05/19/16 10:52	EPA 218.6	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.11**	0.0048	0.020	ug/l	1	05/19/16 11:04	EPA 218.6	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.15**	0.0048	0.020	ug/l	1	05/19/16 11:16	EPA 218.6	

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Mercury - Low Level by CVAFS

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0024**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH4-110516 (A6E0342-02)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0011**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0025**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH6-110516 (A6E0342-04)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0015**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0022**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH7-110516 (A6E0342-06)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.00097**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0016**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-RB-110516 (A6E0342-08)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	ND	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050387 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (6050387-BLK1)						Prepared: 05/13/16 10:06	Analyzed: 05/13/16 18:33					
NWTPH-HCID												
Gasoline Range Organics	ND	0.0909	0.0909	mg/L	1	---	---	---	---	---	---	
Diesel Range Organics	ND	0.227	0.227	"	"	---	---	---	---	---	---	
Oil Range Organics	ND	0.227	0.227	"	"	---	---	---	---	---	---	

Surr: o-Terphenyl (Surr)	*Recovery: 95 %*	*Limits: 50-150 %*	*Dilution: 1x*
4-Bromofluorobenzene (Surr)	*68 %*	*10-120 %*	*"*

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050401 - EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid							**Water**					
Blank (6050401-BLK1)					Prepared: 05/13/16 10:06		Analyzed: 05/13/16 19:50					
NWTPH-Dx/SG												
Diesel	ND	0.114	0.227	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.227	0.455	"	"	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS (6050401-BS1)					Prepared: 05/13/16 10:06		Analyzed: 05/13/16 20:10					
NWTPH-Dx/SG												
Diesel	1.18	0.125	0.250	mg/L	1	1.25	---	94	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 105 %*	*Limits: 50-150 %*			*Dilution: 1x*					
LCS Dup (6050401-BSD1)					Prepared: 05/13/16 10:06		Analyzed: 05/13/16 20:30					**Q-19**
NWTPH-Dx/SG												
Diesel	1.21	0.125	0.250	mg/L	1	1.25	---	97	58-115%	3	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*			*Dilution: 1x*					

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Blank (6050343-BLK1)					Prepared: 05/12/16 10:59		Analyzed: 05/12/16 14:02					
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*108 %*	*50-150 %*			*"*					
LCS (6050343-BS2)					Prepared: 05/12/16 10:59		Analyzed: 05/12/16 13:31					
NWTPH-Gx (MS)												
Gasoline Range Organics	0.512	0.0500	0.100	mg/L	1	0.500	---	102	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*106 %*	*50-150 %*			*"*					
Duplicate (6050343-DUP1)					Prepared: 05/12/16 14:58		Analyzed: 05/12/16 15:41					
QC Source Sample: 22B-U-RB-110516 (A6E0342-07)												
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	ND	---	---	---	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 101 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*110 %*	*50-150 %*			*"*					

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)					Prepared: 05/13/16 15:13		Analyzed: 05/13/16 23:25					
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 94 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*			*"*					
LCS (6050381-BS2)					Prepared: 05/13/16 15:13		Analyzed: 05/13/16 22:56					
NWTPH-Gx (MS)												
Gasoline Range Organics	0.444	0.0500	0.100	mg/L	1	0.500	---	89	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*98 %*	*50-150 %*			*"*					

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Blank (6050343-BLK1)						Prepared: 05/12/16 10:59	Analyzed: 05/12/16 14:02					
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrolein	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Blank (6050343-BLK1)					Prepared: 05/12/16 10:59 Analyzed: 05/12/16 14:02							
1,1-Dichloroethane	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Iodomethane	ND	10.0	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Blank (6050343-BLK1)					Prepared: 05/12/16 10:59	Analyzed: 05/12/16 14:02						
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 110 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*109 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*101 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*		*"*					
LCS (6050343-BS1)					Prepared: 05/12/16 10:59	Analyzed: 05/12/16 13:01						**Q-50**
EPA 8260B												
Acetone	50.5	10.0	20.0	ug/L	1	40.0	---	126	70-130%	---	---	
Acrolein	19.1	5.00	10.0	"	"	20.0	---	95	"	---	---	
Acrylonitrile	25.2	1.00	2.00	"	"	"	---	126	"	---	---	
Benzene	23.4	0.100	0.200	"	"	"	---	117	"	---	---	
Bromobenzene	21.3	0.250	0.500	"	"	"	---	106	"	---	---	
Bromochloromethane	23.1	0.500	1.00	"	"	"	---	115	"	---	---	
Bromodichloromethane	23.1	0.500	1.00	"	"	"	---	115	"	---	---	
Bromoform	17.8	0.500	1.00	"	"	"	---	89	"	---	---	
Bromomethane	30.2	5.00	5.00	"	"	"	---	151	"	---	---	Q-41
2-Butanone (MEK)	52.3	5.00	10.0	"	"	40.0	---	131	"	---	---	Q-29
n-Butylbenzene	22.0	0.500	1.00	"	"	20.0	---	110	"	---	---	
sec-Butylbenzene	22.5	0.500	1.00	"	"	"	---	112	"	---	---	
tert-Butylbenzene	21.3	0.500	1.00	"	"	"	---	106	"	---	---	
Carbon tetrachloride	21.6	0.500	1.00	"	"	"	---	108	"	---	---	
Chlorobenzene	21.0	0.250	0.500	"	"	"	---	105	"	---	---	
Chloroethane	29.1	5.00	5.00	"	"	"	---	145	"	---	---	Q-41

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
LCS (6050343-BS1)					Prepared: 05/12/16 10:59		Analyzed: 05/12/16 13:01					**Q-50**
2-Chloroethyl vinyl ether	17.1	5.00	10.0	ug/L	"	"	---	86	"	---	---	
Chloroform	23.6	0.500	1.00	"	"	"	---	118	"	---	---	
Chloromethane	22.5	2.50	5.00	"	"	"	---	112	"	---	---	Q-31
2-Chlorotoluene	21.5	0.500	1.00	"	"	"	---	108	"	---	---	
4-Chlorotoluene	21.5	0.500	1.00	"	"	"	---	107	"	---	---	
1,2-Dibromo-3-chloropropane	23.7	2.50	5.00	"	"	"	---	118	"	---	---	
Dibromochloromethane	20.7	0.500	1.00	"	"	"	---	103	"	---	---	
1,2-Dibromoethane (EDB)	21.7	0.250	0.500	"	"	"	---	109	"	---	---	
Dibromomethane	23.5	0.500	1.00	"	"	"	---	117	"	---	---	
1,2-Dichlorobenzene	21.7	0.250	0.500	"	"	"	---	109	"	---	---	
1,3-Dichlorobenzene	21.1	0.250	0.500	"	"	"	---	106	"	---	---	
1,4-Dichlorobenzene	21.1	0.250	0.500	"	"	"	---	106	"	---	---	
Dichlorodifluoromethane	22.5	0.500	1.00	"	"	"	---	112	"	---	---	Q-31
1,1-Dichloroethane	24.0	0.250	0.500	"	"	"	---	120	"	---	---	
1,2-Dichloroethane (EDC)	23.9	0.250	0.500	"	"	"	---	120	"	---	---	
1,1-Dichloroethene	23.1	0.250	0.500	"	"	"	---	115	"	---	---	
cis-1,2-Dichloroethene	23.2	0.250	0.500	"	"	"	---	116	"	---	---	
trans-1,2-Dichloroethene	23.3	0.250	0.500	"	"	"	---	117	"	---	---	
1,2-Dichloropropane	24.3	0.250	0.500	"	"	"	---	121	"	---	---	
1,3-Dichloropropane	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
2,2-Dichloropropane	19.7	0.500	1.00	"	"	"	---	98	"	---	---	
1,1-Dichloropropene	23.8	0.500	1.00	"	"	"	---	119	"	---	---	
cis-1,3-Dichloropropene	19.8	0.500	1.00	"	"	"	---	99	"	---	---	
trans-1,3-Dichloropropene	20.3	0.500	1.00	"	"	"	---	102	"	---	---	
Ethylbenzene	21.3	0.250	0.500	"	"	"	---	106	"	---	---	
Hexachlorobutadiene	19.9	2.50	5.00	"	"	"	---	100	"	---	---	
2-Hexanone	45.4	5.00	10.0	"	"	40.0	---	113	"	---	---	
Iodomethane	33.0	10.0	10.0	"	"	"	---	82	"	---	---	
Isopropylbenzene	20.7	0.500	1.00	"	"	20.0	---	104	"	---	---	
4-Isopropyltoluene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
LCS (6050343-BS1)					Prepared: 05/12/16 10:59		Analyzed: 05/12/16 13:01					**Q-50**
4-Methyl-2-pentanone (MiBK)	45.5	5.00	10.0	ug/L	"	40.0	---	114	"	---	---	
Methyl tert-butyl ether (MTBE)	19.1	0.500	1.00	"	"	20.0	---	96	"	---	---	
Methylene chloride	24.0	1.50	3.00	"	"	"	---	120	"	---	---	
Naphthalene	22.5	1.00	2.00	"	"	"	---	113	"	---	---	
n-Propylbenzene	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Styrene	21.2	0.500	1.00	"	"	"	---	106	"	---	---	
1,1,1,2-Tetrachloroethane	21.2	0.250	0.500	"	"	"	---	106	"	---	---	
1,1,2,2-Tetrachloroethane	24.5	0.250	0.500	"	"	"	---	122	"	---	---	
Tetrachloroethene (PCE)	20.3	0.250	0.500	"	"	"	---	101	"	---	---	
Toluene	20.6	0.500	1.00	"	"	"	---	103	"	---	---	
1,2,3-Trichlorobenzene	20.9	1.00	2.00	"	"	"	---	104	"	---	---	
1,2,4-Trichlorobenzene	19.4	1.00	2.00	"	"	"	---	97	"	---	---	
1,1,1-Trichloroethane	22.3	0.250	0.500	"	"	"	---	111	"	---	---	
1,1,2-Trichloroethane	22.1	0.250	0.500	"	"	"	---	111	"	---	---	
Trichloroethene (TCE)	22.2	0.250	0.500	"	"	"	---	111	"	---	---	
Trichlorofluoromethane	29.2	1.00	2.00	"	"	"	---	146	"	---	---	Q-41
1,2,3-Trichloropropane	23.6	0.500	1.00	"	"	"	---	118	"	---	---	
1,2,4-Trimethylbenzene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,3,5-Trimethylbenzene	21.9	0.500	1.00	"	"	"	---	109	"	---	---	
Vinyl chloride	28.3	0.250	0.500	"	"	"	---	141	"	---	---	Q-29
m,p-Xylene	42.9	0.500	1.00	"	"	40.0	---	107	"	---	---	
o-Xylene	20.7	0.250	0.500	"	"	20.0	---	104	"	---	---	

Surr: Dibromofluoromethane (Surr)	*Recovery: 111 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*107 %*	*80-120 %*	*"*
Toluene-d8 (Surr)	*100 %*	*80-120 %*	*"*
4-Bromofluorobenzene (Surr)	*97 %*	*80-120 %*	*"*

Duplicate (6050343-DUP1) Prepared: 05/12/16 14:58 Analyzed: 05/12/16 15:41

QC Source Sample: 22B-U-RB-110516 (A6E0342-07)

EPA 8260B

Acetone	ND	10.0	20.0	ug/L	1	---	ND	---	---	---	30%

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Apex Labs

AMENDED REPORT

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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Duplicate (6050343-DUP1)					Prepared: 05/12/16 14:58 Analyzed: 05/12/16 15:41							
QC Source Sample: 22B-U-RB-110516 (A6E0342-07)												
Acrolein	ND	5.00	10.0	ug/L	"	---	ND	---	---	---	30%	
Acrylonitrile	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
Benzene	ND	0.100	0.200	"	"	---	ND	---	---	---	30%	
Bromobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Bromochloromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Bromodichloromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Bromoform	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Bromomethane	ND	5.00	5.00	"	"	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	
n-Butylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	5.00	5.00	"	"	---	ND	---	---	---	30%	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	
Chloroform	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	2.50	5.00	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloroprop ane	ND	2.50	5.00	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Duplicate (6050343-DUP1)					Prepared: 05/12/16 14:58 Analyzed: 05/12/16 15:41							
QC Source Sample: 22B-U-RB-110516 (A6E0342-07)												
1,2-Dichloroethane (EDC)	ND	0.250	0.500	ug/L	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	ND	---	---	---	30%	
2-Hexanone	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	
Iodomethane	ND	10.0	10.0	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	1.50	3.00	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Styrene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Toluene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050343 - EPA 5030B							**Water**					
Duplicate (6050343-DUP1)						Prepared: 05/12/16 14:58	Analyzed: 05/12/16 15:41					
QC Source Sample: 22B-U-RB-110516 (A6E0342-07)												
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	0.500	1.00	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	0.250	0.500	"	"	---	ND	---	---	---	30%	

Surr: Dibromofluoromethane (Surr)	*Recovery: 109 %*	*Limits: 80-120 %*	*Dilution: 1x*
1,4-Difluorobenzene (Surr)	*110 %*	*80-120 %*	*"*
Toluene-d8 (Surr)	*102 %*	*80-120 %*	*"*
4-Bromofluorobenzene (Surr)	*98 %*	*80-120 %*	*"*

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)						Prepared: 05/13/16 15:13	Analyzed: 05/13/16 23:25					
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrolein	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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AMENDED REPORT

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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 23:25							
1,1-Dichloroethane	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	Q-31
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Iodomethane	ND	10.0	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	Q-31
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
Blank (6050381-BLK1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 23:25							
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*100 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*110 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*105 %*		*80-120 %*		*"*					
LCS (6050381-BS1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 22:26							
EPA 8260B												
Acetone	48.4	10.0	20.0	ug/L	1	40.0	---	121	70-130%	---	---	
Acrolein	16.7	5.00	10.0	"	"	20.0	---	83	"	---	---	
Acrylonitrile	23.5	1.00	2.00	"	"	"	---	118	"	---	---	
Benzene	21.7	0.100	0.200	"	"	"	---	109	"	---	---	
Bromobenzene	21.3	0.250	0.500	"	"	"	---	107	"	---	---	
Bromochloromethane	20.3	0.500	1.00	"	"	"	---	101	"	---	---	
Bromodichloromethane	21.2	0.500	1.00	"	"	"	---	106	"	---	---	
Bromoform	18.0	0.500	1.00	"	"	"	---	90	"	---	---	
Bromomethane	18.2	5.00	5.00	"	"	"	---	91	"	---	---	
2-Butanone (MEK)	49.4	5.00	10.0	"	"	40.0	---	124	"	---	---	
n-Butylbenzene	21.6	0.500	1.00	"	"	20.0	---	108	"	---	---	
sec-Butylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
tert-Butylbenzene	21.9	0.500	1.00	"	"	"	---	109	"	---	---	
Carbon tetrachloride	19.7	0.500	1.00	"	"	"	---	98	"	---	---	
Chlorobenzene	21.0	0.250	0.500	"	"	"	---	105	"	---	---	
Chloroethane	22.1	5.00	5.00	"	"	"	---	110	"	---	---	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
LCS (6050381-BS1)					Prepared: 05/13/16 15:13 Analyzed: 05/13/16 22:26							
2-Chloroethyl vinyl ether	18.5	5.00	10.0	ug/L	"	"	---	92	"	---	---	
Chloroform	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
Chloromethane	22.4	2.50	5.00	"	"	"	---	112	"	---	---	
2-Chlorotoluene	21.2	0.500	1.00	"	"	"	---	106	"	---	---	
4-Chlorotoluene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
1,2-Dibromo-3-chloropropane	23.0	2.50	5.00	"	"	"	---	115	"	---	---	
Dibromochloromethane	20.7	0.500	1.00	"	"	"	---	104	"	---	---	
1,2-Dibromoethane (EDB)	21.7	0.250	0.500	"	"	"	---	109	"	---	---	
Dibromomethane	21.1	0.500	1.00	"	"	"	---	106	"	---	---	
1,2-Dichlorobenzene	21.6	0.250	0.500	"	"	"	---	108	"	---	---	
1,3-Dichlorobenzene	21.1	0.250	0.500	"	"	"	---	106	"	---	---	
1,4-Dichlorobenzene	21.0	0.250	0.500	"	"	"	---	105	"	---	---	
Dichlorodifluoromethane	19.8	0.500	1.00	"	"	"	---	99	"	---	---	
1,1-Dichloroethane	22.7	0.250	0.500	"	"	"	---	114	"	---	---	
1,2-Dichloroethane (EDC)	22.8	0.250	0.500	"	"	"	---	114	"	---	---	
1,1-Dichloroethene	14.9	0.250	0.500	"	"	"	---	74	"	---	---	Q-31
cis-1,2-Dichloroethene	22.5	0.250	0.500	"	"	"	---	113	"	---	---	
trans-1,2-Dichloroethene	22.2	0.250	0.500	"	"	"	---	111	"	---	---	
1,2-Dichloropropane	23.4	0.250	0.500	"	"	"	---	117	"	---	---	
1,3-Dichloropropane	22.8	0.500	1.00	"	"	"	---	114	"	---	---	
2,2-Dichloropropane	14.6	0.500	1.00	"	"	"	---	73	"	---	---	
1,1-Dichloropropene	22.1	0.500	1.00	"	"	"	---	110	"	---	---	
cis-1,3-Dichloropropene	20.0	0.500	1.00	"	"	"	---	100	"	---	---	
trans-1,3-Dichloropropene	20.8	0.500	1.00	"	"	"	---	104	"	---	---	
Ethylbenzene	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
Hexachlorobutadiene	22.7	2.50	5.00	"	"	"	---	113	"	---	---	
2-Hexanone	48.7	5.00	10.0	"	"	40.0	---	122	"	---	---	
Iodomethane	32.5	10.0	10.0	"	"	"	---	81	"	---	---	
Isopropylbenzene	21.3	0.500	1.00	"	"	20.0	---	107	"	---	---	
4-Isopropyltoluene	21.6	0.500	1.00	"	"	"	---	108	"	---	---	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050381 - EPA 5030B							**Water**					
LCS (6050381-BS1)						Prepared: 05/13/16 15:13	Analyzed: 05/13/16 22:26					
4-Methyl-2-pentanone (MiBK)	49.4	5.00	10.0	ug/L	"	40.0	---	123	"	---	---	
Methyl tert-butyl ether (MTBE)	17.6	0.500	1.00	"	"	20.0	---	88	"	---	---	Q-31
Methylene chloride	21.6	1.50	3.00	"	"	"	---	108	"	---	---	
Naphthalene	22.2	1.00	2.00	"	"	"	---	111	"	---	---	
n-Propylbenzene	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Styrene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
1,1,1,2-Tetrachloroethane	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
1,1,2,2-Tetrachloroethane	23.9	0.250	0.500	"	"	"	---	119	"	---	---	
Tetrachloroethene (PCE)	20.7	0.250	0.500	"	"	"	---	104	"	---	---	
Toluene	21.3	0.500	1.00	"	"	"	---	106	"	---	---	
1,2,3-Trichlorobenzene	21.7	1.00	2.00	"	"	"	---	108	"	---	---	
1,2,4-Trichlorobenzene	20.1	1.00	2.00	"	"	"	---	101	"	---	---	
1,1,1-Trichloroethane	20.2	0.250	0.500	"	"	"	---	101	"	---	---	
1,1,2-Trichloroethane	22.6	0.250	0.500	"	"	"	---	113	"	---	---	
Trichloroethene (TCE)	19.8	0.250	0.500	"	"	"	---	99	"	---	---	
Trichlorofluoromethane	18.5	1.00	2.00	"	"	"	---	93	"	---	---	
1,2,3-Trichloropropane	23.5	0.500	1.00	"	"	"	---	118	"	---	---	
1,2,4-Trimethylbenzene	22.3	0.500	1.00	"	"	"	---	112	"	---	---	
1,3,5-Trimethylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
Vinyl chloride	23.4	0.250	0.500	"	"	"	---	117	"	---	---	
m,p-Xylene	44.8	0.500	1.00	"	"	40.0	---	112	"	---	---	
o-Xylene	21.8	0.250	0.500	"	"	20.0	---	109	"	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*105 %*	*Limits:*	*80-120 %*	*Dilution: 1x*
	1,4-Difluorobenzene (Surr)		*99 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*108 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*103 %*		*80-120 %*	*"*

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050468 - EPA 5030B							**Water**					
Blank (6050468-BLK1)						Prepared: 05/17/16 10:51	Analyzed: 05/17/16 13:17					
EPA 8260B												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrolein	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	"	"	---	---	---	---	---	---	Q-31
Bromomethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	"	"	---	---	---	---	---	---	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloroprop ane	ND	2.50	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050468 - EPA 5030B							**Water**					
Blank (6050468-BLK1)					Prepared: 05/17/16 10:51 Analyzed: 05/17/16 13:17							
1,1-Dichloroethane	ND	0.250	0.500	ug/L	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Iodomethane	ND	10.0	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	1.50	3.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050468 - EPA 5030B							**Water**					
Blank (6050468-BLK1)					Prepared: 05/17/16 10:51 Analyzed: 05/17/16 13:17							
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	0.250	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	"	"	---	---	---	---	---	---	
Surr: Dibromofluoromethane (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*		*Dilution: 1x*					
1,4-Difluorobenzene (Surr)			*101 %*		*80-120 %*		*"*					
Toluene-d8 (Surr)			*110 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*106 %*		*80-120 %*		*"*					
LCS (6050468-BS1)					Prepared: 05/17/16 10:51 Analyzed: 05/17/16 12:19							
EPA 8260B												
Acetone	46.2	10.0	20.0	ug/L	1	40.0	---	116	70-130%	---	---	
Acrolein	15.7	5.00	10.0	"	"	20.0	---	79	"	---	---	
Acrylonitrile	24.1	1.00	2.00	"	"	"	---	120	"	---	---	
Benzene	21.7	0.100	0.200	"	"	"	---	109	"	---	---	
Bromobenzene	21.7	0.250	0.500	"	"	"	---	108	"	---	---	
Bromochloromethane	20.9	0.500	1.00	"	"	"	---	105	"	---	---	
Bromodichloromethane	21.4	0.500	1.00	"	"	"	---	107	"	---	---	
Bromoform	18.1	0.500	1.00	"	"	"	---	91	"	---	---	Q-31
Bromomethane	16.0	5.00	5.00	"	"	"	---	80	"	---	---	
2-Butanone (MEK)	48.6	5.00	10.0	"	"	40.0	---	122	"	---	---	
n-Butylbenzene	22.0	0.500	1.00	"	"	20.0	---	110	"	---	---	
sec-Butylbenzene	22.0	0.500	1.00	"	"	"	---	110	"	---	---	
tert-Butylbenzene	21.8	0.500	1.00	"	"	"	---	109	"	---	---	
Carbon tetrachloride	19.4	0.500	1.00	"	"	"	---	97	"	---	---	
Chlorobenzene	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
Chloroethane	20.1	5.00	5.00	"	"	"	---	101	"	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050468 - EPA 5030B							**Water**					
LCS (6050468-BS1)					Prepared: 05/17/16 10:51 Analyzed: 05/17/16 12:19							
2-Chloroethyl vinyl ether	17.1	5.00	10.0	ug/L	"	"	---	86	"	---	---	
Chloroform	22.2	0.500	1.00	"	"	"	---	111	"	---	---	
Chloromethane	21.7	2.50	5.00	"	"	"	---	108	"	---	---	
2-Chlorotoluene	21.3	0.500	1.00	"	"	"	---	106	"	---	---	
4-Chlorotoluene	21.9	0.500	1.00	"	"	"	---	110	"	---	---	
1,2-Dibromo-3-chloropropane	21.6	2.50	5.00	"	"	"	---	108	"	---	---	
Dibromochloromethane	20.6	0.500	1.00	"	"	"	---	103	"	---	---	
1,2-Dibromoethane (EDB)	21.8	0.250	0.500	"	"	"	---	109	"	---	---	
Dibromomethane	21.1	0.500	1.00	"	"	"	---	105	"	---	---	
1,2-Dichlorobenzene	21.7	0.250	0.500	"	"	"	---	109	"	---	---	
1,3-Dichlorobenzene	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
1,4-Dichlorobenzene	21.2	0.250	0.500	"	"	"	---	106	"	---	---	
Dichlorodifluoromethane	19.2	0.500	1.00	"	"	"	---	96	"	---	---	
1,1-Dichloroethane	23.0	0.250	0.500	"	"	"	---	115	"	---	---	
1,2-Dichloroethane (EDC)	22.5	0.250	0.500	"	"	"	---	112	"	---	---	
1,1-Dichloroethene	20.0	0.250	0.500	"	"	"	---	100	"	---	---	Q-31
cis-1,2-Dichloroethene	22.3	0.250	0.500	"	"	"	---	112	"	---	---	
trans-1,2-Dichloroethene	22.3	0.250	0.500	"	"	"	---	112	"	---	---	
1,2-Dichloropropane	23.1	0.250	0.500	"	"	"	---	116	"	---	---	
1,3-Dichloropropane	23.0	0.500	1.00	"	"	"	---	115	"	---	---	
2,2-Dichloropropane	19.6	0.500	1.00	"	"	"	---	98	"	---	---	
1,1-Dichloropropene	22.1	0.500	1.00	"	"	"	---	110	"	---	---	
cis-1,3-Dichloropropene	21.0	0.500	1.00	"	"	"	---	105	"	---	---	
trans-1,3-Dichloropropene	21.9	0.500	1.00	"	"	"	---	109	"	---	---	
Ethylbenzene	22.0	0.250	0.500	"	"	"	---	110	"	---	---	
Hexachlorobutadiene	23.8	2.50	5.00	"	"	"	---	119	"	---	---	
2-Hexanone	46.2	5.00	10.0	"	"	40.0	---	115	"	---	---	
Iodomethane	28.1	10.0	10.0	"	"	"	---	70	"	---	---	Q-31
Isopropylbenzene	21.3	0.500	1.00	"	"	20.0	---	106	"	---	---	
4-Isopropyltoluene	21.6	0.500	1.00	"	"	"	---	108	"	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050468 - EPA 5030B							**Water**					
LCS (6050468-BS1)						Prepared: 05/17/16 10:51	Analyzed: 05/17/16 12:19					
4-Methyl-2-pentanone (MiBK)	47.5	5.00	10.0	ug/L	"	40.0	---	119	"	---	---	
Methyl tert-butyl ether (MTBE)	17.9	0.500	1.00	"	"	20.0	---	89	"	---	---	
Methylene chloride	21.4	1.50	3.00	"	"	"	---	107	"	---	---	
Naphthalene	22.3	1.00	2.00	"	"	"	---	111	"	---	---	
n-Propylbenzene	22.4	0.250	0.500	"	"	"	---	112	"	---	---	
Styrene	21.5	0.500	1.00	"	"	"	---	107	"	---	---	
1,1,1,2-Tetrachloroethane	22.1	0.250	0.500	"	"	"	---	110	"	---	---	
1,1,2,2-Tetrachloroethane	22.0	0.250	0.500	"	"	"	---	110	"	---	---	
Tetrachloroethene (PCE)	21.7	0.250	0.500	"	"	"	---	108	"	---	---	
Toluene	21.4	0.500	1.00	"	"	"	---	107	"	---	---	
1,2,3-Trichlorobenzene	22.6	1.00	2.00	"	"	"	---	113	"	---	---	
1,2,4-Trichlorobenzene	21.3	1.00	2.00	"	"	"	---	106	"	---	---	
1,1,1-Trichloroethane	20.7	0.250	0.500	"	"	"	---	103	"	---	---	
1,1,2-Trichloroethane	22.7	0.250	0.500	"	"	"	---	113	"	---	---	
Trichloroethene (TCE)	21.1	0.250	0.500	"	"	"	---	105	"	---	---	
Trichlorofluoromethane	16.1	1.00	2.00	"	"	"	---	80	"	---	---	
1,2,3-Trichloropropane	23.3	0.500	1.00	"	"	"	---	117	"	---	---	
1,2,4-Trimethylbenzene	22.6	0.500	1.00	"	"	"	---	113	"	---	---	
1,3,5-Trimethylbenzene	22.1	0.500	1.00	"	"	"	---	110	"	---	---	
Vinyl chloride	21.4	0.250	0.500	"	"	"	---	107	"	---	---	
m,p-Xylene	44.9	0.500	1.00	"	"	40.0	---	112	"	---	---	
o-Xylene	21.9	0.250	0.500	"	"	20.0	---	109	"	---	---	

Surr:	*Dibromofluoromethane (Surr)*	*Recovery:*	*102 %*	*Limits:*	*80-120 %*	*Dilution: 1x*
	1,4-Difluorobenzene (Surr)		*99 %*		*80-120 %*	*"*
	Toluene-d8 (Surr)		*108 %*		*80-120 %*	*"*
	4-Bromofluorobenzene (Surr)		*104 %*		*80-120 %*	*"*

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (6050350-BLK1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 17:46							
EPA 8270D												
Acenaphthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Anthracene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Chrysene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Fluoranthene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Fluorene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0182	0.0364	"	"	---	---	---	---	---	---	
2-Methylnaphthalene	**0.0193**	0.0182	0.0364	"	"	---	---	---	---	---	---	B-02, J
Naphthalene	**0.0267**	0.0182	0.0364	"	"	---	---	---	---	---	---	B-02, J
Phenanthrene	**0.0138**	0.00909	0.0182	"	"	---	---	---	---	---	---	B-02, J
Pyrene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Carbazole	ND	0.0136	0.0273	"	"	---	---	---	---	---	---	
Dibenzofuran	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
2-Chlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	0.227	0.455	"	"	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	0.227	0.455	"	"	---	---	---	---	---	---	
2-Methylphenol	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
2-Nitrophenol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
4-Nitrophenol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (6050350-BLK1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 17:46							
Pentachlorophenol (PCP)	ND	0.0909	0.182	ug/L	"	---	---	---	---	---	---	
Phenol	ND	0.182	0.364	"	"	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,3,5,6-Tetrachlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Diethylphthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Dimethylphthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Di-n-butylphthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	0.182	0.364	"	"	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Chloroisopropyl) ether	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Hexachlorobenzene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
Hexachloroethane	**0.0242**	0.0227	0.0455	"	"	---	---	---	---	---	---	B-02, J
2-Chloronaphthalene	ND	0.00909	0.0182	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (6050350-BLK1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 17:46							
4-Chlorophenyl phenyl ether	ND	0.0227	0.0455	ug/L	"	---	---	---	---	---	---	
Aniline	ND	0.0455	0.0909	"	"	---	---	---	---	---	---	
4-Chloroaniline	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
2-Nitroaniline	ND	0.182	0.364	"	"	---	---	---	---	---	---	
3-Nitroaniline	ND	0.182	0.364	"	"	---	---	---	---	---	---	
4-Nitroaniline	ND	0.182	0.364	"	"	---	---	---	---	---	---	
Nitrobenzene	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
Benzoic acid	ND	1.14	2.27	"	"	---	---	---	---	---	---	
Benzyl alcohol	ND	0.0909	0.182	"	"	---	---	---	---	---	---	
Isophorone	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	0.0227	0.0455	"	"	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	0.227	0.455	"	"	---	---	---	---	---	---	
3,3'-Dichlorobenzidine	ND	0.227	0.455	"	"	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	0.227	0.455	"	"	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	0.227	0.455	"	"	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	0.227	0.455	"	"	---	---	---	---	---	---	
Pyridine	ND	0.0909	0.182	"	"	---	---	---	---	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 87 %*	*Limits: 44-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*85 %*	*44-120 %*	*"*
Phenol-d6 (Surr)	*29 %*	*10-120 %*	*"*
p-Terphenyl-d14 (Surr)	*106 %*	*50-133 %*	*"*
2-Fluorophenol (Surr)	*44 %*	*19-120 %*	*"*
2,4,6-Tribromophenol (Surr)	*83 %*	*43-140 %*	*"*

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (6050350-BS1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 18:24							
EPA 8270D												
Acenaphthene	3.43	0.0100	0.0200	ug/L	1	4.00	---	86	47-122%	---	---	
Acenaphthylene	3.61	0.0100	0.0200	"	"	"	---	90	41-130%	---	---	
Anthracene	4.09	0.0100	0.0200	"	"	"	---	102	57-123%	---	---	
Benz(a)anthracene	4.37	0.0100	0.0200	"	"	"	---	109	58-125%	---	---	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (6050350-BS1)					Prepared: 05/12/16 11:28	Analyzed: 05/12/16 18:24						
Benzo(a)pyrene	4.32	0.0150	0.0300	ug/L	"	"	---	108	54-128%	---	---	
Benzo(b)fluoranthene	4.25	0.0150	0.0300	"	"	"	---	106	53-131%	---	---	
Benzo(k)fluoranthene	4.38	0.0150	0.0300	"	"	"	---	109	57-129%	---	---	
Benzo(g,h,i)perylene	4.53	0.0100	0.0200	"	"	"	---	113	50-134%	---	---	
Chrysene	4.26	0.0100	0.0200	"	"	"	---	107	59-123%	---	---	
Dibenz(a,h)anthracene	4.50	0.0100	0.0200	"	"	"	---	112	51-134%	---	---	
Fluoranthene	4.34	0.0100	0.0200	"	"	"	---	109	57-128%	---	---	
Fluorene	3.81	0.0100	0.0200	"	"	"	---	95	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	4.22	0.0100	0.0200	"	"	"	---	105	52-133%	---	---	
1-Methylnaphthalene	3.28	0.0200	0.0400	"	"	"	---	82	41-120%	---	---	
2-Methylnaphthalene	3.27	0.0200	0.0400	"	"	"	---	82	40-121%	---	---	B-02
Naphthalene	3.05	0.0200	0.0400	"	"	"	---	76	"	---	---	B-02
Phenanthrene	3.88	0.0100	0.0200	"	"	"	---	97	59-120%	---	---	B-02
Pyrene	4.31	0.0100	0.0200	"	"	"	---	108	57-126%	---	---	
Carbazole	4.27	0.0150	0.0300	"	"	"	---	107	60-122%	---	---	
Dibenzofuran	3.71	0.0100	0.0200	"	"	"	---	93	53-120%	---	---	
4-Chloro-3-methylphenol	3.87	0.100	0.200	"	"	"	---	97	52-120%	---	---	
2-Chlorophenol	3.39	0.0500	0.100	"	"	"	---	85	38-120%	---	---	
2,4-Dichlorophenol	3.60	0.0500	0.100	"	"	"	---	90	47-121%	---	---	
2,4-Dimethylphenol	3.11	0.0500	0.100	"	"	"	---	78	31-124%	---	---	
2,4-Dinitrophenol	4.05	0.250	0.500	"	"	"	---	101	23-143%	---	---	
4,6-Dinitro-2-methylphenol	4.15	0.250	0.500	"	"	"	---	104	44-137%	---	---	
2-Methylphenol	3.29	0.0250	0.0500	"	"	"	---	82	30-120%	---	---	
3+4-Methylphenol(s)	3.05	0.0250	0.0500	"	"	"	---	76	29-120%	---	---	
2-Nitrophenol	3.49	0.100	0.200	"	"	"	---	87	47-123%	---	---	
4-Nitrophenol	1.77	0.100	0.200	"	"	"	---	44	5-120%	---	---	
Pentachlorophenol (PCP)	4.14	0.100	0.200	"	"	"	---	104	35-138%	---	---	
Phenol	1.46	0.200	0.400	"	"	"	---	37	5-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.94	0.0500	0.100	"	"	"	---	99	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	3.86	0.0500	0.100	"	"	"	---	97	50-121%	---	---	
2,4,5-Trichlorophenol	3.78	0.0500	0.100	"	"	"	---	95	53-123%	---	---	

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AMENDED REPORT

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503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (6050350-BS1)					Prepared: 05/12/16 11:28 Analyzed: 05/12/16 18:24							
2,4,6-Trichlorophenol	3.67	0.0500	0.100	ug/L	"	"	---	92	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	4.69	0.200	0.400	"	"	"	---	117	55-135%	---	---	
Butyl benzyl phthalate	4.54	0.200	0.400	"	"	"	---	113	53-134%	---	---	
Diethylphthalate	4.25	0.200	0.400	"	"	"	---	106	55-125%	---	---	
Dimethylphthalate	4.07	0.200	0.400	"	"	"	---	102	45-127%	---	---	
Di-n-butylphthalate	4.73	0.200	0.400	"	"	"	---	118	59-127%	---	---	
Di-n-octyl phthalate	4.49	0.200	0.400	"	"	"	---	112	51-140%	---	---	
N-Nitrosodimethylamine	2.02	0.0250	0.0500	"	"	"	---	51	6-120%	---	---	
N-Nitroso-di-n-propylamine	3.83	0.0250	0.0500	"	"	"	---	96	49-120%	---	---	
N-Nitrosodiphenylamine	4.23	0.0250	0.0500	"	"	"	---	106	51-123%	---	---	
Bis(2-Chloroethoxy) methane	3.49	0.0250	0.0500	"	"	"	---	87	48-120%	---	---	
Bis(2-Chloroethyl) ether	3.24	0.0250	0.0500	"	"	"	---	81	43-120%	---	---	
Bis(2-Chloroisopropyl) ether	3.22	0.0250	0.0500	"	"	"	---	80	37-130%	---	---	
Hexachlorobenzene	3.82	0.0100	0.0200	"	"	"	---	95	52-125%	---	---	
Hexachlorobutadiene	2.65	0.0250	0.0500	"	"	"	---	66	22-124%	---	---	
Hexachlorocyclopentadiene	3.05	0.0500	0.100	"	"	"	---	76	5-127%	---	---	
Hexachloroethane	2.68	0.0250	0.0500	"	"	"	---	67	21-120%	---	---	B-02
2-Chloronaphthalene	3.40	0.0100	0.0200	"	"	"	---	85	40-120%	---	---	
1,2-Dichlorobenzene	2.74	0.0250	0.0500	"	"	"	---	68	32-120%	---	---	
1,3-Dichlorobenzene	2.63	0.0250	0.0500	"	"	"	---	66	28-120%	---	---	
1,4-Dichlorobenzene	2.65	0.0250	0.0500	"	"	"	---	66	29-120%	---	---	
1,2,4-Trichlorobenzene	2.82	0.0250	0.0500	"	"	"	---	71	"	---	---	
4-Bromophenyl phenyl ether	4.02	0.0250	0.0500	"	"	"	---	101	54-124%	---	---	
4-Chlorophenyl phenyl ether	3.79	0.0250	0.0500	"	"	"	---	95	53-121%	---	---	
Aniline	3.22	0.0500	0.100	"	"	"	---	81	6-120%	---	---	
4-Chloroaniline	3.27	0.0250	0.0500	"	"	"	---	82	33-120%	---	---	
2-Nitroaniline	3.85	0.200	0.400	"	"	"	---	96	54-127%	---	---	
3-Nitroaniline	4.02	0.200	0.400	"	"	"	---	100	41-128%	---	---	

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AMENDED REPORT

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Tigard, OR 97223
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503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (6050350-BS1)					Prepared: 05/12/16 11:28		Analyzed: 05/12/16 18:24					
4-Nitroaniline	4.15	0.200	0.400	ug/L	"	"	---	104	35-120%	---	---	
Nitrobenzene	3.60	0.100	0.200	"	"	"	---	90	45-121%	---	---	
2,4-Dinitrotoluene	3.97	0.100	0.200	"	"	"	---	99	57-128%	---	---	
2,6-Dinitrotoluene	3.85	0.100	0.200	"	"	"	---	96	57-124%	---	---	
Benzoic acid	2.39	1.25	1.25	"	"	8.00	---	30	5-120%	---	---	
Benzyl alcohol	3.25	0.100	0.200	"	"	4.00	---	81	31-120%	---	---	
Isophorone	3.73	0.0250	0.0500	"	"	"	---	93	42-124%	---	---	
Azobenzene (1,2-DPH)	3.83	0.0250	0.0500	"	"	"	---	96	61-120%	---	---	
Bis(2-Ethylhexyl) adipate	4.80	0.250	0.500	"	"	"	---	120	40-125%	---	---	
3,3'-Dichlorobenzidine	14.3	0.250	0.500	"	"	8.00	---	179	27-129%	---	---	Q-29
1,2-Dinitrobenzene	4.02	0.250	0.500	"	"	4.00	---	100	59-120%	---	---	
1,3-Dinitrobenzene	3.93	0.250	0.500	"	"	"	---	98	49-128%	---	---	
1,4-Dinitrobenzene	3.87	0.250	0.500	"	"	"	---	97	40-120%	---	---	
Pyridine	2.07	0.100	0.200	"	"	"	---	52	5-120%	---	---	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 87 %*	*Limits: 44-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*81 %*	*44-120 %*	*"*
Phenol-d6 (Surr)	*33 %*	*10-120 %*	*"*
p-Terphenyl-d14 (Surr)	*101 %*	*50-133 %*	*"*
2-Fluorophenol (Surr)	*44 %*	*19-120 %*	*"*
2,4,6-Tribromophenol (Surr)	*89 %*	*43-140 %*	*"*

LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28		Analyzed: 05/12/16 19:02					**Q-19**
EPA 8270D												
Acenaphthene	3.48	0.0100	0.0200	ug/L	1	4.00	---	87	47-122%	1	30%	
Acenaphthylene	3.66	0.0100	0.0200	"	"	"	---	91	41-130%	1	30%	
Anthracene	3.95	0.0100	0.0200	"	"	"	---	99	57-123%	4	30%	
Benz(a)anthracene	4.17	0.0100	0.0200	"	"	"	---	104	58-125%	5	30%	
Benzo(a)pyrene	4.11	0.0150	0.0300	"	"	"	---	103	54-128%	5	30%	
Benzo(b)fluoranthene	4.10	0.0150	0.0300	"	"	"	---	102	53-131%	4	30%	
Benzo(k)fluoranthene	4.15	0.0150	0.0300	"	"	"	---	104	57-129%	5	30%	
Benzo(g,h,i)perylene	4.33	0.0100	0.0200	"	"	"	---	108	50-134%	5	30%	
Chrysene	4.07	0.0100	0.0200	"	"	"	---	102	59-123%	5	30%	

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AMENDED REPORT

12232 S.W. Garden Place
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503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28	Analyzed: 05/12/16 19:02						**Q-19**
Dibenz(a,h)anthracene	4.31	0.0100	0.0200	ug/L	"	"	---	108	51-134%	4	30%	
Fluoranthene	4.14	0.0100	0.0200	"	"	"	---	104	57-128%	5	30%	
Fluorene	3.81	0.0100	0.0200	"	"	"	---	95	52-124%	0.04	30%	
Indeno(1,2,3-cd)pyrene	4.07	0.0100	0.0200	"	"	"	---	102	52-133%	3	30%	
1-Methylnaphthalene	3.44	0.0200	0.0400	"	"	"	---	86	41-120%	5	30%	
2-Methylnaphthalene	3.43	0.0200	0.0400	"	"	"	---	86	40-121%	5	30%	B-02
Naphthalene	3.25	0.0200	0.0400	"	"	"	---	81	"	6	30%	B-02
Phenanthrene	3.76	0.0100	0.0200	"	"	"	---	94	59-120%	3	30%	B-02
Pyrene	4.11	0.0100	0.0200	"	"	"	---	103	57-126%	5	30%	
Carbazole	4.13	0.0150	0.0300	"	"	"	---	103	60-122%	3	30%	
Dibenzofuran	3.74	0.0100	0.0200	"	"	"	---	94	53-120%	0.8	30%	
4-Chloro-3-methylphenol	3.90	0.100	0.200	"	"	"	---	97	52-120%	0.7	30%	
2-Chlorophenol	3.55	0.0500	0.100	"	"	"	---	89	38-120%	5	30%	
2,4-Dichlorophenol	3.69	0.0500	0.100	"	"	"	---	92	47-121%	2	30%	
2,4-Dimethylphenol	2.68	0.0500	0.100	"	"	"	---	67	31-124%	15	30%	
2,4-Dinitrophenol	4.12	0.250	0.500	"	"	"	---	103	23-143%	2	30%	
4,6-Dinitro-2-methylphenol	4.12	0.250	0.500	"	"	"	---	103	44-137%	0.8	30%	
2-Methylphenol	3.36	0.0250	0.0500	"	"	"	---	84	30-120%	2	30%	
3+4-Methylphenol(s)	3.15	0.0250	0.0500	"	"	"	---	79	29-120%	3	30%	
2-Nitrophenol	3.63	0.100	0.200	"	"	"	---	91	47-123%	4	30%	
4-Nitrophenol	1.81	0.100	0.200	"	"	"	---	45	5-120%	2	30%	
Pentachlorophenol (PCP)	4.09	0.100	0.200	"	"	"	---	102	35-138%	1	30%	
Phenol	1.58	0.200	0.400	"	"	"	---	40	5-120%	8	30%	
2,3,4,6-Tetrachlorophenol	3.93	0.0500	0.100	"	"	"	---	98	50-128%	0.2	30%	
2,3,5,6-Tetrachlorophenol	3.86	0.0500	0.100	"	"	"	---	97	50-121%	0.1	30%	
2,4,5-Trichlorophenol	3.87	0.0500	0.100	"	"	"	---	97	53-123%	2	30%	
2,4,6-Trichlorophenol	3.69	0.0500	0.100	"	"	"	---	92	50-125%	0.7	30%	
Bis(2-ethylhexyl)phthalate	4.56	0.200	0.400	"	"	"	---	114	55-135%	3	30%	
Butyl benzyl phthalate	4.34	0.200	0.400	"	"	"	---	108	53-134%	4	30%	
Diethylphthalate	4.12	0.200	0.400	"	"	"	---	103	55-125%	3	30%	
Dimethylphthalate	4.02	0.200	0.400	"	"	"	---	101	45-127%	1	30%	

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AMENDED REPORT

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503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28	Analyzed: 05/12/16 19:02						**Q-19**
Di-n-butylphthalate	4.57	0.200	0.400	ug/L	"	"	---	114	59-127%	3	30%	
Di-n-octyl phthalate	4.35	0.200	0.400	"	"	"	---	109	51-140%	3	30%	
N-Nitrosodimethylamine	2.20	0.0250	0.0500	"	"	"	---	55	6-120%	8	30%	
N-Nitroso-di-n-propylamine	3.91	0.0250	0.0500	"	"	"	---	98	49-120%	2	30%	
N-Nitrosodiphenylamine	4.15	0.0250	0.0500	"	"	"	---	104	51-123%	2	30%	
Bis(2-Chloroethoxy) methane	3.55	0.0250	0.0500	"	"	"	---	89	48-120%	2	30%	
Bis(2-Chloroethyl) ether	3.41	0.0250	0.0500	"	"	"	---	85	43-120%	5	30%	
Bis(2-Chloroisopropyl) ether	3.39	0.0250	0.0500	"	"	"	---	85	37-130%	5	30%	
Hexachlorobenzene	3.75	0.0100	0.0200	"	"	"	---	94	52-125%	2	30%	
Hexachlorobutadiene	3.01	0.0250	0.0500	"	"	"	---	75	22-124%	13	30%	
Hexachlorocyclopentadiene	3.49	0.0500	0.100	"	"	"	---	87	5-127%	13	30%	
Hexachloroethane	3.10	0.0250	0.0500	"	"	"	---	78	21-120%	15	30%	B-02
2-Chloronaphthalene	3.58	0.0100	0.0200	"	"	"	---	89	40-120%	5	30%	
1,2-Dichlorobenzene	3.07	0.0250	0.0500	"	"	"	---	77	32-120%	11	30%	
1,3-Dichlorobenzene	2.94	0.0250	0.0500	"	"	"	---	73	28-120%	11	30%	
1,4-Dichlorobenzene	2.98	0.0250	0.0500	"	"	"	---	75	29-120%	12	30%	
1,2,4-Trichlorobenzene	3.11	0.0250	0.0500	"	"	"	---	78	"	10	30%	
4-Bromophenyl phenyl ether	3.99	0.0250	0.0500	"	"	"	---	100	54-124%	0.9	30%	
4-Chlorophenyl phenyl ether	3.80	0.0250	0.0500	"	"	"	---	95	53-121%	0.3	30%	
Aniline	3.36	0.0500	0.100	"	"	"	---	84	6-120%	4	30%	
4-Chloroaniline	3.32	0.0250	0.0500	"	"	"	---	83	33-120%	2	30%	
2-Nitroaniline	3.91	0.200	0.400	"	"	"	---	98	54-127%	1	30%	
3-Nitroaniline	3.93	0.200	0.400	"	"	"	---	98	41-128%	2	30%	
4-Nitroaniline	4.02	0.200	0.400	"	"	"	---	100	35-120%	3	30%	
Nitrobenzene	3.72	0.100	0.200	"	"	"	---	93	45-121%	3	30%	
2,4-Dinitrotoluene	3.88	0.100	0.200	"	"	"	---	97	57-128%	2	30%	
2,6-Dinitrotoluene	3.82	0.100	0.200	"	"	"	---	96	57-124%	0.7	30%	
Benzoic acid	2.84	1.25	2.50	"	"	8.00	---	35	5-120%	17	30%	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050350 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (6050350-BSD1)					Prepared: 05/12/16 11:28		Analyzed: 05/12/16 19:02					**Q-19**
Benzyl alcohol	3.40	0.100	0.200	ug/L	"	4.00	---	85	31-120%	4	30%	
Isophorone	3.76	0.0250	0.0500	"	"	"	---	94	42-124%	0.9	30%	
Azobenzene (1,2-DPH)	3.82	0.0250	0.0500	"	"	"	---	95	61-120%	0.4	30%	
Bis(2-Ethylhexyl) adipate	4.62	0.250	0.500	"	"	"	---	115	40-125%	4	30%	
3,3'-Dichlorobenzidine	13.8	0.250	0.500	"	"	8.00	---	172	27-129%	4	30%	Q-29
1,2-Dinitrobenzene	3.96	0.250	0.500	"	"	4.00	---	99	59-120%	1	30%	
1,3-Dinitrobenzene	3.91	0.250	0.500	"	"	"	---	98	49-128%	0.5	30%	
1,4-Dinitrobenzene	3.87	0.250	0.500	"	"	"	---	97	40-120%	0.04	30%	
Pyridine	2.27	0.100	0.200	"	"	"	---	57	5-120%	9	30%	

Surr: Nitrobenzene-d5 (Surr)	*Recovery: 91 %*	*Limits: 44-120 %*	*Dilution: 1x*
2-Fluorobiphenyl (Surr)	*83 %*	*44-120 %*	*"*
Phenol-d6 (Surr)	*36 %*	*10-120 %*	*"*
p-Terphenyl-d14 (Surr)	*98 %*	*50-133 %*	*"*
2-Fluorophenol (Surr)	*48 %*	*19-120 %*	*"*
2,4,6-Tribromophenol (Surr)	*90 %*	*43-140 %*	*"*

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050512 - EPA 3015A							**Water**					
Blank (6050512-BLK1)					Prepared: 05/18/16 11:33		Analyzed: 05/23/16 19:19					
EPA 200.8												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.0400	0.200	"	"	---	---	---	---	---	---	
Calcium	ND	50.0	100	"	"	---	---	---	---	---	---	
Chromium	ND	0.400	1.00	"	"	---	---	---	---	---	---	
Copper	ND	1.00	2.00	"	"	---	---	---	---	---	---	
Iron	ND	50.0	100	"	"	---	---	---	---	---	---	
Lead	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Magnesium	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Silver	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	"	"	---	---	---	---	---	---	
Blank (6050512-BLK2)					Prepared: 05/18/16 11:33		Analyzed: 05/25/16 12:03					
EPA 200.8												
Barium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	Q-16
Blank (6050512-BLK3)					Prepared: 05/18/16 11:33		Analyzed: 05/25/16 21:10					
EPA 200.8												
Copper	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	Q-16
LCS (6050512-BS1)					Prepared: 05/18/16 11:33		Analyzed: 05/23/16 19:22					
EPA 200.8												
Arsenic	52.4	0.500	1.00	ug/L	1	55.6	---	94	85-115%	---	---	
Barium	51.1	0.500	1.00	"	"	"	---	92	"	---	---	
Cadmium	52.3	0.0400	0.200	"	"	"	---	94	"	---	---	
Calcium	5300	50.0	100	"	"	5560	---	95	"	---	---	
Chromium	52.4	0.400	1.00	"	"	55.6	---	94	"	---	---	
Copper	52.3	1.00	2.00	"	"	"	---	94	"	---	---	
Iron	5110	50.0	100	"	"	5560	---	92	"	---	---	
Lead	54.6	0.100	0.200	"	"	55.6	---	98	"	---	---	

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050512 - EPA 3015A							**Water**					
LCS (6050512-BS1)					Prepared: 05/18/16 11:33 Analyzed: 05/23/16 19:22							
Magnesium	4890	25.0	50.0	"	"	5560	---	88	"	---	---	
Manganese	52.7	0.500	1.00	"	"	55.6	---	95	"	---	---	
Nickel	55.2	0.500	1.00	"	"	"	---	99	"	---	---	
Selenium	26.5	0.500	1.00	"	"	27.8	---	95	"	---	---	
Silver	27.4	0.100	0.200	"	"	"	---	99	"	---	---	
Zinc	52.5	2.00	4.00	"	"	55.6	---	94	"	---	---	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050485 - Matrix Matched Direct Inject							**Water**					
Blank (6050485-BLK1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:21					
EPA 200.8 (Diss)												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Calcium	ND	100	200	"	"	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Copper	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Iron	ND	50.0	100	"	"	---	---	---	---	---	---	
Lead	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Magnesium	ND	25.0	50.0	"	"	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Nickel	ND	0.500	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	2.00	4.00	"	"	---	---	---	---	---	---	
Silver	ND	0.100	0.200	"	"	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	"	"	---	---	---	---	---	---	
LCS (6050485-BS1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:24					
EPA 200.8 (Diss)												
Arsenic	55.6	0.500	1.00	ug/L	1	55.6	---	100	85-115%	---	---	
Barium	53.3	0.500	1.00	"	"	"	---	96	"	---	---	
Cadmium	55.7	0.100	0.200	"	"	"	---	100	"	---	---	
Calcium	5370	100	200	"	"	5560	---	97	"	---	---	
Chromium	52.6	0.500	1.00	"	"	55.6	---	95	"	---	---	
Copper	53.7	0.500	1.00	"	"	"	---	97	"	---	---	
Iron	5150	50.0	100	"	"	5560	---	93	"	---	---	
Lead	55.4	0.100	0.200	"	"	55.6	---	100	"	---	---	
Magnesium	5160	25.0	50.0	"	"	5560	---	93	"	---	---	
Manganese	51.9	0.500	1.00	"	"	55.6	---	93	"	---	---	
Nickel	51.5	0.500	1.00	"	"	"	---	93	"	---	---	
Selenium	26.4	2.00	4.00	"	"	27.8	---	95	"	---	---	
Silver	28.3	0.100	0.200	"	"	"	---	102	"	---	---	

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 6050485 - Matrix Matched Direct Inject							**Water**					
LCS (6050485-BS1)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 15:24					
Zinc	52.7	2.00	4.00	ug/L	"	55.6	---	95	"	---	---	
Matrix Spike (6050485-MS2)					Prepared: 05/17/16 15:03		Analyzed: 05/20/16 16:23					
QC Source Sample: 22B-F-RB-110516 (A6E0342-08)												
EPA 200.8 (Diss)												
Arsenic	56.8	0.500	1.00	ug/L	1	55.6	ND	102	70-130%	---	---	
Barium	52.8	0.500	1.00	"	"	"	0.922	93	"	---	---	
Cadmium	55.5	0.100	0.200	"	"	"	ND	100	"	---	---	
Chromium	51.5	0.500	1.00	"	"	"	ND	93	"	---	---	
Copper	53.3	0.500	1.00	"	"	"	ND	96	"	---	---	
Iron	5180	50.0	100	"	"	5560	ND	93	"	---	---	
Lead	56.8	0.100	0.200	"	"	55.6	ND	102	"	---	---	
Manganese	52.9	0.500	1.00	"	"	"	ND	95	"	---	---	
Nickel	51.1	0.500	1.00	"	"	"	ND	92	"	---	---	
Selenium	27.3	2.00	4.00	"	"	27.8	ND	98	"	---	---	
Silver	28.5	0.100	0.200	"	"	"	ND	102	"	---	---	
Zinc	53.5	2.00	4.00	"	"	55.6	ND	96	"	---	---	
Matrix Spike (6050485-MS3)					Prepared: 05/17/16 15:03		Analyzed: 05/23/16 13:22					
QC Source Sample: 22B-F-RB-110516 (A6E0342-08RE1)												
EPA 200.8 (Diss)												
Calcium	5630	50.0	100	ug/L	1	5560	164	98	70-130%	---	---	Q-16
Magnesium	5420	25.0	50.0	"	"	"	ND	98	"	---	---	Q-16

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AMENDED REPORT

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503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

QUALITY CONTROL (QC) SAMPLE RESULTS

Hexavalent Chromium by IC

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch W6E1071 - EPA 218.6							**Water**					
Blank (W6E1071-BLK1)					Prepared: 05/18/16 17:19		Analyzed: 05/19/16 09:52					
EPA 218.6												
Chromium 6+	ND	0.0048	0.020	ug/l	1	---	---	---	---	---	---	
LCS (W6E1071-BS1)					Prepared: 05/18/16 17:19		Analyzed: 05/19/16 10:04					
EPA 218.6												
Chromium 6+	4.92	0.0048	0.020	ug/l	1	5.00	---	98	90-110%	---	---	

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

QUALITY CONTROL (QC) SAMPLE RESULTS

Mercury - Low Level by CVAFS

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch W6E0849 - General Preparation							**Water**					
Blank (W6E0849-BLK1)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
EPA 1631E												
Mercury, Total	ND	0.00031	0.00050	ug/l	1	---	---	---	---	---	---	
Mercury, Dissolved	ND	0.00031	0.00050	"	"	---	---	---	---	---	---	
LCS (W6E0849-BS1)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
EPA 1631E												
Mercury, Total	0.00470	0.00031	0.00050	ug/l	1	0.00500	---	94	84-113%	---	---	
Mercury, Dissolved	0.00470	0.00031	0.00050	"	"	"	---	94	"	---	---	
Matrix Spike (W6E0849-MS2)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
QC Source Sample: A6E0342-08 (A6E0342-08)												
EPA 1631E												
Mercury, Total	0.00483	0.00031	0.00050	ug/l	1	0.00500	ND	97	67-110%	---	---	
Mercury, Dissolved	0.00483	0.00031	0.00050	"	"	"	ND	97	"	---	---	
Matrix Spike Dup (W6E0849-MSD2)					Prepared: 05/16/16 10:00		Analyzed: 05/16/16 16:27					
QC Source Sample: A6E0342-08 (A6E0342-08)												
EPA 1631E												
Mercury, Total	0.00470	0.00031	0.00050	ug/l	1	0.00500	ND	94	67-110%	3	20%	
Mercury, Dissolved	0.00470	0.00031	0.00050	"	"	"	ND	94	"	3	20%	

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

SAMPLE PREPARATION INFORMATION

Hydrocarbon Identification Screen by NWTPH-HCID

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050387							
A6E0342-01	Water	NWTPH-HCID	05/11/16 08:30	05/13/16 10:06	1030mL/5mL	1000mL/5mL	0.97
A6E0342-03	Water	NWTPH-HCID	05/11/16 10:30	05/13/16 10:06	1040mL/5mL	1000mL/5mL	0.96
A6E0342-05	Water	NWTPH-HCID	05/11/16 13:30	05/13/16 10:06	1050mL/5mL	1000mL/5mL	0.95
A6E0342-07	Water	NWTPH-HCID	05/11/16 16:30	05/13/16 10:06	1050mL/5mL	1000mL/5mL	0.95

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Prep: EPA 3510C (Fuels/Acid Ext.) w/Silica Gel + Acid

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050401							
A6E0342-01	Water	NWTPH-Dx/SG	05/11/16 08:30	05/13/16 10:06	1030mL/5mL	1000mL/5mL	0.97
A6E0342-03	Water	NWTPH-Dx/SG	05/11/16 10:30	05/13/16 10:06	1040mL/5mL	1000mL/5mL	0.96
A6E0342-05	Water	NWTPH-Dx/SG	05/11/16 13:30	05/13/16 10:06	1050mL/5mL	1000mL/5mL	0.95
A6E0342-07	Water	NWTPH-Dx/SG	05/11/16 16:30	05/13/16 10:06	1050mL/5mL	1000mL/5mL	0.95

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050343							
A6E0342-01	Water	NWTPH-Gx (MS)	05/11/16 08:30	05/12/16 14:58	5mL/5mL	5mL/5mL	1.00
A6E0342-05	Water	NWTPH-Gx (MS)	05/11/16 13:30	05/12/16 14:58	5mL/5mL	5mL/5mL	1.00
A6E0342-07	Water	NWTPH-Gx (MS)	05/11/16 16:30	05/12/16 14:58	5mL/5mL	5mL/5mL	1.00
Batch: 6050381							
A6E0342-03RE1	Water	NWTPH-Gx (MS)	05/11/16 10:30	05/13/16 14:02	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050343							
A6E0342-01	Water	EPA 8260B	05/11/16 08:30	05/12/16 14:58	5mL/5mL	5mL/5mL	1.00
A6E0342-05	Water	EPA 8260B	05/11/16 13:30	05/12/16 14:58	5mL/5mL	5mL/5mL	1.00
A6E0342-07	Water	EPA 8260B	05/11/16 16:30	05/12/16 14:58	5mL/5mL	5mL/5mL	1.00
Batch: 6050381							

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

SAMPLE PREPARATION INFORMATION

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6E0342-03RE1	Water	EPA 8260B	05/11/16 10:30	05/13/16 14:02	5mL/5mL	5mL/5mL	1.00
Batch: 6050468							
A6E0342-09	Water	EPA 8260B	05/11/16 00:00	05/17/16 12:20	5mL/5mL	5mL/5mL	1.00

Semivolatile Organic Compounds by EPA 8270D

Prep: EPA 3510C (Acid/Base Neutral)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050350							
A6E0342-01RE1	Water	EPA 8270D	05/11/16 08:30	05/12/16 14:41	1050mL/1mL	1000mL/1mL	0.95
A6E0342-03	Water	EPA 8270D	05/11/16 10:30	05/12/16 14:41	1040mL/1mL	1000mL/1mL	0.96
A6E0342-05RE1	Water	EPA 8270D	05/11/16 13:30	05/12/16 14:41	1040mL/1mL	1000mL/1mL	0.96
A6E0342-07RE1	Water	EPA 8270D	05/11/16 16:30	05/12/16 14:41	1050mL/1mL	1000mL/1mL	0.95

Total Metals by EPA 200.8 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050512							
A6E0342-01	Water	EPA 200.8	05/11/16 08:30	05/18/16 11:33	45mL/50mL	45mL/50mL	1.00
A6E0342-03	Water	EPA 200.8	05/11/16 10:30	05/18/16 11:33	45mL/50mL	45mL/50mL	1.00
A6E0342-05	Water	EPA 200.8	05/11/16 13:30	05/18/16 11:33	45mL/50mL	45mL/50mL	1.00
A6E0342-07	Water	EPA 200.8	05/11/16 16:30	05/18/16 11:33	45mL/50mL	45mL/50mL	1.00
A6E0342-07RE1	Water	EPA 200.8	05/11/16 16:30	05/18/16 11:33	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 6050485							
A6E0342-02	Water	EPA 200.8 (Diss)	05/11/16 08:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0342-02RE1	Water	EPA 200.8 (Diss)	05/11/16 08:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0342-04	Water	EPA 200.8 (Diss)	05/11/16 10:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0342-04RE1	Water	EPA 200.8 (Diss)	05/11/16 10:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0342-06	Water	EPA 200.8 (Diss)	05/11/16 13:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0342-06RE1	Water	EPA 200.8 (Diss)	05/11/16 13:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00

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AMENDED REPORT

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9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

SAMPLE PREPARATION INFORMATION

Dissolved Metals by EPA 200.8 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A6E0342-08	Water	EPA 200.8 (Diss)	05/11/16 16:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00
A6E0342-08RE1	Water	EPA 200.8 (Diss)	05/11/16 16:30	05/17/16 15:16	45mL/50mL	45mL/50mL	1.00

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

SAMPLE PREPARATION INFORMATION

Hexavalent Chromium by IC

Prep: EPA 218.6

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: W6E1071							
A6E0342-01	Water	EPA 218.6	05/11/16 08:30	05/18/16 17:19	5ml/5ml	5ml/5ml	1.00
A6E0342-03	Water	EPA 218.6	05/11/16 10:30	05/18/16 17:19	5ml/5ml	5ml/5ml	1.00
A6E0342-05	Water	EPA 218.6	05/11/16 13:30	05/18/16 17:19	5ml/5ml	5ml/5ml	1.00
A6E0342-07	Water	EPA 218.6	05/11/16 16:30	05/18/16 17:19	5ml/5ml	5ml/5ml	1.00

Mercury - Low Level by CVAFS

Prep: General Preparation

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: W6E0849							
A6E0342-01	Water	EPA 1631E	05/11/16 08:30	05/11/16 08:30	40ml/40ml	40ml/40ml	1.00
A6E0342-02	Water	EPA 1631E	05/11/16 08:30	05/11/16 08:30	40ml/40ml	40ml/40ml	1.00
A6E0342-03	Water	EPA 1631E	05/11/16 10:30	05/11/16 10:30	40ml/40ml	40ml/40ml	1.00
A6E0342-04	Water	EPA 1631E	05/11/16 10:30	05/11/16 10:30	40ml/40ml	40ml/40ml	1.00
A6E0342-05	Water	EPA 1631E	05/11/16 13:30	05/11/16 13:30	40ml/40ml	40ml/40ml	1.00
A6E0342-06	Water	EPA 1631E	05/11/16 13:30	05/11/16 13:30	40ml/40ml	40ml/40ml	1.00
A6E0342-07	Water	EPA 1631E	05/11/16 16:30	05/11/16 16:30	40ml/40ml	40ml/40ml	1.00
A6E0342-08	Water	EPA 1631E	05/11/16 16:30	05/11/16 11:25	40ml/40ml	40ml/40ml	1.00

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Notes and Definitions

Qualifiers:

B-02	Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
B-field	No field blank was either received or specified in this batch. Therefore, samples were analyzed without field blank.
H-01	This sample was analyzed outside the recommended holding time.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
M-04	Due to matrix interference, this analyte cannot be accurately quantified. The reported result may contain a high bias.
Q-16	Reanalysis of an original Batch QC sample.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-31	Estimated Results. Recovery of Continuing Calibration Verification sample below lower control limit for this analyte. Results are likely biased low.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-50	Due to instrument malfunction, not all Batch QC samples were analyzed. The batch is accepted based on the recoveries of the Continuing Calibration Verificaion (CCV) and Blank Spike (BS) recoveries.
S-06	Surrogate recovery is outside of established control limits.

Notes and Conventions:

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry'designation are not dry weight corrected.
RPD	Relative Percent Difference
MDL	If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
WMSC	Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
Batch QC	Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
Blank Policy	Apex assesses blank data for potential high bias down to a level equal to ½ the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

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Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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APEX LABS **CHAIN OF CUSTODY** Lab # A6E0342 COC 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Golder | Project Mgr: Ryan Stringfellow | Project Name: Outfall 22B | Project # 1039351412.605.02

Address: | Phone: 503 607 1820 | Fax: | Email:

Sampled by: R. Stringfellow

Site Location: OR WA Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOC + misc.	8260 RBDM VOCs	8260 BTEX	8270 SVOC 8270D	8270 SIM PAHs	8082 PCBs 1668 A	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn	TOTAL DISS TCLP	1200- COLS	1200-Z	8151A Herbicides	1069 Insecticides	1613B Dioxin/Furan	218.6 Hex Chrome	1631 LL Hg	1631 Diss LL Hg
1	22B-U-MH4-110516		5/11/16	0830	W	23	X	X	X	X			X		X				X			X	X	X	X	X	X	
2	22B-F-MH4-110516		5/11/16	0830	W	2													X									X
3	22B-U-MH6-110516		5/11/16	1030	W	23	X	X	X	X			X		X				X			X	X	X	X	X	X	
4	22B-F-MH6-110516		5/11/16	1030	W	2													X									X
5	22B-U-MH7-110516		5/11/16	1330	W	23	X	X	X	X			X		X				X			X	X	X	X	X	X	
6	22B-F-MH7-110516		5/11/16	1330	W	2													X									X
7	22B-U-RB-110516		5/11/16	1630	W	23	X	X	X	X			X		X				X			X	X	X	X	X	X	X
8	22B-F-RB-110516		5/11/16	1630	W	2													X									X
9	22B-U-TB-110516		—	—	W	1				X																		
10																												

Normal Turn Around Time (TAT) = 7-10 Business Days YES NO

TAT Requested (circle) 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SPECIAL INSTRUCTIONS: Dissolved samples field filtered. 22B-U-TB-110516 = Trip Blank

SAMPLES ARE HELD FOR 30 DAYS

RELINQUISHED BY: Signature: [signature] Date: 5/11/16 Printed Name: Ryan Stringfellow Time: 17:17 Company: Golder

RECEIVED BY: Signature: [signature] Date: 5-11-16 Printed Name: [signature] Time: 17:17 Company: [signature]

RELINQUISHED BY: Signature: Date: Printed Name: Time: Company:

RECEIVED BY: Signature: Date: Printed Name: Time: Company:

Apex Laboratories

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-S-100516
Matrix: water

PAL Sample ID: P160527-01
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 99 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-D-100516
Matrix: water

PAL Sample ID: P160527-02
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 119 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-MH3-100516
Matrix: water

PAL Sample ID: P160527-03
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 111 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-MH5-100516
Matrix: water

PAL Sample ID: P160527-04
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 123 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Quality Assurance

Method Blank Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/16/16	5/28/16	6051601-BLK1	2,4,5-T	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	2,4,5-TP	Not Detected	< 2.5 ug/L	
5/16/16	5/28/16	6051601-BLK1	2,4-D	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	2,4-DB	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	Bromoxynil	Not Detected	< 2.5 ug/L	
5/16/16	5/28/16	6051601-BLK1	Dicamba	Not Detected	< 5.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	Dichlorprop	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	Dinoseb	Not Detected	< 0.080 ug/L	
5/16/16	5/28/16	6051601-BLK1	MCPA	Not Detected	< 1.3 ug/L	
5/16/16	5/28/16	6051601-BLK1	MCPP	Not Detected	< 1.3 ug/L	

Blank Spike Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/16/16	5/28/16	6051601-BS1	2,4-D	92	22-136	
5/16/16	5/28/16	6051601-BSD1	2,4-D	92	22-136	
5/16/16	5/28/16	6051601-BS1	Dicamba	110	67-127	
5/16/16	5/28/16	6051601-BSD1	Dicamba	95	67-127	

Analyte Information

Method: Modified EPA 8151A (GC-MS/MS)
Chlorinated acids were converted to free acids. Residues were quantitated as free acids.

Rick Jordan, Laboratory Manager

KF 5-11-16

SUBCONTRACT ORDER

Apex Laboratories P160527

A6E0284

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Pacific Agricultural Laboratories
21830 SW Alexander Ln
Sherwood, OREGON 97140
Phone :(503) 626-7943
Fax: (503) 641-0644

P160527

COC lists 25 containers, 23 provided

-01 **Sample Name: 22B-U-S-100516** **Water** **Sampled: 05/10/16 08:45** (A6E0284-01)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/23/16 17:00	05/17/16 08:45	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

COC lists 25 containers, 23 provided

-02 **Sample Name: 22B-U-D-100516** **Water** **Sampled: 05/10/16 10:00** (A6E0284-03)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/23/16 17:00	05/17/16 10:00	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

COC lists 25 containers, 23 provided

-03 **Sample Name: 22B-U-MH3-100516** **Water** **Sampled: 05/10/16 13:00** (A6E0284-05)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/23/16 17:00	05/17/16 13:00	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

COC lists 25 containers, 23 provided. 3/3 HCL ambers ar

-04 **Sample Name: 22B-U-MH5-100516** **Water** **Sampled: 05/10/16 15:00** (A6E0284-07)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/23/16 17:00	05/17/16 15:00	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

Standard TAT

Released By	Date	Received By	Date
	5/11/16		5-11-16

Page 1 of 1

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-MH4-110516
Matrix: water

PAL Sample ID: P160538-01
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 118 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-MH6-110516
Matrix: water

PAL Sample ID: P160538-02
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 108 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-MH7-110516
Matrix: water

PAL Sample ID: P160538-03
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 94 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-RB-110516
Matrix: water

PAL Sample ID: P160538-04
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 107 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Quality Assurance

Method Blank Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/16/16	5/28/16	6051601-BLK1	2,4,5-T	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	2,4,5-TP	Not Detected	< 2.5 ug/L	
5/16/16	5/28/16	6051601-BLK1	2,4-D	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	2,4-DB	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	Bromoxynil	Not Detected	< 2.5 ug/L	
5/16/16	5/28/16	6051601-BLK1	Dicamba	Not Detected	< 5.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	Dichlorprop	Not Detected	< 2.0 ug/L	
5/16/16	5/28/16	6051601-BLK1	Dinoseb	Not Detected	< 0.080 ug/L	
5/16/16	5/28/16	6051601-BLK1	MCPA	Not Detected	< 1.3 ug/L	
5/16/16	5/28/16	6051601-BLK1	MCPP	Not Detected	< 1.3 ug/L	

Blank Spike Data **Matrix:** water

Extraction Date	Analysis Date	Batch QC Sample #	Analyte	% Recovery	Expected % Recovery	Notes
5/16/16	5/28/16	6051601-BS1	2,4-D	92	22-136	
5/16/16	5/28/16	6051601-BSD1	2,4-D	92	22-136	
5/16/16	5/28/16	6051601-BS1	Dicamba	110	67-127	
5/16/16	5/28/16	6051601-BSD1	Dicamba	95	67-127	

Analyte Information

Method: Modified EPA 8151A (GC-MS/MS)
Chlorinated acids were converted to free acids. Residues were quantitated as free acids.

Rick Jordan, Laboratory Manager

P160538

SUBCONTRACT ORDER

Apex Laboratories

A6E0342

5/12/16 LAD

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Pacific Agricultural Laboratories
21830 SW Alexander Ln
Sherwood, OREGON 97140
Phone :(503) 626-7943
Fax: (503) 641-0644

P160538

-01 **Sample Name: 22B-U-MH4-110516** **Water** **Sampled: 05/11/16 08:30** (A6E0342-01)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/24/16 17:00	05/18/16 08:30	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

-02 **Sample Name: 22B-U-MH6-110516** **Water** **Sampled: 05/11/16 10:30** (A6E0342-03)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/24/16 17:00	05/18/16 10:30	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

-03 **Sample Name: 22B-U-MH7-110516** **Water** **Sampled: 05/11/16 13:30** (A6E0342-05)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/24/16 17:00	05/18/16 13:30	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

-04 **Sample Name: 22B-U-RB-110516** **Water** **Sampled: 05/11/16 16:30** (A6E0342-07)

Analysis	Due	Expires	Comments
8151A Herbicides (SUB)	05/24/16 17:00	05/18/16 16:30	sub to PacAg Lab, MDL
Containers Supplied:			
(N)1 L Amber Glass - Non Preserved			
(O)1 L Amber Glass - Non Preserved			

standard TAT

Released By	Date	Received By	Date
	5/12/16		5/12/ 1535
Released By	Date	Received By	Date

June 15, 2016

Vista Work Order No. 1600620

Mr. Darwin Thomas
Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223

Dear Mr. Thomas,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 12, 2016. This sample set was analyzed on a standard turn-around time, under your Project Name 'A6E0284'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1600620
Case Narrative

Sample Condition on Receipt:

Four water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1668A

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668A using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. PCB-11 was detected at 6.15 pg/L in the Method Blank. No other analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method

acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1699

These samples were extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled internal standard recoveries and ion abundance ratios that were outside the method acceptance criteria are summarized in the table below.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1600620-01	22B-U-S-100516	10-May-16 08:45	12-May-16 09:48	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
1600620-02	22B-U-D-100516	10-May-16 10:00	12-May-16 09:48	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
1600620-03	22B-U-MH3-100516	10-May-16 13:00	12-May-16 09:48	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
1600620-04	22B-U-MH5-100516	10-May-16 15:00	12-May-16 09:48	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1600620

Client Project: A6E0284

ANALYTICAL RESULTS

Sample ID: Method Blank

EPA Method 1613B

Matrix:	Aqueous	QC Batch:	B6E0143	Lab Sample:	B6E0143-BLK1
Sample Size:	1.00 L	Date Extracted:	25-May-2016 8:36	Date Analyzed :	26-May-16 18:10 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.824			IS	13C-2,3,7,8-TCDD	93.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.728				13C-1,2,3,7,8-PeCDD	79.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.09				13C-1,2,3,4,7,8-HxCDD	89.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.10				13C-1,2,3,6,7,8-HxCDD	86.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.25				13C-1,2,3,7,8,9-HxCDD	88.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	1.23				13C-1,2,3,4,6,7,8-HpCDD	83.2	23 - 140	
OCDD	ND	1.72				13C-OCDD	57.9	17 - 157	
2,3,7,8-TCDF	ND	0.759				13C-2,3,7,8-TCDF	91.4	24 - 169	
1,2,3,7,8-PeCDF	ND	0.838				13C-1,2,3,7,8-PeCDF	74.6	24 - 185	
2,3,4,7,8-PeCDF	ND	0.848				13C-2,3,4,7,8-PeCDF	74.1	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.429				13C-1,2,3,4,7,8-HxCDF	86.7	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.416				13C-1,2,3,6,7,8-HxCDF	85.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.461				13C-2,3,4,6,7,8-HxCDF	87.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.626				13C-1,2,3,7,8,9-HxCDF	90.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.526				13C-1,2,3,4,6,7,8-HpCDF	84.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.506				13C-1,2,3,4,7,8,9-HpCDF	81.6	26 - 138	
OCDF	ND	2.09				13C-OCDF	62.2	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	90.7	35 - 197	
						Toxic Equivalent Quotient (TEQ) Data			
						TEQMinWHO2005Dioxin	0.00		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR **EPA Method 1613B**

Matrix:	Aqueous	QC Batch:	B6E0143	Lab Sample:	B6E0143-BS1
Sample Size:	1.00 L	Date Extracted:	25-May-2016 8:36	Date Analyzed:	26-May-16 16:33 Column: ZB-5MS Analyst: DB

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	201	200	101	67 - 158	IS	13C-2,3,7,8-TCDD	89.4	20 - 175
1,2,3,7,8-PeCDD	988	1000	98.8	70 - 142		13C-1,2,3,7,8-PeCDD	75.9	21 - 227
1,2,3,4,7,8-HxCDD	1030	1000	103	70 - 164		13C-1,2,3,4,7,8-HxCDD	85.2	21 - 193
1,2,3,6,7,8-HxCDD	989	1000	98.9	76 - 134		13C-1,2,3,6,7,8-HxCDD	84.9	25 - 163
1,2,3,7,8,9-HxCDD	1020	1000	102	64 - 162		13C-1,2,3,7,8,9-HxCDD	87.7	21 - 193
1,2,3,4,6,7,8-HpCDD	1010	1000	101	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	82.8	26 - 166
OCDD	2040	2000	102	78 - 144		13C-OCDD	57.6	13 - 199
2,3,7,8-TCDF	190	200	94.9	75 - 158		13C-2,3,7,8-TCDF	94.2	22 - 152
1,2,3,7,8-PeCDF	1060	1000	106	80 - 134		13C-1,2,3,7,8-PeCDF	75.5	21 - 192
2,3,4,7,8-PeCDF	1060	1000	106	68 - 160		13C-2,3,4,7,8-PeCDF	74.9	13 - 328
1,2,3,4,7,8-HxCDF	988	1000	98.8	72 - 134		13C-1,2,3,4,7,8-HxCDF	85.8	19 - 202
1,2,3,6,7,8-HxCDF	1010	1000	101	84 - 130		13C-1,2,3,6,7,8-HxCDF	83.4	21 - 159
2,3,4,6,7,8-HxCDF	988	1000	98.8	70 - 156		13C-2,3,4,6,7,8-HxCDF	86.4	22 - 176
1,2,3,7,8,9-HxCDF	968	1000	96.8	78 - 130		13C-1,2,3,7,8,9-HxCDF	94.2	17 - 205
1,2,3,4,6,7,8-HpCDF	996	1000	99.6	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	84.2	21 - 158
1,2,3,4,7,8,9-HpCDF	978	1000	97.8	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	78.2	20 - 186
OCDF	1930	2000	96.4	63 - 170		13C-OCDF	65.6	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	92.6	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-S-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 0.992 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 26-May-16 23:01 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.701		
1,2,3,7,8-PeCDD	ND	0.911		
1,2,3,4,7,8-HxCDD	ND	1.18		
1,2,3,6,7,8-HxCDD	ND	1.24		
1,2,3,7,8,9-HxCDD	ND	1.34		
1,2,3,4,6,7,8-HpCDD	ND		2.16	
OCDD	17.9			J
2,3,7,8-TCDF	ND	1.02		
1,2,3,7,8-PeCDF	ND	1.01		
2,3,4,7,8-PeCDF	ND	0.928		
1,2,3,4,7,8-HxCDF	ND	0.424		
1,2,3,6,7,8-HxCDF	ND	0.443		
2,3,4,6,7,8-HxCDF	ND	0.478		
1,2,3,7,8,9-HxCDF	ND	0.623		
1,2,3,4,6,7,8-HpCDF	ND	0.521		
1,2,3,4,7,8,9-HpCDF	ND	0.503		
OCDF	ND	2.18		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	91.5	25 - 164	
	13C-1,2,3,7,8-PeCDD	73.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	86.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	81.0	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	86.1	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	78.5	23 - 140	
	13C-OCDD	54.4	17 - 157	
	13C-2,3,7,8-TCDF	87.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	70.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	69.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	82.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	78.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	82.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	87.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	77.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	76.9	26 - 138	
	13C-OCDF	55.9	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	98.0	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00537

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-D-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 0.948 L

Laboratory Data
Lab Sample: 1600620-02 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 26-May-16 23:50 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.665		
1,2,3,7,8-PeCDD	ND	0.506		
1,2,3,4,7,8-HxCDD	ND	0.947		
1,2,3,6,7,8-HxCDD	ND	0.955		
1,2,3,7,8,9-HxCDD	ND	1.05		
1,2,3,4,6,7,8-HpCDD	ND		2.05	
OCDD	30.6			J
2,3,7,8-TCDF	ND	0.881		
1,2,3,7,8-PeCDF	ND	0.708		
2,3,4,7,8-PeCDF	ND	0.717		
1,2,3,4,7,8-HxCDF	ND	0.427		
1,2,3,6,7,8-HxCDF	ND	0.450		
2,3,4,6,7,8-HxCDF	ND	0.475		
1,2,3,7,8,9-HxCDF	0.937			J
1,2,3,4,6,7,8-HpCDF	ND	0.812		
1,2,3,4,7,8,9-HpCDF	ND	0.705		
OCDF	5.49			J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	85.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	71.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	84.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	78.6	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	81.9	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	76.5	23 - 140	
	13C-OCDD	48.9	17 - 157	
	13C-2,3,7,8-TCDF	90.3	24 - 169	
	13C-1,2,3,7,8-PeCDF	73.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	70.0	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	80.7	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	77.0	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	79.3	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.0	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	72.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	71.9	26 - 138	
	13C-OCDF	52.3	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	92.5	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.105

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH3-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.965 L

Laboratory Data
Lab Sample: 1600620-03 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 00:38 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.558		
1,2,3,7,8-PeCDD	ND	0.655		
1,2,3,4,7,8-HxCDD	ND	1.00		
1,2,3,6,7,8-HxCDD	ND	1.09		
1,2,3,7,8,9-HxCDD	ND	1.14		
1,2,3,4,6,7,8-HpCDD	2.99			J
OCDD	27.1			J
2,3,7,8-TCDF	ND	0.736		
1,2,3,7,8-PeCDF	ND	0.745		
2,3,4,7,8-PeCDF	ND	0.685		
1,2,3,4,7,8-HxCDF	ND	0.454		
1,2,3,6,7,8-HxCDF	ND	0.458		
2,3,4,6,7,8-HxCDF	ND	0.504		
1,2,3,7,8,9-HxCDF	ND	0.638		
1,2,3,4,6,7,8-HpCDF	0.973			J
1,2,3,4,7,8,9-HpCDF	ND	0.574		
OCDF	ND	1.87		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	84.8	25 - 164	
	13C-1,2,3,7,8-PeCDD	70.2	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	82.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	75.2	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	82.8	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	73.8	23 - 140	
	13C-OCDD	48.5	17 - 157	
	13C-2,3,7,8-TCDF	83.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	66.8	24 - 185	
	13C-2,3,4,7,8-PeCDF	67.1	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	76.7	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	72.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	77.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	82.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	72.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	69.5	26 - 138	
	13C-OCDF	49.0	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	96.2	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.0478

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH5-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 0.925 L

Laboratory Data
Lab Sample: 1600620-04 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 01:27 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.843		
1,2,3,7,8-PeCDD	ND	1.15		
1,2,3,4,7,8-HxCDD	ND	1.13		
1,2,3,6,7,8-HxCDD	ND	1.24		
1,2,3,7,8,9-HxCDD	ND	1.24		
1,2,3,4,6,7,8-HpCDD	ND	1.08		
OCDD	ND		4.13	
2,3,7,8-TCDF	ND	1.24		
1,2,3,7,8-PeCDF	ND	1.12		
2,3,4,7,8-PeCDF	ND	0.947		
1,2,3,4,7,8-HxCDF	ND	0.519		
1,2,3,6,7,8-HxCDF	ND	0.519		
2,3,4,6,7,8-HxCDF	ND	0.570		
1,2,3,7,8,9-HxCDF	ND	0.743		
1,2,3,4,6,7,8-HpCDF	ND	0.788		
1,2,3,4,7,8,9-HpCDF	ND	0.725		
OCDF	ND	2.17		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	81.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	65.7	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	76.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	69.4	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	75.2	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	67.4	23 - 140	
	13C-OCDD	45.8	17 - 157	
	13C-2,3,7,8-TCDF	77.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	63.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	62.6	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	70.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	66.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	69.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	73.6	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	66.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	64.4	26 - 138	
	13C-OCDF	46.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	93.1	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	ND	1.35			PCB-44	ND	0.623		
PCB-2	ND	1.44			PCB-45	ND	0.560		
PCB-3	ND	1.44			PCB-46	ND	0.614		
PCB-4/10	ND	1.44			PCB-47	1.74			J
PCB-5/8	ND	0.659			PCB-48/75	ND	0.409		
PCB-6	ND	1.13			PCB-50	ND	0.580		
PCB-7/9	ND	1.12			PCB-51	ND	0.502		
PCB-11	6.15				PCB-52/69	ND	0.452		
PCB-12/13	ND	1.10			PCB-53	ND	0.513		
PCB-14	ND	0.945			PCB-54	ND	0.440		
PCB-15	ND	0.965			PCB-55	ND	0.325		
PCB-16/32	ND		0.783		PCB-56/60	ND	0.361		
PCB-17	ND	0.399			PCB-57	ND	0.366		
PCB-18	ND	0.481			PCB-58	ND	0.360		
PCB-19	ND	0.473			PCB-61/70	0.430			J
PCB-20/21/33	ND	0.430			PCB-62	ND	0.399		
PCB-22	ND	0.428			PCB-63	ND	0.352		
PCB-23	ND	0.411			PCB-65	ND	0.412		
PCB-24/27	ND	0.294			PCB-66/76	ND	0.347		
PCB-25	ND	0.454			PCB-67	ND	0.375		
PCB-26	ND	0.402			PCB-68	ND	0.337		
PCB-28	ND		0.508		PCB-73	ND	0.413		
PCB-29	ND	0.412			PCB-74	ND	0.338		
PCB-30	ND	0.299			PCB-77	ND	0.314		
PCB-31	ND	0.572			PCB-78	ND	0.332		
PCB-34	ND	0.383			PCB-79	ND	0.344		
PCB-35	ND	0.422			PCB-80	ND	0.301		
PCB-36	ND	0.408			PCB-81	ND	0.303		
PCB-37	ND	0.393			PCB-82	ND	1.20		
PCB-38	ND	0.427			PCB-83	ND	0.736		
PCB-39	ND	0.420			PCB-84/92	ND	1.05		
PCB-40	ND	0.633			PCB-85/116	ND	0.878		
PCB-41/64/71/72	ND	0.405			PCB-86	ND	1.18		
PCB-42/59	ND	0.439			PCB-87/117/125	ND	0.768		
PCB-43/49	ND	0.512			PCB-88/91	ND	1.10		

DL - Sample specifc estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.13			PCB-136	ND	0.768		
PCB-90/101	ND		0.614		PCB-137	ND	0.493		
PCB-93	ND	1.17			PCB-138/163/164	ND		0.657	
PCB-94	ND	1.10			PCB-139/149	ND	1.01		
PCB-95/98/102	ND	0.961			PCB-140	ND	0.559		
PCB-96	ND	0.904			PCB-141	ND	0.502		
PCB-97	ND	0.942			PCB-144	ND	1.02		
PCB-99	ND	0.901			PCB-145	ND	0.802		
PCB-100	ND	1.03			PCB-146/165	ND	0.471		
PCB-103	ND	1.02			PCB-147	ND	1.13		
PCB-104	ND	0.782			PCB-148	ND	1.07		
PCB-105	ND	0.440			PCB-150	ND	0.777		
PCB-106/118	ND	0.675			PCB-151	ND	1.07		
PCB-107/109	ND	0.665			PCB-152	ND	0.750		
PCB-108/112	ND	0.869			PCB-153	0.608			J
PCB-110	ND	0.718			PCB-154	ND	0.985		
PCB-111/115	ND	0.659			PCB-155	ND	0.732		
PCB-113	ND	0.840			PCB-156	ND	0.363		
PCB-114	ND	0.479			PCB-157	ND	0.381		
PCB-119	ND	0.651			PCB-158/160	ND	0.388		
PCB-120	ND	0.616			PCB-159	ND	0.367		
PCB-121	ND	0.704			PCB-166	ND	0.393		
PCB-122	ND	0.570			PCB-167	ND	0.389		
PCB-123	ND	0.709			PCB-168	ND	0.376		
PCB-124	ND	0.681			PCB-169	ND	0.415		
PCB-126	ND	0.533			PCB-170	ND	0.440		
PCB-127	ND	0.486			PCB-171	ND	0.411		
PCB-128/162	ND	0.434			PCB-172	ND	0.442		
PCB-129	ND	0.579			PCB-173	ND	0.541		
PCB-130	ND	0.631			PCB-174	ND	0.464		
PCB-131	ND	0.603			PCB-175	ND	0.466		
PCB-132/161	ND	0.456			PCB-176	ND	0.335		
PCB-133/142	ND	0.561			PCB-177	ND	0.472		
PCB-134/143	ND	0.548			PCB-178	ND	0.454		
PCB-135	ND	1.10			PCB-179	ND	0.351		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND	0.458		
PCB-181	ND	0.443		
PCB-182/187	ND	0.325		
PCB-183	ND	0.399		
PCB-184	ND	0.365		
PCB-185	ND	0.426		
PCB-186	ND	0.335		
PCB-188	ND	0.321		
PCB-189	ND	0.280		
PCB-190	ND	0.327		
PCB-191	ND	0.321		
PCB-192	ND	0.344		
PCB-193	ND	0.323		
PCB-194	0.789			J
PCB-195	ND	0.296		
PCB-196/203	ND	0.875		
PCB-197	ND	0.622		
PCB-198	ND	0.962		
PCB-199	ND	0.979		
PCB-200	ND	0.701		
PCB-201	ND	0.662		
PCB-202	ND	0.712		
PCB-204	ND	0.675		
PCB-205	ND	0.209		
PCB-206	ND	0.258		
PCB-207	ND	0.169		
PCB-208	0.235			J
PCB-209	ND		0.333	
Total monoCB	ND	1.44		
Total diCB	6.15			
Total triCB	ND		1.29	
Total tetraCB	2.17			
Total pentaCB	ND		0.614	
Total hexaCB	0.608		1.26	
Total heptaCB	ND	0.541		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	0.789			
Total nonaCB	0.235			
DecaCB	ND		0.333	
Total PCB	9.95			

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	63.2	15 - 150	
	13C-PCB-3	66.0	15 - 150	
	13C-PCB-4	66.0	25 - 150	
	13C-PCB-11	77.0	25 - 150	
	13C-PCB-9	70.1	25 - 150	
	13C-PCB-19	71.0	25 - 150	
	13C-PCB-28	79.8	25 - 150	
	13C-PCB-32	74.8	25 - 150	
	13C-PCB-37	87.7	25 - 150	
	13C-PCB-47	77.5	25 - 150	
	13C-PCB-52	80.3	25 - 150	
	13C-PCB-54	66.1	25 - 150	
	13C-PCB-70	85.8	25 - 150	
	13C-PCB-77	95.6	25 - 150	
	13C-PCB-80	85.2	25 - 150	
	13C-PCB-81	93.8	25 - 150	
	13C-PCB-95	85.5	25 - 150	
	13C-PCB-97	91.7	25 - 150	
	13C-PCB-101	89.3	25 - 150	
	13C-PCB-104	78.0	25 - 150	
	13C-PCB-105	96.4	25 - 150	
	13C-PCB-114	94.8	25 - 150	
	13C-PCB-118	95.1	25 - 150	
	13C-PCB-123	97.7	25 - 150	
	13C-PCB-126	98.7	25 - 150	
	13C-PCB-127	98.9	25 - 150	
	13C-PCB-138	94.1	25 - 150	
	13C-PCB-141	93.2	25 - 150	
	13C-PCB-153	92.6	25 - 150	
	13C-PCB-155	75.1	25 - 150	
	13C-PCB-156	96.9	25 - 150	
	13C-PCB-157	93.5	25 - 150	
	13C-PCB-159	94.8	25 - 150	
	13C-PCB-167	96.3	25 - 150	
	13C-PCB-169	99.6	25 - 150	
	13C-PCB-170	85.3	25 - 150	
	13C-PCB-180	87.4	25 - 150	
	13C-PCB-188	78.7	25 - 150	
	13C-PCB-189	90.7	25 - 150	
	13C-PCB-194	86.7	25 - 150	
	13C-PCB-202	70.8	25 - 150	
	13C-PCB-206	97.1	25 - 150	
	13C-PCB-208	83.5	25 - 150	
	13C-PCB-209	102	25 - 150	
CRS	13C-PCB-79	98.0	30 - 135	
	13C-PCB-178	92.7	30 - 135	

DL - Sample specifc estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

See individual congeners for qualifiers.

Sample ID: OPR

EPA Method 1668A

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B6E0115
Date Extracted: 20-May-2016 8:47

Lab Sample: B6E0115-BS1
Date Analyzed: 23-May-16 12:10 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
PCB-1	730	1000	73.0	50 - 150
PCB-3	745	1000	74.5	50 - 150
PCB-4/10	1580	2000	78.8	50 - 150
PCB-15	812	1000	81.2	50 - 150
PCB-19	903	1000	90.3	50 - 150
PCB-37	883	1000	88.3	50 - 150
PCB-54	902	1000	90.2	50 - 150
PCB-77	799	1000	79.9	50 - 150
PCB-81	784	1000	78.4	50 - 150
PCB-104	893	1000	89.3	50 - 150
PCB-105	758	1000	75.8	50 - 150
PCB-106/118	1760	2000	88.0	50 - 150
PCB-114	784	1000	78.4	50 - 150
PCB-123	889	1000	88.9	50 - 150
PCB-126	793	1000	79.3	50 - 150
PCB-155	886	1000	88.6	50 - 150
PCB-156	850	1000	85.0	50 - 150
PCB-157	865	1000	86.5	50 - 150
PCB-167	861	1000	86.1	50 - 150
PCB-169	885	1000	88.5	50 - 150
PCB-188	906	1000	90.6	50 - 150
PCB-189	893	1000	89.3	50 - 150
PCB-202	918	1000	91.8	50 - 150
PCB-205	862	1000	86.2	50 - 150
PCB-206	910	1000	91.0	50 - 150
PCB-208	916	1000	91.6	50 - 150
PCB-209	860	1000	86.0	50 - 150

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-1	80.5	15 - 140
IS	13C-PCB-3	80.2	15 - 140
IS	13C-PCB-4	74.2	30 - 140
IS	13C-PCB-11	80.2	30 - 140
IS	13C-PCB-9	75.9	30 - 140
IS	13C-PCB-19	83.0	30 - 140
IS	13C-PCB-28	75.0	30 - 140
IS	13C-PCB-32	85.7	30 - 140
IS	13C-PCB-37	92.7	30 - 140
IS	13C-PCB-47	69.8	30 - 140
IS	13C-PCB-52	74.2	30 - 140
IS	13C-PCB-54	65.1	30 - 140
IS	13C-PCB-70	81.1	30 - 140
IS	13C-PCB-77	85.3	30 - 140
IS	13C-PCB-80	79.1	30 - 140
IS	13C-PCB-81	84.2	30 - 140
IS	13C-PCB-95	79.3	30 - 140
IS	13C-PCB-97	83.9	30 - 140
IS	13C-PCB-101	81.3	30 - 140
IS	13C-PCB-104	68.6	30 - 140
IS	13C-PCB-105	86.4	30 - 140
IS	13C-PCB-114	84.3	30 - 140
IS	13C-PCB-118	87.2	30 - 140
IS	13C-PCB-123	88.9	30 - 140
IS	13C-PCB-126	93.3	30 - 140
IS	13C-PCB-127	85.0	30 - 140
IS	13C-PCB-138	83.2	30 - 140
IS	13C-PCB-141	80.8	30 - 140
IS	13C-PCB-153	78.5	30 - 140
IS	13C-PCB-155	64.2	30 - 140
IS	13C-PCB-156	89.3	30 - 140
IS	13C-PCB-157	86.5	30 - 140
IS	13C-PCB-159	86.8	30 - 140
IS	13C-PCB-167	88.0	30 - 140
IS	13C-PCB-169	92.7	30 - 140
IS	13C-PCB-170	85.6	30 - 140
IS	13C-PCB-180	83.9	30 - 140
IS	13C-PCB-188	66.9	30 - 140
IS	13C-PCB-189	87.7	30 - 140
IS	13C-PCB-194	81.8	30 - 140

Sample ID: OPR

EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BS1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 12:10 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-202	69.3	30 - 140
IS	13C-PCB-206	89.7	30 - 140
IS	13C-PCB-208	77.5	30 - 140
IS	13C-PCB-209	92.9	30 - 140
CRS	13C-PCB-79	91.4	25 - 125
CRS	13C-PCB-178	91.5	25 - 125

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	12.6			
PCB-2	ND	3.75		
PCB-3	1.64			J
PCB-4/10	22.4			
PCB-5/8	24.9			
PCB-6	5.46			
PCB-7/9	ND	3.22		
PCB-11	49.4			B
PCB-12/13	ND	1.56		
PCB-14	ND	1.34		
PCB-15	8.02			
PCB-16/32	40.8			
PCB-17	20.9			
PCB-18	60.8			
PCB-19	11.4			
PCB-20/21/33	16.6			
PCB-22	15.0			
PCB-23	ND	0.399		
PCB-24/27	5.18			J
PCB-25	2.82			J
PCB-26	5.39			
PCB-28	25.8			
PCB-29	ND	0.399		
PCB-30	ND	0.517		
PCB-31	28.6			
PCB-34	ND	0.859		
PCB-35	0.858			J
PCB-36	ND	2.44		
PCB-37	7.22			
PCB-38	1.68			J
PCB-39	ND	2.52		
PCB-40	ND		5.46	
PCB-41/64/71/72	27.7			
PCB-42/59	8.55			J
PCB-43/49	25.4			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	44.3			
PCB-45	5.82			
PCB-46	2.80			J
PCB-47	23.8			B
PCB-48/75	5.03			J
PCB-50	ND	0.799		
PCB-51	46.9			
PCB-52/69	62.3			
PCB-53	6.02			
PCB-54	ND	0.607		
PCB-55	0.589			J
PCB-56/60	12.0			
PCB-57	ND	0.508		
PCB-58	ND	0.500		
PCB-61/70	31.3			B
PCB-62	ND	0.558		
PCB-63	0.630			J
PCB-65	ND	0.575		
PCB-66/76	14.9			
PCB-67	ND		0.547	
PCB-68	13.0			
PCB-73	ND	0.555		
PCB-74	8.52			
PCB-77	2.56			J
PCB-78	ND	0.481		
PCB-79	ND		0.598	
PCB-80	ND	0.423		
PCB-81	0.303			J
PCB-82	8.53			
PCB-83	ND	1.04		
PCB-84/92	33.1			
PCB-85/116	9.44			J
PCB-86	ND	1.67		
PCB-87/117/125	25.8			
PCB-88/91	10.2			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.57		
PCB-90/101	66.4			
PCB-93	ND	1.66		
PCB-94	ND	1.56		
PCB-95/98/102	66.1			
PCB-96	0.790			J
PCB-97	18.9			
PCB-99	24.1			
PCB-100	ND	1.25		
PCB-103	ND	1.24		
PCB-104	ND	0.950		
PCB-105	16.2			
PCB-106/118	48.5			
PCB-107/109	3.19			J
PCB-108/112	2.75			J
PCB-110	75.7			
PCB-111/115	1.06			J
PCB-113	ND	1.17		
PCB-114	1.10			J
PCB-119	0.772			J
PCB-120	ND	0.867		
PCB-121	ND	1.00		
PCB-122	ND	0.947		
PCB-123	ND		0.665	
PCB-124	2.45			J
PCB-126	0.580			J
PCB-127	ND	0.904		
PCB-128/162	9.88			
PCB-129	3.49			J
PCB-130	4.22			J
PCB-131	ND	0.576		
PCB-132/161	17.4			
PCB-133/142	1.86			J
PCB-134/143	3.54			J
PCB-135	8.26			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	9.66			
PCB-137	3.16			J
PCB-138/163/164	60.6			
PCB-139/149	58.8			
PCB-140	ND	1.60		
PCB-141	11.3			
PCB-144	3.06			J
PCB-145	ND	1.14		
PCB-146/165	8.01			J
PCB-147	ND	1.33		
PCB-148	ND	1.52		
PCB-150	ND	1.10		
PCB-151	16.0			
PCB-152	ND	1.07		
PCB-153	51.3			B
PCB-154	ND		0.559	
PCB-155	ND	1.04		
PCB-156	6.19			
PCB-157	1.54			J
PCB-158/160	7.61			J
PCB-159	ND	0.350		
PCB-166	ND	0.375		
PCB-167	2.79			J
PCB-168	ND	0.359		
PCB-169	ND	0.402		
PCB-170	16.1			
PCB-171	4.78			J
PCB-172	3.50			J
PCB-173	ND	0.445		
PCB-174	21.7			
PCB-175	0.935			J
PCB-176	2.92			J
PCB-177	11.0			
PCB-178	4.16			J
PCB-179	10.3			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	44.9			
PCB-181	ND	0.364		
PCB-182/187	39.3			
PCB-183	12.4			
PCB-184	ND	0.317		
PCB-185	2.77			J
PCB-186	ND	0.291		
PCB-188	ND	0.278		
PCB-189	0.790			J
PCB-190	3.88			J
PCB-191	0.708			J
PCB-192	ND	0.283		
PCB-193	2.20			J
PCB-194	13.4			B
PCB-195	5.31			
PCB-196/203	23.6			
PCB-197	ND	0.771		
PCB-198	1.01			J
PCB-199	25.6			
PCB-200	3.07			J
PCB-201	2.59			J
PCB-202	ND		4.48	
PCB-204	ND	0.548		
PCB-205	ND		0.616	
PCB-206	11.9			
PCB-207	1.73			J
PCB-208	3.81			J, B
PCB-209	8.39			
Total monoCB	14.3			
Total diCB	110			
Total triCB	243			
Total tetraCB	343		349	
Total pentaCB	416			
Total hexaCB	289			
Total heptaCB	182			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	74.6		79.7	
Total nonaCB	17.5			
DecaCB	8.39			
Total PCB	1700			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	25.0	15 -150	
	13C-PCB-3	34.1	15 -150	
	13C-PCB-4	38.7	25 -150	
	13C-PCB-11	66.9	25 -150	
	13C-PCB-9	47.1	25 -150	
	13C-PCB-19	42.0	25 -150	
	13C-PCB-28	65.7	25 -150	
	13C-PCB-32	47.2	25 -150	
	13C-PCB-37	65.8	25 -150	
	13C-PCB-47	63.8	25 -150	
	13C-PCB-52	65.3	25 -150	
	13C-PCB-54	52.8	25 -150	
	13C-PCB-70	66.2	25 -150	
	13C-PCB-77	72.3	25 -150	
	13C-PCB-80	68.3	25 -150	
	13C-PCB-81	70.8	25 -150	
	13C-PCB-95	61.5	25 -150	
	13C-PCB-97	69.1	25 -150	
	13C-PCB-101	63.8	25 -150	
	13C-PCB-104	60.9	25 -150	
	13C-PCB-105	62.4	25 -150	
	13C-PCB-114	60.4	25 -150	
	13C-PCB-118	70.3	25 -150	
	13C-PCB-123	72.1	25 -150	
	13C-PCB-126	61.2	25 -150	
	13C-PCB-127	62.4	25 -150	
	13C-PCB-138	68.9	25 -150	
	13C-PCB-141	67.8	25 -150	
	13C-PCB-153	64.9	25 -150	
	13C-PCB-155	46.7	25 -150	
	13C-PCB-156	71.6	25 -150	
	13C-PCB-157	70.3	25 -150	
	13C-PCB-159	69.9	25 -150	
	13C-PCB-167	69.7	25 -150	
	13C-PCB-169	71.8	25 -150	
	13C-PCB-170	61.3	25 -150	
	13C-PCB-180	63.2	25 -150	
	13C-PCB-188	54.6	25 -150	
	13C-PCB-189	66.3	25 -150	
	13C-PCB-194	69.4	25 -150	
	13C-PCB-202	44.6	25 -150	
	13C-PCB-206	94.5	25 -150	
	13C-PCB-208	92.2	25 -150	
	13C-PCB-209	104	25 -150	
CRS	13C-PCB-79	85.1	30 -135	
	13C-PCB-178	76.1	30 -135	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	9.14			
PCB-2	0.776			J
PCB-3	1.32			J
PCB-4/10	22.9			
PCB-5/8	21.5			
PCB-6	4.11			J
PCB-7/9	ND	0.793		
PCB-11	46.5			B
PCB-12/13	ND	0.690		
PCB-14	ND	0.594		
PCB-15	7.11			
PCB-16/32	31.0			
PCB-17	16.1			
PCB-18	48.0			
PCB-19	9.16			
PCB-20/21/33	20.4			
PCB-22	15.0			
PCB-23	ND	0.368		
PCB-24/27	3.87			J
PCB-25	2.65			J
PCB-26	5.65			
PCB-28	30.2			
PCB-29	0.340			J
PCB-30	ND	0.224		
PCB-31	28.2			
PCB-34	ND	0.342		
PCB-35	0.829			J
PCB-36	ND	0.353		
PCB-37	7.94			
PCB-38	0.812			J
PCB-39	ND	0.364		
PCB-40	6.01			
PCB-41/64/71/72	27.8			
PCB-42/59	9.34			J
PCB-43/49	24.9			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	45.2			
PCB-45	6.70			
PCB-46	3.02			J
PCB-47	25.9			B
PCB-48/75	5.06			J
PCB-50	ND	0.437		
PCB-51	45.8			
PCB-52/69	62.4			
PCB-53	6.75			
PCB-54	ND	0.332		
PCB-55	ND		0.477	
PCB-56/60	11.7			
PCB-57	ND	0.289		
PCB-58	ND	0.284		
PCB-61/70	31.8			B
PCB-62	ND	0.329		
PCB-63	0.779			J
PCB-65	ND	0.339		
PCB-66/76	15.2			
PCB-67	0.683			J
PCB-68	11.3			
PCB-73	ND	0.347		
PCB-74	9.05			
PCB-77	2.53			J
PCB-78	ND	0.278		
PCB-79	0.494			J
PCB-80	ND	0.240		
PCB-81	0.359			J
PCB-82	7.65			
PCB-83	ND	0.897		
PCB-84/92	29.4			
PCB-85/116	8.37			J
PCB-86	ND	1.44		
PCB-87/117/125	22.1			
PCB-88/91	9.69			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.33		
PCB-90/101	56.8			
PCB-93	ND	1.43		
PCB-94	ND		0.439	
PCB-95/98/102	60.2			
PCB-96	0.728			J
PCB-97	16.6			
PCB-99	20.2			
PCB-100	ND	1.01		
PCB-103	ND	1.00		
PCB-104	ND	0.770		
PCB-105	14.8			
PCB-106/118	41.3			
PCB-107/109	2.81			J
PCB-108/112	2.37			J
PCB-110	65.9			
PCB-111/115	1.01			J
PCB-113	ND	0.985		
PCB-114	0.880			J
PCB-119	0.821			J
PCB-120	ND	0.750		
PCB-121	ND	0.864		
PCB-122	0.402			J
PCB-123	0.733			J
PCB-124	2.28			J
PCB-126	ND	0.484		
PCB-127	ND	0.384		
PCB-128/162	8.19			J
PCB-129	3.23			J
PCB-130	3.91			J
PCB-131	ND	0.518		
PCB-132/161	16.2			
PCB-133/142	ND		1.45	
PCB-134/143	2.87			J
PCB-135	7.07			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	6.72			
PCB-137	2.57			J
PCB-138/163/164	52.2			
PCB-139/149	45.7			
PCB-140	ND	0.652		
PCB-141	9.56			
PCB-144	2.65			J
PCB-145	ND	0.464		
PCB-146/165	7.07			J
PCB-147	1.40			J
PCB-148	ND	0.620		
PCB-150	ND	0.449		
PCB-151	12.3			
PCB-152	ND	0.434		
PCB-153	44.2			B
PCB-154	0.518			J
PCB-155	ND	0.423		
PCB-156	5.06			
PCB-157	1.54			J
PCB-158/160	6.37			J
PCB-159	ND	0.306		
PCB-166	ND	0.327		
PCB-167	2.35			J
PCB-168	ND	0.323		
PCB-169	ND	0.350		
PCB-170	12.9			
PCB-171	3.96			J
PCB-172	2.66			J
PCB-173	ND	0.488		
PCB-174	18.1			
PCB-175	0.752			J
PCB-176	2.20			J
PCB-177	8.68			
PCB-178	3.98			J
PCB-179	8.10			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	36.2			
PCB-181	ND	0.399		
PCB-182/187	29.1			
PCB-183	10.4			
PCB-184	ND	0.310		
PCB-185	2.89			J
PCB-186	ND	0.285		
PCB-188	ND	0.273		
PCB-189	0.537			J
PCB-190	2.94			J
PCB-191	0.480			J
PCB-192	ND	0.310		
PCB-193	1.84			J
PCB-194	11.0			B
PCB-195	4.02			J
PCB-196/203	17.9			
PCB-197	ND	0.432		
PCB-198	0.786			J
PCB-199	19.1			
PCB-200	2.19			J
PCB-201	2.13			J
PCB-202	ND		3.30	
PCB-204	ND	0.446		
PCB-205	0.475			J
PCB-206	11.1			
PCB-207	1.26			J
PCB-208	3.13			J, B
PCB-209	5.57			
Total monoCB	11.2			
Total diCB	102			
Total triCB	220			
Total tetraCB	353			
Total pentaCB	365			
Total hexaCB	242		243	
Total heptaCB	146			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	57.7		61.0	
Total nonaCB	15.4			
DecaCB	5.57			
Total PCB	1520			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	65.6	15 -150	
	13C-PCB-3	66.8	15 -150	
	13C-PCB-4	66.6	25 -150	
	13C-PCB-11	90.0	25 -150	
	13C-PCB-9	73.7	25 -150	
	13C-PCB-19	78.3	25 -150	
	13C-PCB-28	91.5	25 -150	
	13C-PCB-32	82.2	25 -150	
	13C-PCB-37	97.4	25 -150	
	13C-PCB-47	84.8	25 -150	
	13C-PCB-52	85.1	25 -150	
	13C-PCB-54	72.4	25 -150	
	13C-PCB-70	87.7	25 -150	
	13C-PCB-77	92.2	25 -150	
	13C-PCB-80	88.1	25 -150	
	13C-PCB-81	90.4	25 -150	
	13C-PCB-95	82.9	25 -150	
	13C-PCB-97	90.0	25 -150	
	13C-PCB-101	87.3	25 -150	
	13C-PCB-104	85.5	25 -150	
	13C-PCB-105	101	25 -150	
	13C-PCB-114	95.8	25 -150	
	13C-PCB-118	95.1	25 -150	
	13C-PCB-123	95.6	25 -150	
	13C-PCB-126	109	25 -150	
	13C-PCB-127	104	25 -150	
	13C-PCB-138	91.5	25 -150	
	13C-PCB-141	89.9	25 -150	
	13C-PCB-153	83.5	25 -150	
	13C-PCB-155	76.6	25 -150	
	13C-PCB-156	93.2	25 -150	
	13C-PCB-157	91.3	25 -150	
	13C-PCB-159	93.7	25 -150	
	13C-PCB-167	92.0	25 -150	
	13C-PCB-169	92.8	25 -150	
	13C-PCB-170	82.9	25 -150	
	13C-PCB-180	80.7	25 -150	
	13C-PCB-188	76.3	25 -150	
	13C-PCB-189	87.1	25 -150	
	13C-PCB-194	88.3	25 -150	
	13C-PCB-202	74.3	25 -150	
	13C-PCB-206	84.7	25 -150	
	13C-PCB-208	78.2	25 -150	
	13C-PCB-209	88.0	25 -150	
CRS	13C-PCB-79	96.8	30 -135	
	13C-PCB-178	91.4	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	10.3			
PCB-2	0.884			J
PCB-3	1.35			J
PCB-4/10	22.4			
PCB-5/8	22.2			
PCB-6	4.81			J
PCB-7/9	2.54			J
PCB-11	46.9			B
PCB-12/13	ND	1.22		
PCB-14	ND	0.554		
PCB-15	7.67			
PCB-16/32	30.5			
PCB-17	16.7			
PCB-18	50.2			
PCB-19	9.16			
PCB-20/21/33	22.2			
PCB-22	15.3			
PCB-23	ND	0.473		
PCB-24/27	4.01			J
PCB-25	3.02			J
PCB-26	5.70			
PCB-28	31.0			
PCB-29	ND	0.419		
PCB-30	ND	0.279		
PCB-31	30.0			
PCB-34	ND	0.440		
PCB-35	0.841			J
PCB-36	ND	0.442		
PCB-37	7.69			
PCB-38	1.27			J
PCB-39	ND	0.455		
PCB-40	6.94			
PCB-41/64/71/72	30.7			
PCB-42/59	9.60			J
PCB-43/49	27.7			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	49.6			
PCB-45	6.50			
PCB-46	2.84			J
PCB-47	42.9			B
PCB-48/75	5.04			J
PCB-50	ND	0.763		
PCB-51	56.9			
PCB-52/69	67.5			
PCB-53	7.02			
PCB-54	ND	0.580		
PCB-55	ND	0.426		
PCB-56/60	12.4			
PCB-57	ND	0.481		
PCB-58	ND	0.474		
PCB-61/70	34.1			B
PCB-62	ND	0.568		
PCB-63	0.786			J
PCB-65	ND	0.586		
PCB-66/76	16.3			
PCB-67	ND		0.486	
PCB-68	12.7			
PCB-73	ND	0.552		
PCB-74	9.83			
PCB-77	2.45			J
PCB-78	ND	0.472		
PCB-79	0.704			J
PCB-80	ND	0.396		
PCB-81	0.325			J
PCB-82	8.54			
PCB-83	ND	0.847		
PCB-84/92	30.8			
PCB-85/116	9.44			J
PCB-86	ND	1.36		
PCB-87/117/125	25.5			
PCB-88/91	10.7			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.30		
PCB-90/101	62.7			
PCB-93	ND	1.27		
PCB-94	ND	0.780		
PCB-95/98/102	67.3			
PCB-96	ND		0.642	
PCB-97	18.1			
PCB-99	22.4			
PCB-100	ND	0.966		
PCB-103	ND	0.962		
PCB-104	ND	0.737		
PCB-105	15.9			
PCB-106/118	44.9			
PCB-107/109	2.97			J
PCB-108/112	2.55			J
PCB-110	74.7			
PCB-111/115	ND		0.671	
PCB-113	ND	0.965		
PCB-114	0.856			J
PCB-119	ND		0.565	
PCB-120	ND	0.708		
PCB-121	ND	0.765		
PCB-122	ND		0.374	
PCB-123	0.779			J
PCB-124	ND		2.31	
PCB-126	ND	0.478		
PCB-127	ND	0.778		
PCB-128/162	10.1			
PCB-129	3.20			J
PCB-130	ND		3.52	
PCB-131	ND	0.675		
PCB-132/161	15.9			
PCB-133/142	1.68			J
PCB-134/143	3.68			J
PCB-135	7.63			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	7.91			
PCB-137	ND		2.39	
PCB-138/163/164	60.2			
PCB-139/149	49.6			
PCB-140	ND	0.981		
PCB-141	11.4			
PCB-144	2.46			J
PCB-145	ND	0.698		
PCB-146/165	8.04			J
PCB-147	1.18			J
PCB-148	ND	0.933		
PCB-150	ND	0.676		
PCB-151	14.1			
PCB-152	ND	0.652		
PCB-153	50.1			B
PCB-154	ND	0.857		
PCB-155	ND	0.636		
PCB-156	5.43			
PCB-157	1.59			J
PCB-158/160	7.18			J
PCB-159	ND	0.412		
PCB-166	ND	0.441		
PCB-167	2.63			J
PCB-168	ND	0.421		
PCB-169	ND	0.466		
PCB-170	14.5			
PCB-171	3.95			J
PCB-172	2.67			J
PCB-173	ND	0.556		
PCB-174	18.7			
PCB-175	0.549			J
PCB-176	2.11			J
PCB-177	9.60			
PCB-178	3.53			J
PCB-179	8.45			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	40.4			
PCB-181	ND	0.455		
PCB-182/187	32.9			
PCB-183	10.7			
PCB-184	ND	0.366		
PCB-185	2.74			J
PCB-186	ND	0.337		
PCB-188	ND	0.322		
PCB-189	0.657			J
PCB-190	3.67			J
PCB-191	ND		0.621	
PCB-192	ND	0.353		
PCB-193	2.17			J
PCB-194	12.1			B
PCB-195	4.95			J
PCB-196/203	21.2			
PCB-197	0.691			J
PCB-198	ND		0.996	
PCB-199	22.2			
PCB-200	ND		2.21	
PCB-201	2.37			J
PCB-202	4.67			J
PCB-204	ND	0.638		
PCB-205	0.663			J
PCB-206	11.2			
PCB-207	1.36			J
PCB-208	3.38			B, J
PCB-209	5.63			
Total monoCB	12.5			
Total diCB	106			
Total triCB	228			
Total tetraCB	403			
Total pentaCB	398		403	
Total hexaCB	264		270	
Total heptaCB	157		158	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	68.9		72.1	
Total nonaCB	15.9			
DecaCB	5.63			
Total PCB	1660			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	72.5	15 -150	
	13C-PCB-3	71.0	15 -150	
	13C-PCB-4	68.9	25 -150	
	13C-PCB-11	90.1	25 -150	
	13C-PCB-9	74.7	25 -150	
	13C-PCB-19	74.2	25 -150	
	13C-PCB-28	87.0	25 -150	
	13C-PCB-32	76.7	25 -150	
	13C-PCB-37	95.1	25 -150	
	13C-PCB-47	83.8	25 -150	
	13C-PCB-52	86.5	25 -150	
	13C-PCB-54	69.1	25 -150	
	13C-PCB-70	89.6	25 -150	
	13C-PCB-77	92.2	25 -150	
	13C-PCB-80	89.6	25 -150	
	13C-PCB-81	89.8	25 -150	
	13C-PCB-95	87.0	25 -150	
	13C-PCB-97	90.2	25 -150	
	13C-PCB-101	87.9	25 -150	
	13C-PCB-104	86.0	25 -150	
	13C-PCB-105	105	25 -150	
	13C-PCB-114	101	25 -150	
	13C-PCB-118	96.6	25 -150	
	13C-PCB-123	97.2	25 -150	
	13C-PCB-126	111	25 -150	
	13C-PCB-127	106	25 -150	
	13C-PCB-138	91.2	25 -150	
	13C-PCB-141	90.2	25 -150	
	13C-PCB-153	88.6	25 -150	
	13C-PCB-155	77.5	25 -150	
	13C-PCB-156	93.3	25 -150	
	13C-PCB-157	90.6	25 -150	
	13C-PCB-159	91.6	25 -150	
	13C-PCB-167	92.4	25 -150	
	13C-PCB-169	95.8	25 -150	
	13C-PCB-170	83.3	25 -150	
	13C-PCB-180	84.2	25 -150	
	13C-PCB-188	78.3	25 -150	
	13C-PCB-189	91.1	25 -150	
	13C-PCB-194	87.4	25 -150	
	13C-PCB-202	70.8	25 -150	
	13C-PCB-206	86.8	25 -150	
	13C-PCB-208	78.2	25 -150	
	13C-PCB-209	90.0	25 -150	
CRS	13C-PCB-79	93.6	30 -135	
	13C-PCB-178	85.9	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	14.0			
PCB-2	0.852			J
PCB-3	1.34			J
PCB-4/10	22.8			
PCB-5/8	12.2			
PCB-6	3.24			J
PCB-7/9	ND	1.45		
PCB-11	25.8			B
PCB-12/13	ND	1.15		
PCB-14	ND	0.994		
PCB-15	4.53			J
PCB-16/32	20.0			
PCB-17	10.3			
PCB-18	33.1			
PCB-19	8.58			
PCB-20/21/33	8.92			J
PCB-22	8.21			
PCB-23	ND	0.383		
PCB-24/27	2.92			J
PCB-25	1.50			J
PCB-26	3.12			J
PCB-28	15.6			
PCB-29	ND	0.383		
PCB-30	ND	0.341		
PCB-31	15.2			
PCB-34	ND	0.356		
PCB-35	ND	0.400		
PCB-36	ND	0.358		
PCB-37	3.67			J
PCB-38	1.81			J
PCB-39	ND	0.369		
PCB-40	4.66			J
PCB-41/64/71/72	19.7			J
PCB-42/59	5.74			J
PCB-43/49	22.3			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	39.4			
PCB-45	4.50			J
PCB-46	2.35			J
PCB-47	67.5			B
PCB-48/75	2.53			J
PCB-50	ND	0.602		
PCB-51	64.5			
PCB-52/69	69.5			
PCB-53	5.81			
PCB-54	ND	0.457		
PCB-55	0.410			J
PCB-56/60	6.47			J
PCB-57	ND	0.326		
PCB-58	ND	0.321		
PCB-61/70	21.6			B
PCB-62	ND	0.365		
PCB-63	0.419			J
PCB-65	ND	0.376		
PCB-66/76	9.34			J
PCB-67	ND	0.335		
PCB-68	20.0			
PCB-73	ND	0.361		
PCB-74	5.82			
PCB-77	1.36			J
PCB-78	ND	0.319		
PCB-79	0.496			J
PCB-80	ND	0.265		
PCB-81	0.310			J
PCB-82	5.37			
PCB-83	ND	0.970		
PCB-84/92	26.2			
PCB-85/116	6.60			J
PCB-86	ND	1.56		
PCB-87/117/125	18.8			
PCB-88/91	9.63			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.43		
PCB-90/101	49.4			
PCB-93	ND	1.47		
PCB-94	ND	1.38		
PCB-95/98/102	66.4			
PCB-96	ND		0.815	
PCB-97	14.8			
PCB-99	16.8			
PCB-100	ND	1.09		
PCB-103	ND	1.09		
PCB-104	ND	0.832		
PCB-105	9.20			
PCB-106/118	25.1			
PCB-107/109	1.79			J
PCB-108/112	2.33			J
PCB-110	56.5			
PCB-111/115	ND	0.869		
PCB-113	ND	1.07		
PCB-114	0.624			J
PCB-119	0.768			J
PCB-120	ND	0.812		
PCB-121	ND	0.887		
PCB-122	0.437			J
PCB-123	ND		0.615	
PCB-124	1.60			J
PCB-126	0.402			J
PCB-127	ND	0.618		
PCB-128/162	5.01			J
PCB-129	1.98			J
PCB-130	2.98			J
PCB-131	ND	0.539		
PCB-132/161	11.7			
PCB-133/142	1.21			J
PCB-134/143	2.26			J
PCB-135	5.16			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	5.49			
PCB-137	1.96			J
PCB-138/163/164	35.3			
PCB-139/149	30.2			
PCB-140	ND	0.659		
PCB-141	6.88			
PCB-144	ND		1.43	
PCB-145	ND	0.468		
PCB-146/165	4.83			J
PCB-147	1.03			J
PCB-148	ND	0.626		
PCB-150	ND	0.454		
PCB-151	8.65			
PCB-152	ND	0.438		
PCB-153	29.3			B
PCB-154	ND	0.577		
PCB-155	ND	0.427		
PCB-156	2.78			J
PCB-157	1.01			J
PCB-158/160	4.13			J
PCB-159	ND	0.308		
PCB-166	ND	0.329		
PCB-167	1.55			J
PCB-168	ND	0.336		
PCB-169	ND	0.347		
PCB-170	7.89			
PCB-171	2.22			J
PCB-172	1.58			J
PCB-173	ND	0.374		
PCB-174	12.1			
PCB-175	0.576			J
PCB-176	1.55			J
PCB-177	5.68			
PCB-178	2.52			J
PCB-179	5.16			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	24.3			
PCB-181	ND	0.306		
PCB-182/187	21.4			
PCB-183	7.60			
PCB-184	ND	0.261		
PCB-185	1.51			J
PCB-186	ND	0.240		
PCB-188	ND	0.230		
PCB-189	0.353			J
PCB-190	1.94			J
PCB-191	0.472			J
PCB-192	ND	0.238		
PCB-193	1.03			J
PCB-194	7.33			B
PCB-195	2.45			J
PCB-196/203	11.8			
PCB-197	0.509			J
PCB-198	ND	0.574		
PCB-199	12.4			
PCB-200	1.38			J
PCB-201	1.60			J
PCB-202	2.85			J
PCB-204	ND	0.403		
PCB-205	0.341			J
PCB-206	6.19			
PCB-207	0.892			J
PCB-208	1.80			J, B
PCB-209	3.70			J
Total monoCB	16.2			
Total diCB	68.6			
Total triCB	133			
Total tetraCB	375			
Total pentaCB	313		314	
Total hexaCB	163		165	
Total heptaCB	97.9			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	40.7			
Total nonaCB	8.88			
DecaCB	3.70			
Total PCB	1220			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	42.9	15 -150	
	13C-PCB-3	54.6	15 -150	
	13C-PCB-4	44.3	25 -150	
	13C-PCB-11	79.2	25 -150	
	13C-PCB-9	59.8	25 -150	
	13C-PCB-19	52.1	25 -150	
	13C-PCB-28	78.0	25 -150	
	13C-PCB-32	69.5	25 -150	
	13C-PCB-37	85.7	25 -150	
	13C-PCB-47	77.8	25 -150	
	13C-PCB-52	77.8	25 -150	
	13C-PCB-54	53.0	25 -150	
	13C-PCB-70	78.9	25 -150	
	13C-PCB-77	76.5	25 -150	
	13C-PCB-80	80.0	25 -150	
	13C-PCB-81	79.2	25 -150	
	13C-PCB-95	76.7	25 -150	
	13C-PCB-97	79.4	25 -150	
	13C-PCB-101	79.3	25 -150	
	13C-PCB-104	77.1	25 -150	
	13C-PCB-105	86.5	25 -150	
	13C-PCB-114	87.7	25 -150	
	13C-PCB-118	84.2	25 -150	
	13C-PCB-123	86.7	25 -150	
	13C-PCB-126	95.0	25 -150	
	13C-PCB-127	92.3	25 -150	
	13C-PCB-138	83.2	25 -150	
	13C-PCB-141	76.9	25 -150	
	13C-PCB-153	76.8	25 -150	
	13C-PCB-155	73.2	25 -150	
	13C-PCB-156	86.6	25 -150	
	13C-PCB-157	83.5	25 -150	
	13C-PCB-159	85.3	25 -150	
	13C-PCB-167	86.2	25 -150	
	13C-PCB-169	86.5	25 -150	
	13C-PCB-170	81.1	25 -150	
	13C-PCB-180	79.8	25 -150	
	13C-PCB-188	69.4	25 -150	
	13C-PCB-189	85.8	25 -150	
	13C-PCB-194	78.7	25 -150	
	13C-PCB-202	71.5	25 -150	
	13C-PCB-206	77.9	25 -150	
	13C-PCB-208	69.0	25 -150	
	13C-PCB-209	83.3	25 -150	
CRS	13C-PCB-79	86.2	30 -135	
	13C-PCB-178	88.9	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1699

Matrix:	Aqueous	QC Batch:	B6E0084	Lab Sample:	B6E0084-BLK1
Sample Size:	1.00 L	Date Extracted:	16-May-2016 8:13	Date Analyzed:	25-May-16 19:35 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	5.27			J
alpha-BHC	ND	1.90		
Lindane (gamma-BHC)	ND	2.50		
beta-BHC	ND	2.69		
delta-BHC	ND	1.93		
Heptachlor	ND	0.494		
Aldrin	ND	1.62		
Oxychlordane	ND	4.51		
cis-Heptachlor Epoxide	ND	3.22		
trans-Heptachlor Epoxide	ND	8.60		
trans-Chlordane (gamma)	ND	4.27		
trans-Nonachlor	ND	3.58		
cis-Chlordane (alpha)	ND	3.55		
Endosulfan I (alpha)	ND	6.20		
2,4'-DDE	ND	2.07		
4,4'-DDE	ND		3.09	
Dieldrin	ND	1.69		
Endrin	ND	3.47		
cis-Nonachlor	ND	3.52		
Endosulfan II (beta)	ND	6.91		
2,4'-DDD	ND	2.86		
2,4'-DDT	ND	4.42		
4,4'-DDD	ND	3.79		
4,4'-DDT	ND	5.78		
Endosulfan Sulfate	ND	3.52		
4,4'-Methoxychlor	ND	2.19		
Mirex	ND	0.736		
Endrin Aldehyde	ND	16.3		
Endrin Ketone	ND	10.4		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	52.6	5 - 120	
IS	13C6-alpha-BHC	75.0	32 - 130	
IS	13C6-Lindane (gamma-BHC)	72.7	11 - 120	
IS	13C6-beta-BHC	73.8	32 - 130	
IS	13C6-delta-BHC	74.7	36 - 137	
IS	13C10-Heptachlor	149	5 - 120	H
IS	13C12-Aldrin	54.0	5 - 120	
IS	13C10-Oxychlordane	65.5	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	67.8	27 - 137	
IS	13C10-trans-Chlordane (gamma)	67.1	21 - 132	
IS	13C10-trans-Nonachlor	66.2	14 - 136	
IS	13C9-Endosulfan I (alpha)	56.0	15 - 148	
IS	13C12-2,4'-DDE	58.1	47 - 160	
IS	13C12-4,4'-DDE	63.9	47 - 160	
IS	13C12-Dieldrin	70.0	40 - 151	
IS	13C12-Endrin	62.8	35 - 155	
IS	13C10-cis-Nonachlor	61.9	36 - 139	
IS	13C9-Endosulfan II (beta)	54.1	5 - 122	
IS	13C12-2,4'-DDD	71.2	5 - 199	
IS	13C12-2,4'-DDT	73.9	5 - 199	
IS	13C12-4,4'-DDD	67.8	5 - 120	
IS	13C12-4,4'-DDT	71.3	5 - 120	
IS	13C9-Endosulfan Sulfate	73.4	15 - 148	
IS	13C12-Methoxychlor	58.2	5 - 120	
IS	13C10-Mirex	44.6	5 - 120	
IS	13C12-Endrin Aldehyde	35.7	15 - 148	
IS	13C12-Endrin Ketone	56.4	15 - 148	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: OPR

EPA Method 1699

Matrix:	Aqueous	QC Batch:	B6E0084	Lab Sample:	B6E0084-BS1
Sample Size:	1.00 L	Date Extracted:	16-May-2016 8:13	Date Analyzed:	25-May-16 17:57 Column: ZB-50 Analyst: ANP

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
Hexachlorobenzene	997	1000	99.7	50 - 120
alpha-BHC	1020	1000	102	50 - 120
Lindane (gamma-BHC)	992	1000	99.2	50 - 120
beta-BHC	973	1000	97.3	50 - 120
delta-BHC	949	1000	94.9	50 - 120
Heptachlor	880	1000	88.0	50 - 120
Aldrin	940	1000	94.0	50 - 120
Oxychlordane	927	1000	92.7	50 - 120
cis-Heptachlor Epoxide	955	1000	95.5	50 - 120
trans-Heptachlor Epoxide	866	1000	86.6	50 - 120
trans-Chlordane (gamma)	1000	1000	100	50 - 120
trans-Nonachlor	898	1000	89.8	50 - 120
cis-Chlordane (alpha)	890	1000	89.0	50 - 120
Endosulfan I (alpha)	978	1000	97.8	50 - 120
2,4'-DDE	1090	1000	109	24 - 123
4,4'-DDE	995	1000	99.5	50 - 120
Dieldrin	921	1000	92.1	50 - 120
Endrin	846	1000	84.6	50 - 120
cis-Nonachlor	908	1000	90.8	50 - 120
Endosulfan II (beta)	835	1000	83.5	5 - 200
2,4'-DDD	1090	1000	109	50 - 120
2,4'-DDT	1180	1000	118	50 - 120
4,4'-DDD	1140	1000	114	42 - 120
4,4'-DDT	1110	1000	111	50 - 120
Endosulfan Sulfate	959	1000	95.9	50 - 120
4,4'-Methoxychlor	1120	1000	112	50 - 120
Mirex	1050	1000	105	50 - 120
Endrin Aldehyde	1120	1000	112	50 - 134
Endrin Ketone	943	1000	94.3	50 - 134

	Labeled Standard	%R	LCL-UCL
IS	13C6-Hexachlorobenzene	56.6	5 - 120
IS	13C6-alpha-BHC	71.0	17 - 141
IS	13C6-Lindane (gamma-BHC)	72.2	5 - 124
IS	13C6-beta-BHC	74.5	17 - 141
IS	13C6-delta-BHC	75.3	16 - 150
IS	13C10-Heptachlor	146	5 - 128
IS	13C12-Aldrin	56.8	5 - 126
IS	13C10-Oxychlordane	65.0	5 - 144
IS	13C10-cis-Heptachlor Epoxide	65.6	8 - 146
IS	13C10-trans-Chlordane (gamma)	65.6	15 - 144
IS	13C10-trans-Nonachlor	68.1	13 - 149
IS	13C9-Endosulfan I (alpha)	58.1	5 - 144
IS	13C12-2,4'-DDE	59.9	26 - 169
IS	13C12-4,4'-DDE	65.2	26 - 169
IS	13C12-Dieldrin	66.9	19 - 161
IS	13C12-Endrin	61.3	20 - 157
IS	13C10-cis-Nonachlor	69.7	17 - 154
IS	13C9-Endosulfan II (beta)	52.5	5 - 120
IS	13C12-2,4'-DDD	72.0	14 - 200
IS	13C12-2,4'-DDT	71.6	14 - 200
IS	13C12-4,4'-DDD	67.5	14 - 200
IS	13C12-4,4'-DDT	75.0	13 - 200
IS	13C9-Endosulfan Sulfate	59.3	5 - 144
IS	13C12-Methoxychlor	58.3	8 - 200
IS	13C10-Mirex	52.1	5 - 138
IS	13C12-Endrin Aldehyde	20.1	5 - 144
IS	13C12-Endrin Ketone	48.6	5 - 144

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-S-100516 — EPA Method 1699

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0084 Date Extracted: 16-May-2016 8:13
Date Analyzed: 25-May-16 21:13 Column: ZB-50 Analyst: ANP
31-May-16 15:30 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	76.9			B
alpha-BHC	203000			D
Lindane (gamma-BHC)	306000			E, D
beta-BHC	120000			D
delta-BHC	61100			D
Heptachlor	35.4			J
Aldrin	103			
Oxychlordane	ND	20.9		
cis-Heptachlor Epoxide	523			
trans-Heptachlor Epoxide	604000			E, D
trans-Chlordane (gamma)	382			
trans-Nonachlor	133			
cis-Chlordane (alpha)	678			
Endosulfan I (alpha)	ND	44.2		
2,4'-DDE	15.6			J
4,4'-DDE	220			
Dieldrin	157000			D
Endrin	12100			
cis-Nonachlor	ND	23.4		
Endosulfan II (beta)	ND	168		
2,4'-DDD	366			
2,4'-DDT	427			
4,4'-DDD	794			
4,4'-DDT	2160			
Endosulfan Sulfate	ND	80.1		
4,4'-Methoxychlor	334			
Mirex	ND	1.21		
Endrin Aldehyde	20300			
Endrin Ketone	83100			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	56.3	5 - 120	
IS	13C6-alpha-BHC	77.1	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	85.1	11 - 120	D
IS	13C6-beta-BHC	82.2	32 - 130	D
IS	13C6-delta-BHC	72.9	36 - 137	D
IS	13C10-Heptachlor	201	5 - 120	H
IS	13C12-Aldrin	53.0	5 - 120	
IS	13C10-Oxychlordane	68.3	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	53.9	27 - 137	
IS	13C10-trans-Chlordane (gamma)	58.3	21 - 132	
IS	13C10-trans-Nonachlor	58.6	14 - 136	
IS	13C9-Endosulfan I (alpha)	30.7	15 - 148	
IS	13C12-2,4'-DDE	56.3	47 - 160	
IS	13C12-4,4'-DDE	57.5	47 - 160	
IS	13C12-Dieldrin	39.2	40 - 151	D, H
IS	13C12-Endrin	26.0	35 - 155	I, H
IS	13C10-cis-Nonachlor	64.3	36 - 139	
IS	13C9-Endosulfan II (beta)	15.0	5 - 122	I
IS	13C12-2,4'-DDD	64.8	5 - 199	
IS	13C12-2,4'-DDT	75.4	5 - 199	
IS	13C12-4,4'-DDD	62.7	5 - 120	
IS	13C12-4,4'-DDT	66.4	5 - 120	
IS	13C9-Endosulfan Sulfate	15.2	15 - 148	
IS	13C12-Methoxychlor	7.90	5 - 120	
IS	13C10-Mirex	43.7	5 - 120	
IS	13C12-Endrin Aldehyde	2.80	15 - 148	H
IS	13C12-Endrin Ketone	8.88	15 - 148	D, H

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-D-100516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600620-02	Date Received:	12-May-2016 9:48
Project:	A6E0284	Sample Size:	1.02 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	10-May-2016 10:00			Date Analyzed:	25-May-16 22:02 Column: ZB-50 Analyst: ANP		
					31-May-16 16:19 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	75.2			B
alpha-BHC	204000			D
Lindane (gamma-BHC)	285000			D
beta-BHC	120000			D
delta-BHC	61000			D
Heptachlor	33.3			J
Aldrin	101			
Oxychlordane	ND	26.1		
cis-Heptachlor Epoxide	593			
trans-Heptachlor Epoxide	2190000			E, D
trans-Chlordane (gamma)	393			
trans-Nonachlor	141			
cis-Chlordane (alpha)	1660			
Endosulfan I (alpha)	ND	36.8		
2,4'-DDE	16.3			J
4,4'-DDE	219			
Dieldrin	179000			D
Endrin	13000			
cis-Nonachlor	ND	43.4		
Endosulfan II (beta)	ND	70.6		
2,4'-DDD	360			
2,4'-DDT	412			
4,4'-DDD	754			
4,4'-DDT	1900			
Endosulfan Sulfate	131			J
4,4'-Methoxychlor	343			
Mirex	ND	1.82		
Endrin Aldehyde	888			
Endrin Ketone	102000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	48.0	5 - 120	
IS	13C6-alpha-BHC	84.6	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	111	11 - 120	D
IS	13C6-beta-BHC	112	32 - 130	D
IS	13C6-delta-BHC	116	36 - 137	D
IS	13C10-Heptachlor	227	5 - 120	H
IS	13C12-Aldrin	51.1	5 - 120	
IS	13C10-Oxychlordane	70.9	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	71.1	27 - 137	
IS	13C10-trans-Chlordane (gamma)	52.7	21 - 132	
IS	13C10-trans-Nonachlor	53.1	14 - 136	
IS	13C9-Endosulfan I (alpha)	47.5	15 - 148	
IS	13C12-2,4'-DDE	45.4	47 - 160	H
IS	13C12-4,4'-DDE	51.3	47 - 160	
IS	13C12-Dieldrin	79.4	40 - 151	D
IS	13C12-Endrin	72.8	35 - 155	
IS	13C10-cis-Nonachlor	70.1	36 - 139	
IS	13C9-Endosulfan II (beta)	75.7	5 - 122	
IS	13C12-2,4'-DDD	68.7	5 - 199	
IS	13C12-2,4'-DDT	79.8	5 - 199	
IS	13C12-4,4'-DDD	69.4	5 - 120	
IS	13C12-4,4'-DDT	75.5	5 - 120	
IS	13C9-Endosulfan Sulfate	85.1	15 - 148	
IS	13C12-Methoxychlor	57.4	5 - 120	
IS	13C10-Mirex	42.0	5 - 120	
IS	13C12-Endrin Aldehyde	55.5	15 - 148	
IS	13C12-Endrin Ketone	61.5	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH3-100516 — EPA Method 1699

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 1.03 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0084 — Date Extracted: 16-May-2016 8:13
Date Analyzed: 25-May-16 22:51 Column: ZB-50 Analyst: ANP
31-May-16 17:08 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	78.3			B
alpha-BHC	203000			D
Lindane (gamma-BHC)	281000			D
beta-BHC	147000			D
delta-BHC	68200			D
Heptachlor	32.2			J
Aldrin	102			
Oxychlordane	ND	24.7		
cis-Heptachlor Epoxide	596			
trans-Heptachlor Epoxide	1400000			E, D
trans-Chlordane (gamma)	365			
trans-Nonachlor	134			
cis-Chlordane (alpha)	1670			
Endosulfan I (alpha)	ND	36.8		
2,4'-DDE	18.1			J
4,4'-DDE	234			
Dieldrin	184000			D
Endrin	12500			
cis-Nonachlor	ND	34.8		
Endosulfan II (beta)	ND	62.9		
2,4'-DDD	386			
2,4'-DDT	367			
4,4'-DDD	773			
4,4'-DDT	1730			
Endosulfan Sulfate	ND	22.0		
4,4'-Methoxychlor	281			
Mirex	ND	2.56		
Endrin Aldehyde	801			
Endrin Ketone	105000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	62.0	5 - 120	
IS	13C6-alpha-BHC	90.6	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	123	11 - 120	D, H
IS	13C6-beta-BHC	89.3	32 - 130	D
IS	13C6-delta-BHC	103	36 - 137	D
IS	13C10-Heptachlor	250	5 - 120	H
IS	13C12-Aldrin	44.9	5 - 120	
IS	13C10-Oxychlordane	64.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	62.1	27 - 137	
IS	13C10-trans-Chlordane (gamma)	51.2	21 - 132	
IS	13C10-trans-Nonachlor	46.9	14 - 136	
IS	13C9-Endosulfan I (alpha)	42.4	15 - 148	
IS	13C12-2,4'-DDE	41.5	47 - 160	H
IS	13C12-4,4'-DDE	45.5	47 - 160	H
IS	13C12-Dieldrin	71.0	40 - 151	D
IS	13C12-Endrin	69.8	35 - 155	
IS	13C10-cis-Nonachlor	63.6	36 - 139	
IS	13C9-Endosulfan II (beta)	70.3	5 - 122	
IS	13C12-2,4'-DDD	61.6	5 - 199	
IS	13C12-2,4'-DDT	72.0	5 - 199	
IS	13C12-4,4'-DDD	61.9	5 - 120	
IS	13C12-4,4'-DDT	64.3	5 - 120	
IS	13C9-Endosulfan Sulfate	85.9	15 - 148	
IS	13C12-Methoxychlor	44.6	5 - 120	
IS	13C10-Mirex	32.2	5 - 120	
IS	13C12-Endrin Aldehyde	53.3	15 - 148	
IS	13C12-Endrin Ketone	59.4	15 - 148	D

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH5-100516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600620-04	Date Received:	12-May-2016 9:48
Project:	A6E0284	Sample Size:	1.02 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	10-May-2016 15:00			Date Analyzed:	25-May-16 23:40 Column: ZB-50 Analyst: ANP		
					31-May-16 17:56 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	89.4			B
alpha-BHC	233000			D
Lindane (gamma-BHC)	340000			D
beta-BHC	126000			D
delta-BHC	76200			D
Heptachlor	29.5			J
Aldrin	97.0			
Oxychlordane	ND	26.2		
cis-Heptachlor Epoxide	732			
trans-Heptachlor Epoxide	3380000			E, D
trans-Chlordane (gamma)	374			
trans-Nonachlor	64.6			
cis-Chlordane (alpha)	1780			
Endosulfan I (alpha)	ND	35.8		
2,4'-DDE	17.6			J
4,4'-DDE	209			
Dieldrin	196000			D
Endrin	16500			
cis-Nonachlor	ND	45.7		
Endosulfan II (beta)	ND	91.8		
2,4'-DDD	354			
2,4'-DDT	324			
4,4'-DDD	612			
4,4'-DDT	1740			
Endosulfan Sulfate	ND	32.0		
4,4'-Methoxychlor	244			
Mirex	ND	3.81		
Endrin Aldehyde	1830			
Endrin Ketone	135000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	55.7	5 - 120	
IS	13C6-alpha-BHC	77.1	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	108	11 - 120	D
IS	13C6-beta-BHC	105	32 - 130	D
IS	13C6-delta-BHC	92.2	36 - 137	D
IS	13C10-Heptachlor	242	5 - 120	H
IS	13C12-Aldrin	41.4	5 - 120	
IS	13C10-Oxychlordane	58.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	59.2	27 - 137	
IS	13C10-trans-Chlordane (gamma)	40.4	21 - 132	
IS	13C10-trans-Nonachlor	40.2	14 - 136	
IS	13C9-Endosulfan I (alpha)	35.5	15 - 148	
IS	13C12-2,4'-DDE	34.0	47 - 160	H
IS	13C12-4,4'-DDE	34.5	47 - 160	H
IS	13C12-Dieldrin	103	40 - 151	D
IS	13C12-Endrin	54.4	35 - 155	
IS	13C10-cis-Nonachlor	49.4	36 - 139	
IS	13C9-Endosulfan II (beta)	51.5	5 - 122	
IS	13C12-2,4'-DDD	48.6	5 - 199	
IS	13C12-2,4'-DDT	56.2	5 - 199	
IS	13C12-4,4'-DDD	48.8	5 - 120	
IS	13C12-4,4'-DDT	46.0	5 - 120	
IS	13C9-Endosulfan Sulfate	72.0	15 - 148	
IS	13C12-Methoxychlor	32.7	5 - 120	
IS	13C10-Mirex	23.6	5 - 120	
IS	13C12-Endrin Aldehyde	32.3	15 - 148	
IS	13C12-Endrin Ketone	50.4	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The associated compound concentration exceeded the calibration range of the instrument.**
H	**Recovery and/or RPD was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Lower Calibration Limit of the instrument.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

KF 5-11-16

SUBCONTRACT ORDER

Apex Laboratories

A6E0284

1600620

0.3°C, 0.0°C

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Vista Analytical Laboratory
1104 Winfield Way
El Dorado Hills, CA 95762
Phone :(916) 673-1520
Fax: -

COC lists 25 containers, 23 provided

Sample Name: 22B-U-S-100516 **Water** **Sampled: 05/10/16 08:45** (A6E0284-01)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/23/16 17:00	11/06/16 08:45	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/23/16 17:00	05/17/16 08:45	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/23/16 17:00	05/17/16 08:45	sub to Vista, MDL

Containers Supplied:
(K)1 L Amber Glass - Non Preserved
(L)1 L Amber Glass - Non Preserved
(M)1 L Amber Glass - Non Preserved
(P)1 L Amber Glass - Non Preserved

COC lists 25 containers, 23 provided

Sample Name: 22B-U-D-100516 **Water** **Sampled: 05/10/16 10:00** (A6E0284-03)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/23/16 17:00	11/06/16 10:00	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/23/16 17:00	05/17/16 10:00	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/23/16 17:00	05/17/16 10:00	sub to Vista, MDL

Containers Supplied:
(K)1 L Amber Glass - Non Preserved
(L)1 L Amber Glass - Non Preserved
(M)1 L Amber Glass - Non Preserved
(P)1 L Amber Glass - Non Preserved

Standard TAT

Released By	Date	Received By	Date
UPS (Shipper)	5/11/16	UPS (Shipper)	
UPS (Shipper)			
Released By	Date	Received By	Date
			5/12/16 0958

SUBCONTRACT ORDER

Apex Laboratories

A6E0284

1600620

COC lists 25 containers, 23 provided

Sample Name: 22B-U-MH3-100516 **Water** **Sampled: 05/10/16 13:00** (A6E0284-05)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/23/16 17:00	11/06/16 13:00	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/23/16 17:00	05/17/16 13:00	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/23/16 17:00	05/17/16 13:00	sub to Vista, MDL

Containers Supplied:

(K)1 L Amber Glass - Non Preserved

(L)1 L Amber Glass - Non Preserved

(M)1 L Amber Glass - Non Preserved

(P)1 L Amber Glass - Non Preserved

COC lists 25 containers, 23 provided. 3/3 HCL

Sample Name: 22B-U-MH5-100516 **Water** **Sampled: 05/10/16 15:00** (A6E0284-07)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/23/16 17:00	11/06/16 15:00	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/23/16 17:00	05/17/16 15:00	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/23/16 17:00	05/17/16 15:00	sub to Vista, MDL

Containers Supplied:

(K)1 L Amber Glass - Non Preserved

(L)1 L Amber Glass - Non Preserved

(M)1 L Amber Glass - Non Preserved

(P)1 L Amber Glass - Non Preserved

Standard TAT

Released By	Date	Received By	Date
[signature]	5/11/16	UPS (Shipper)	
UPS (Shipper)		[signature]	5/12/16 0958

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SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1600620 **TAT** 21

Samples Arrival:	**Date/Time** 5/12/16 0948	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 05/12/16	**Initials:** VBSB	**Location:** WR-2 **Shelf/Rack:** C4

Delivered By:	FedEx	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		

Temp °C: 1.6 (uncorrected)	**Time:** 1008	**Thermometer ID:** IR-2	
Temp °C: 0.3 (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Cooler 1 Trk # 1Z X47 20R 13 9505 4268	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

Sample Label ID: 22B-U-S-100516 A,B,C (A6E0284-01 K,L,M)
22B-U-D-100516 D (A6E0284-03 K)
⊕ ⊛ 22B-U-MH3-100516 C,D (A6E0284-05 L,M)
5/12/16 SR
22B-U-MH~~3~~5-100516 A,B (A6E0284-07 K,L)

⊛ Hand written label date ~~says~~ SR 5/12/16 is: 10/5/16 SR 5/12/16
⊕ Typed label not present on D container SR 5/12/16

Sample Login 11-2013 ckt

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1600620 **TAT** 21

Samples Arrival:	**Date/Time** 5/12/16 0948	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 05/12/16 1611	**Initials:** VBB	**Location:** WR-2 **Shelf/Rack:** C4

Delivered By:	FedEx	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		

Temp °C: 1.3 (uncorrected)	**Time:** 1012	**Thermometer ID:** IR-2
Temp °C: 0.0 (corrected)		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Cooler 2 Trk # 1Z X47 20R 13 9913 2274	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

Sample label ID: 22B-U-D-100516 A,B,C (A6E0284-03 L,M,P)
(A) 22B-U-MH3-100516 A,B (A6E0284-05 K,P)
22B-U-S-100516 D (A6E0284-01 P) VBB 5/12/16
* 22B-U-MH5100516 C,D (A6E0284-07 M,P)

* Hand written label
ID: 22B-U-MH5-10016

(A) collection date on hand written label 10-5-16

Sample Login 11/2013 ckt

June 15, 2016

Vista Work Order No. 1600620

Mr. Darwin Thomas
Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223

Dear Mr. Thomas,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 12, 2016. This sample set was analyzed on a standard turn-around time, under your Project Name 'A6E0284'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 1600631
Case Narrative

Sample Condition on Receipt:

Four aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1668A

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668A using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. PCB-11 was detected at 6.15 pg/L in the Method Blank. No other analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method

acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1699

These samples were extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The recoveries of many of the labeled internal standard recoveries were outside the method acceptance criteria due to matrix interferences and high analyte concentration levels. The affected internal standards are listed in the table below.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1600631-01	22B-U-MH4-110516	11-May-16 08:30	13-May-16 09:55	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
1600631-02	22B-U-MH6-110516	11-May-16 10:30	13-May-16 09:55	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
1600631-03	22B-U-MH7-110516	11-May-16 13:30	13-May-16 09:55	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
1600631-04	22B-U-RB-110516	11-May-16 16:30	13-May-16 09:55	Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L
				Amber Glass NM Bottle, 1L

Vista Project: 1600631

Client Project: A6E0342

ANALYTICAL RESULTS

Sample ID: Method Blank

EPA Method 1613B

Matrix:	Aqueous	QC Batch:	B6E0143	Lab Sample:	B6E0143-BLK1
Sample Size:	1.00 L	Date Extracted:	25-May-2016 8:36	Date Analyzed :	26-May-16 18:10 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.824			IS	13C-2,3,7,8-TCDD	93.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.728				13C-1,2,3,7,8-PeCDD	79.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.09				13C-1,2,3,4,7,8-HxCDD	89.0	32 - 141	
1,2,3,6,7,8-HxCDD	ND	1.10				13C-1,2,3,6,7,8-HxCDD	86.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	1.25				13C-1,2,3,7,8,9-HxCDD	88.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	1.23				13C-1,2,3,4,6,7,8-HpCDD	83.2	23 - 140	
OCDD	ND	1.72				13C-OCDD	57.9	17 - 157	
2,3,7,8-TCDF	ND	0.759				13C-2,3,7,8-TCDF	91.4	24 - 169	
1,2,3,7,8-PeCDF	ND	0.838				13C-1,2,3,7,8-PeCDF	74.6	24 - 185	
2,3,4,7,8-PeCDF	ND	0.848				13C-2,3,4,7,8-PeCDF	74.1	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.429				13C-1,2,3,4,7,8-HxCDF	86.7	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.416				13C-1,2,3,6,7,8-HxCDF	85.8	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.461				13C-2,3,4,6,7,8-HxCDF	87.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.626				13C-1,2,3,7,8,9-HxCDF	90.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.526				13C-1,2,3,4,6,7,8-HpCDF	84.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.506				13C-1,2,3,4,7,8,9-HpCDF	81.6	26 - 138	
OCDF	ND	2.09				13C-OCDF	62.2	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	90.7	35 - 197	
						Toxic Equivalent Quotient (TEQ) Data			
						TEQMinWHO2005Dioxin	0.00		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR **EPA Method 1613B**

Matrix:	Aqueous	QC Batch:	B6E0143	Lab Sample:	B6E0143-BS1
Sample Size:	1.00 L	Date Extracted:	25-May-2016 8:36	Date Analyzed:	26-May-16 16:33 Column: ZB-5MS Analyst: DB

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits		Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	201	200	101	67 - 158	IS	13C-2,3,7,8-TCDD	89.4	20 - 175
1,2,3,7,8-PeCDD	988	1000	98.8	70 - 142		13C-1,2,3,7,8-PeCDD	75.9	21 - 227
1,2,3,4,7,8-HxCDD	1030	1000	103	70 - 164		13C-1,2,3,4,7,8-HxCDD	85.2	21 - 193
1,2,3,6,7,8-HxCDD	989	1000	98.9	76 - 134		13C-1,2,3,6,7,8-HxCDD	84.9	25 - 163
1,2,3,7,8,9-HxCDD	1020	1000	102	64 - 162		13C-1,2,3,7,8,9-HxCDD	87.7	21 - 193
1,2,3,4,6,7,8-HpCDD	1010	1000	101	70 - 140		13C-1,2,3,4,6,7,8-HpCDD	82.8	26 - 166
OCDD	2040	2000	102	78 - 144		13C-OCDD	57.6	13 - 199
2,3,7,8-TCDF	190	200	94.9	75 - 158		13C-2,3,7,8-TCDF	94.2	22 - 152
1,2,3,7,8-PeCDF	1060	1000	106	80 - 134		13C-1,2,3,7,8-PeCDF	75.5	21 - 192
2,3,4,7,8-PeCDF	1060	1000	106	68 - 160		13C-2,3,4,7,8-PeCDF	74.9	13 - 328
1,2,3,4,7,8-HxCDF	988	1000	98.8	72 - 134		13C-1,2,3,4,7,8-HxCDF	85.8	19 - 202
1,2,3,6,7,8-HxCDF	1010	1000	101	84 - 130		13C-1,2,3,6,7,8-HxCDF	83.4	21 - 159
2,3,4,6,7,8-HxCDF	988	1000	98.8	70 - 156		13C-2,3,4,6,7,8-HxCDF	86.4	22 - 176
1,2,3,7,8,9-HxCDF	968	1000	96.8	78 - 130		13C-1,2,3,7,8,9-HxCDF	94.2	17 - 205
1,2,3,4,6,7,8-HpCDF	996	1000	99.6	82 - 122		13C-1,2,3,4,6,7,8-HpCDF	84.2	21 - 158
1,2,3,4,7,8,9-HpCDF	978	1000	97.8	78 - 138		13C-1,2,3,4,7,8,9-HpCDF	78.2	20 - 186
OCDF	1930	2000	96.4	63 - 170		13C-OCDF	65.6	13 - 199
					CRS	37Cl-2,3,7,8-TCDD	92.6	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH4-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 0.954 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 26-May-16 23:30 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.20		
1,2,3,7,8-PeCDD	ND	1.90		
1,2,3,4,7,8-HxCDD	ND	1.30		
1,2,3,6,7,8-HxCDD	ND	1.26		
1,2,3,7,8,9-HxCDD	ND	1.57		
1,2,3,4,6,7,8-HpCDD	ND	2.52		
OCDD	ND		7.46	
2,3,7,8-TCDF	ND	1.21		
1,2,3,7,8-PeCDF	ND	1.26		
2,3,4,7,8-PeCDF	ND	1.21		
1,2,3,4,7,8-HxCDF	ND	1.05		
1,2,3,6,7,8-HxCDF	ND	1.03		
2,3,4,6,7,8-HxCDF	ND	1.17		
1,2,3,7,8,9-HxCDF	ND	2.25		
1,2,3,4,6,7,8-HpCDF	ND	1.27		
1,2,3,4,7,8,9-HpCDF	ND	1.64		
OCDF	ND	2.74		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	80.8	25 - 164	
	13C-1,2,3,7,8-PeCDD	88.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	96.0	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	92.5	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	87.5	23 - 140	
	13C-OCDD	73.2	17 - 157	
	13C-2,3,7,8-TCDF	85.3	24 - 169	
	13C-1,2,3,7,8-PeCDF	93.4	24 - 185	
	13C-2,3,4,7,8-PeCDF	94.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	76.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	75.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	78.5	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	74.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	88.3	26 - 138	
	13C-OCDF	70.6	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	76.1	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH6-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 0.971 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 00:16 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.47		
1,2,3,7,8-PeCDD	ND	1.98		
1,2,3,4,7,8-HxCDD	ND	1.31		
1,2,3,6,7,8-HxCDD	ND	1.28		
1,2,3,7,8,9-HxCDD	ND	1.60		
1,2,3,4,6,7,8-HpCDD	ND	1.86		
OCDD	5.39			J
2,3,7,8-TCDF	ND	1.49		
1,2,3,7,8-PeCDF	ND	1.13		
2,3,4,7,8-PeCDF	ND	1.05		
1,2,3,4,7,8-HxCDF	ND	0.744		
1,2,3,6,7,8-HxCDF	ND	0.763		
2,3,4,6,7,8-HxCDF	ND	0.884		
1,2,3,7,8,9-HxCDF	ND	1.69		
1,2,3,4,6,7,8-HpCDF	ND	0.988		
1,2,3,4,7,8,9-HpCDF	ND	1.37		
OCDF	ND	2.46		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	91.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	103	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	81.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	99.7	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	99.4	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	89.6	23 - 140	
	13C-OCDD	77.2	17 - 157	
	13C-2,3,7,8-TCDF	91.0	24 - 169	
	13C-1,2,3,7,8-PeCDF	104	24 - 185	
	13C-2,3,4,7,8-PeCDF	105	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	74.9	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	88.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	84.0	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	82.8	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	80.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	87.5	26 - 138	
	13C-OCDF	77.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	82.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00162

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH7-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 0.961 L

Laboratory Data
Lab Sample: 1600631-03 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 01:02 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.00		
1,2,3,7,8-PeCDD	ND	1.97		
1,2,3,4,7,8-HxCDD	ND	1.19		
1,2,3,6,7,8-HxCDD	ND	1.12		
1,2,3,7,8,9-HxCDD	ND	1.41		
1,2,3,4,6,7,8-HpCDD	ND	1.49		
OCDD	ND	2.43		
2,3,7,8-TCDF	ND	0.951		
1,2,3,7,8-PeCDF	ND	0.973		
2,3,4,7,8-PeCDF	ND	0.929		
1,2,3,4,7,8-HxCDF	ND	0.811		
1,2,3,6,7,8-HxCDF	ND	0.802		
2,3,4,6,7,8-HxCDF	ND	0.954		
1,2,3,7,8,9-HxCDF	ND	1.79		
1,2,3,4,6,7,8-HpCDF	ND	0.971		
1,2,3,4,7,8,9-HpCDF	ND	1.20		
OCDF	ND	2.13		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	90.2	25 - 164	
	13C-1,2,3,7,8-PeCDD	104	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	81.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	99.5	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	95.9	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	90.5	23 - 140	
	13C-OCDD	72.9	17 - 157	
	13C-2,3,7,8-TCDF	90.7	24 - 169	
	13C-1,2,3,7,8-PeCDF	100	24 - 185	
	13C-2,3,4,7,8-PeCDF	107	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	74.9	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	91.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	87.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.9	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	79.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	94.3	26 - 138	
	13C-OCDF	75.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-RB-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.947 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 01:48 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.05		
1,2,3,7,8-PeCDD	ND	2.14		
1,2,3,4,7,8-HxCDD	ND	1.26		
1,2,3,6,7,8-HxCDD	ND	1.18		
1,2,3,7,8,9-HxCDD	ND	1.58		
1,2,3,4,6,7,8-HpCDD	ND	1.80		
OCDD	ND	2.72		
2,3,7,8-TCDF	ND	0.860		
1,2,3,7,8-PeCDF	ND	1.02		
2,3,4,7,8-PeCDF	ND	0.993		
1,2,3,4,7,8-HxCDF	ND	0.864		
1,2,3,6,7,8-HxCDF	ND	0.819		
2,3,4,6,7,8-HxCDF	ND	0.917		
1,2,3,7,8,9-HxCDF	ND	2.06		
1,2,3,4,6,7,8-HpCDF	ND	1.20		
1,2,3,4,7,8,9-HpCDF	ND	1.61		
OCDF	ND	2.56		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	87.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	95.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	98.1	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	94.7	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	81.7	23 - 140	
	13C-OCDD	61.4	17 - 157	
	13C-2,3,7,8-TCDF	88.9	24 - 169	
	13C-1,2,3,7,8-PeCDF	98.6	24 - 185	
	13C-2,3,4,7,8-PeCDF	97.5	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	70.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	82.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	78.3	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	78.1	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	68.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	83.3	26 - 138	
	13C-OCDF	61.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	ND	1.35			PCB-44	ND	0.623		
PCB-2	ND	1.44			PCB-45	ND	0.560		
PCB-3	ND	1.44			PCB-46	ND	0.614		
PCB-4/10	ND	1.44			PCB-47	1.74			J
PCB-5/8	ND	0.659			PCB-48/75	ND	0.409		
PCB-6	ND	1.13			PCB-50	ND	0.580		
PCB-7/9	ND	1.12			PCB-51	ND	0.502		
PCB-11	6.15				PCB-52/69	ND	0.452		
PCB-12/13	ND	1.10			PCB-53	ND	0.513		
PCB-14	ND	0.945			PCB-54	ND	0.440		
PCB-15	ND	0.965			PCB-55	ND	0.325		
PCB-16/32	ND		0.783		PCB-56/60	ND	0.361		
PCB-17	ND	0.399			PCB-57	ND	0.366		
PCB-18	ND	0.481			PCB-58	ND	0.360		
PCB-19	ND	0.473			PCB-61/70	0.430			J
PCB-20/21/33	ND	0.430			PCB-62	ND	0.399		
PCB-22	ND	0.428			PCB-63	ND	0.352		
PCB-23	ND	0.411			PCB-65	ND	0.412		
PCB-24/27	ND	0.294			PCB-66/76	ND	0.347		
PCB-25	ND	0.454			PCB-67	ND	0.375		
PCB-26	ND	0.402			PCB-68	ND	0.337		
PCB-28	ND		0.508		PCB-73	ND	0.413		
PCB-29	ND	0.412			PCB-74	ND	0.338		
PCB-30	ND	0.299			PCB-77	ND	0.314		
PCB-31	ND	0.572			PCB-78	ND	0.332		
PCB-34	ND	0.383			PCB-79	ND	0.344		
PCB-35	ND	0.422			PCB-80	ND	0.301		
PCB-36	ND	0.408			PCB-81	ND	0.303		
PCB-37	ND	0.393			PCB-82	ND	1.20		
PCB-38	ND	0.427			PCB-83	ND	0.736		
PCB-39	ND	0.420			PCB-84/92	ND	1.05		
PCB-40	ND	0.633			PCB-85/116	ND	0.878		
PCB-41/64/71/72	ND	0.405			PCB-86	ND	1.18		
PCB-42/59	ND	0.439			PCB-87/117/125	ND	0.768		
PCB-43/49	ND	0.512			PCB-88/91	ND	1.10		

DL - Sample specifc estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers	Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.13			PCB-136	ND	0.768		
PCB-90/101	ND		0.614		PCB-137	ND	0.493		
PCB-93	ND	1.17			PCB-138/163/164	ND		0.657	
PCB-94	ND	1.10			PCB-139/149	ND	1.01		
PCB-95/98/102	ND	0.961			PCB-140	ND	0.559		
PCB-96	ND	0.904			PCB-141	ND	0.502		
PCB-97	ND	0.942			PCB-144	ND	1.02		
PCB-99	ND	0.901			PCB-145	ND	0.802		
PCB-100	ND	1.03			PCB-146/165	ND	0.471		
PCB-103	ND	1.02			PCB-147	ND	1.13		
PCB-104	ND	0.782			PCB-148	ND	1.07		
PCB-105	ND	0.440			PCB-150	ND	0.777		
PCB-106/118	ND	0.675			PCB-151	ND	1.07		
PCB-107/109	ND	0.665			PCB-152	ND	0.750		
PCB-108/112	ND	0.869			PCB-153	0.608			J
PCB-110	ND	0.718			PCB-154	ND	0.985		
PCB-111/115	ND	0.659			PCB-155	ND	0.732		
PCB-113	ND	0.840			PCB-156	ND	0.363		
PCB-114	ND	0.479			PCB-157	ND	0.381		
PCB-119	ND	0.651			PCB-158/160	ND	0.388		
PCB-120	ND	0.616			PCB-159	ND	0.367		
PCB-121	ND	0.704			PCB-166	ND	0.393		
PCB-122	ND	0.570			PCB-167	ND	0.389		
PCB-123	ND	0.709			PCB-168	ND	0.376		
PCB-124	ND	0.681			PCB-169	ND	0.415		
PCB-126	ND	0.533			PCB-170	ND	0.440		
PCB-127	ND	0.486			PCB-171	ND	0.411		
PCB-128/162	ND	0.434			PCB-172	ND	0.442		
PCB-129	ND	0.579			PCB-173	ND	0.541		
PCB-130	ND	0.631			PCB-174	ND	0.464		
PCB-131	ND	0.603			PCB-175	ND	0.466		
PCB-132/161	ND	0.456			PCB-176	ND	0.335		
PCB-133/142	ND	0.561			PCB-177	ND	0.472		
PCB-134/143	ND	0.548			PCB-178	ND	0.454		
PCB-135	ND	1.10			PCB-179	ND	0.351		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND	0.458		
PCB-181	ND	0.443		
PCB-182/187	ND	0.325		
PCB-183	ND	0.399		
PCB-184	ND	0.365		
PCB-185	ND	0.426		
PCB-186	ND	0.335		
PCB-188	ND	0.321		
PCB-189	ND	0.280		
PCB-190	ND	0.327		
PCB-191	ND	0.321		
PCB-192	ND	0.344		
PCB-193	ND	0.323		
PCB-194	0.789			J
PCB-195	ND	0.296		
PCB-196/203	ND	0.875		
PCB-197	ND	0.622		
PCB-198	ND	0.962		
PCB-199	ND	0.979		
PCB-200	ND	0.701		
PCB-201	ND	0.662		
PCB-202	ND	0.712		
PCB-204	ND	0.675		
PCB-205	ND	0.209		
PCB-206	ND	0.258		
PCB-207	ND	0.169		
PCB-208	0.235			J
PCB-209	ND		0.333	
Total monoCB	ND	1.44		
Total diCB	6.15			
Total triCB	ND		1.29	
Total tetraCB	2.17			
Total pentaCB	ND		0.614	
Total hexaCB	0.608		1.26	
Total heptaCB	ND	0.541		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	0.789			
Total nonaCB	0.235			
DecaCB	ND		0.333	
Total PCB	9.95			

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BLK1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 14:21 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	63.2	15 - 150	
	13C-PCB-3	66.0	15 - 150	
	13C-PCB-4	66.0	25 - 150	
	13C-PCB-11	77.0	25 - 150	
	13C-PCB-9	70.1	25 - 150	
	13C-PCB-19	71.0	25 - 150	
	13C-PCB-28	79.8	25 - 150	
	13C-PCB-32	74.8	25 - 150	
	13C-PCB-37	87.7	25 - 150	
	13C-PCB-47	77.5	25 - 150	
	13C-PCB-52	80.3	25 - 150	
	13C-PCB-54	66.1	25 - 150	
	13C-PCB-70	85.8	25 - 150	
	13C-PCB-77	95.6	25 - 150	
	13C-PCB-80	85.2	25 - 150	
	13C-PCB-81	93.8	25 - 150	
	13C-PCB-95	85.5	25 - 150	
	13C-PCB-97	91.7	25 - 150	
	13C-PCB-101	89.3	25 - 150	
	13C-PCB-104	78.0	25 - 150	
	13C-PCB-105	96.4	25 - 150	
	13C-PCB-114	94.8	25 - 150	
	13C-PCB-118	95.1	25 - 150	
	13C-PCB-123	97.7	25 - 150	
	13C-PCB-126	98.7	25 - 150	
	13C-PCB-127	98.9	25 - 150	
	13C-PCB-138	94.1	25 - 150	
	13C-PCB-141	93.2	25 - 150	
	13C-PCB-153	92.6	25 - 150	
	13C-PCB-155	75.1	25 - 150	
	13C-PCB-156	96.9	25 - 150	
	13C-PCB-157	93.5	25 - 150	
	13C-PCB-159	94.8	25 - 150	
	13C-PCB-167	96.3	25 - 150	
	13C-PCB-169	99.6	25 - 150	
	13C-PCB-170	85.3	25 - 150	
	13C-PCB-180	87.4	25 - 150	
	13C-PCB-188	78.7	25 - 150	
	13C-PCB-189	90.7	25 - 150	
	13C-PCB-194	86.7	25 - 150	
	13C-PCB-202	70.8	25 - 150	
	13C-PCB-206	97.1	25 - 150	
	13C-PCB-208	83.5	25 - 150	
	13C-PCB-209	102	25 - 150	
CRS	13C-PCB-79	98.0	30 - 135	
	13C-PCB-178	92.7	30 - 135	

DL - Sample specifc estimated detection limit

LCL-UCL- Lower control limit - upper control limit

EMPC - Estimated maximum possible concentration

See individual congeners for qualifiers.

Sample ID: OPR

EPA Method 1668A

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B6E0115
Date Extracted: 20-May-2016 8:47

Lab Sample: B6E0115-BS1
Date Analyzed: 23-May-16 12:10 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
PCB-1	730	1000	73.0	50 - 150
PCB-3	745	1000	74.5	50 - 150
PCB-4/10	1580	2000	78.8	50 - 150
PCB-15	812	1000	81.2	50 - 150
PCB-19	903	1000	90.3	50 - 150
PCB-37	883	1000	88.3	50 - 150
PCB-54	902	1000	90.2	50 - 150
PCB-77	799	1000	79.9	50 - 150
PCB-81	784	1000	78.4	50 - 150
PCB-104	893	1000	89.3	50 - 150
PCB-105	758	1000	75.8	50 - 150
PCB-106/118	1760	2000	88.0	50 - 150
PCB-114	784	1000	78.4	50 - 150
PCB-123	889	1000	88.9	50 - 150
PCB-126	793	1000	79.3	50 - 150
PCB-155	886	1000	88.6	50 - 150
PCB-156	850	1000	85.0	50 - 150
PCB-157	865	1000	86.5	50 - 150
PCB-167	861	1000	86.1	50 - 150
PCB-169	885	1000	88.5	50 - 150
PCB-188	906	1000	90.6	50 - 150
PCB-189	893	1000	89.3	50 - 150
PCB-202	918	1000	91.8	50 - 150
PCB-205	862	1000	86.2	50 - 150
PCB-206	910	1000	91.0	50 - 150
PCB-208	916	1000	91.6	50 - 150
PCB-209	860	1000	86.0	50 - 150

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-1	80.5	15 - 140
IS	13C-PCB-3	80.2	15 - 140
IS	13C-PCB-4	74.2	30 - 140
IS	13C-PCB-11	80.2	30 - 140
IS	13C-PCB-9	75.9	30 - 140
IS	13C-PCB-19	83.0	30 - 140
IS	13C-PCB-28	75.0	30 - 140
IS	13C-PCB-32	85.7	30 - 140
IS	13C-PCB-37	92.7	30 - 140
IS	13C-PCB-47	69.8	30 - 140
IS	13C-PCB-52	74.2	30 - 140
IS	13C-PCB-54	65.1	30 - 140
IS	13C-PCB-70	81.1	30 - 140
IS	13C-PCB-77	85.3	30 - 140
IS	13C-PCB-80	79.1	30 - 140
IS	13C-PCB-81	84.2	30 - 140
IS	13C-PCB-95	79.3	30 - 140
IS	13C-PCB-97	83.9	30 - 140
IS	13C-PCB-101	81.3	30 - 140
IS	13C-PCB-104	68.6	30 - 140
IS	13C-PCB-105	86.4	30 - 140
IS	13C-PCB-114	84.3	30 - 140
IS	13C-PCB-118	87.2	30 - 140
IS	13C-PCB-123	88.9	30 - 140
IS	13C-PCB-126	93.3	30 - 140
IS	13C-PCB-127	85.0	30 - 140
IS	13C-PCB-138	83.2	30 - 140
IS	13C-PCB-141	80.8	30 - 140
IS	13C-PCB-153	78.5	30 - 140
IS	13C-PCB-155	64.2	30 - 140
IS	13C-PCB-156	89.3	30 - 140
IS	13C-PCB-157	86.5	30 - 140
IS	13C-PCB-159	86.8	30 - 140
IS	13C-PCB-167	88.0	30 - 140
IS	13C-PCB-169	92.7	30 - 140
IS	13C-PCB-170	85.6	30 - 140
IS	13C-PCB-180	83.9	30 - 140
IS	13C-PCB-188	66.9	30 - 140
IS	13C-PCB-189	87.7	30 - 140
IS	13C-PCB-194	81.8	30 - 140

Sample ID: OPR

EPA Method 1668A

Matrix:	Aqueous	QC Batch:	B6E0115	Lab Sample:	B6E0115-BS1
Sample Size:	1.00 L	Date Extracted:	20-May-2016 8:47	Date Analyzed:	23-May-16 12:10 Column: ZB-1 Analyst: MAS

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits

	Labeled Standard	%R	LCL-UCL
IS	13C-PCB-202	69.3	30 - 140
IS	13C-PCB-206	89.7	30 - 140
IS	13C-PCB-208	77.5	30 - 140
IS	13C-PCB-209	92.9	30 - 140
CRS	13C-PCB-79	91.4	25 - 125
CRS	13C-PCB-178	91.5	25 - 125

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	12.4			
PCB-2	ND	0.908		
PCB-3	1.04			J
PCB-4/10	24.2			
PCB-5/8	14.7			
PCB-6	4.32			J
PCB-7/9	ND	2.76		
PCB-11	27.6			B
PCB-12/13	ND	0.677		
PCB-14	ND	0.583		
PCB-15	5.39			
PCB-16/32	22.5			
PCB-17	11.8			
PCB-18	36.7			
PCB-19	9.38			
PCB-20/21/33	13.2			J
PCB-22	10.9			
PCB-23	ND	0.356		
PCB-24/27	3.04			J
PCB-25	ND		1.86	
PCB-26	4.42			J
PCB-28	22.7			
PCB-29	ND	0.356		
PCB-30	ND	0.401		
PCB-31	21.1			
PCB-34	ND	0.331		
PCB-35	0.497			J
PCB-36	ND	0.323		
PCB-37	5.16			
PCB-38	0.776			J
PCB-39	ND	0.333		
PCB-40	4.79			J
PCB-41/64/71/72	22.6			
PCB-42/59	7.22			J
PCB-43/49	25.0			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	43.4			
PCB-45	4.95			J
PCB-46	1.96			J
PCB-47	42.6			B
PCB-48/75	3.06			J
PCB-50	ND	0.618		
PCB-51	47.7			
PCB-52/69	71.2			
PCB-53	5.78			
PCB-54	ND	0.470		
PCB-55	0.407			J
PCB-56/60	9.00			J
PCB-57	ND	0.321		
PCB-58	ND	0.316		
PCB-61/70	28.9			B
PCB-62	ND	0.351		
PCB-63	0.616			J
PCB-65	ND	0.362		
PCB-66/76	13.1			
PCB-67	0.478			J
PCB-68	17.8			
PCB-73	ND	0.384		
PCB-74	7.73			
PCB-77	2.13			J
PCB-78	ND	0.310		
PCB-79	0.587			J
PCB-80	ND	0.259		
PCB-81	0.174			J
PCB-82	7.16			
PCB-83	ND	0.527		
PCB-84/92	29.6			
PCB-85/116	9.08			J
PCB-86	ND	0.848		
PCB-87/117/125	23.8			
PCB-88/91	10.3			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	0.751		
PCB-90/101	60.2			
PCB-93	ND	0.853		
PCB-94	ND		0.474	
PCB-95/98/102	70.4			
PCB-96	ND		0.527	
PCB-97	17.8			
PCB-99	21.0			
PCB-100	ND	0.557		
PCB-103	ND		0.421	
PCB-104	ND	0.425		
PCB-105	13.8			
PCB-106/118	38.8			
PCB-107/109	2.37			J
PCB-108/112	2.74			J
PCB-110	68.4			
PCB-111/115	1.01			J
PCB-113	ND	0.558		
PCB-114	0.701			J
PCB-119	0.633			J
PCB-120	ND	0.441		
PCB-121	ND	0.514		
PCB-122	0.435			J
PCB-123	ND	0.490		
PCB-124	2.17			J
PCB-126	0.523			J
PCB-127	ND	0.596		
PCB-128/162	7.57			J
PCB-129	2.91			J
PCB-130	4.06			J
PCB-131	ND	0.498		
PCB-132/161	14.4			
PCB-133/142	1.49			J
PCB-134/143	2.87			J
PCB-135	5.96			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	6.87			
PCB-137	2.22			J
PCB-138/163/164	51.7			
PCB-139/149	40.1			
PCB-140	ND	0.617		
PCB-141	8.88			
PCB-144	2.06			J
PCB-145	ND	0.439		
PCB-146/165	7.04			J
PCB-147	1.09			J
PCB-148	ND	0.587		
PCB-150	ND	0.425		
PCB-151	11.2			
PCB-152	ND	0.410		
PCB-153	44.8			B
PCB-154	0.675			J
PCB-155	ND	0.400		
PCB-156	4.88			J
PCB-157	1.21			J
PCB-158/160	6.16			J
PCB-159	ND	0.317		
PCB-166	ND	0.339		
PCB-167	2.32			J
PCB-168	ND	0.310		
PCB-169	ND	0.356		
PCB-170	11.6			
PCB-171	3.54			J
PCB-172	2.68			J
PCB-173	ND	0.335		
PCB-174	17.3			
PCB-175	ND	0.326		
PCB-176	1.91			J
PCB-177	8.24			
PCB-178	3.66			J
PCB-179	7.12			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	31.8			
PCB-181	ND	0.274		
PCB-182/187	28.3			
PCB-183	9.24			
PCB-184	ND	0.216		
PCB-185	2.47			J
PCB-186	ND	0.199		
PCB-188	ND	0.190		
PCB-189	0.650			J
PCB-190	2.92			J
PCB-191	0.585			J
PCB-192	ND	0.213		
PCB-193	1.78			J
PCB-194	10.8			B
PCB-195	3.89			J
PCB-196/203	16.9			
PCB-197	0.608			J
PCB-198	0.730			J
PCB-199	17.2			
PCB-200	2.13			J
PCB-201	1.70			J
PCB-202	3.51			J
PCB-204	ND	0.429		
PCB-205	0.653			J
PCB-206	8.19			
PCB-207	1.05			J
PCB-208	2.56			J, B
PCB-209	4.10			J
Total monoCB	13.4			
Total diCB	76.2			
Total triCB	162		164	
Total tetraCB	361			
Total pentaCB	381		382	
Total hexaCB	230			
Total heptaCB	134			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	58.2			
Total nonaCB	11.8			
DecaCB	4.10			
Total PCB	1430			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	33.7	15 -150	
	13C-PCB-3	44.7	15 -150	
	13C-PCB-4	36.6	25 -150	
	13C-PCB-11	70.3	25 -150	
	13C-PCB-9	51.1	25 -150	
	13C-PCB-19	47.2	25 -150	
	13C-PCB-28	59.0	25 -150	
	13C-PCB-32	63.3	25 -150	
	13C-PCB-37	76.5	25 -150	
	13C-PCB-47	72.5	25 -150	
	13C-PCB-52	70.3	25 -150	
	13C-PCB-54	46.8	25 -150	
	13C-PCB-70	71.7	25 -150	
	13C-PCB-77	72.4	25 -150	
	13C-PCB-80	74.8	25 -150	
	13C-PCB-81	73.6	25 -150	
	13C-PCB-95	68.9	25 -150	
	13C-PCB-97	75.2	25 -150	
	13C-PCB-101	75.8	25 -150	
	13C-PCB-104	74.3	25 -150	
	13C-PCB-105	86.8	25 -150	
	13C-PCB-114	85.6	25 -150	
	13C-PCB-118	77.5	25 -150	
	13C-PCB-123	81.3	25 -150	
	13C-PCB-126	90.4	25 -150	
	13C-PCB-127	91.7	25 -150	
	13C-PCB-138	77.7	25 -150	
	13C-PCB-141	77.4	25 -150	
	13C-PCB-153	78.6	25 -150	
	13C-PCB-155	69.2	25 -150	
	13C-PCB-156	82.6	25 -150	
	13C-PCB-157	78.7	25 -150	
	13C-PCB-159	82.7	25 -150	
	13C-PCB-167	83.2	25 -150	
	13C-PCB-169	82.6	25 -150	

	Labeled Standard	%R	LCL-UCL	Qualifiers
	13C-PCB-170	75.9	25 -150	
	13C-PCB-180	76.5	25 -150	
	13C-PCB-188	72.4	25 -150	
	13C-PCB-189	79.2	25 -150	
	13C-PCB-194	78.0	25 -150	
	13C-PCB-202	68.2	25 -150	
	13C-PCB-206	77.7	25 -150	
	13C-PCB-208	68.6	25 -150	
	13C-PCB-209	80.5	25 -150	
CRS	13C-PCB-79	82.8	30 -135	
	13C-PCB-178	82.8	30 -135	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	17.5			
PCB-2	0.723			J
PCB-3	1.29			J
PCB-4/10	25.0			
PCB-5/8	11.5			
PCB-6	2.35			J
PCB-7/9	1.84			J
PCB-11	18.2			B
PCB-12/13	ND	0.777		
PCB-14	ND	0.669		
PCB-15	3.63			J
PCB-16/32	21.8			
PCB-17	10.8			
PCB-18	33.7			
PCB-19	9.56			
PCB-20/21/33	8.90			J
PCB-22	8.15			
PCB-23	ND	0.336		
PCB-24/27	2.98			J
PCB-25	1.27			J
PCB-26	ND		2.51	
PCB-28	14.1			
PCB-29	ND	0.336		
PCB-30	ND	0.203		
PCB-31	14.1			
PCB-34	ND	0.313		
PCB-35	0.292			J
PCB-36	ND	0.299		
PCB-37	3.22			J
PCB-38	1.97			J
PCB-39	ND	0.309		
PCB-40	4.99			
PCB-41/64/71/72	21.6			
PCB-42/59	6.34			J
PCB-43/49	25.0			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	51.6			
PCB-45	5.52			
PCB-46	2.60			J
PCB-47	84.7			B
PCB-48/75	2.55			J
PCB-50	ND	0.558		
PCB-51	75.2			
PCB-52/69	84.2			
PCB-53	7.02			
PCB-54	ND	0.233		
PCB-55	0.367			J
PCB-56/60	6.55			J
PCB-57	ND	0.332		
PCB-58	ND	0.327		
PCB-61/70	23.2			B
PCB-62	ND	0.378		
PCB-63	ND		0.323	
PCB-65	ND	0.390		
PCB-66/76	9.43			J
PCB-67	0.272			J
PCB-68	28.2			
PCB-73	ND	0.371		
PCB-74	5.64			
PCB-77	0.566			J
PCB-78	ND	0.309		
PCB-79	ND		0.317	
PCB-80	ND	0.273		
PCB-81	0.288			J
PCB-82	6.58			
PCB-83	ND	0.646		
PCB-84/92	34.4			
PCB-85/116	7.02			J
PCB-86	ND	1.04		
PCB-87/117/125	20.9			
PCB-88/91	11.5			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	0.813			J
PCB-90/101	58.3			
PCB-93	ND	1.01		
PCB-94	ND	0.949		
PCB-95/98/102	79.8			
PCB-96	1.06			J
PCB-97	15.8			
PCB-99	19.0			
PCB-100	ND	0.816		
PCB-103	0.537			J
PCB-104	ND	0.622		
PCB-105	6.95			
PCB-106/118	22.4			
PCB-107/109	1.71			J
PCB-108/112	2.57			J
PCB-110	61.0			
PCB-111/115	0.707			J
PCB-113	ND	0.720		
PCB-114	0.503			J
PCB-119	0.763			J
PCB-120	ND	0.540		
PCB-121	ND	0.609		
PCB-122	ND	0.422		
PCB-123	0.486			J
PCB-124	1.24			J
PCB-126	ND	0.384		
PCB-127	ND	0.383		
PCB-128/162	5.43			J
PCB-129	2.06			J
PCB-130	2.43			J
PCB-131	ND	0.371		
PCB-132/161	11.2			
PCB-133/142	1.02			J
PCB-134/143	2.05			J
PCB-135	5.30			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	7.29			
PCB-137	1.55			J
PCB-138/163/164	30.8			
PCB-139/149	34.1			
PCB-140	ND	0.749		
PCB-141	5.90			
PCB-144	1.96			J
PCB-145	ND	0.532		
PCB-146/165	3.96			J
PCB-147	1.10			J
PCB-148	ND	0.712		
PCB-150	ND	0.516		
PCB-151	8.10			
PCB-152	ND	0.498		
PCB-153	25.1			B
PCB-154	0.493			J
PCB-155	ND	0.486		
PCB-156	2.39			J
PCB-157	0.726			J
PCB-158/160	3.36			J
PCB-159	ND	0.224		
PCB-166	ND	0.151		
PCB-167	1.10			J
PCB-168	ND	0.231		
PCB-169	ND	0.253		
PCB-170	6.37			
PCB-171	2.16			J
PCB-172	1.04			J
PCB-173	ND	0.323		
PCB-174	9.13			
PCB-175	0.488			J
PCB-176	1.25			J
PCB-177	ND		4.22	
PCB-178	1.68			J
PCB-179	4.42			J

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	16.6			
PCB-181	ND	0.264		
PCB-182/187	13.5			
PCB-183	4.90			J
PCB-184	ND	0.213		
PCB-185	ND		0.867	
PCB-186	ND	0.196		
PCB-188	ND	0.187		
PCB-189	0.179			J
PCB-190	1.33			J
PCB-191	ND		0.331	
PCB-192	ND	0.205		
PCB-193	0.854			J
PCB-194	5.08			B
PCB-195	1.86			J
PCB-196/203	8.07			J
PCB-197	ND	0.349		
PCB-198	9.34			
PCB-199	9.50			
PCB-200	1.23			J
PCB-201	1.00			J
PCB-202	2.08			J
PCB-204	ND	0.379		
PCB-205	0.222			J
PCB-206	5.60			
PCB-207	0.638			J
PCB-208	1.63			B, J
PCB-209	3.36			J
Total monoCB	19.5			
Total diCB	62.5			
Total triCB	131		133	
Total tetraCB	446			
Total pentaCB	354			
Total hexaCB	157			
Total heptaCB	63.8		69.3	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	38.4			
Total nonaCB	7.87			
DecaCB	3.36			
Total PCB	1280			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	71.5	15 -150	
	13C-PCB-3	72.1	15 -150	
	13C-PCB-4	68.9	25 -150	
	13C-PCB-11	88.2	25 -150	
	13C-PCB-9	72.4	25 -150	
	13C-PCB-19	74.4	25 -150	
	13C-PCB-28	77.8	25 -150	
	13C-PCB-32	81.1	25 -150	
	13C-PCB-37	97.8	25 -150	
	13C-PCB-47	77.2	25 -150	
	13C-PCB-52	79.9	25 -150	
	13C-PCB-54	63.2	25 -150	
	13C-PCB-70	85.6	25 -150	
	13C-PCB-77	91.4	25 -150	
	13C-PCB-80	85.0	25 -150	
	13C-PCB-81	88.8	25 -150	
	13C-PCB-95	79.3	25 -150	
	13C-PCB-97	85.9	25 -150	
	13C-PCB-101	83.9	25 -150	
	13C-PCB-104	76.2	25 -150	
	13C-PCB-105	95.9	25 -150	
	13C-PCB-114	91.9	25 -150	
	13C-PCB-118	92.1	25 -150	
	13C-PCB-123	95.2	25 -150	
	13C-PCB-126	104	25 -150	
	13C-PCB-127	97.9	25 -150	
	13C-PCB-138	87.1	25 -150	
	13C-PCB-141	86.4	25 -150	
	13C-PCB-153	85.5	25 -150	
	13C-PCB-155	72.2	25 -150	
	13C-PCB-156	90.8	25 -150	
	13C-PCB-157	87.7	25 -150	
	13C-PCB-159	90.3	25 -150	
	13C-PCB-167	90.3	25 -150	
	13C-PCB-169	93.4	25 -150	
	13C-PCB-170	86.1	25 -150	
	13C-PCB-180	81.0	25 -150	
	13C-PCB-188	75.8	25 -150	
	13C-PCB-189	86.7	25 -150	
	13C-PCB-194	86.0	25 -150	
	13C-PCB-202	73.3	25 -150	
	13C-PCB-206	84.8	25 -150	
	13C-PCB-208	77.2	25 -150	
	13C-PCB-209	85.5	25 -150	
CRS	13C-PCB-79	95.8	30 -135	
	13C-PCB-178	91.0	30 -135	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	1.47			J
PCB-2	ND	1.02		
PCB-3	ND	1.01		
PCB-4/10	28.2			
PCB-5/8	2.17			J
PCB-6	ND	1.56		
PCB-7/9	ND	1.54		
PCB-11	11.1			B
PCB-12/13	ND	1.49		
PCB-14	ND	1.28		
PCB-15	5.65			
PCB-16/32	21.3			
PCB-17	10.4			
PCB-18	33.3			
PCB-19	10.3			
PCB-20/21/33	3.59			J
PCB-22	6.48			
PCB-23	ND	0.380		
PCB-24/27	3.29			J
PCB-25	1.38			J
PCB-26	2.81			J
PCB-28	16.4			
PCB-29	ND	0.238		
PCB-30	ND	0.287		
PCB-31	12.5			
PCB-34	ND	0.354		
PCB-35	ND	0.399		
PCB-36	ND	0.385		
PCB-37	3.82			J
PCB-38	1.10			J
PCB-39	ND	0.397		
PCB-40	4.35			J
PCB-41/64/71/72	14.4			J
PCB-42/59	5.47			J
PCB-43/49	13.6			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	20.4			
PCB-45	5.05			
PCB-46	2.47			J
PCB-47	41.8			B
PCB-48/75	2.10			J
PCB-50	ND	0.605		
PCB-51	56.1			
PCB-52/69	27.6			
PCB-53	5.19			
PCB-54	ND	0.459		
PCB-55	ND	0.332		
PCB-56/60	4.71			J
PCB-57	ND	0.364		
PCB-58	ND	0.657		
PCB-61/70	11.8			B
PCB-62	ND	0.399		
PCB-63	ND	0.642		
PCB-65	ND	0.412		
PCB-66/76	6.60			J
PCB-67	ND	0.374		
PCB-68	14.1			
PCB-73	ND	0.397		
PCB-74	3.37			J
PCB-77	0.948			J
PCB-78	ND	0.357		
PCB-79	ND	0.352		
PCB-80	ND	0.308		
PCB-81	ND	0.409		
PCB-82	2.89			J
PCB-83	ND	0.912		
PCB-84/92	14.1			
PCB-85/116	3.93			J
PCB-86	ND	1.47		
PCB-87/117/125	8.81			J
PCB-88/91	5.34			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.31		
PCB-90/101	23.0			
PCB-93	ND	1.42		
PCB-94	ND	1.33		
PCB-95/98/102	30.6			
PCB-96	ND	0.995		
PCB-97	7.05			
PCB-99	9.65			
PCB-100	ND	1.13		
PCB-103	ND	1.12		
PCB-104	ND	0.860		
PCB-105	4.92			J
PCB-106/118	15.7			
PCB-107/109	ND		1.04	
PCB-108/112	1.30			J
PCB-110	34.3			
PCB-111/115	0.409			J
PCB-113	ND	0.977		
PCB-114	ND		0.228	
PCB-119	ND		0.334	
PCB-120	ND	0.763		
PCB-121	ND	0.854		
PCB-122	ND	0.564		
PCB-123	ND		0.335	
PCB-124	1.00			J
PCB-126	ND	0.531		
PCB-127	ND	0.533		
PCB-128/162	3.95			J
PCB-129	1.28			J
PCB-130	ND		1.38	
PCB-131	ND	0.429		
PCB-132/161	6.29			J
PCB-133/142	ND		0.501	
PCB-134/143	1.38			J
PCB-135	3.12			J

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	2.94			J
PCB-137	1.10			J
PCB-138/163/164	22.8			
PCB-139/149	18.8			
PCB-140	ND	0.837		
PCB-141	3.65			J
PCB-144	1.02			J
PCB-145	ND	0.595		
PCB-146/165	3.09			J
PCB-147	0.510			J
PCB-148	ND	0.795		
PCB-150	ND	0.577		
PCB-151	5.00			
PCB-152	ND	0.556		
PCB-153	17.6			B
PCB-154	ND	0.731		
PCB-155	ND	0.543		
PCB-156	1.86			J
PCB-157	0.603			J
PCB-158/160	2.64			J
PCB-159	ND	0.278		
PCB-166	ND	0.298		
PCB-167	1.09			J
PCB-168	ND	0.268		
PCB-169	ND	0.302		
PCB-170	4.52			J
PCB-171	ND		1.02	
PCB-172	0.879			J
PCB-173	ND	0.429		
PCB-174	5.87			
PCB-175	ND	0.363		
PCB-176	0.626			J
PCB-177	3.21			J
PCB-178	1.65			J
PCB-179	2.93			J

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	11.8			
PCB-181	ND	0.352		
PCB-182/187	9.93			
PCB-183	3.32			J
PCB-184	ND	0.284		
PCB-185	0.796			J
PCB-186	ND	0.261		
PCB-188	ND	0.250		
PCB-189	0.218			J
PCB-190	1.18			J
PCB-191	ND	0.255		
PCB-192	ND	0.273		
PCB-193	ND	0.256		
PCB-194	4.95			B
PCB-195	1.67			J
PCB-196/203	8.01			J
PCB-197	ND	0.358		
PCB-198	ND	0.554		
PCB-199	7.72			
PCB-200	0.881			J
PCB-201	0.855			J
PCB-202	1.95			J
PCB-204	ND	0.389		
PCB-205	ND		0.253	
PCB-206	6.32			
PCB-207	0.667			J
PCB-208	1.39			B, J
PCB-209	2.59			J
Total monoCB	1.47			
Total diCB	47.1			
Total triCB	127			
Total tetraCB	240			
Total pentaCB	163		165	
Total hexaCB	98.8		101	
Total heptaCB	46.9		47.9	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	26.0		26.3	
Total nonaCB	8.37			
DecaCB	2.59			
Total PCB	761			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	68.1	15 -150	
	13C-PCB-3	67.6	15 -150	
	13C-PCB-4	67.6	25 -150	
	13C-PCB-11	80.3	25 -150	
	13C-PCB-9	73.2	25 -150	
	13C-PCB-19	74.3	25 -150	
	13C-PCB-28	74.1	25 -150	
	13C-PCB-32	79.4	25 -150	
	13C-PCB-37	90.6	25 -150	
	13C-PCB-47	80.2	25 -150	
	13C-PCB-52	83.4	25 -150	
	13C-PCB-54	64.9	25 -150	
	13C-PCB-70	86.1	25 -150	
	13C-PCB-77	94.6	25 -150	
	13C-PCB-80	87.2	25 -150	
	13C-PCB-81	90.5	25 -150	
	13C-PCB-95	83.6	25 -150	
	13C-PCB-97	90.0	25 -150	
	13C-PCB-101	87.4	25 -150	
	13C-PCB-104	80.2	25 -150	
	13C-PCB-105	107	25 -150	
	13C-PCB-114	104	25 -150	
	13C-PCB-118	94.0	25 -150	
	13C-PCB-123	98.3	25 -150	
	13C-PCB-126	113	25 -150	
	13C-PCB-127	109	25 -150	
	13C-PCB-138	92.2	25 -150	
	13C-PCB-141	90.5	25 -150	
	13C-PCB-153	89.7	25 -150	
	13C-PCB-155	76.6	25 -150	
	13C-PCB-156	97.7	25 -150	
	13C-PCB-157	94.9	25 -150	
	13C-PCB-159	92.5	25 -150	
	13C-PCB-167	93.2	25 -150	
	13C-PCB-169	99.2	25 -150	
	13C-PCB-170	90.1	25 -150	
	13C-PCB-180	86.1	25 -150	
	13C-PCB-188	78.7	25 -150	
	13C-PCB-189	93.1	25 -150	
	13C-PCB-194	86.5	25 -150	
	13C-PCB-202	75.4	25 -150	
	13C-PCB-206	82.6	25 -150	
	13C-PCB-208	74.6	25 -150	
	13C-PCB-209	85.9	25 -150	
CRS	13C-PCB-79	90.4	30 -135	
	13C-PCB-178	87.3	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	0.484			J
PCB-2	ND	0.790		
PCB-3	ND	0.788		
PCB-4/10	ND	1.84		
PCB-5/8	ND	2.09		
PCB-6	ND	1.62		
PCB-7/9	ND	1.60		
PCB-11	10.1			B
PCB-12/13	ND	1.61		
PCB-14	ND	1.38		
PCB-15	ND	1.41		
PCB-16/32	1.25			J
PCB-17	0.986			J
PCB-18	1.16			J
PCB-19	ND	0.449		
PCB-20/21/33	ND		0.741	
PCB-22	3.64			J
PCB-23	ND	0.367		
PCB-24/27	ND	0.285		
PCB-25	ND	0.405		
PCB-26	ND	0.359		
PCB-28	1.23			J
PCB-29	ND	0.367		
PCB-30	ND	0.284		
PCB-31	ND		0.805	
PCB-34	ND	0.342		
PCB-35	ND	0.381		
PCB-36	ND	0.368		
PCB-37	ND	0.355		
PCB-38	1.72			J
PCB-39	ND	0.380		
PCB-40	ND	0.623		
PCB-41/64/71/72	0.573			J
PCB-42/59	ND	0.432		
PCB-43/49	2.35			J

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	ND	0.613		
PCB-45	ND	0.527		
PCB-46	ND	0.578		
PCB-47	71.7			B
PCB-48/75	ND	0.403		
PCB-50	ND	0.561		
PCB-51	78.8			
PCB-52/69	0.813			J
PCB-53	ND		0.336	
PCB-54	ND	0.426		
PCB-55	ND	0.304		
PCB-56/60	ND	0.224		
PCB-57	ND	0.332		
PCB-58	ND	0.327		
PCB-61/70	0.646			J, B
PCB-62	ND	0.393		
PCB-63	ND	0.319		
PCB-65	ND	0.406		
PCB-66/76	0.387			J
PCB-67	ND	0.340		
PCB-68	24.2			
PCB-73	ND	0.389		
PCB-74	ND	0.306		
PCB-77	ND	0.303		
PCB-78	ND	0.328		
PCB-79	ND	0.323		
PCB-80	ND	0.283		
PCB-81	ND	0.299		
PCB-82	ND	1.26		
PCB-83	ND	0.810		
PCB-84/92	ND	1.07		
PCB-85/116	ND	0.967		
PCB-86	ND	1.30		
PCB-87/117/125	ND	0.846		
PCB-88/91	ND	0.914		

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.15		
PCB-90/101	ND	0.737		
PCB-93	ND	1.25		
PCB-94	ND	1.17		
PCB-95/98/102	ND	1.03		
PCB-96	ND	0.968		
PCB-97	ND	1.04		
PCB-99	ND	0.919		
PCB-100	ND	1.10		
PCB-103	ND	1.09		
PCB-104	ND	0.837		
PCB-105	ND	0.397		
PCB-106/118	ND	0.548		
PCB-107/109	ND	0.703		
PCB-108/112	ND	0.958		
PCB-110	ND	0.613		
PCB-111/115	ND	0.725		
PCB-113	ND	0.857		
PCB-114	ND	0.424		
PCB-119	ND	0.717		
PCB-120	ND	0.678		
PCB-121	ND	0.753		
PCB-122	ND	0.505		
PCB-123	ND	0.750		
PCB-124	ND	0.720		
PCB-126	ND	0.480		
PCB-127	ND	0.466		
PCB-128/162	ND	0.407		
PCB-129	ND	0.513		
PCB-130	ND	0.584		
PCB-131	ND	0.531		
PCB-132/161	ND	0.383		
PCB-133/142	ND	0.494		
PCB-134/143	ND	0.482		
PCB-135	ND	0.703		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	ND	0.491		
PCB-137	ND	0.456		
PCB-138/163/164	0.776			J
PCB-139/149	ND		0.917	
PCB-140	ND	0.721		
PCB-141	ND	0.465		
PCB-144	ND	0.655		
PCB-145	ND	0.513		
PCB-146/165	ND	0.415		
PCB-147	ND	0.720		
PCB-148	ND	0.686		
PCB-150	ND	0.497		
PCB-151	ND	0.686		
PCB-152	ND	0.480		
PCB-153	0.641			B, J
PCB-154	ND	0.630		
PCB-155	ND	0.468		
PCB-156	ND	0.339		
PCB-157	ND	0.358		
PCB-158/160	ND	0.344		
PCB-159	ND	0.344		
PCB-166	ND	0.369		
PCB-167	ND	0.346		
PCB-168	ND	0.331		
PCB-169	ND	0.405		
PCB-170	ND	0.276		
PCB-171	ND	0.283		
PCB-172	ND	0.304		
PCB-173	ND	0.372		
PCB-174	ND	0.319		
PCB-175	ND	0.297		
PCB-176	ND	0.214		
PCB-177	ND	0.325		
PCB-178	ND	0.290		
PCB-179	ND	0.224		

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND		0.433	
PCB-181	ND	0.305		
PCB-182/187	ND	0.345		
PCB-183	ND	0.254		
PCB-184	ND	0.233		
PCB-185	ND	0.293		
PCB-186	ND	0.214		
PCB-188	ND	0.205		
PCB-189	ND	0.183		
PCB-190	ND	0.205		
PCB-191	ND	0.221		
PCB-192	ND	0.237		
PCB-193	ND	0.222		
PCB-194	0.734			B, J
PCB-195	ND	0.296		
PCB-196/203	ND	0.568		
PCB-197	ND	0.403		
PCB-198	ND	0.624		
PCB-199	ND	0.635		
PCB-200	ND	0.455		
PCB-201	ND	0.429		
PCB-202	ND	0.462		
PCB-204	ND	0.438		
PCB-205	ND	0.210		
PCB-206	ND	0.361		
PCB-207	ND	0.232		
PCB-208	ND	0.235		
PCB-209	1.27			J
Total monoCB	0.484			
Total diCB	10.1			
Total triCB	9.99		11.5	
Total tetraCB	179		180	
Total pentaCB	ND	1.30		
Total hexaCB	1.42		2.33	
Total heptaCB	ND		0.433	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	0.734			
Total nonaCB	ND	0.361		
DecaCB	1.27			
Total PCB	203			

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	64.7	15 -150	
	13C-PCB-3	63.9	15 -150	
	13C-PCB-4	64.0	25 -150	
	13C-PCB-11	69.2	25 -150	
	13C-PCB-9	64.4	25 -150	
	13C-PCB-19	67.6	25 -150	
	13C-PCB-28	67.7	25 -150	
	13C-PCB-32	70.9	25 -150	
	13C-PCB-37	79.5	25 -150	
	13C-PCB-47	63.5	25 -150	
	13C-PCB-52	66.9	25 -150	
	13C-PCB-54	55.1	25 -150	
	13C-PCB-70	74.4	25 -150	
	13C-PCB-77	81.1	25 -150	
	13C-PCB-80	75.5	25 -150	
	13C-PCB-81	78.8	25 -150	
	13C-PCB-95	71.2	25 -150	
	13C-PCB-97	77.7	25 -150	
	13C-PCB-101	75.3	25 -150	
	13C-PCB-104	63.3	25 -150	
	13C-PCB-105	94.5	25 -150	
	13C-PCB-114	90.4	25 -150	
	13C-PCB-118	81.3	25 -150	
	13C-PCB-123	82.5	25 -150	
	13C-PCB-126	98.1	25 -150	
	13C-PCB-127	96.8	25 -150	
	13C-PCB-138	82.1	25 -150	
	13C-PCB-141	81.2	25 -150	
	13C-PCB-153	81.3	25 -150	
	13C-PCB-155	65.5	25 -150	
	13C-PCB-156	83.5	25 -150	
	13C-PCB-157	80.6	25 -150	
	13C-PCB-159	83.5	25 -150	
	13C-PCB-167	85.2	25 -150	
	13C-PCB-169	84.6	25 -150	
	13C-PCB-170	77.2	25 -150	
	13C-PCB-180	75.1	25 -150	
	13C-PCB-188	71.8	25 -150	
	13C-PCB-189	81.1	25 -150	
	13C-PCB-194	75.3	25 -150	
	13C-PCB-202	69.0	25 -150	
	13C-PCB-206	75.7	25 -150	
	13C-PCB-208	66.1	25 -150	
	13C-PCB-209	80.6	25 -150	
CRS	13C-PCB-79	77.9	30 -135	
	13C-PCB-178	74.2	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: Method Blank — EPA Method 1699

Matrix: Aqueous
Sample Size: 1.00 L

QC Batch: B6E0084
Date Extracted: 16-May-2016 8:13

Lab Sample: B6E0084-BLK1
Date Analyzed: 25-May-16 19:35 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	5.27			J
alpha-BHC	ND	1.90		
Lindane (gamma-BHC)	ND	2.50		
beta-BHC	ND	2.69		
delta-BHC	ND	1.93		
Heptachlor	ND	0.494		
Aldrin	ND	1.62		
Oxychlordane	ND	4.51		
cis-Heptachlor Epoxide	ND	3.22		
trans-Heptachlor Epoxide	ND	8.60		
trans-Chlordane (gamma)	ND	4.27		
trans-Nonachlor	ND	3.58		
cis-Chlordane (alpha)	ND	3.55		
Endosulfan I (alpha)	ND	6.20		
2,4'-DDE	ND	2.07		
4,4'-DDE	ND		3.09	
Dieldrin	ND	1.69		
Endrin	ND	3.47		
cis-Nonachlor	ND	3.52		
Endosulfan II (beta)	ND	6.91		
2,4'-DDD	ND	2.86		
2,4'-DDT	ND	4.42		
4,4'-DDD	ND	3.79		
4,4'-DDT	ND	5.78		
Endosulfan Sulfate	ND	3.52		
4,4'-Methoxychlor	ND	2.19		
Mirex	ND	0.736		
Endrin Aldehyde	ND	16.3		
Endrin Ketone	ND	10.4		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	52.6	5 - 120	
IS	13C6-alpha-BHC	75.0	32 - 130	
IS	13C6-Lindane (gamma-BHC)	72.7	11 - 120	
IS	13C6-beta-BHC	73.8	32 - 130	
IS	13C6-delta-BHC	74.7	36 - 137	
IS	13C10-Heptachlor	149	5 - 120	H
IS	13C12-Aldrin	54.0	5 - 120	
IS	13C10-Oxychlordane	65.5	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	67.8	27 - 137	
IS	13C10-trans-Chlordane (gamma)	67.1	21 - 132	
IS	13C10-trans-Nonachlor	66.2	14 - 136	
IS	13C9-Endosulfan I (alpha)	56.0	15 - 148	
IS	13C12-2,4'-DDE	58.1	47 - 160	
IS	13C12-4,4'-DDE	63.9	47 - 160	
IS	13C12-Dieldrin	70.0	40 - 151	
IS	13C12-Endrin	62.8	35 - 155	
IS	13C10-cis-Nonachlor	61.9	36 - 139	
IS	13C9-Endosulfan II (beta)	54.1	5 - 122	
IS	13C12-2,4'-DDD	71.2	5 - 199	
IS	13C12-2,4'-DDT	73.9	5 - 199	
IS	13C12-4,4'-DDD	67.8	5 - 120	
IS	13C12-4,4'-DDT	71.3	5 - 120	
IS	13C9-Endosulfan Sulfate	73.4	15 - 148	
IS	13C12-Methoxychlor	58.2	5 - 120	
IS	13C10-Mirex	44.6	5 - 120	
IS	13C12-Endrin Aldehyde	35.7	15 - 148	
IS	13C12-Endrin Ketone	56.4	15 - 148	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: OPR

EPA Method 1699

Matrix:	Aqueous	QC Batch:	B6E0084	Lab Sample:	B6E0084-BS1
Sample Size:	1.00 L	Date Extracted:	16-May-2016 8:13	Date Analyzed:	25-May-16 17:57 Column: ZB-50 Analyst: ANP

Analyte	Amt Found (pg/L)	Spike Amt	%R	Limits
Hexachlorobenzene	997	1000	99.7	50 - 120
alpha-BHC	1020	1000	102	50 - 120
Lindane (gamma-BHC)	992	1000	99.2	50 - 120
beta-BHC	973	1000	97.3	50 - 120
delta-BHC	949	1000	94.9	50 - 120
Heptachlor	880	1000	88.0	50 - 120
Aldrin	940	1000	94.0	50 - 120
Oxychlordane	927	1000	92.7	50 - 120
cis-Heptachlor Epoxide	955	1000	95.5	50 - 120
trans-Heptachlor Epoxide	866	1000	86.6	50 - 120
trans-Chlordane (gamma)	1000	1000	100	50 - 120
trans-Nonachlor	898	1000	89.8	50 - 120
cis-Chlordane (alpha)	890	1000	89.0	50 - 120
Endosulfan I (alpha)	978	1000	97.8	50 - 120
2,4'-DDE	1090	1000	109	24 - 123
4,4'-DDE	995	1000	99.5	50 - 120
Dieldrin	921	1000	92.1	50 - 120
Endrin	846	1000	84.6	50 - 120
cis-Nonachlor	908	1000	90.8	50 - 120
Endosulfan II (beta)	835	1000	83.5	5 - 200
2,4'-DDD	1090	1000	109	50 - 120
2,4'-DDT	1180	1000	118	50 - 120
4,4'-DDD	1140	1000	114	42 - 120
4,4'-DDT	1110	1000	111	50 - 120
Endosulfan Sulfate	959	1000	95.9	50 - 120
4,4'-Methoxychlor	1120	1000	112	50 - 120
Mirex	1050	1000	105	50 - 120
Endrin Aldehyde	1120	1000	112	50 - 134
Endrin Ketone	943	1000	94.3	50 - 134

	Labeled Standard	%R	LCL-UCL
IS	13C6-Hexachlorobenzene	56.6	5 - 120
IS	13C6-alpha-BHC	71.0	17 - 141
IS	13C6-Lindane (gamma-BHC)	72.2	5 - 124
IS	13C6-beta-BHC	74.5	17 - 141
IS	13C6-delta-BHC	75.3	16 - 150
IS	13C10-Heptachlor	146	5 - 128
IS	13C12-Aldrin	56.8	5 - 126
IS	13C10-Oxychlordane	65.0	5 - 144
IS	13C10-cis-Heptachlor Epoxide	65.6	8 - 146
IS	13C10-trans-Chlordane (gamma)	65.6	15 - 144
IS	13C10-trans-Nonachlor	68.1	13 - 149
IS	13C9-Endosulfan I (alpha)	58.1	5 - 144
IS	13C12-2,4'-DDE	59.9	26 - 169
IS	13C12-4,4'-DDE	65.2	26 - 169
IS	13C12-Dieldrin	66.9	19 - 161
IS	13C12-Endrin	61.3	20 - 157
IS	13C10-cis-Nonachlor	69.7	17 - 154
IS	13C9-Endosulfan II (beta)	52.5	5 - 120
IS	13C12-2,4'-DDD	72.0	14 - 200
IS	13C12-2,4'-DDT	71.6	14 - 200
IS	13C12-4,4'-DDD	67.5	14 - 200
IS	13C12-4,4'-DDT	75.0	13 - 200
IS	13C9-Endosulfan Sulfate	59.3	5 - 144
IS	13C12-Methoxychlor	58.3	8 - 200
IS	13C10-Mirex	52.1	5 - 138
IS	13C12-Endrin Aldehyde	20.1	5 - 144
IS	13C12-Endrin Ketone	48.6	5 - 144

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH4-110516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600631-01	Date Received:	13-May-2016 9:55
Project:	A6E0342	Sample Size:	1.03 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	11-May-2016 8:30			Date Analyzed:	26-May-16 00:29 Column: ZB-50 Analyst: ANP		
					31-May-16 18:45 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	78.0			B
alpha-BHC	205000			D
Lindane (gamma-BHC)	320000			D
beta-BHC	123000			D
delta-BHC	78400			D
Heptachlor	35.5			J
Aldrin	138			
Oxychlordane	ND	30.1		
cis-Heptachlor Epoxide	657			
trans-Heptachlor Epoxide	1830000			E, D
trans-Chlordane (gamma)	361			
trans-Nonachlor	117			
cis-Chlordane (alpha)	1070			
Endosulfan I (alpha)	ND	41.3		
2,4'-DDE	16.4			J
4,4'-DDE	235			
Dieldrin	199000			D
Endrin	15500			
cis-Nonachlor	61.8			
Endosulfan II (beta)	ND	120		
2,4'-DDD	353			
2,4'-DDT	430			
4,4'-DDD	682			
4,4'-DDT	2480			
Endosulfan Sulfate	ND	52.0		
4,4'-Methoxychlor	284			
Mirex	ND	3.93		
Endrin Aldehyde	14700			
Endrin Ketone	113000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	54.7	5 - 120	
IS	13C6-alpha-BHC	86.6	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	101	11 - 120	D
IS	13C6-beta-BHC	108	32 - 130	D
IS	13C6-delta-BHC	85.7	36 - 137	D
IS	13C10-Heptachlor	225	5 - 120	H
IS	13C12-Aldrin	43.0	5 - 120	
IS	13C10-Oxychlordane	60.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	55.4	27 - 137	
IS	13C10-trans-Chlordane (gamma)	41.1	21 - 132	
IS	13C10-trans-Nonachlor	41.0	14 - 136	
IS	13C9-Endosulfan I (alpha)	35.0	15 - 148	
IS	13C12-2,4'-DDE	35.2	47 - 160	H
IS	13C12-4,4'-DDE	35.7	47 - 160	H
IS	13C12-Dieldrin	73.0	40 - 151	D
IS	13C12-Endrin	49.0	35 - 155	
IS	13C10-cis-Nonachlor	48.7	36 - 139	
IS	13C9-Endosulfan II (beta)	35.1	5 - 122	
IS	13C12-2,4'-DDD	50.1	5 - 199	
IS	13C12-2,4'-DDT	55.2	5 - 199	
IS	13C12-4,4'-DDD	48.3	5 - 120	
IS	13C12-4,4'-DDT	43.7	5 - 120	
IS	13C9-Endosulfan Sulfate	41.2	15 - 148	
IS	13C12-Methoxychlor	23.5	5 - 120	
IS	13C10-Mirex	22.9	5 - 120	
IS	13C12-Endrin Aldehyde	3.74	15 - 148	H
IS	13C12-Endrin Ketone	24.8	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH6-110516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600631-02	Date Received:	13-May-2016 9:55
Project:	A6E0342	Sample Size:	1.01 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	11-May-2016 10:30			Date Analyzed:	26-May-16 01:18 Column: ZB-50 Analyst: ANP		
					31-May-16 19:34 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	96.5			B
alpha-BHC	219000			D
Lindane (gamma-BHC)	281000			D
beta-BHC	135000			D
delta-BHC	71900			D
Heptachlor	27.5			J
Aldrin	100			
Oxychlordane	ND	26.8		
cis-Heptachlor Epoxide	709			
trans-Heptachlor Epoxide	2580000			E, D
trans-Chlordane (gamma)	419			
trans-Nonachlor	ND	21.6		
cis-Chlordane (alpha)	1350			
Endosulfan I (alpha)	ND	40.7		
2,4'-DDE	15.8			J
4,4'-DDE	233			
Dieldrin	282000			D
Endrin	17900			
cis-Nonachlor	ND	45.1		
Endosulfan II (beta)	ND	119		
2,4'-DDD	269			
2,4'-DDT	304			
4,4'-DDD	409			
4,4'-DDT	1480			
Endosulfan Sulfate	ND	53.8		
4,4'-Methoxychlor	186			
Mirex	ND	3.97		
Endrin Aldehyde	7850			
Endrin Ketone	126000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	46.3	5 - 120	
IS	13C6-alpha-BHC	81.5	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	111	11 - 120	D
IS	13C6-beta-BHC	105	32 - 130	D
IS	13C6-delta-BHC	102	36 - 137	D
IS	13C10-Heptachlor	231	5 - 120	H
IS	13C12-Aldrin	28.5	5 - 120	
IS	13C10-Oxychlordane	55.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	56.6	27 - 137	
IS	13C10-trans-Chlordane (gamma)	37.5	21 - 132	
IS	13C10-trans-Nonachlor	39.1	14 - 136	
IS	13C9-Endosulfan I (alpha)	31.1	15 - 148	
IS	13C12-2,4'-DDE	34.7	47 - 160	H
IS	13C12-4,4'-DDE	33.9	47 - 160	H
IS	13C12-Dieldrin	59.8	40 - 151	D
IS	13C12-Endrin	49.0	35 - 155	
IS	13C10-cis-Nonachlor	47.7	36 - 139	
IS	13C9-Endosulfan II (beta)	35.3	5 - 122	
IS	13C12-2,4'-DDD	49.0	5 - 199	
IS	13C12-2,4'-DDT	52.8	5 - 199	
IS	13C12-4,4'-DDD	48.7	5 - 120	
IS	13C12-4,4'-DDT	39.9	5 - 120	
IS	13C9-Endosulfan Sulfate	45.3	15 - 148	
IS	13C12-Methoxychlor	21.6	5 - 120	
IS	13C10-Mirex	20.9	5 - 120	
IS	13C12-Endrin Aldehyde	5.87	15 - 148	H
IS	13C12-Endrin Ketone	30.2	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH7-110516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600631-03	Date Received:	13-May-2016 9:55
Project:	A6E0342	Sample Size:	1.00 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	11-May-2016 13:30			Date Analyzed:	26-May-16 02:07 Column: ZB-50 Analyst: ANP		
					31-May-16 20:23 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	100			B
alpha-BHC	341000			D
Lindane (gamma-BHC)	408000			D
beta-BHC	170000			D
delta-BHC	135000			D
Heptachlor	33.7			J
Aldrin	129			
Oxychlordane	ND	39.5		
cis-Heptachlor Epoxide	1310			
trans-Heptachlor Epoxide	5690000			E, D
trans-Chlordane (gamma)	679			
trans-Nonachlor	ND	39.4		
cis-Chlordane (alpha)	3290			
Endosulfan I (alpha)	ND	57.4		
2,4'-DDE	13.1			J
4,4'-DDE	231			
Dieldrin	474000			D
Endrin	44800			D
cis-Nonachlor	ND	66.3		
Endosulfan II (beta)	ND	97.1		
2,4'-DDD	488			
2,4'-DDT	500			
4,4'-DDD	685			
4,4'-DDT	2100			
Endosulfan Sulfate	305			
4,4'-Methoxychlor	238			
Mirex	ND	4.38		
Endrin Aldehyde	6000			
Endrin Ketone	216000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	48.9	5 - 120	
IS	13C6-alpha-BHC	88.5	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	153	11 - 120	D, H
IS	13C6-beta-BHC	138	32 - 130	D, H
IS	13C6-delta-BHC	119	36 - 137	D
IS	13C10-Heptachlor	227	5 - 120	H
IS	13C12-Aldrin	49.5	5 - 120	
IS	13C10-Oxychlordane	66.3	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	62.5	27 - 137	
IS	13C10-trans-Chlordane (gamma)	40.8	21 - 132	
IS	13C10-trans-Nonachlor	39.1	14 - 136	
IS	13C9-Endosulfan I (alpha)	40.3	15 - 148	
IS	13C12-2,4'-DDE	35.7	47 - 160	H
IS	13C12-4,4'-DDE	35.7	47 - 160	H
IS	13C12-Dieldrin	86.9	40 - 151	D
IS	13C12-Endrin	79.8	35 - 155	D
IS	13C10-cis-Nonachlor	53.0	36 - 139	
IS	13C9-Endosulfan II (beta)	77.4	5 - 122	
IS	13C12-2,4'-DDD	50.8	5 - 199	
IS	13C12-2,4'-DDT	48.1	5 - 199	
IS	13C12-4,4'-DDD	48.9	5 - 120	
IS	13C12-4,4'-DDT	45.3	5 - 120	
IS	13C9-Endosulfan Sulfate	81.3	15 - 148	
IS	13C12-Methoxychlor	33.9	5 - 120	
IS	13C10-Mirex	26.2	5 - 120	
IS	13C12-Endrin Aldehyde	27.8	15 - 148	
IS	13C12-Endrin Ketone	63.3	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-RB-110516 — EPA Method 1699

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600631-04 — Date Received: 13-May-2016 9:55
QC Batch: B6E0084 — Date Extracted: 16-May-2016 8:13
Date Analyzed: 25-May-16 20:24 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	3.77			J, B
alpha-BHC	12.9			J
Lindane (gamma-BHC)	ND		12.7	
beta-BHC	ND	3.70		
delta-BHC	ND	2.68		
Heptachlor	ND	0.544		
Aldrin	ND	2.15		
Oxychlordane	ND	5.13		
cis-Heptachlor Epoxide	ND	3.96		
trans-Heptachlor Epoxide	41.9			
trans-Chlordane (gamma)	ND	4.84		
trans-Nonachlor	ND	4.57		
cis-Chlordane (alpha)	ND	4.53		
Endosulfan I (alpha)	ND	6.80		
2,4'-DDE	ND	2.30		
4,4'-DDE	ND	2.53		
Dieldrin	4.72			J
Endrin	ND	6.28		
cis-Nonachlor	ND	5.10		
Endosulfan II (beta)	ND	11.3		
2,4'-DDD	ND	3.29		
2,4'-DDT	ND	4.89		
4,4'-DDD	ND	4.18		
4,4'-DDT	ND	6.48		
Endosulfan Sulfate	ND	3.22		
4,4'-Methoxychlor	ND	2.65		
Mirex	ND	0.860		
Endrin Aldehyde	ND	18.0		
Endrin Ketone	ND	10.5		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	42.5	5 - 120	
IS	13C6-alpha-BHC	55.9	32 - 130	
IS	13C6-Lindane (gamma-BHC)	58.9	11 - 120	
IS	13C6-beta-BHC	62.0	32 - 130	
IS	13C6-delta-BHC	62.2	36 - 137	
IS	13C10-Heptachlor	157	5 - 120	H
IS	13C12-Aldrin	39.6	5 - 120	
IS	13C10-Oxychlordane	53.3	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	53.9	27 - 137	
IS	13C10-trans-Chlordane (gamma)	42.4	21 - 132	
IS	13C10-trans-Nonachlor	43.3	14 - 136	
IS	13C9-Endosulfan I (alpha)	37.6	15 - 148	
IS	13C12-2,4'-DDE	42.1	47 - 160	H
IS	13C12-4,4'-DDE	41.1	47 - 160	H
IS	13C12-Dieldrin	52.2	40 - 151	
IS	13C12-Endrin	46.7	35 - 155	
IS	13C10-cis-Nonachlor	53.7	36 - 139	
IS	13C9-Endosulfan II (beta)	38.7	5 - 122	
IS	13C12-2,4'-DDD	50.5	5 - 199	
IS	13C12-2,4'-DDT	53.6	5 - 199	
IS	13C12-4,4'-DDD	49.7	5 - 120	
IS	13C12-4,4'-DDT	52.8	5 - 120	
IS	13C9-Endosulfan Sulfate	65.8	15 - 148	
IS	13C12-Methoxychlor	43.3	5 - 120	
IS	13C10-Mirex	35.5	5 - 120	
IS	13C12-Endrin Aldehyde	20.6	15 - 148	
IS	13C12-Endrin Ketone	60.7	15 - 148	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit

DATA QUALIFIERS & ABBREVIATIONS

B	**This compound was also detected in the method blank.**
D	**Dilution**
E	**The associated compound concentration exceeded the calibration range of the instrument.**
H	**Recovery and/or RPD was outside laboratory acceptance limits.**
I	**Chemical Interference**
J	**The amount detected is below the Lower Calibration Limit of the instrument.**
*****	**See Cover Letter**
Conc.	**Concentration**
DL	**Sample-specific estimated detection limit**
MDL	**The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.**
EMPC	**Estimated Maximum Possible Concentration**
NA	**Not applicable**
RL	**Reporting Limit – concentrations that correspond to low calibration point**
ND	**Not Detected**
TEQ	**Toxic Equivalency**

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2014022
Nevada Division of Environmental Protection	CA004132015-1
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-004
Pennsylvania Department of Environmental Protection	012
South Carolina Department of Health	87002001
Texas Commission on Environmental Quality	T104704189-15-6
Virginia Department of General Services	7923
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope	EPA 1613B

Dilution GC/HRMS	
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

SUBCONTRACT ORDER

Apex Laboratories

A6E0342

LD 5/12/16

SENDING LABORATORY:

Apex Laboratories
12232 S.W. Garden Place
Tigard, OR 97223
Phone: (503) 718-2323
Fax: (503) 718-0333
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Vista Analytical Laboratory
1104 Winfield Way
El Dorado Hills, CA 95762
Phone :(916) 673-1520
Fax: -

1600631

-0.8°C, -1.7°C

Sample Name: 22B-U-MH4-110516 **Water** **Sampled: 05/11/16 08:30** (A6E0342-01)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/24/16 17:00	11/07/16 08:30	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/24/16 17:00	05/18/16 08:30	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/24/16 17:00	05/18/16 08:30	sub to Vista, MDL

Containers Supplied:
(K)1 L Amber Glass - Non Preserved
(L)1 L Amber Glass - Non Preserved
(M)1 L Amber Glass - Non Preserved
(P)1 L Amber Glass - Non Preserved

Sample Name: 22B-U-MH6-110516 **Water** **Sampled: 05/11/16 10:30** (A6E0342-03)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/24/16 17:00	11/07/16 10:30	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/24/16 17:00	05/18/16 10:30	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/24/16 17:00	05/18/16 10:30	sub to Vista, MDL

Containers Supplied:
(K)1 L Amber Glass - Non Preserved
(L)1 L Amber Glass - Non Preserved
(M)1 L Amber Glass - Non Preserved
(P)1 L Amber Glass - Non Preserved

Standard TAT

Anissa Keyes 5/12/16 UPS (Shipper)

Released By Date Received By Date

UPS (Shipper) 5/13/16 1013

Released By Date Received By Date

SUBCONTRACT ORDER

Apex Laboratories

A6E0342 1600631

Sample Name: 22B-U-MH7-110516 **Water** **Sampled: 05/11/16 13:30** (A6E0342-05)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/24/16 17:00	11/07/16 13:30	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/24/16 17:00	05/18/16 13:30	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/24/16 17:00	05/18/16 13:30	sub to Vista, MDL

Containers Supplied:

[redacted]

(K)1 L Amber Glass - Non Preserved

(L)1 L Amber Glass - Non Preserved

(M)1 L Amber Glass - Non Preserved

(P)1 L Amber Glass - Non Preserved

Sample Name: 22B-U-RB-110516 **Water** **Sampled: 05/11/16 16:30** (A6E0342-07)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB)	05/24/16 17:00	11/07/16 16:30	sub to Vista, MDL
1668A PCB Congeners (SUB)	05/24/16 17:00	05/18/16 16:30	sub to Vista, MDL
1669 Insecticides/Pesticides (SUB)	05/24/16 17:00	05/18/16 16:30	sub to Vista, MDL

Containers Supplied:

(K)1 L Amber Glass - Non Preserved

(L)1 L Amber Glass - Non Preserved

(M)1 L Amber Glass - Non Preserved

(P)1 L Amber Glass - Non Preserved

Standard TAT

Released By	Date	Received By	Date
Anissa Keya	5/12/16	UPS (Shipper)	
UPS (Shipper)		Lindsay Roughton	5/13/16 1013
Released By	Date	Received By	Date

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1600631 **TAT** STD

Samples Arrival:	**Date/Time** 5/13/16 0955		**Initials:** SR		**Location:** WR-2 **Shelf/Rack:** N/A	
Logged In:	**Date/Time** 05/13/16 1602		**Initials:** BLB		**Location:** WR-2 **Shelf/Rack:** C4	
Delivered By:	FedEx	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		
Temp °C: 0.5 (uncorrected) **Temp °C:** -0.8 (corrected)	**Time:** 1012		**Thermometer ID:** IR-2			

	YES	NO	NA
Adequate Sample Volume Received? 1 of 2	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact? 5/13/16	SR ✓		✓
Shipping Documentation Present?	✓		
Airbill 1 of 2 Trk # 1Z X47 20R 13 9995 1531	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	None	
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

Sample ID: 22B-U-MH4-110516 (A) A6E0342-01P
22B-U-MH6-110516 (A) A6E0342-03 P
(B) L
(C) K
(D) M
22B-U-MH7-110516 (A) A6E0342-05 L
(B) M
(C) K

Sample Login 11/2013 ckt

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 1600631 **TAT** Std

Samples Arrival:	**Date/Time** 5/13/16 0955	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 05/13/16 1602	**Initials:** SR	**Location:** WR-2 **Shelf/Rack:** C4

Delivered By:	FedEx	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	None		

Temp °C: −0.4 (uncorrected)	**Time:** 1016	**Thermometer ID:** IR-2	
Temp °C: −1.7 (corrected)			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill 2 of 2 Trk # 1Z X47 20R 13 9751 0323	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	Dispose

Comments:

Client sample ID: 22B-U-MH4-110516 B,C,D (A6E0342-01 K,L,M)

22B-U-MH7-110516 D (A6E0342-05 P)

22B-U-RB-110516 A,B,C,D (A6E0342-07 K,M,P,L)

Sample Login 11/2013 ckt

APPENDIX E
LABORATORY DATA VALIDATION REPORT

TECHNICAL MEMORANDUM

Date:	June 24, 2016	**Project No.:**	103-93514-12-605-02
To:	Outfall 22B 2nd Quarter 2016 File	**Company:**	Golder Associates
From:	Kent Angelos		
cc:		**Email:**	kmangelos@golder.com
RE:	**OF22B IRAM PERFORMANCE MONITORING 2016 2ND QUARTER DATA VALIDATION & QUALITY ASSURANCE/QUALITY CONTROL REVIEW**		

A total of 10 water samples (including one field duplicate, one field rinsate, and two trip blanks) (Table 1) were collected by Golder Associates on May 10 and 11, 2015 as part of the OF22B IRAM Performance Monitoring project. Samples were submitted to Apex Labs (Apex) of Tigard, Oregon. Apex performed the following analyses:

- Hydrocarbon Identification Screen by NWTPH-HCID
- Diesel and Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup
- Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx
- Volatile Organic Compounds (VOCs) by EPA 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA 8270D
- Total and Dissolved Metals: Arsenic, Barium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Silver, Magnesium, Manganese, Nickel, Selenium, and Zinc by EPA 200.8 (ICPMS)

The following analyses were subcontracted to Weck Laboratories, Inc.:

- Hexavalent Chromium by EPA 218.6 (IC)
- Total and Dissolved Low Level Mercury by EPA 1631E (CVAFS)

The following analyses were subcontracted to Pacific Agricultural Laboratory:

- Herbicides by EPA 8151A (GCMS)

The following analyses were subcontracted to Vista Analytical Laboratory:

- Chlorinated Dioxins and Furans by EPA 1613B (ZB-5MS GC)
- PCB Congeners by EPA 1668A (ZB-1 GC)
- Chlorinated Pesticides by EPA 1699 (ZB-50 GC)

Samples were analyzed in accordance with procedures described in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (United States EPA SW-846, 3rd edition) (USEPA 2015) and for Northwest Total Petroleum Hydrocarbon methods and in accordance with the sampling and analysis plan (SAP, DEQ 2015). Quality assurance/quality control (QA/QC) reviews of laboratory data were performed in the laboratory in accordance with the laboratory quality assurance program plan. The data validation QA/QC review focused primarily on laboratory result summary sheets and quality control summary sheets to ensure that work plan data quality objectives were met for the project. Data validation was conducted in accordance with the criteria outlined in the National Function Guidelines for Inorganic Review (USEPA

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2014a) and National Functional Guidelines for Organic Review (USEPA 2014b), modified to include method specific requirements of the laboratory analytical methods and laboratory standard operating procedures (SOPs).

The validation level for the data is Tier II, and included the following:

- Data Package Completeness
- Verification of required deliverables
- Evaluation of holding times
- Laboratory narrative evaluation
- Evaluation and qualification of QC elements for: Surrogates, Matrix Spike, Laboratory Control samples, Laboratory Duplicates, Method Blanks, and Field Blank and Field Duplicate evaluation as applicable
- Evaluation of detection limits

Raw data was not provided and calibration elements including GC instrument tuning and performance check, initial and continuing calibration, internal standard performance, and compound identification were not evaluated unless information was provided by the lab in the case narratives. Data review and validation was performed by an experienced quality assurance chemist independent of the analytical laboratory. Data qualifiers that were applied by the laboratory have been removed from the data summary report sheets, when applicable, and superseded by data validation qualifiers. Overall, the data review showed that data are acceptable for use except where indicated by data qualifiers summarized in Table 2, and are defined below. Refer to Data Evaluation Checklists in Attachment A for details of the data validation. Laboratory reports are provided in Attachment B.

Data Qualifier Definitions

U The constituent was analyzed for, but was not detected above the reported sample quantitation limit.

J The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result is less than the quantitation limit or quality control criteria were not met.

J+ The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased high.

J- The constituent was positively identified and detected; however, the concentration reported is an estimated value because the result may be biased low.

UJ The constituent was not detected; the associated quantitation limit is an estimated value because quality control criteria were not met.

R Data are rejected due to significant exceedance of quality control criteria. The analyte may or may not be present. Additional sampling and analysis may be required to determine the presence or absence of the constituent. For statistical reasons, rejected values are not included in the database.

UR The constituent is rejected at the reported quantitation limit.

DNR Do Not Report. More than one set of results are reported due to re-analyses or re-reporting (below reporting level). This result should not be reported.

Tables

Table 1 Sample Collection and Analysis Summary
Table 2 Qualifier Summary Table

Attachments

Attachment A Data Evaluation Checklists
Attachment B Reviewed Laboratory Reports

References

Department of Environmental Quality (DEQ) 2015. Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan Former Rhone-Poulenc - Portland Site. February.

United States Environmental Protection Agency (USEPA). 2014a. USEPA Contract Laboratory Program, National Functional Guidelines for Inorganic Superfund Data Review. OSWER 9355.0-131.EPA-540-R-013-001, August.

USEPA. 2014b. USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review. OSWER 9355.0-132.EPA-540-R-014-002, August.

USEPA. 2015. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846. Third Edition. Washington DC: USEPA Office of Solid Waste. Available on the Web at: http://www.epa.gov/waste/hazard/testmethods/sw846/online/index.htm (accessed June 23, 2015).

TABLES

TABLE 1
Sample Collection and Analysis Summary
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

								Analysis/Parameters													
Lab	SDG	Field Identification	Collection Date	Location	Lab Identification	Matrix	QC Samples	VOCs (8260B)	SVOCs (8270C)	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	PCDD-PCDF (1613B)	Pesticides (1699)	PCB Congeners (1668A)	Herbicides (8151A)	Total Low Level Mercury (1631E)	Dissolved Low Level Mercury	Total Metals (200.8)	Dissolved Metals (200.8)	Hexavalent Chromium (218.6)
APEX	A6E0284	22B-U-S-100516	5/10/2016 8:45	22B-U-S	A6E0284-01	NSTW		X	X	X	X	X					X		X		X
APEX	A6E0284	22B-F-S-100516	5/10/2016 8:45	22B-F-S	A6E0284-02	NSTW												X		X	
APEX	A6E0284	22B-U-D-100516	5/10/2016 10:00	22B-U-D	A6E0284-03	NSTW	FD	X	X	X	X	X					X		X		X
APEX	A6E0284	22B-F-D-100516	5/10/2016 10:00	22B-F-D	A6E0284-04	NSTW	FD											X		X	
APEX	A6E0284	22B-U-MH3-100516	5/10/2016 13:00	22B-U-MH3	A6E0284-05	NSTW		X	X	X	X	X					X		X		X
APEX	A6E0284	22B-F-MH3-100516	5/10/2016 13:00	22B-F-MH3	A6E0284-06	NSTW												X		X	
APEX	A6E0284	22B-U-MH5-100516	5/10/2016 15:00	22B-U-MH5	A6E0284-07	NSTW		X	X	X	X	X					X		X		X
APEX	A6E0284	22B-F-MH5-100516	5/10/2016 15:00	22B-S-MH5	A6E0284-08	NSTW												X		X	
APEX	A6E0284	22B-U-TB-100516	5/10/2016 0:00	22B-U-TB	A6E0284-09	NSTW	TB	X													
VISTA	1600620	22B-U-S-100516	5/10/2016 8:45	22B-U-S	1600620-01	NSTW							X	X	X						
VISTA	1600620	22B-U-D-100516	5/10/2016 10:00	22B-U-D	1600620-02	NSTW	FD						X	X	X						
VISTA	1600620	22B-U-MH3-100516	5/10/2016 13:00	22B-U-MH3	1600620-03	NSTW							X	X	X						
VISTA	1600620	22B-U-MH5-100516	5/10/2016 15:00	22B-U-MH5	1600620-04	NSTW							X	X	X						
PAL	P160527	22B-U-S-100516	5/10/2016 8:45	22B-U-S	P160527-01	NSTW										X					
PAL	P160527	22B-U-D-100516	5/10/2016 10:00	22B-U-D	P160527-02	NSTW	FD									X					
PAL	P160527	22B-U-MH3-100516	5/10/2016 13:00	22B-U-MH3	P160527-03	NSTW										X					
PAL	P160527	22B-U-MH5-100516	5/10/2016 15:00	22B-U-MH5	P160527-04	NSTW										X					
APEX	A6E0342	22B-U-MH4-110516	5/11/2016 8:30	22B-U-MH4	A6E0342-01	NSTW		X	X	X	X	X					X		X		X
APEX	A6E0342	22B-F-MH4-110516	5/11/2016 8:30	22B-F-MH4	A6E0342-02	NSTW												X		X	
APEX	A6E0342	22B-U-MH6-110516	5/11/2016 10:30	22B-U-MH6	A6E0342-03	NSTW		X	X	X	X	X					X		X		X
APEX	A6E0342	22B-F-MH6-110516	5/11/2016 10:30	22B-F-MH6	A6E0342-04	NSTW												X		X	
APEX	A6E0342	22B-U-MH7-110516	5/11/2016 13:30	22B-U-MH7	A6E0342-05	NSTW		X	X	X	X	X					X		X		X
APEX	A6E0342	22B-F-MH7-110516	5/11/2016 13:30	22B-F-MH7	A6E0342-06	NSTW												X		X	
APEX	A6E0342	22B-U-RB-110516	5/11/2016 16:30	22B-U-RB	A6E0342-07	NSTW	RB	X	X	X	X	X					X		X		X
APEX	A6E0342	22B-F-RB-110516	5/11/2016 16:30	22B-F-RB	A6E0342-08	NSTW	RB											X		X	
APEX	A6E0342	22B-U-TB-110516	5/11/2016 0:00	22B-U-TB	A6E0342-09	NSTW	TB	X													
VISTA	1600631	22B-U-MH4-110516	5/11/2016 8:30	22B-U-MH4	1600631-01	NSTW							X	X	X						
VISTA	1600631	22B-U-MH6-110516	5/11/2016 10:30	22B-U-MH6	1600631-02	NSTW							X	X	X						
VISTA	1600631	22B-U-MH7-110516	5/11/2016 13:30	22B-U-MH7	1600631-03	NSTW							X	X	X						
VISTA	1600631	22B-U-RB-110516	5/11/2016 16:30	22B-U-RB	1600631-04	NSTW	RB						X	X	X						
PAL	P160538	22B-U-MH4-110516	5/11/2016 8:30	22B-U-MH4	P160538-01	NSTW										X					
PAL	P160538	22B-U-MH6-110516	5/11/2016 10:30	22B-U-MH6	P160538-02	NSTW										X					
PAL	P160538	22B-U-MH7-110516	5/11/2016 13:30	22B-U-MH7	P160538-03	NSTW										X					
PAL	P160538	22B-U-RB-110516	5/11/2016 16:30	22B-U-RB	P160538-04	NSTW										X					

TABLE 1
Sample Collection and Analysis Summary
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

								Analysis/Parameters													
Lab	SDG	Field Identification	Collection Date	Location	Lab Identification	Matrix	QC Samples	VOCs (8260B)	SVOCs (8270C)	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	PCDD-PCDF (1613B)	Pesticides (1699)	PCB Congeners (1668A)	Herbicides (8151A)	Total Low Level Mercury (1631E)	Dissolved Low Level Mercury	Total Metals (200.8)	Dissolved Metals (200.8)	Hexavalent Chromium (218.6)

Abbreviations:

NSTW - Non-stormwater
TB - Trip Blank
RB - Rinsate Blank
FD - Field Duplicate
VOCs - Volatile Organic Compounds
SVOCs - Semi-Volatile Organic Compounds
NWTPH-HCID - Northwest Total Petroleum Hydrocarbon-Hydrocarbon Identification Scan
NWTPH-Dx - Northwest Total Petroleum Hydrocarbon-Diesel
NWTPH-Gx - Northwest Total Petroleum Hydrocarbon-Gasoline
PCDD-PCDF - Polychlorinated dibenzo-dioxins and Polychlorinated dibenzo-furans
PCBs - Polychlorinated Biphenyls
QC - Quality Control
SDG - Sample Data Group

TABLE 2
Qualifier Summary Table
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

SDG	Sample Name	Constituent	New Result	New MRL	Qualifier	Reason
A6E0284	22B-U-MH5-100516	Gasoline Range Organics	76.5	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	Benzene	0.176	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	Ethylbenzene	0.399	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	Ethylbenzene	0.434	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH3-100516	Styrene	0.573	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH5-100516	Ethylbenzene	0.368	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	2-Chlorophenol	0.617	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	2,4-Dimethylphenol	0.596	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	3+4-Methylphenol(s)	1.17	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	Pentachlorophenol (PCP)	1.01	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	2-Chlorophenol	0.618	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	2,4-Dimethylphenol	0.657	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	3+4-Methylphenol(s)	0.35	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	Pentachlorophenol (PCP)	1.03	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH3-100516	2-Chlorophenol	0.568	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH3-100516	2,4-Dimethylphenol	0.608	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH3-100516	Pentachlorophenol (PCP)	1.06	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH5-100516	2-Chlorophenol	0.717	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH5-100516	2,4-Dichlorophenol	11.9	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH5-100516	Pentachlorophenol (PCP)	1.03	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	Cadmium	0.0444	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	Chromium	0.467	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	Cadmium	0.0444	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-D-100516	Chromium	0.489	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH3-100516	Cadmium	0.0889	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH3-100516	Chromium	0.556	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH5-100516	Cadmium	0.0667	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL

TABLE 2
Qualifier Summary Table
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

SDG	Sample Name	Constituent	New Result	New MRL	Qualifier	Reason
A6E0284	22B-U-MH5-100516	Chromium	0.444	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-MH5-100516	Copper	0.933	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-F-D-100516	Lead	0.133	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-F-D-100516	Copper	0.567	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-F-MH3-100516	Lead	0.144	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-F-MH5-100516	Lead	0.122	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH4-110516	Ethylbenzene	0.35	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH6-110516	Ethylbenzene	0.492	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH7-110516	Ethylbenzene	0.357	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH4-110516	2-Chlorophenol	0.681	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH4-110516	2,4-Dimethylphenol	0.696	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH4-110516	Pentachlorophenol (PCP)	1.08	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH6-110516	2,4-Dimethylphenol	1.21	NA	J+	Due to matrix interference, this analyte cannot be accurately quantified. The reported result may contain a high bias.
A6E0342	22B-U-MH6-110516	Pentachlorophenol (PCP)	1.12	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH7-110516	3+4-Methylphenol(s)	0.0312	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH7-110516	Pentachlorophenol (PCP)	0.129	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH7-110516	2,4,6-Trichlorophenol	0.0677	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-MH7-110516	Diethylphthalate	0.237	NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0342	22B-U-RB-110516	2-Methylphenol		NA	J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL
A6E0284	22B-U-S-100516	Hexavalent Chromium	-	-	J+	Cr6 detected in rinsate blank, results <10x blank concentration
A6E0284	22B-U-D-100516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration
A6E0284	22B-U-MH3-100516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration
A6E0284	22B-U-MH5-100516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration
A6E0342	22B-U-MH4-110516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration
A6E0342	22B-U-MH6-110516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration
A6E0342	22B-U-MH7-110516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration
A6E0342	22B-U-RB-110516	Hexavalent Chromium			J+	CrVI detected in rinsate blank, results <10x blank concentration

TABLE 2
Qualifier Summary Table
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

SDG	Sample Name	Constituent	New Result	New MRL	Qualifier	Reason
1600620	22B-U-S-100516	1,2,3,4,6,7,8-HpCDD			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-D-100516	1,2,3,4,6,7,8-HpCDD			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH5-100516	OCDD			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH4-110516	OCDD			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-40			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-67			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-79			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-123			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-154			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-202			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	PCB-205			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-D-100516	PCB-55			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-D-100516	PCB-94			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-D-100516	PCB-133/142			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-D-100516	PCB-202			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-67			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-96			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-111/115			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-119			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-122			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-124			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-130			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-137			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-191			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-198			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH3-100516	PCB-200			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH5-100516	PCB-96			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH5-100516	PCB-123			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-MH5-100516	PCB-144			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH4-110516	PCB-25			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH4-110516	PCB-94			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH4-110516	PCB-96			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH4-110516	PCB-103			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH6-110516	PCB-26			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH6-110516	PCB-63			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH6-110516	PCB-79			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH6-110516	PCB-177			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH6-110516	PCB-185			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH6-110516	PCB-191			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-107/109			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-114			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-119			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-123			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-130			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-133/142			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-171			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-MH7-110516	PCB-205			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-RB-110516	PCB-20/21/33			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-RB-110516	PCB-31			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-RB-110516	PCB-53			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-RB-110516	PCB-139/149			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-RB-110516	PCB-180			EMPC, U	EMPC value, reported as ND, qualified as U
1660631	22B-U-RB-110516	Total heptaCB			EMPC, U	EMPC value, reported as ND, qualified as U
1600620	22B-U-S-100516	3,3'-Dichlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	3,3'-Dichlorobiphenyl			J+	Method blank contamination, result may be biased high

TABLE 2
Qualifier Summary Table
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

SDG	Sample Name	Constituent	New Result	New MRL	Qualifier	Reason
1600620	22B-U-MH3-100516	3,3'-Dichlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	3,3'-Dichlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600620	22B-U-S-100516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600620	22B-U-D-100516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH3-100516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600620	22B-U-MH5-100516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Hexachlorobenzene			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Hexachlorobenzene			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Hexachlorobenzene			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Hexachlorobenzene			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	2,2',4,4'-Tetrachlorobiphenyl			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	PCB-61/70			J+	Method blank contamination, result may be biased high

TABLE 2
Qualifier Summary Table
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

SDG	Sample Name	Constituent	New Result	New MRL	Qualifier	Reason
1600631	22B-U-MH6-110516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	PCB-61/70			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Dichlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Tetrachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Hexachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Octachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Nonachlorobiphenyl, Total			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH4-110516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH6-110516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600631	22B-U-MH7-110516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Polychlorinated Biphenyls			J+	Method blank contamination, result may be biased high
1600631	22B-U-RB-110516	Hexachlorobenzene	3.77 U pg/L	3.77	U	Method blank contamination
1600620	22B-U-S-100516	gamma-BHC			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600620	22B-U-S-100516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600620	22B-U-D-100516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600620	22B-U-MH3-100516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600620	22B-U-MH5-100516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600631	22B-U-MH4-110516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600631	22B-U-MH6-110516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
1600631	22B-U-MH7-110516	trans-Heptachlor Epoxide			J	Result lab qualified as "E, D" due to exceeding calibration range of instrument and requiring dilution
A6E0342	22B-U-TB-110516	All VOC Results			UJ	Analyzed past holding time

TABLE 2
Qualifier Summary Table
OF22B IRAM Performance Monitoring - 2nd Quarter 2016

SDG	*Sample Name*	*Constituent*	*New Result*	*New MRL*	*Qualifier*	*Reason*

Abbreviations:
J+: estimated result biased high
J: estimated result
UJ: not detected, estimated result
EMPC: Estimated Maximum Potential Concentration
U: not detected

ATTACHMENT A
DATA VALIDATION CHECKLISTS

QA LEVEL II – INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: K. Angelos

Validation Date: 6/17/16

Laboratory: Apex

SDG#: A6E0284, A6E0342

Analytical Method (type and no.): EPA 218.6 Hexavalent Chromium by IC

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other(specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan of QAPP reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment (areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field Calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☐	☑	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: See note 1

Chain of Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☑	☐	☐	See note 3
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	See note 2
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☑	☐	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☑	☐	☐	RPDs <20%

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☑	☐	☐	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Overall Evaluation		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were there any other technical problems not previously addressed?	☐	☑	☐	
b)	Checked for transcription errors?	☑	☐	☐	
c)	Do target analytes fall within calibration ranges?	☑	☐	☐	

d) Data are acceptable and usable except as noted? ☑ ☐ ☐ _____

Comments/Notes:

1. COC discrepancies
    a. none
2. Field Duplicate
    a. Field duplicate pairs are 22B-U-S-100516 (0.052) and 22B-U-D-100516 (0.078), RPD = 32% and <5X RL, no action
3. Blank Issues:
    a. Chromium VI detected in rinsate blank at 0.15 ug/L. All samples <10x rinsate blank value, therefore samples may have a high bias in results. All results qualified as J+

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: K. Angelos

Validation Date: 6/17/16

Laboratory: Apex

SDG#: A6E0284, A6E0342

Analytical Method (type and no.): EPA 1631E low level mercury, total, dissolve

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other(specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-F-S-100516, 22B-U-D-100516, 22B-F-D-100516, 22B-U-MH3-100516, 22B-F-MH3-100516, 22B-U-MH5-100516, 22B-F-MH5-100516, 22B-U-MH4-110516, 22B-F-MH4-110516, 22B-U-MH6-110516, 22B-F-MH6-110516, 22B-U-MH7-110516, 22B-F-MH7-110516, 22B-U-RB-110516, and 22B-F-RB-110516

Work Plan of QAPP reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment (areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field Calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☐	☑	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: See note 1

Chain of Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☐	☑	☐	
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	See note 2
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☑	☐	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☑	☐	☐	RPDs <20%

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☑	☐	☐	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☑	☐	☐	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☑	☐	☐	

Overall Evaluation		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were there any other technical problems not previously addressed?	☐	☑	☐	
b)	Checked for transcription errors?	☑	☐	☐	
c)	Do target analytes fall within calibration ranges?	☑	☐	☐	

d) Data are acceptable and usable except as noted? ☑ ☐ ☐ _____

Comments/Notes:

1. COC discrepancies
   a. none
2. Field Duplicate
   a. Field duplicate pairs are 22B-U/F-S-100516 and 22B-U/F-D-100516

Sample	22B-U-S-100516	22B-U-D-100516	RPD
Mercury, total	0.0012	0.0030	85.7% (results <5X RL)
Sample	22B-F-S-100516	22B-F-D-100516	RPD
Mercury, dissolved	0.0030	0.0035	15.4%

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – INORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: K. Angelos

Validation Date: 6/17/16

Laboratory: Apex

SDG#: A6E0284, A6E0342

Analytical Method (type and no.): EPA 200.8 total/dissolved metals

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other(specify):

Sample Names: Refer to Table 1: 22B-U/F-S-100516, 22B-U/F-D-100516, 22B-U/F-MH3-100516, 22B-U/F -MH5-100516, 22B-U/F -MH4-110516, 22B-U/F -MH6-110516, 22B-U/F -MH7-110516, and 22B-U-RB-110516

Work Plan of QAPP reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment (areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field Calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☐	☑	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: See note 1

Chain of Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	☐	☑	☐	See note 1
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	
e) Were the appropriate reporting limits achieved?	☑	☐	☐	

f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☑	☐	☐	Barium 0.889 J ug/L
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	See note 2
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☑	☐	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☑	☐	☐	RPDs <20%

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☑	☐	☐	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Overall Evaluation		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were there any other technical problems not previously addressed?	☐	☑	☐	
b)	Checked for transcription errors?	☑	☐	☐	
c)	Do target analytes fall within calibration ranges?	☑	☐	☐	

d) Data are acceptable and usable except as noted? ☑ ☐ ☐ _____

Comments/Notes:

1. COC discrepancies
   a. For A6E0284: Lead was not circled on COC for the 200.8 samples.
   b. For A6E0342: Calcium, chromium, lead and selenium were not circled on the COC for the 200.8 samples.
   c. Lab was notified and requested that missing analytes be included in revised laboratory reports.
2. Field Duplicate
   a. Field duplicate pairs are 22B-U-S-100516, 22B-U-D-100516, 22B-F-S-100516, 22B-F-D-100516. RPDs are <20% or <5X RL except mercury in unfiltered sample analysis.
3. Blank Issues:
   a. The following analytes were detected in the Rinsate Blank sample 22B-U-RB-110516. No action is taken for field blanks, detections, but advisory conditions noted.

Sample ID	Analyte	Result	Notes
22B-U-RB-110516	Barium, total Barium, dissolved	0.889 ug/L 0.922 ug/L	No action taken, results in RB 100x lower than sample concentrations

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: Kent Angelos

Validation Date: 06/17/2016

Laboratory: Vista Analytical Laboratory

SDG#: 1600620, 1600631

Analytical Method (type and no.): PCDDs/PCDFs by EPA 1613B

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 1.0 C,

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☐	☑	☐	
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	See note 1
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☐	☑	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Field duplicate results (pg/L)

Constituent	22B-U-S-100516	22B-U-D-100516	RPD
1,2,3,,4,,6,7,8-HpCDD	2.16 EMPC, U	2.05 EMPC, U	5.2
OCDD	17.9 J	30.6 J	52.4
1,2,3,7,8,9-HxCDF	0.623 U	0.937 J	Not calculable
OCDF	2.18 U	5.49 J	Not calculable

2. Results reported as EMPC and ND, are reported in EDD as “EMPC, U” (noted in Table 2). Results reported as EMPC with a detected result are reported in the EDD as “EMPC, J” (noted in Table 2).

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: Kent Angelos

Validation Date: 06/17/2016

Laboratory: Pacific Agriculture Laboratory

SDG#: P160527, P160538

Analytical Method (type and no.): Herbicides by EPA 8151A

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☐	☐	☑	
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☐	☑	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: Kent Angelos

Validation Date: 06/17/2016

Laboratory: Vista Analytical Laboratory

SDG#: 1600620, 1600631

Analytical Method (type and no.): Organochlorine Insecticides by EPA 1699

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 1.0 C,

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	

d) Was the correct method used?	☑	☐	☐	
e) Were the appropriate reporting limits achieved?	☑	☐	☐	
f) Were any sample dilutions noted?	☑	☐	☐	
g) Were any matrix problems noted?	☑	☐	☐	

Blanks	**YES**	**NO**	**NA**	**COMMENTS**
a) Were analytes detected in the method blank(s)?	☑	☐	☐	Hexachlorobenzene only
b) Were analytes detected in the field blank(s)?	☐	☐	☑	
c) Were analytes detected in the equipment blank(s)?	☑	☐	☐	see note 1
d) Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was a LCS analyzed once per SDG?	☑	☐	☐	
b) Were the proper compounds included in the LCS?	☑	☐	☐	
c) Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates	**YES**	**NO**	**NA**	**COMMENTS**
a) Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b) Were field dup. precision criteria met (note RPD)?	☑	☐	☐	See note 1
c) Were lab duplicates analyzed (note original and duplicate samples)?	☐	☑	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards	**YES**	**NO**	**NA**	**COMMENTS**
a) Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b) Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was MS accuracy criteria met?	☐	☐	☑	
Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b) Was MSD accuracy criteria met?	☐	☐	☑	
Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c) Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes	**YES**	**NO**	**NA**	**COMMENTS**
a) Were surrogate recoveries within control limits?	☑	☐	☐	
b) Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☑	☐	☐	See note 4
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☐	☑	☐	See a) and note 4
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Field duplicate results (pg/L)

Constituent	22B-U-S-100516	22B-U-D-100516	RPD
Total Aroclors	1700	1520	11.1

2. Results reported as EMPC and ND, are reported in EDD as "EMPC, U" (noted in Table 2). Results reported as EMPC with a detected result are reported in the EDD as "EMPC, J" (noted in Table 2).
3. Blank Issues
   a. The following analytes were detected in the rinsate blank, no action is taken other than what is noted below.

Constituent (pg/L)	Result	Qualifier	Notes
Hexachlorobenzene	3.77	B, J	All sample results >10x rinsate blank results
alpha-BHC	12.9	J	All sample results >10x rinsate blank results
trans-Heptachlor Epoxide	41.9		All sample results >10x rinsate blank results
Dieldrin	4.72	J	All sample results >10x rinsate blank results

   b. Method blank issues – constituents detected in the method blanks included the following:

chemical_name	result_value (pg/L)	lab_qualifiers
Hexachlorobenzene	5.27	J

   Associated sample results have been qualified with a "B" qualifier in the laboratory reports, validation applied qualifiers will be "J+" to indicate sample results may be biased high.
4. Sample quantitation/dilutions. Results for gamma-BHC and trans-Heptachlor Epoxide reported with qualifiers "E, D" indicate the results exceeded the calibration range of the instrument and required dilution. Results will be qualified as "J" estimated.

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: Ryan Stringfellow
Project Name: Starlink/Uplands Support/OR
Project Number: 103-93514-12-605-02
Reviewer: Kent Angelos
Validation Date: 06/17/2016
Laboratory: Apex Labs
SDG#: A6E0284, A6E0342
Analytical Method (type and no.): Diesel Range Organics by NWTPH-Dx
Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):
Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☑	☐	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☐	☑	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☑	☐	
c)	Were analytes detected in the equipment blank(s)?	☐	☑	☐	22B-U-RB-110516
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☐	☐	☑	
b)	Were the proper compounds included in the LCS?	☐	☐	☑	
c)	Was the LCS accuracy criteria met?	☐	☐	☑	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☐	☐	☑	
d)	Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Field Duplicate
    a. Field duplicate pair is 22B-U-S-100516 and 22B-U-D-100516. RPDs are acceptable, both results ND.
2. Lab Qualifications
    a. SDG A6E0284 and A6E0342: No qualifications applied.

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: Kent Angelos

Validation Date: 06/17/2016

Laboratory: Apex Labs

SDG#: A6E0284, A6E0342

Analytical Method (type and no.): Gasoline Range Organics by NWTPH-Gx

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☑	☐	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☐	☑	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☑	☐	
c)	Were analytes detected in the equipment blank(s)?	☐	☑	☐	22B-U-RB-110516
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☐	☐	☑	
b)	Were the proper compounds included in the LCS?	☐	☐	☑	
c)	Was the LCS accuracy criteria met?	☐	☐	☑	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☐	☐	☑	
d)	Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Field Duplicate
    a. Field duplicate pair is 22B-U-S-100516 and 22B-U-D-100516. RPDs are acceptable, both results ND.
2. Lab Qualifications
    a. SDG A6E0284 and A6E0342: Sample 22B-U-MH5-100516, result 76.5 ug/L with J qualifier, result detected below lowest point of the calibration curve, but above the method detection limit. Sample 22B-U-MH6-110516, result 116 ug/L, no qualification applied.

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates

Project Manager: Ryan Stringfellow

Project Name: Starlink/Uplands Support/OR

Project Number: 103-93514-12-605-02

Reviewer: Kent Angelos

Validation Date: 06/17/2016

Laboratory: Vista Analytical Laboratory

SDG#: 1600620, 1600631

Analytical Method (type and no.): PCB Congeners by EPA 1668A

Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):

Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 1.0 C,

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☑	☐	☐	see note 1
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☑	☐	☐	see note 1
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☑	☐	☐	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	See note 1
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☐	☑	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Field duplicate results (pg/L)

Constituent	22B-U-S-100516	22B-U-D-100516	RPD
Total Aroclors	1700	1520	11.1

2. Results reported as EMPC and ND, are reported in EDD as "EMPC, U" (noted in Table 2). Results reported as EMPC with a detected result are reported in the EDD as "EMPC, J" (noted in Table 2).
3. Blank Issues
   a. The following analytes were detected in the rinsate blank, no action is taken other than what is noted below.

Constituent (pg/L)	Result	Qualifier	Notes
PCB-1	0.484	J	Sample results >10X rinsate blank result or not detected except for 22B-U-MH7-110516 where sample result may be biased high
PCB-11	10.1	B	All sample results <10X rinsate blank result, also detected in method blank, sample results may be biased high
PCB-16/32	1.25	J	All sample results >10X rinsate blank result
PCB-17	0.986	J	All sample results >10X rinsate blank result
PCB-18	1.16	J	All sample results >10X rinsate blank result
PCB-22	3.64	J	All sample results <10X rinsate blank result, sample results may be biased high
PCB-28	1.23	J	All sample results >10X rinsate blank result
PCB-38	1.72	J	All sample results <10X rinsate blank result, sample results may be biased high
PCB-41/64/71/72	0.573	J	All sample results >10X rinsate blank result
PCB-43/49	2.35	J	All sample results >10X rinsate blank result, except 22B-U-MH7-110516 and 22B-U-MH5-100516 where sample results may be biased high
PCB-47	71.7	B	All sample results <10X rinsate blank result, also detected in associated method blanks, sample results may be biased high
PCB-51	78.8		All sample results <10X rinsate blank result, sample results may be biased high
PCB-52/69	0.813	J	All sample results >10X rinsate blank result
PCB-61/70	0.646	J, B	All sample results >10X rinsate blank result, also detected in associated method blanks, sample results may be biased high
PCB-66/76	0.387	J	All sample results >10X rinsate blank result
PCB-68	24.2		All sample results <10X rinsate blank result, sample results may be biased high

Constituent (pg/L)	Result	Qualifier	Notes
PCB-138/163/164	0.776	J	All sample results >10X rinsate blank result
PCB-153	0.641	J, B	All sample results >10X rinsate blank result
PCB-194	0.734	J, B	All sample results >10X rinsate blank result, except 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-MH5-100516 where sample results may be biased high, also detected in associated method blanks
PCB-209	1.27	J	All sample results <10x rinsate blank results, sample results may be biased high.
Total monoCB	0.484		All sample results >10x rinsate blank result except 22B-U-MH7-110516 where result may be biased high
Total diCB	10.1		All sample results >10x rinsate blank result except 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, 22B-U-MH5-100516 where sample results may be biased high
Total triCB	9.99		All sample results >10x rinsate blank result
Total tetraCB	179		All sample results >10x rinsate blank result
Total hexaCB	1.42		All sample results >10x rinsate blank result
Total octaCB	0.734		All sample results >10x rinsate blank result
DecaCB	1.27		All sample results <10x rinsate blank results, sample results may be biased high.
Total PCB	203		All sample results <10x rinsate blank results, sample results may be biased high.

b. Method blank issues – constituents detected in the method blanks included the following:

chemical_name	result_value (pg/L)	lab_qualifiers
Hexachlorobenzene	5.27	J
3,3'-Dichlorobiphenyl (PCB-11)	6.15	
2,2',4,4'-Tetrachlorobiphenyl (PCB-47)	1.74	J
PCB-61/70	0.430	J
2,2',4,4',5,5'-Hexachlorobiphenyl (PCB 153)	0.608	J
2,2',3,3',4,4',5,5'-Octachlorobiphenyl (PCB 194)	0.789	J
2,2',3,3',4,5,5',6,6'-Nonachlorobiphenyl (PCB 208)	0.235	J
Dichlorobiphenyl, Total	6.15	
Tetrachlorobiphenyl, Total	2.17	
Hexachlorobiphenyl, Total	0.608	
Octachlorobiphenyl, Total	0.789	
Nonachlorobiphenyl, Total	0.235	
Polychlorinated Biphenyls (Total PCBs)	9.95	

Associated sample results have been qualified with a “B” qualifier in the laboratory reports, validation applied qualifiers will be “J+” to indicate sample results may be biased high.

Qualifications:

Refer to Table 2.

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: Ryan Stringfellow
Project Name: Starlink/Uplands Support/OR
Project Number: 103-93514-12-605-02
Reviewer: Kent Angelos
Validation Date: 06/17/2016
Laboratory: Apex Labs
SDG#: A6E0284, A6E0342
Analytical Method (type and no.): Semivolatile Organic Compounds by EPA 8270D
Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):
Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☑	☐	☐	See note 1
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☑	☐	☐	22B-U-RB-110516, see note 2
d)	Were analytes detected in the trip blank(s)?	☐	☑	☐	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☐	☑	☐	See note 3

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	see comment 4
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☑	☐	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☑	☐	☐	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	See note
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Method blanks: 1-Methylnaphthalene, Naphthalene, Phenanthrene, Hexachloroethane detected in method blank. No action, associated results ND.
2. 2,4-Dichlorophenol (0.101 ug/l) and 2-Methylphenol (0.0280 ug/l) detected in the rinsate blank. No action, associated sample results substantially elevated over RB results or RB results x5.
3. LCS performance:
   a. For A6E0284 and A6E0342, LCS recovery for 3,3'-Dichlorobenzidine above UCL, no action sample results ND.
4. Field Duplicate
   a. Field duplicate pair is 22B-U-S-100516 and 22B-U-D-100516. RPD results are acceptable.

Constituent (ug/L)	22B-U-S-100516	22B-U-D-100516	RPD
2-Chlorophenol	0.617	0.618	0.16
2,4-Dichlorophenol	8.39	8.68	3.4
2,4-Dimethylphenol	0.596	0.657	9.74
2-Methylphenol	1.17	1.08	8
3+4-Methylphenol	0.391	0.350	11.07
Pentachlorophenol	1.01	1.03	1.96
2,4,5-Trichlorophenol	1.94	2.13	9.34
2,4,6-Trichlorophenol	1.00	1.16	14.8

5. Surrogate recoveries: For A6E0284, sample 22B-U-MH3-100516 nitrobenzene-d5 slightly below lab limits but within NFG limits, no qualification required. For A6E0342, 22B-U-MH7-110516 nitrobenzene-d5 and 2-fluorobiphenyl slightly below lab limits but within NFG limits, no qualification required. For sample 22B-U-RB-110516, 2-fluorobiphenyl slightly below lab limits but within NFG limits.

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: Ryan Stringfellow
Project Name: Starlink/Uplands Support/OR
Project Number: 103-93514-12-605-02
Reviewer: Kent Angelos
Validation Date: 06/17/2016
Laboratory: Apex Labs
SDG#: A6E0284, A6E0342
Analytical Method (type and no.): Hydrocarbon Compound Identification by NWTPH-HCID
Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):
Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☑	☐	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☑	☐	☐	
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☐	☑	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☑	☐	
c)	Were analytes detected in the equipment blank(s)?	☐	☑	☐	22B-U-RB-110516
d)	Were analytes detected in the trip blank(s)?	☐	☐	☑	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☐	☐	☑	
b)	Were the proper compounds included in the LCS?	☐	☐	☑	
c)	Was the LCS accuracy criteria met?	☐	☐	☑	

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☐	☐	☑	
d)	Were lab dup. precision criteria met (note RPD)?	☐	☐	☑	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☑	☐	☐	
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. Field Duplicate
    a. Field duplicate pair is 22B-U-S-100516 and 22B-U-D-100516. RPDs are acceptable, both results ND.
2. Lab Qualifications
    a. SDG A6E0284 and A6E0342: No qualifications applied.

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Company Name: Golder Associates
Project Manager: Ryan Stringfellow
Project Name: Starlink/Uplands Support/OR
Project Number: 103-93514-12-605-02
Reviewer: Kent Angelos
Validation Date: 06/17/2016
Laboratory: Apex Labs
SDG#: A6E0284, A6E0342
Analytical Method (type and no.): Volatile Organic Compounds by EPA 8260B
Matrix: ☐ Air ☐ Soil/Sed. ☑ Water ☐ Waste ☐ Other (specify):
Sample Names: Refer to Table 1: 22B-U-S-100516, 22B-U-D-100516, 22B-U-MH3-100516, 22B-U-MH5-100516, 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516, and 22B-U-RB-110516

Work Plan or QAPP Reference: Final Outfall 22B IRAM Performance Monitoring, Sampling and Analysis Plan, Former Rhone-Poulenc –Portland Site, Oregon Department of Environmental Quality, February 2015.

Applicable Data Validation Guidance: National Functional Guidelines for Superfund Organic Methods Data Review, (EPA 2014)

NOTE: Please provide calculations in comment areas or on the back (if on the back, please indicate in comment areas).

Field Information	**YES**	**NO**	**NA**	**COMMENTS**
a) Sampling dates noted?	☑	☐	☐	
b) Sampling team indicated?	☑	☐	☐	
c) Sampling location noted?	☑	☐	☐	
d) Sampling depth indicated (soils)?	☐	☐	☑	
e) Sample type indicated (grab/composite)?	☑	☐	☐	
f) Field QC noted?	☑	☐	☐	
g) Field parameters collected (note types)?	☑	☐	☐	Air and water temperature, pH, ORP Conductivity, Turbidity, DO
h) Field calibration within control limits?	☑	☐	☐	
i) Notations of unacceptable field conditions/performances from field logs or field notes?	☐	☑	☐	
j) Does the laboratory narrative note deficiencies?	☐	☑	☐	

Note deficiencies: as discussed below

Chain of Custody (COC)	**YES**	**NO**	**NA**	**COMMENTS**
a) Was the COC properly completed?	☑	☐	☐	
b) Was the COC signed by both field and laboratory personnel?	☑	☐	☐	
c) Were the samples received in good condition?	☑	☐	☐	
d) Was the sample cooler temperature within QC limits?	☑	☐	☐	Cooler temps: 2.0 – 4.7C

General (reference QAPP or Method)	**YES**	**NO**	**NA**	**COMMENTS**
a) Were the hold times met for sample pretreatment?	☑	☐	☐	
b) Were the hold times met for sample analysis?	☐	☑	☐	Trip blank analyzed 1-day out of HT
c) Were the correct preservatives used?	☑	☐	☐	
d) Was the correct method used?	☑	☐	☐	

e)	Were the appropriate reporting limits achieved?	☑	☐	☐	
f)	Were any sample dilutions noted?	☑	☐	☐	
g)	Were any matrix problems noted?	☑	☐	☐	

Blanks		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were analytes detected in the method blank(s)?	☐	☑	☐	
b)	Were analytes detected in the field blank(s)?	☐	☐	☑	
c)	Were analytes detected in the equipment blank(s)?	☐	☑	☐	22B-U-RB-110516, see note 1
d)	Were analytes detected in the trip blank(s)?	☐	☑	☐	

Laboratory Control Sample (LCS)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a LCS analyzed once per SDG?	☑	☐	☐	
b)	Were the proper compounds included in the LCS?	☑	☐	☐	
c)	Was the LCS accuracy criteria met?	☐	☑	☐	See comment 2

Duplicates		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were field duplicates collected (note original and duplicate sample names)?	☑	☐	☐	22B-U-S-100516 & 22B-U-D-100516
b)	Were field dup. precision criteria met (note RPD)?	☑	☐	☐	see comment 3
c)	Were lab duplicates analyzed (note original and duplicate samples)?	☑	☐	☐	
d)	Were lab dup. precision criteria met (note RPD)?	☑	☐	☐	

Blind Standards		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was a blind standard used (indicate name compounds included and concentrations)?	☐	☐	☑	
b)	Was the %D within control limits?	☐	☐	☑	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)		**YES**	**NO**	**NA**	**COMMENTS**
a)	Was MS accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample Contained high concentration of analyte?	☐	☐	☑	
b)	Was MSD accuracy criteria met?	☐	☐	☑	
	Recovery criteria could not be calculated since sample contained high concentration of analyte?	☐	☐	☑	
c)	Were MS/MSD precision criteria met?	☐	☐	☑	

Surrogate Spikes		**YES**	**NO**	**NA**	**COMMENTS**
a)	Were surrogate recoveries within control limits?	☑	☐	☐	
b)	Were surrogate recoveries not calculated due to dilutions?	☐	☐	☑	

QA LEVEL II – ORGANIC DATA EVALUATION CHECKLIST

Overall Evaluation	YES	NO	NA	COMMENTS
a) Were any other technical problems not previously addressed?	☐	☑	☐	
b) Checked for transcription errors?	☑	☐	☐	
c) Do target analytes fall within calibration ranges?	☐	☑	☐	See comment 4
d) Data are acceptable and usable except as noted?	☑	☐	☐	

Comments/Notes:

1. No compounds detected in rinsate blank or trip blank. Trip blank (22B-U-MH4-110516) was analyzed one day out of 7-day hold time.
2. LCS performance:
   a. For A6E0284, several results in LCS qualified as Q-29 indicating recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high. No action associated results are ND. Results for Bromomethane, Chloroethane and Trichlorofluoromethand in LCS qualified as Q-41 indicating the CCV was above the upper control limit. No action, CCV associated with LCS only, associated sample results are ND.
   b. For A6E0342, several results in LCS qualified as Q-41 indicating CCV above UCL for the particular analyte and results may be biased high. No action all associated sample results are ND. Results for 2-Butanone and Vinyl Chloride qualified Q-29 indicate LCS recovery above the UCL. No action, associated sample results are ND. Results for Chloroform and Dichlorodifluoromethane CCV below LCL, associated results may be biased low, qualify sample results as UJ.
3. Field Duplicate
   a. Field duplicate pair is 22B-U-S-100516 and 22B-U-D-100516. RPDs are <20% or <5X RL
4. Sample result quantitation
   a. In A6E0284, results for benzene, ethylbenzene and styrene in various samples qualified J due to result detected below the lowest point of the calibration curve, but above the specified MDL. See Table 2.
   b. In A6E0342, Ethylbenzene, m,p-Xylene and o-Xylene results for samples 22B-U-MH4-110516, 22B-U-MH6-110516, 22B-U-MH7-110516 qualified J due to result detected below the lowest point of the calibration curve, but above the specified MDL. See Table 2.

Qualifications:

Refer to Table 2.

Definitions:

SDG: Sample Delivery Group
COC: Chain of Custody
VOC: Volatile Organic Compound
PCB: Polychlorinated Biphenyl
RPD: Relative Percent Difference
RSD: Relative Standard Deviation
MDL: Method Detection Limit
%R: Percent Recovery
QC: Quality Control
QAPP: Quality Assurance Project Plan
SVOC: Semivolatile Organic Compound
% D: Percent Difference
LCS: Laboratory Control Sample
MS/MSD: Matrix Spike/Matrix Spike Duplicate
RL: Reporting Limit

ATTACHMENT B
REVIEWED LABORATORY REPORTS

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0971	0.0971	mg/L	1	05/12/16 01:41	NWTPH-HCID	
Diesel Range Organics	ND	0.243	0.243	"	"	"	"	
Oil Range Organics	ND	0.243	0.243	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*52 %*	*Limits: 10-120 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/12/16 02:03	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*58 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/12/16 02:25	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 89 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*47 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050322**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/12/16 02:47	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*49 %*	*Limits: 10-120 %*	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.121	0.243	mg/L	1	05/13/16 22:33	NWTPH-Dx/SG	
Oil	ND	0.243	0.485	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 22:54	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 96 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 23:16	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050400**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 23:38	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	

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503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/11/16 17:13	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*111 %*	*Limits: 50-150 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/11/16 18:18	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*112 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/11/16 17:47	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 105 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*113 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
Gasoline Range Organics	**0.0765**	0.0500	0.100	mg/L	1	05/11/16 18:58	NWTPH-Gx (MS)	J
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 108 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	

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12232 S.W. Garden Place
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503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: 6050305**			
Acrolein	ND	5.00	10.0	ug/L	1	05/11/16 17:13	EPA 8260B	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
22B-U-S-100516 (A6E0284-01RE2)			**Matrix: Water**		**Batch: 6050541**			**A-01**
Acetone	ND	10.0	20.0	ug/L	1	05/19/16 20:22	EPA 8260B	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.176**	0.100	0.200	"	"	"	"	J
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE2)			**Matrix: Water**		**Batch: 6050541**			**A-01**
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.399**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**1.25**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 105 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
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503-718-2323 Phone
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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE2)			**Matrix: Water**		**Batch: 6050541**			**A-01**
Surrogate: Toluene-d8 (Surr)			*Recovery: 113 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
4-Bromofluorobenzene (Surr)			*110 %*	*Limits: 80-120 %*	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 18:18	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.204**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
cis-1,2-Dichloroethene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.434**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: 6050305**			
o-Xylene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 119 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*113 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*97 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 17:47	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.293**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
1,1-Dichloroethane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.677**	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**0.573**	0.500	1.00	"	"	"	"	J
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: 6050305**			
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 120 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*114 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 18:58	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.570**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.368**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**8.02**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: 6050305**			
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	"	EPA 8260B	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*101 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
22B-U-TB-100516 (A6E0284-09)			**Matrix: Water**		**Batch: 6050305**			
Acetone	ND	10.0	20.0	ug/L	1	05/11/16 14:58	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-100516 (A6E0284-09)			**Matrix: Water**		**Batch: 6050305**			
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-100516 (A6E0284-09)			**Matrix: Water**		**Batch: 6050305**			
1,1,1-Trichloroethane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*96 %*	*Limits: 80-120 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 11:15	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.617**	0.481	0.962	"	"	"	"	J
2,4-Dichlorophenol	**8.39**	0.481	0.962	"	"	"	"	
2,4-Dimethylphenol	**0.596**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**1.17**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**0.391**	0.240	0.481	"	"	"	"	J
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.01**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**1.94**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.00**	0.481	0.962	"	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	ug/L	10	"	EPA 8270D	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	ug/L	10	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 52 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*56 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*14 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*90 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*23 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*74 %*	*Limits: 43-140 %*	"	"	"	
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 14:26	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.618**	0.481	0.962	"	"	"	"	J

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**8.68**	0.481	0.962	ug/L	10	"	EPA 8270D	
2,4-Dimethylphenol	**0.657**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**1.08**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**0.350**	0.240	0.481	"	"	"	"	J
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.03**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**2.13**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.16**	0.481	0.962	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	"	"	"	"	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**		**Batch: 6050350**			
4-Chlorophenyl phenyl ether	ND	0.240	0.481	ug/L	10	"	EPA 8270D	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 51 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*57 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*15 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*92 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*23 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*87 %*	*Limits: 43-140 %*	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 15:04	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.568**	0.481	0.962	"	"	"	"	J
2,4-Dichlorophenol	**8.50**	0.481	0.962	"	"	"	"	
2,4-Dimethylphenol	**0.608**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**1.49**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**0.600**	0.240	0.481	"	"	"	"	
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.06**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**1.98**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.03**	0.481	0.962	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	ug/L	10	"	EPA 8270D	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	ug/L	10	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 42 %*	*Limits: 44-120 %*	"	"	"	*S-06*
2-Fluorobiphenyl (Surr)			*44 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*12 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*92 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*19 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*86 %*	*Limits: 43-140 %*	"	"	"	
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 15:43	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**0.717**	0.481	0.962	"	"	"	"	J

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**11.9**	0.481	0.962	ug/L	10	"	EPA 8270D	
2,4-Dimethylphenol	**0.845**	0.481	0.962	"	"	"	"	J
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**2.96**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**1.37**	0.240	0.481	"	"	"	"	
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.03**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**2.37**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.15**	0.481	0.962	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	"	"	"	"	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**		**Batch: 6050350**			
4-Chlorophenyl phenyl ether	ND	0.240	0.481	ug/L	10	"	EPA 8270D	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 45 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*45 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*13 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*90 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*20 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*85 %*	*Limits: 43-140 %*	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**					
Batch: 6050481								
Arsenic	**4.16**	0.500	1.00	ug/L	1	05/20/16 12:18	EPA 200.8	
Barium	**23.0**	0.500	1.00	"	"	"	"	
Cadmium	**0.0444**	0.0400	0.200	"	"	"	"	J
Calcium	**33800**	100	200	"	"	"	"	
Chromium	**0.467**	0.400	1.00	"	"	"	"	J
Copper	**1.21**	0.500	1.00	"	"	"	"	
Iron	**596**	50.0	100	"	"	"	"	
Lead	**0.633**	0.100	0.200	"	"	"	"	
Magnesium	**8460**	25.0	50.0	"	"	"	"	
Manganese	**96.6**	0.500	1.00	"	"	"	"	
Nickel	**10.2**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**5.94**	2.00	4.00	"	"	"	"	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**					
Batch: 6050481								
Arsenic	**3.92**	0.500	1.00	ug/L	1	05/20/16 12:29	EPA 200.8	
Barium	**23.0**	0.500	1.00	"	"	"	"	
Cadmium	**0.0444**	0.0400	0.200	"	"	"	"	J
Calcium	**34000**	100	200	"	"	"	"	
Chromium	**0.489**	0.400	1.00	"	"	"	"	J
Iron	**599**	50.0	100	"	"	"	"	
Lead	**0.611**	0.100	0.200	"	"	"	"	
Magnesium	**8720**	25.0	50.0	"	"	"	"	
Manganese	**95.9**	0.500	1.00	"	"	"	"	
Nickel	**10.2**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**5.80**	2.00	4.00	"	"	"	"	
22B-U-D-100516 (A6E0284-03RE1)			**Matrix: Water**					
Batch: 6050481								
Copper	**1.17**	0.500	1.00	ug/L	1	05/23/16 12:02	EPA 200.8	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**					
Batch: 6050481								

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**					
Arsenic	**4.07**	0.500	1.00	ug/L	1	05/20/16 12:32	EPA 200.8	
Barium	**23.2**	0.500	1.00	"	"	"	"	
Cadmium	**0.0889**	0.0400	0.200	"	"	"	"	J
Calcium	**33500**	100	200	"	"	"	"	
Chromium	**0.556**	0.400	1.00	"	"	"	"	J
Iron	**593**	50.0	100	"	"	"	"	
Lead	**0.633**	0.100	0.200	"	"	"	"	
Magnesium	**8370**	25.0	50.0	"	"	"	"	
Manganese	**104**	0.500	1.00	"	"	"	"	
Nickel	**10.3**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**6.29**	2.00	4.00	"	"	"	"	
22B-U-MH3-100516 (A6E0284-05RE1)			**Matrix: Water**					
Batch: 6050481								
Copper	**1.16**	0.500	1.00	ug/L	1	05/23/16 12:05	EPA 200.8	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**					
Batch: 6050481								
Arsenic	**3.79**	0.500	1.00	ug/L	1	05/20/16 12:35	EPA 200.8	
Barium	**23.3**	0.500	1.00	"	"	"	"	
Cadmium	**0.0667**	0.0400	0.200	"	"	"	"	J
Calcium	**33300**	100	200	"	"	"	"	
Chromium	**0.444**	0.400	1.00	"	"	"	"	J
Iron	**478**	50.0	100	"	"	"	"	
Lead	**0.233**	0.100	0.200	"	"	"	"	
Magnesium	**8170**	25.0	50.0	"	"	"	"	
Manganese	**87.9**	0.500	1.00	"	"	"	"	
Nickel	**10.0**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**4.24**	2.00	4.00	"	"	"	"	
22B-U-MH5-100516 (A6E0284-07RE1)			**Matrix: Water**					
Batch: 6050481								
Copper	**0.933**	0.500	1.00	ug/L	1	05/23/16 12:08	EPA 200.8	J

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-S-100516 (A6E0284-02)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.32**	0.500	1.00	ug/L	1	05/20/16 15:27	EPA 200.8 (Diss)	
Barium	**20.7**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**33600**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**276**	50.0	100	"	"	"	"	
Lead	**0.156**	0.100	0.200	"	"	"	"	J
Magnesium	**8200**	25.0	50.0	"	"	"	"	
Manganese	**80.8**	0.500	1.00	"	"	"	"	
Nickel	**9.84**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-S-100516 (A6E0284-02RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	ND	0.500	1.00	ug/L	1	05/23/16 13:25	EPA 200.8 (Diss)	
22B-F-D-100516 (A6E0284-04)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.21**	0.500	1.00	ug/L	1	05/20/16 15:30	EPA 200.8 (Diss)	
Barium	**21.4**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**33600**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**273**	50.0	100	"	"	"	"	
Lead	**0.133**	0.100	0.200	"	"	"	"	J
Magnesium	**7920**	25.0	50.0	"	"	"	"	
Manganese	**80.9**	0.500	1.00	"	"	"	"	
Nickel	**9.81**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-D-100516 (A6E0284-04RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	**0.567**	0.500	1.00	ug/L	1	05/23/16 13:28	EPA 200.8 (Diss)	J

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-MH3-100516 (A6E0284-06)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.14**	0.500	1.00	ug/L	1	05/20/16 15:33	EPA 200.8 (Diss)	
Barium	**22.3**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**34700**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**293**	50.0	100	"	"	"	"	
Lead	**0.144**	0.100	0.200	"	"	"	"	J
Magnesium	**8170**	25.0	50.0	"	"	"	"	
Manganese	**97.8**	0.500	1.00	"	"	"	"	
Nickel	**9.89**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-MH3-100516 (A6E0284-06RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	ND	0.500	1.00	ug/L	1	05/23/16 13:31	EPA 200.8 (Diss)	
22B-F-MH5-100516 (A6E0284-08)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.01**	0.500	1.00	ug/L	1	05/20/16 15:39	EPA 200.8 (Diss)	
Barium	**23.5**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Calcium	**34900**	100	200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**271**	50.0	100	"	"	"	"	
Lead	**0.122**	0.100	0.200	"	"	"	"	J
Magnesium	**8060**	25.0	50.0	"	"	"	"	
Manganese	**82.8**	0.500	1.00	"	"	"	"	
Nickel	**10.1**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-MH5-100516 (A6E0284-08RE1)			**Matrix: Water**					
Batch: 6050485								
Copper	ND	0.500	1.00	ug/L	1	05/23/16 13:36	EPA 200.8 (Diss)	

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AMENDED REPORT

12232 S.W. Garden Place
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503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Hexavalent Chromium by IC

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.052**	0.0048	0.020	ug/l	1	05/17/16 14:59	EPA 218.6	
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.078**	0.0048	0.020	ug/l	1	05/17/16 15:12	EPA 218.6	
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.12**	0.0048	0.020	ug/l	1	05/17/16 15:24	EPA 218.6	
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: W6E0914**			
Batch: W6E0914								
Chromium 6+	**0.13**	0.0048	0.020	ug/l	1	05/17/16 15:36	EPA 218.6	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: OF22B Dry Weather Monitor	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:33

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Mercury - Low Level by CVAFS

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-S-100516 (A6E0284-01)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0012**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-S-100516 (A6E0284-02)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0030**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-D-100516 (A6E0284-03)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0030**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-D-100516 (A6E0284-04)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0035**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH3-100516 (A6E0284-05)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0033**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH3-100516 (A6E0284-06)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0061**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH5-100516 (A6E0284-07)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0047**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH5-100516 (A6E0284-08)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0021**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Hydrocarbon Identification Screen by NWTPH-HCID

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	ND	0.0971	0.0971	mg/L	1	05/13/16 19:38	NWTPH-HCID	
Diesel Range Organics	ND	0.243	0.243	"	"	"	"	
Oil Range Organics	ND	0.243	0.243	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 92 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*45 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	DET	0.0962	0.0962	mg/L	1	05/13/16 20:00	NWTPH-HCID	
Diesel Range Organics	ND	0.240	0.240	"	"	"	"	
Oil Range Organics	ND	0.240	0.240	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*40 %*	*Limits: 10-120 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/13/16 20:22	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 97 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*36 %*	*Limits: 10-120 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050387**			
Gasoline Range Organics	ND	0.0952	0.0952	mg/L	1	05/13/16 20:44	NWTPH-HCID	
Diesel Range Organics	ND	0.238	0.238	"	"	"	"	
Oil Range Organics	ND	0.238	0.238	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 93 %*	*Limits: 50-150 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*44 %*	*Limits: 10-120 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx with Acid/Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.121	0.243	mg/L	1	05/13/16 20:49	NWTPH-Dx/SG	
Oil	ND	0.243	0.485	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.120	0.240	mg/L	1	05/13/16 21:09	NWTPH-Dx/SG	
Oil	ND	0.240	0.481	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 21:29	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 104 %*	*Limits: 50-150 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050401**			
Diesel	ND	0.119	0.238	mg/L	1	05/13/16 21:49	NWTPH-Dx/SG	
Oil	ND	0.238	0.476	"	"	"	"	
Surrogate: o-Terphenyl (Surr)			*Recovery: 98 %*	*Limits: 50-150 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/12/16 16:15	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*111 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
Gasoline Range Organics	**0.116**	0.0500	0.100	mg/L	1	05/14/16 00:52	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*100 %*	*Limits: 50-150 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/12/16 16:50	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 102 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	05/12/16 15:07	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*	*Limits: 50-150 %*	"	"	"	
1,4-Difluorobenzene (Sur)			*110 %*	*Limits: 50-150 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
Acetone	ND	10.0	20.0	ug/L	1	05/12/16 16:15	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.335**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.350**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**1.96**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*112 %*	*Limits: 80-120 %*	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: 6050343**			
Surrogate: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
4-Bromofluorobenzene (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
Acetone	ND	10.0	20.0	ug/L	1	05/14/16 00:52	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	**0.969**	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
cis-1,2-Dichloroethene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.492**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**25.7**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	**0.831**	0.500	1.00	"	"	"	"	J
o-Xylene	**0.316**	0.250	0.500	"	"	"	"	J

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03RE1)			**Matrix: Water**		**Batch: 6050381**			
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 104 %*	*Limits: 80-120 %*	1	"	EPA 8260B	
1,4-Difluorobenzene (Surr)			*100 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*107 %*	*Limits: 80-120 %*	"	"	"	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
Acetone	ND	10.0	20.0	ug/L	1	05/12/16 16:50	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
1,2-Dichloroethane (EDC)	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	**0.357**	0.250	0.500	"	"	"	"	J
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	**1.20**	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: 6050343**			
Vinyl chloride	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 116 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*99 %*	*Limits: 80-120 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
Acetone	ND	10.0	20.0	ug/L	1	05/12/16 15:07	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	
Dibromomethane	ND	0.500	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	0.250	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: 6050343**			
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 112 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*111 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*98 %*	*Limits: 80-120 %*	"	"	"	
22B-U-TB-110516 (A6E0342-09)			**Matrix: Water**		**Batch: 6050468**			**H-01**
Acetone	ND	10.0	20.0	ug/L	1	05/17/16 14:19	EPA 8260B	
Acrolein	ND	5.00	10.0	"	"	"	"	
Acrylonitrile	ND	1.00	2.00	"	"	"	"	
Benzene	ND	0.100	0.200	"	"	"	"	
Bromobenzene	ND	0.250	0.500	"	"	"	"	
Bromochloromethane	ND	0.500	1.00	"	"	"	"	
Bromodichloromethane	ND	0.500	1.00	"	"	"	"	
Bromoform	ND	0.500	1.00	"	"	"	"	
Bromomethane	ND	5.00	5.00	"	"	"	"	
2-Butanone (MEK)	ND	5.00	10.0	"	"	"	"	
n-Butylbenzene	ND	0.500	1.00	"	"	"	"	
sec-Butylbenzene	ND	0.500	1.00	"	"	"	"	
tert-Butylbenzene	ND	0.500	1.00	"	"	"	"	
Carbon tetrachloride	ND	0.500	1.00	"	"	"	"	
Chlorobenzene	ND	0.250	0.500	"	"	"	"	
Chloroethane	ND	5.00	5.00	"	"	"	"	
2-Chloroethyl vinyl ether	ND	5.00	10.0	"	"	"	"	
Chloroform	ND	0.500	1.00	"	"	"	"	
Chloromethane	ND	2.50	5.00	"	"	"	"	
2-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
4-Chlorotoluene	ND	0.500	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	"	"	"	"	
Dibromochloromethane	ND	0.500	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-110516 (A6E0342-09)			**Matrix: Water**		**Batch: 6050468**			**H-01**
Dibromomethane	ND	0.500	1.00	ug/L	1	"	EPA 8260B	
1,2-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	0.250	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloroethane	ND	0.250	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	0.250	0.500	"	"	"	"	
1,1-Dichloroethene	ND	0.250	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.250	0.500	"	"	"	"	
1,2-Dichloropropane	ND	0.250	0.500	"	"	"	"	
1,3-Dichloropropane	ND	0.500	1.00	"	"	"	"	
2,2-Dichloropropane	ND	0.500	1.00	"	"	"	"	
1,1-Dichloropropene	ND	0.500	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.500	1.00	"	"	"	"	
Ethylbenzene	ND	0.250	0.500	"	"	"	"	
Hexachlorobutadiene	ND	2.50	5.00	"	"	"	"	
2-Hexanone	ND	5.00	10.0	"	"	"	"	
Iodomethane	ND	10.0	10.0	"	"	"	"	
Isopropylbenzene	ND	0.500	1.00	"	"	"	"	
4-Isopropyltoluene	ND	0.500	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	"	"	"	"	
Methylene chloride	ND	1.50	3.00	"	"	"	"	
Naphthalene	ND	1.00	2.00	"	"	"	"	
n-Propylbenzene	ND	0.250	0.500	"	"	"	"	
Styrene	ND	0.500	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	0.250	0.500	"	"	"	"	
Toluene	ND	0.500	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1.00	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	0.250	0.500	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-TB-110516 (A6E0342-09)			**Matrix: Water**		**Batch: 6050468**			**H-01**
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	"	EPA 8260B	
Trichloroethene (TCE)	ND	0.250	0.500	"	"	"	"	
Trichlorofluoromethane	ND	1.00	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	0.500	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.500	1.00	"	"	"	"	
Vinyl chloride	ND	0.250	0.500	"	"	"	"	
m,p-Xylene	ND	0.500	1.00	"	"	"	"	
o-Xylene	ND	0.250	0.500	"	"	"	"	
Surrogate: Dibromofluoromethane (Surr)			*Recovery: 107 %*	*Limits: 80-120 %*	"	"	"	
1,4-Difluorobenzene (Surr)			*102 %*	*Limits: 80-120 %*	"	"	"	
Toluene-d8 (Surr)			*109 %*	*Limits: 80-120 %*	"	"	"	
4-Bromofluorobenzene (Surr)			*105 %*	*Limits: 80-120 %*	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0952	0.190	ug/L	10	05/13/16 11:53	EPA 8270D	
Acenaphthylene	ND	0.0952	0.190	"	"	"	"	
Anthracene	ND	0.0952	0.190	"	"	"	"	
Benz(a)anthracene	ND	0.0952	0.190	"	"	"	"	
Benzo(a)pyrene	ND	0.143	0.286	"	"	"	"	
Benzo(b)fluoranthene	ND	0.143	0.286	"	"	"	"	
Benzo(k)fluoranthene	ND	0.143	0.286	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0952	0.190	"	"	"	"	
Chrysene	ND	0.0952	0.190	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0952	0.190	"	"	"	"	
Fluoranthene	ND	0.0952	0.190	"	"	"	"	
Fluorene	ND	0.0952	0.190	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0952	0.190	"	"	"	"	
1-Methylnaphthalene	ND	0.190	0.381	"	"	"	"	
2-Methylnaphthalene	ND	0.190	0.381	"	"	"	"	
Naphthalene	ND	0.190	0.381	"	"	"	"	
Phenanthrene	ND	0.0952	0.190	"	"	"	"	
Pyrene	ND	0.0952	0.190	"	"	"	"	
Carbazole	ND	0.143	0.286	"	"	"	"	
Dibenzofuran	ND	0.0952	0.190	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.952	1.90	"	"	"	"	
2-Chlorophenol	**0.681**	0.476	0.952	"	"	"	"	J
2,4-Dichlorophenol	**9.16**	0.476	0.952	"	"	"	"	
2,4-Dimethylphenol	**0.696**	0.476	0.952	"	"	"	"	J
2,4-Dinitrophenol	ND	2.38	4.76	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.38	4.76	"	"	"	"	
2-Methylphenol	**1.79**	0.238	0.476	"	"	"	"	
3+4-Methylphenol(s)	**0.768**	0.238	0.476	"	"	"	"	
2-Nitrophenol	ND	0.952	1.90	"	"	"	"	
4-Nitrophenol	ND	0.952	1.90	"	"	"	"	
Pentachlorophenol (PCP)	**1.08**	0.952	1.90	"	"	"	"	J
Phenol	ND	1.90	3.81	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.476	0.952	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.476	0.952	"	"	"	"	
2,4,5-Trichlorophenol	**2.05**	0.476	0.952	"	"	"	"	
2,4,6-Trichlorophenol	**1.04**	0.476	0.952	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	1.90	3.81	ug/L	10	"	EPA 8270D	
Butyl benzyl phthalate	ND	1.90	3.81	"	"	"	"	
Diethylphthalate	ND	1.90	3.81	"	"	"	"	
Dimethylphthalate	ND	1.90	3.81	"	"	"	"	
Di-n-butylphthalate	ND	1.90	3.81	"	"	"	"	
Di-n-octyl phthalate	ND	1.90	3.81	"	"	"	"	
N-Nitrosodimethylamine	ND	0.238	0.476	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.238	0.476	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.238	0.476	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.238	0.476	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.238	0.476	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.238	0.476	"	"	"	"	
Hexachlorobenzene	ND	0.0952	0.190	"	"	"	"	
Hexachlorobutadiene	ND	0.238	0.476	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.476	0.952	"	"	"	"	
Hexachloroethane	ND	0.238	0.476	"	"	"	"	
2-Chloronaphthalene	ND	0.0952	0.190	"	"	"	"	
1,2-Dichlorobenzene	ND	0.238	0.476	"	"	"	"	
1,3-Dichlorobenzene	ND	0.238	0.476	"	"	"	"	
1,4-Dichlorobenzene	ND	0.238	0.476	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.238	0.476	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.238	0.476	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.238	0.476	"	"	"	"	
Aniline	ND	0.476	0.952	"	"	"	"	
4-Chloroaniline	ND	0.238	0.476	"	"	"	"	
2-Nitroaniline	ND	1.90	3.81	"	"	"	"	
3-Nitroaniline	ND	1.90	3.81	"	"	"	"	
4-Nitroaniline	ND	1.90	3.81	"	"	"	"	
Nitrobenzene	ND	0.952	1.90	"	"	"	"	
2,4-Dinitrotoluene	ND	0.952	1.90	"	"	"	"	
2,6-Dinitrotoluene	ND	0.952	1.90	"	"	"	"	
Benzoic acid	ND	11.9	23.8	"	"	"	"	
Benzyl alcohol	ND	0.952	1.90	"	"	"	"	
Isophorone	ND	0.238	0.476	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.238	0.476	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	2.38	4.76	ug/L	10	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.952	1.90	"	"	"	"	
1,2-Dinitrobenzene	ND	2.38	4.76	"	"	"	"	
1,3-Dinitrobenzene	ND	2.38	4.76	"	"	"	"	
1,4-Dinitrobenzene	ND	2.38	4.76	"	"	"	"	
Pyridine	ND	0.952	1.90	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 44 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*45 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*13 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*90 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*21 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*82 %*	*Limits: 43-140 %*	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.0962	0.192	ug/L	10	05/13/16 12:31	EPA 8270D	
Acenaphthylene	ND	0.0962	0.192	"	"	"	"	
Anthracene	ND	0.0962	0.192	"	"	"	"	
Benz(a)anthracene	ND	0.0962	0.192	"	"	"	"	
Benzo(a)pyrene	ND	0.144	0.288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.144	0.288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.0962	0.192	"	"	"	"	
Chrysene	ND	0.0962	0.192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.0962	0.192	"	"	"	"	
Fluoranthene	ND	0.0962	0.192	"	"	"	"	
Fluorene	ND	0.0962	0.192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.0962	0.192	"	"	"	"	
1-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
2-Methylnaphthalene	ND	0.192	0.385	"	"	"	"	
Naphthalene	ND	0.192	0.385	"	"	"	"	
Phenanthrene	ND	0.0962	0.192	"	"	"	"	
Pyrene	ND	0.0962	0.192	"	"	"	"	
Carbazole	ND	0.144	0.288	"	"	"	"	
Dibenzofuran	ND	0.0962	0.192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.962	1.92	"	"	"	"	
2-Chlorophenol	**1.07**	0.481	0.962	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**16.3**	0.481	0.962	ug/L	10	"	EPA 8270D	
2,4-Dimethylphenol	**1.21**	0.481	0.962	"	"	"	"	M-04
2,4-Dinitrophenol	ND	2.40	4.81	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	2.40	4.81	"	"	"	"	
2-Methylphenol	**4.98**	0.240	0.481	"	"	"	"	
3+4-Methylphenol(s)	**2.24**	0.240	0.481	"	"	"	"	
2-Nitrophenol	ND	0.962	1.92	"	"	"	"	
4-Nitrophenol	ND	0.962	1.92	"	"	"	"	
Pentachlorophenol (PCP)	**1.12**	0.962	1.92	"	"	"	"	J
Phenol	ND	1.92	3.85	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.481	0.962	"	"	"	"	
2,4,5-Trichlorophenol	**2.60**	0.481	0.962	"	"	"	"	
2,4,6-Trichlorophenol	**1.25**	0.481	0.962	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	1.92	3.85	"	"	"	"	
Butyl benzyl phthalate	ND	1.92	3.85	"	"	"	"	
Diethylphthalate	ND	1.92	3.85	"	"	"	"	
Dimethylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-butylphthalate	ND	1.92	3.85	"	"	"	"	
Di-n-octyl phthalate	ND	1.92	3.85	"	"	"	"	
N-Nitrosodimethylamine	ND	0.240	0.481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.240	0.481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.240	0.481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.240	0.481	"	"	"	"	
Hexachlorobenzene	ND	0.0962	0.192	"	"	"	"	
Hexachlorobutadiene	ND	0.240	0.481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.481	0.962	"	"	"	"	
Hexachloroethane	ND	0.240	0.481	"	"	"	"	
2-Chloronaphthalene	ND	0.0962	0.192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.240	0.481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.240	0.481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.240	0.481	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: 6050350**			
4-Chlorophenyl phenyl ether	ND	0.240	0.481	ug/L	10	"	EPA 8270D	
Aniline	ND	0.481	0.962	"	"	"	"	
4-Chloroaniline	ND	0.240	0.481	"	"	"	"	
2-Nitroaniline	ND	1.92	3.85	"	"	"	"	
3-Nitroaniline	ND	1.92	3.85	"	"	"	"	
4-Nitroaniline	ND	1.92	3.85	"	"	"	"	
Nitrobenzene	ND	0.962	1.92	"	"	"	"	
2,4-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
2,6-Dinitrotoluene	ND	0.962	1.92	"	"	"	"	
Benzoic acid	ND	12.0	24.0	"	"	"	"	
Benzyl alcohol	ND	0.962	1.92	"	"	"	"	
Isophorone	ND	0.240	0.481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.240	0.481	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	2.40	4.81	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.962	1.92	"	"	"	"	
1,2-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,3-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
1,4-Dinitrobenzene	ND	2.40	4.81	"	"	"	"	
Pyridine	ND	0.962	1.92	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 52 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*51 %*	*Limits: 44-120 %*	"	"	"	
Phenol-d6 (Surr)			*16 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*24 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*83 %*	*Limits: 43-140 %*	"	"	"	

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Darwin Thomas, Business Development Director

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.00962	0.0192	ug/L	1	05/13/16 16:22	EPA 8270D	
Acenaphthylene	ND	0.00962	0.0192	"	"	"	"	
Anthracene	ND	0.00962	0.0192	"	"	"	"	
Benz(a)anthracene	ND	0.00962	0.0192	"	"	"	"	
Benzo(a)pyrene	ND	0.0144	0.0288	"	"	"	"	
Benzo(b)fluoranthene	ND	0.0144	0.0288	"	"	"	"	
Benzo(k)fluoranthene	ND	0.0144	0.0288	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.00962	0.0192	"	"	"	"	
Chrysene	ND	0.00962	0.0192	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00962	0.0192	"	"	"	"	
Fluoranthene	ND	0.00962	0.0192	"	"	"	"	
Fluorene	ND	0.00962	0.0192	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00962	0.0192	"	"	"	"	
1-Methylnaphthalene	ND	0.0192	0.0385	"	"	"	"	
2-Methylnaphthalene	ND	0.0192	0.0385	"	"	"	"	
Naphthalene	ND	0.0192	0.0385	"	"	"	"	
Phenanthrene	ND	0.00962	0.0192	"	"	"	"	
Pyrene	ND	0.00962	0.0192	"	"	"	"	
Carbazole	ND	0.0144	0.0288	"	"	"	"	
Dibenzofuran	ND	0.00962	0.0192	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.0962	0.192	"	"	"	"	
2-Chlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,4-Dichlorophenol	**0.192**	0.0481	0.0962	"	"	"	"	
2,4-Dimethylphenol	ND	0.0481	0.0962	"	"	"	"	
2,4-Dinitrophenol	ND	0.240	0.481	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.240	0.481	"	"	"	"	
2-Methylphenol	**0.0548**	0.0240	0.0481	"	"	"	"	
3+4-Methylphenol(s)	**0.0312**	0.0240	0.0481	"	"	"	"	J
2-Nitrophenol	ND	0.0962	0.192	"	"	"	"	
4-Nitrophenol	ND	0.0962	0.192	"	"	"	"	
Pentachlorophenol (PCP)	**0.129**	0.0962	0.192	"	"	"	"	J
Phenol	ND	0.192	0.385	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.0481	0.0962	"	"	"	"	
2,4,6-Trichlorophenol	**0.0677**	0.0481	0.0962	"	"	"	"	J

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-ethylhexyl)phthalate	ND	0.192	0.385	ug/L	1	"	EPA 8270D	
Butyl benzyl phthalate	ND	0.192	0.385	"	"	"	"	
Diethylphthalate	**0.237**	0.192	0.385	"	"	"	"	J
Dimethylphthalate	ND	0.192	0.385	"	"	"	"	
Di-n-butylphthalate	ND	0.192	0.385	"	"	"	"	
Di-n-octyl phthalate	ND	0.192	0.385	"	"	"	"	
N-Nitrosodimethylamine	ND	0.0240	0.0481	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.0240	0.0481	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.0240	0.0481	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.0240	0.0481	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.0240	0.0481	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.0240	0.0481	"	"	"	"	
Hexachlorobenzene	ND	0.00962	0.0192	"	"	"	"	
Hexachlorobutadiene	ND	0.0240	0.0481	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.0481	0.0962	"	"	"	"	
Hexachloroethane	ND	0.0240	0.0481	"	"	"	"	
2-Chloronaphthalene	ND	0.00962	0.0192	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0240	0.0481	"	"	"	"	
4-Bromophenyl phenyl ether	ND	0.0240	0.0481	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	0.0240	0.0481	"	"	"	"	
Aniline	ND	0.0481	0.0962	"	"	"	"	
4-Chloroaniline	ND	0.0240	0.0481	"	"	"	"	
2-Nitroaniline	ND	0.192	0.385	"	"	"	"	
3-Nitroaniline	ND	0.192	0.385	"	"	"	"	
4-Nitroaniline	ND	0.192	0.385	"	"	"	"	
Nitrobenzene	ND	0.0962	0.192	"	"	"	"	
2,4-Dinitrotoluene	ND	0.0962	0.192	"	"	"	"	
2,6-Dinitrotoluene	ND	0.0962	0.192	"	"	"	"	
Benzoic acid	ND	1.20	2.40	"	"	"	"	
Benzyl alcohol	ND	0.0962	0.192	"	"	"	"	
Isophorone	ND	0.0240	0.0481	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.0240	0.0481	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05RE1)			**Matrix: Water**		**Batch: 6050350**			
Bis(2-Ethylhexyl) adipate	ND	0.240	0.481	ug/L	1	"	EPA 8270D	
3,3'-Dichlorobenzidine	ND	0.0962	0.192	"	"	"	"	
1,2-Dinitrobenzene	ND	0.240	0.481	"	"	"	"	
1,3-Dinitrobenzene	ND	0.240	0.481	"	"	"	"	
1,4-Dinitrobenzene	ND	0.240	0.481	"	"	"	"	
Pyridine	ND	0.0962	0.192	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 42 %*	*Limits: 44-120 %*	"	"	"	*S-06*
2-Fluorobiphenyl (Surr)			*41 %*	*Limits: 44-120 %*	"	"	"	*S-06*
Phenol-d6 (Surr)			*13 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*95 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*20 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*76 %*	*Limits: 43-140 %*	"	"	"	
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**		**Batch: 6050350**			
Acenaphthene	ND	0.00952	0.0190	ug/L	1	05/13/16 17:01	EPA 8270D	
Acenaphthylene	ND	0.00952	0.0190	"	"	"	"	
Anthracene	ND	0.00952	0.0190	"	"	"	"	
Benz(a)anthracene	ND	0.00952	0.0190	"	"	"	"	
Benzo(a)pyrene	ND	0.0143	0.0286	"	"	"	"	
Benzo(b)fluoranthene	ND	0.0143	0.0286	"	"	"	"	
Benzo(k)fluoranthene	ND	0.0143	0.0286	"	"	"	"	
Benzo(g,h,i)perylene	ND	0.00952	0.0190	"	"	"	"	
Chrysene	ND	0.00952	0.0190	"	"	"	"	
Dibenz(a,h)anthracene	ND	0.00952	0.0190	"	"	"	"	
Fluoranthene	ND	0.00952	0.0190	"	"	"	"	
Fluorene	ND	0.00952	0.0190	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	0.00952	0.0190	"	"	"	"	
1-Methylnaphthalene	ND	0.0190	0.0381	"	"	"	"	
2-Methylnaphthalene	ND	0.0190	0.0381	"	"	"	"	
Naphthalene	ND	0.0190	0.0381	"	"	"	"	
Phenanthrene	ND	0.00952	0.0190	"	"	"	"	
Pyrene	ND	0.00952	0.0190	"	"	"	"	
Carbazole	ND	0.0143	0.0286	"	"	"	"	
Dibenzofuran	ND	0.00952	0.0190	"	"	"	"	
4-Chloro-3-methylphenol	ND	0.0952	0.190	"	"	"	"	
2-Chlorophenol	ND	0.0476	0.0952	"	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**		**Batch: 6050350**			
2,4-Dichlorophenol	**0.101**	0.0476	0.0952	ug/L	1	"	EPA 8270D	
2,4-Dimethylphenol	ND	0.0476	0.0952	"	"	"	"	
2,4-Dinitrophenol	ND	0.238	0.476	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	0.238	0.476	"	"	"	"	
2-Methylphenol	**0.0280**	0.0238	0.0476	"	"	"	"	J
3+4-Methylphenol(s)	ND	0.0238	0.0476	"	"	"	"	
2-Nitrophenol	ND	0.0952	0.190	"	"	"	"	
4-Nitrophenol	ND	0.0952	0.190	"	"	"	"	
Pentachlorophenol (PCP)	ND	0.0952	0.190	"	"	"	"	
Phenol	ND	0.190	0.381	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	0.0476	0.0952	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	0.0476	0.0952	"	"	"	"	
2,4,5-Trichlorophenol	ND	0.0476	0.0952	"	"	"	"	
2,4,6-Trichlorophenol	ND	0.0476	0.0952	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	0.190	0.381	"	"	"	"	
Butyl benzyl phthalate	ND	0.190	0.381	"	"	"	"	
Diethylphthalate	ND	0.190	0.381	"	"	"	"	
Dimethylphthalate	ND	0.190	0.381	"	"	"	"	
Di-n-butylphthalate	ND	0.190	0.381	"	"	"	"	
Di-n-octyl phthalate	ND	0.190	0.381	"	"	"	"	
N-Nitrosodimethylamine	ND	0.0238	0.0476	"	"	"	"	
N-Nitroso-di-n-propylamine	ND	0.0238	0.0476	"	"	"	"	
N-Nitrosodiphenylamine	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Chloroethoxy) methane	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Chloroethyl) ether	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Chloroisopropyl) ether	ND	0.0238	0.0476	"	"	"	"	
Hexachlorobenzene	ND	0.00952	0.0190	"	"	"	"	
Hexachlorobutadiene	ND	0.0238	0.0476	"	"	"	"	
Hexachlorocyclopentadiene	ND	0.0476	0.0952	"	"	"	"	
Hexachloroethane	ND	0.0238	0.0476	"	"	"	"	
2-Chloronaphthalene	ND	0.00952	0.0190	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0238	0.0476	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0238	0.0476	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0238	0.0476	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0238	0.0476	"	"	"	"	

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AMENDED REPORT

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**		**Batch: 6050350**			
4-Bromophenyl phenyl ether	ND	0.0238	0.0476	ug/L	1	"	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	0.0238	0.0476	"	"	"	"	
Aniline	ND	0.0476	0.0952	"	"	"	"	
4-Chloroaniline	ND	0.0238	0.0476	"	"	"	"	
2-Nitroaniline	ND	0.190	0.381	"	"	"	"	
3-Nitroaniline	ND	0.190	0.381	"	"	"	"	
4-Nitroaniline	ND	0.190	0.381	"	"	"	"	
Nitrobenzene	ND	0.0952	0.190	"	"	"	"	
2,4-Dinitrotoluene	ND	0.0952	0.190	"	"	"	"	
2,6-Dinitrotoluene	ND	0.0952	0.190	"	"	"	"	
Benzoic acid	ND	1.19	2.38	"	"	"	"	
Benzyl alcohol	ND	0.0952	0.190	"	"	"	"	
Isophorone	ND	0.0238	0.0476	"	"	"	"	
Azobenzene (1,2-DPH)	ND	0.0238	0.0476	"	"	"	"	
Bis(2-Ethylhexyl) adipate	ND	0.238	0.476	"	"	"	"	
3,3'-Dichlorobenzidine	ND	0.0952	0.190	"	"	"	"	
1,2-Dinitrobenzene	ND	0.238	0.476	"	"	"	"	
1,3-Dinitrobenzene	ND	0.238	0.476	"	"	"	"	
1,4-Dinitrobenzene	ND	0.238	0.476	"	"	"	"	
Pyridine	ND	0.0952	0.190	"	"	"	"	
Surrogate: Nitrobenzene-d5 (Surr)			*Recovery: 46 %*	*Limits: 44-120 %*	"	"	"	
2-Fluorobiphenyl (Surr)			*41 %*	*Limits: 44-120 %*	"	"	"	*S-06*
Phenol-d6 (Surr)			*15 %*	*Limits: 10-120 %*	"	"	"	
p-Terphenyl-d14 (Surr)			*91 %*	*Limits: 50-133 %*	"	"	"	
2-Fluorophenol (Surr)			*22 %*	*Limits: 19-120 %*	"	"	"	
2,4,6-Tribromophenol (Surr)			*52 %*	*Limits: 43-140 %*	"	"	"	

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AMENDED REPORT

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**					
Batch: 6050512								
Arsenic	**4.17**	0.500	1.00	ug/L	1	05/23/16 19:25	EPA 200.8	
Barium	**21.1**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.0400	0.200	"	"	"	"	
Calcium	**34400**	50.0	100	"	"	"	"	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	**490**	50.0	100	"	"	"	"	
Lead	**0.378**	0.100	0.200	"	"	"	"	
Magnesium	**7890**	25.0	50.0	"	"	"	"	
Manganese	**79.6**	0.500	1.00	"	"	"	"	
Nickel	**9.79**	0.500	1.00	"	"	"	"	
Selenium	**1.30**	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**5.21**	2.00	4.00	"	"	"	"	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**					
Batch: 6050512								
Arsenic	**3.27**	0.500	1.00	ug/L	1	05/23/16 19:28	EPA 200.8	
Barium	**21.9**	0.500	1.00	"	"	"	"	
Cadmium	**0.0667**	0.0400	0.200	"	"	"	"	J
Calcium	**34500**	50.0	100	"	"	"	"	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	**225**	50.0	100	"	"	"	"	
Lead	**0.244**	0.100	0.200	"	"	"	"	
Magnesium	**7380**	25.0	50.0	"	"	"	"	
Manganese	**34.2**	0.500	1.00	"	"	"	"	
Nickel	**9.89**	0.500	1.00	"	"	"	"	
Selenium	ND	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**3.94**	2.00	4.00	"	"	"	"	J
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**					
Batch: 6050512								
Arsenic	**3.28**	0.500	1.00	ug/L	1	05/23/16 19:39	EPA 200.8	
Barium	**33.0**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.0400	0.200	"	"	"	"	

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AMENDED REPORT

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**					
Calcium	**41100**	50.0	100	ug/L	1	"	EPA 200.8	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	**269**	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Magnesium	**11500**	25.0	50.0	"	"	"	"	
Manganese	**56.4**	0.500	1.00	"	"	"	"	
Nickel	**14.9**	0.500	1.00	"	"	"	"	
Selenium	ND	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**6.52**	2.00	4.00	"	"	"	"	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**					
Batch: 6050512								
Arsenic	ND	0.500	1.00	ug/L	1	05/23/16 19:42	EPA 200.8	
Cadmium	ND	0.0400	0.200	"	"	"	"	
Calcium	**254**	50.0	100	"	"	"	"	
Chromium	ND	0.400	1.00	"	"	"	"	
Copper	ND	1.00	2.00	"	"	"	"	
Iron	ND	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Magnesium	ND	25.0	50.0	"	"	"	"	
Manganese	ND	0.500	1.00	"	"	"	"	
Nickel	ND	0.500	1.00	"	"	"	"	
Selenium	ND	0.500	1.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-U-RB-110516 (A6E0342-07RE1)			**Matrix: Water**					
Batch: 6050512								
Barium	**0.889**	0.500	1.00	ug/L	1	05/25/16 12:55	EPA 200.8	J

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-MH4-110516 (A6E0342-02)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**4.00**	0.500	1.00	ug/L	1	05/20/16 16:11	EPA 200.8 (Diss)	
Barium	**20.7**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**283**	50.0	100	"	"	"	"	
Lead	**0.144**	0.100	0.200	"	"	"	"	J
Manganese	**67.8**	0.500	1.00	"	"	"	"	
Nickel	**9.72**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**2.11**	2.00	4.00	"	"	"	"	J
22B-F-MH4-110516 (A6E0342-02RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**34200**	50.0	100	ug/L	1	05/23/16 12:55	EPA 200.8 (Diss)	
Copper	ND	0.500	1.00	"	"	"	"	
Magnesium	**8760**	25.0	50.0	"	"	"	"	
22B-F-MH6-110516 (A6E0342-04)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**3.39**	0.500	1.00	ug/L	1	05/20/16 16:14	EPA 200.8 (Diss)	
Barium	**22.5**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Copper	ND	0.500	1.00	"	"	"	"	
Iron	**164**	50.0	100	"	"	"	"	
Lead	**0.144**	0.100	0.200	"	"	"	"	J
Manganese	**32.7**	0.500	1.00	"	"	"	"	
Nickel	**9.60**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**2.42**	2.00	4.00	"	"	"	"	J
22B-F-MH6-110516 (A6E0342-04RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**34200**	50.0	100	ug/L	1	05/23/16 12:58	EPA 200.8 (Diss)	
Magnesium	**7960**	25.0	50.0	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 200.8 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-F-MH7-110516 (A6E0342-06)			**Matrix: Water**					
Batch: 6050485								
Arsenic	**3.52**	0.500	1.00	ug/L	1	05/20/16 16:17	EPA 200.8 (Diss)	
Barium	**32.3**	0.500	1.00	"	"	"	"	
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Iron	**203**	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Manganese	**54.6**	0.500	1.00	"	"	"	"	
Nickel	**14.4**	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	**6.02**	2.00	4.00	"	"	"	"	
22B-F-MH7-110516 (A6E0342-06RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**40800**	50.0	100	ug/L	1	05/23/16 13:16	EPA 200.8 (Diss)	
Copper	**0.911**	0.500	1.00	"	"	"	"	J
Magnesium	**12600**	25.0	50.0	"	"	"	"	
22B-F-RB-110516 (A6E0342-08)			**Matrix: Water**					
Batch: 6050485								
Arsenic	ND	0.500	1.00	ug/L	1	05/20/16 16:20	EPA 200.8 (Diss)	
Barium	**0.922**	0.500	1.00	"	"	"	"	J
Cadmium	ND	0.100	0.200	"	"	"	"	
Chromium	ND	0.500	1.00	"	"	"	"	
Copper	ND	0.500	1.00	"	"	"	"	
Iron	ND	50.0	100	"	"	"	"	
Lead	ND	0.100	0.200	"	"	"	"	
Manganese	ND	0.500	1.00	"	"	"	"	
Nickel	ND	0.500	1.00	"	"	"	"	
Selenium	ND	2.00	4.00	"	"	"	"	
Silver	ND	0.100	0.200	"	"	"	"	
Zinc	ND	2.00	4.00	"	"	"	"	
22B-F-RB-110516 (A6E0342-08RE1)			**Matrix: Water**					
Batch: 6050485								
Calcium	**164**	50.0	100	ug/L	1	05/23/16 13:19	EPA 200.8 (Diss)	
Magnesium	ND	25.0	50.0	"	"	"	"	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Hexavalent Chromium by IC

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.086**	0.0048	0.020	ug/l	1	05/19/16 10:40	EPA 218.6	
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.11**	0.0048	0.020	ug/l	1	05/19/16 10:52	EPA 218.6	
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.11**	0.0048	0.020	ug/l	1	05/19/16 11:04	EPA 218.6	
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: W6E1071**			
Batch: W6E1071								
Chromium 6+	**0.15**	0.0048	0.020	ug/l	1	05/19/16 11:16	EPA 218.6	

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Golder Associates Inc.	Project: **OF22B IRAM Performance Monitoring**	
9 Monroe Parkway, Suite 270	Project Number: 1039351412.605.02	**Reported:**
Lake Oswego, OR 97035	Project Manager: Ryan Stringfellow	06/23/16 13:07

Weck Laboratories, Inc

ANALYTICAL SAMPLE RESULTS (Subcontracted)

Mercury - Low Level by CVAFS

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
22B-U-MH4-110516 (A6E0342-01)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0024**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH4-110516 (A6E0342-02)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0011**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH6-110516 (A6E0342-03)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0025**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH6-110516 (A6E0342-04)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.0015**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-MH7-110516 (A6E0342-05)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0022**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-MH7-110516 (A6E0342-06)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	**0.00097**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-U-RB-110516 (A6E0342-07)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Total	**0.0016**	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field
22B-F-RB-110516 (A6E0342-08)			**Matrix: Water**		**Batch: W6E0849**			
Batch: W6E0849								
Mercury, Dissolved	ND	0.00031	0.00050	ug/l	1	05/16/16 16:27	EPA 1631E	B-field

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-S-100516
Matrix: water

PAL Sample ID: P160527-01
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 99 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-D-100516
Matrix: water

PAL Sample ID: P160527-02
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 119 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Tigard, OR 97223

Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-MH3-100516
Matrix: water

PAL Sample ID: P160527-03
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 111 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Report Number: P160527
Report Date: June 02, 2016
Client Project ID: A6E0284

Analytical Report

Client Sample ID: 22B-U-MH5-100516
Matrix: water

PAL Sample ID: P160527-04
Sample Date: 5/10/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 123 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-MH4-110516
Matrix: water

PAL Sample ID: P160538-01
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 118 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-MH6-110516
Matrix: water

PAL Sample ID: P160538-02
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 108 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

Pacific Agricultural Laboratory
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Apex Laboratories
12232 SW Garden Place
Tigard, OR 97223

Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-MH7-110516
Matrix: water

PAL Sample ID: P160538-03
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 94 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

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Report Number: P160538
Report Date: June 02, 2016
Client Project ID: A6E0342

Analytical Report

Client Sample ID: 22B-U-RB-110516
Matrix: water

PAL Sample ID: P160538-04
Sample Date: 5/11/16

Method: Modified EPA 8151A (GC-MS/MS)

Extraction Date	Analysis Date	Analyte	Amount Detected	Limit of Quantitation	Notes
5/16/16	5/28/16	2,4,5-T	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4,5-TP	Not Detected	2.5 ug/L	
5/16/16	5/28/16	2,4-D	Not Detected	2.0 ug/L	
5/16/16	5/28/16	2,4-DB	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Bromoxynil	Not Detected	2.5 ug/L	
5/16/16	5/28/16	Dicamba	Not Detected	5.0 ug/L	
5/16/16	5/28/16	Dichlorprop	Not Detected	2.0 ug/L	
5/16/16	5/28/16	Dinoseb	Not Detected	0.080 ug/L	
5/16/16	5/28/16	MCPA	Not Detected	1.3 ug/L	
5/16/16	5/28/16	MCPP	Not Detected	1.3 ug/L	

Surrogate Recovery: 107 %
Surrogate Recovery Range: 64-139
(DCPAA used as Surrogate)

Rick Jordan, Laboratory Manager

Vista Work Order No. 1600620
Case Narrative

Sample Condition on Receipt:

Four water samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1668A

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668A using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. PCB-11 was detected at 6.15 pg/L in the Method Blank. No other analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method

acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1699

These samples were extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled internal standard recoveries and ion abundance ratios that were outside the method acceptance criteria are summarized in the table below.

Sample ID: 22B-U-S-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 0.992 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 26-May-16 23:01 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.701		
1,2,3,7,8-PeCDD	ND	0.911		
1,2,3,4,7,8-HxCDD	ND	1.18		
1,2,3,6,7,8-HxCDD	ND	1.24		
1,2,3,7,8,9-HxCDD	ND	1.34		
1,2,3,4,6,7,8-HpCDD	ND		2.16	
OCDD	17.9			J
2,3,7,8-TCDF	ND	1.02		
1,2,3,7,8-PeCDF	ND	1.01		
2,3,4,7,8-PeCDF	ND	0.928		
1,2,3,4,7,8-HxCDF	ND	0.424		
1,2,3,6,7,8-HxCDF	ND	0.443		
2,3,4,6,7,8-HxCDF	ND	0.478		
1,2,3,7,8,9-HxCDF	ND	0.623		
1,2,3,4,6,7,8-HpCDF	ND	0.521		
1,2,3,4,7,8,9-HpCDF	ND	0.503		
OCDF	ND	2.18		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	91.5	25 - 164	
	13C-1,2,3,7,8-PeCDD	73.0	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	86.4	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	81.0	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	86.1	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	78.5	23 - 140	
	13C-OCDD	54.4	17 - 157	
	13C-2,3,7,8-TCDF	87.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	70.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	69.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	82.6	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	78.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	82.6	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	87.3	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	77.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	76.9	26 - 138	
	13C-OCDF	55.9	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	98.0	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00537

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-D-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 0.948 L

Laboratory Data
Lab Sample: 1600620-02 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 26-May-16 23:50 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.665		
1,2,3,7,8-PeCDD	ND	0.506		
1,2,3,4,7,8-HxCDD	ND	0.947		
1,2,3,6,7,8-HxCDD	ND	0.955		
1,2,3,7,8,9-HxCDD	ND	1.05		
1,2,3,4,6,7,8-HpCDD	ND		2.05	
OCDD	30.6			J
2,3,7,8-TCDF	ND	0.881		
1,2,3,7,8-PeCDF	ND	0.708		
2,3,4,7,8-PeCDF	ND	0.717		
1,2,3,4,7,8-HxCDF	ND	0.427		
1,2,3,6,7,8-HxCDF	ND	0.450		
2,3,4,6,7,8-HxCDF	ND	0.475		
1,2,3,7,8,9-HxCDF	0.937			J
1,2,3,4,6,7,8-HpCDF	ND	0.812		
1,2,3,4,7,8,9-HpCDF	ND	0.705		
OCDF	5.49			J

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	85.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	71.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	84.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	78.6	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	81.9	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	76.5	23 - 140	
	13C-OCDD	48.9	17 - 157	
	13C-2,3,7,8-TCDF	90.3	24 - 169	
	13C-1,2,3,7,8-PeCDF	73.5	24 - 185	
	13C-2,3,4,7,8-PeCDF	70.0	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	80.7	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	77.0	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	79.3	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.0	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	72.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	71.9	26 - 138	
	13C-OCDF	52.3	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	92.5	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.105

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH3-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.965 L

Laboratory Data
Lab Sample: 1600620-03 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 00:38 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.558		
1,2,3,7,8-PeCDD	ND	0.655		
1,2,3,4,7,8-HxCDD	ND	1.00		
1,2,3,6,7,8-HxCDD	ND	1.09		
1,2,3,7,8,9-HxCDD	ND	1.14		
1,2,3,4,6,7,8-HpCDD	2.99			J
OCDD	27.1			J
2,3,7,8-TCDF	ND	0.736		
1,2,3,7,8-PeCDF	ND	0.745		
2,3,4,7,8-PeCDF	ND	0.685		
1,2,3,4,7,8-HxCDF	ND	0.454		
1,2,3,6,7,8-HxCDF	ND	0.458		
2,3,4,6,7,8-HxCDF	ND	0.504		
1,2,3,7,8,9-HxCDF	ND	0.638		
1,2,3,4,6,7,8-HpCDF	0.973			J
1,2,3,4,7,8,9-HpCDF	ND	0.574		
OCDF	ND	1.87		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	84.8	25 - 164	
	13C-1,2,3,7,8-PeCDD	70.2	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	82.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	75.2	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	82.8	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	73.8	23 - 140	
	13C-OCDD	48.5	17 - 157	
	13C-2,3,7,8-TCDF	83.6	24 - 169	
	13C-1,2,3,7,8-PeCDF	66.8	24 - 185	
	13C-2,3,4,7,8-PeCDF	67.1	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	76.7	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	72.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	77.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	82.2	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	72.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	69.5	26 - 138	
	13C-OCDF	49.0	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	96.2	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.0478

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH5-100516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 0.925 L

Laboratory Data
Lab Sample: 1600620-04 Date Received: 12-May-2016 9:48
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 01:27 Column: ZB-5MS Analyst: DB

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	0.843		
1,2,3,7,8-PeCDD	ND	1.15		
1,2,3,4,7,8-HxCDD	ND	1.13		
1,2,3,6,7,8-HxCDD	ND	1.24		
1,2,3,7,8,9-HxCDD	ND	1.24		
1,2,3,4,6,7,8-HpCDD	ND	1.08		
OCDD	ND		4.13	
2,3,7,8-TCDF	ND	1.24		
1,2,3,7,8-PeCDF	ND	1.12		
2,3,4,7,8-PeCDF	ND	0.947		
1,2,3,4,7,8-HxCDF	ND	0.519		
1,2,3,6,7,8-HxCDF	ND	0.519		
2,3,4,6,7,8-HxCDF	ND	0.570		
1,2,3,7,8,9-HxCDF	ND	0.743		
1,2,3,4,6,7,8-HpCDF	ND	0.788		
1,2,3,4,7,8,9-HpCDF	ND	0.725		
OCDF	ND	2.17		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	81.0	25 - 164	
	13C-1,2,3,7,8-PeCDD	65.7	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	76.5	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	69.4	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	75.2	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	67.4	23 - 140	
	13C-OCDD	45.8	17 - 157	
	13C-2,3,7,8-TCDF	77.5	24 - 169	
	13C-1,2,3,7,8-PeCDF	63.0	24 - 185	
	13C-2,3,4,7,8-PeCDF	62.6	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	70.5	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	66.2	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	69.9	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	73.6	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	66.4	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	64.4	26 - 138	
	13C-OCDF	46.2	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	93.1	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	12.6			
PCB-2	ND	3.75		
PCB-3	1.64			J
PCB-4/10	22.4			
PCB-5/8	24.9			
PCB-6	5.46			
PCB-7/9	ND	3.22		
PCB-11	49.4			B
PCB-12/13	ND	1.56		
PCB-14	ND	1.34		
PCB-15	8.02			
PCB-16/32	40.8			
PCB-17	20.9			
PCB-18	60.8			
PCB-19	11.4			
PCB-20/21/33	16.6			
PCB-22	15.0			
PCB-23	ND	0.399		
PCB-24/27	5.18			J
PCB-25	2.82			J
PCB-26	5.39			
PCB-28	25.8			
PCB-29	ND	0.399		
PCB-30	ND	0.517		
PCB-31	28.6			
PCB-34	ND	0.859		
PCB-35	0.858			J
PCB-36	ND	2.44		
PCB-37	7.22			
PCB-38	1.68			J
PCB-39	ND	2.52		
PCB-40	ND		5.46	
PCB-41/64/71/72	27.7			
PCB-42/59	8.55			J
PCB-43/49	25.4			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	44.3			
PCB-45	5.82			
PCB-46	2.80			J
PCB-47	23.8			B
PCB-48/75	5.03			J
PCB-50	ND	0.799		
PCB-51	46.9			
PCB-52/69	62.3			
PCB-53	6.02			
PCB-54	ND	0.607		
PCB-55	0.589			J
PCB-56/60	12.0			
PCB-57	ND	0.508		
PCB-58	ND	0.500		
PCB-61/70	31.3			B
PCB-62	ND	0.558		
PCB-63	0.630			J
PCB-65	ND	0.575		
PCB-66/76	14.9			
PCB-67	ND		0.547	
PCB-68	13.0			
PCB-73	ND	0.555		
PCB-74	8.52			
PCB-77	2.56			J
PCB-78	ND	0.481		
PCB-79	ND		0.598	
PCB-80	ND	0.423		
PCB-81	0.303			J
PCB-82	8.53			
PCB-83	ND	1.04		
PCB-84/92	33.1			
PCB-85/116	9.44			J
PCB-86	ND	1.67		
PCB-87/117/125	25.8			
PCB-88/91	10.2			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.57		
PCB-90/101	66.4			
PCB-93	ND	1.66		
PCB-94	ND	1.56		
PCB-95/98/102	66.1			
PCB-96	0.790			J
PCB-97	18.9			
PCB-99	24.1			
PCB-100	ND	1.25		
PCB-103	ND	1.24		
PCB-104	ND	0.950		
PCB-105	16.2			
PCB-106/118	48.5			
PCB-107/109	3.19			J
PCB-108/112	2.75			J
PCB-110	75.7			
PCB-111/115	1.06			J
PCB-113	ND	1.17		
PCB-114	1.10			J
PCB-119	0.772			J
PCB-120	ND	0.867		
PCB-121	ND	1.00		
PCB-122	ND	0.947		
PCB-123	ND		0.665	
PCB-124	2.45			J
PCB-126	0.580			J
PCB-127	ND	0.904		
PCB-128/162	9.88			
PCB-129	3.49			J
PCB-130	4.22			J
PCB-131	ND	0.576		
PCB-132/161	17.4			
PCB-133/142	1.86			J
PCB-134/143	3.54			J
PCB-135	8.26			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	9.66			
PCB-137	3.16			J
PCB-138/163/164	60.6			
PCB-139/149	58.8			
PCB-140	ND	1.60		
PCB-141	11.3			
PCB-144	3.06			J
PCB-145	ND	1.14		
PCB-146/165	8.01			J
PCB-147	ND	1.33		
PCB-148	ND	1.52		
PCB-150	ND	1.10		
PCB-151	16.0			
PCB-152	ND	1.07		
PCB-153	51.3			B
PCB-154	ND		0.559	
PCB-155	ND	1.04		
PCB-156	6.19			
PCB-157	1.54			J
PCB-158/160	7.61			J
PCB-159	ND	0.350		
PCB-166	ND	0.375		
PCB-167	2.79			J
PCB-168	ND	0.359		
PCB-169	ND	0.402		
PCB-170	16.1			
PCB-171	4.78			J
PCB-172	3.50			J
PCB-173	ND	0.445		
PCB-174	21.7			
PCB-175	0.935			J
PCB-176	2.92			J
PCB-177	11.0			
PCB-178	4.16			J
PCB-179	10.3			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	44.9			
PCB-181	ND	0.364		
PCB-182/187	39.3			
PCB-183	12.4			
PCB-184	ND	0.317		
PCB-185	2.77			J
PCB-186	ND	0.291		
PCB-188	ND	0.278		
PCB-189	0.790			J
PCB-190	3.88			J
PCB-191	0.708			J
PCB-192	ND	0.283		
PCB-193	2.20			J
PCB-194	13.4			B
PCB-195	5.31			
PCB-196/203	23.6			
PCB-197	ND	0.771		
PCB-198	1.01			J
PCB-199	25.6			
PCB-200	3.07			J
PCB-201	2.59			J
PCB-202	ND		4.48	
PCB-204	ND	0.548		
PCB-205	ND		0.616	
PCB-206	11.9			
PCB-207	1.73			J
PCB-208	3.81			J, B
PCB-209	8.39			
Total monoCB	14.3			
Total diCB	110			
Total triCB	243			
Total tetraCB	343		349	
Total pentaCB	416			
Total hexaCB	289			
Total heptaCB	182			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	74.6		79.7	
Total nonaCB	17.5			
DecaCB	8.39			
Total PCB	1700			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 23-May-16 19:47 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	25.0	15 -150	
	13C-PCB-3	34.1	15 -150	
	13C-PCB-4	38.7	25 -150	
	13C-PCB-11	66.9	25 -150	
	13C-PCB-9	47.1	25 -150	
	13C-PCB-19	42.0	25 -150	
	13C-PCB-28	65.7	25 -150	
	13C-PCB-32	47.2	25 -150	
	13C-PCB-37	65.8	25 -150	
	13C-PCB-47	63.8	25 -150	
	13C-PCB-52	65.3	25 -150	
	13C-PCB-54	52.8	25 -150	
	13C-PCB-70	66.2	25 -150	
	13C-PCB-77	72.3	25 -150	
	13C-PCB-80	68.3	25 -150	
	13C-PCB-81	70.8	25 -150	
	13C-PCB-95	61.5	25 -150	
	13C-PCB-97	69.1	25 -150	
	13C-PCB-101	63.8	25 -150	
	13C-PCB-104	60.9	25 -150	
	13C-PCB-105	62.4	25 -150	
	13C-PCB-114	60.4	25 -150	
	13C-PCB-118	70.3	25 -150	
	13C-PCB-123	72.1	25 -150	
	13C-PCB-126	61.2	25 -150	
	13C-PCB-127	62.4	25 -150	
	13C-PCB-138	68.9	25 -150	
	13C-PCB-141	67.8	25 -150	
	13C-PCB-153	64.9	25 -150	
	13C-PCB-155	46.7	25 -150	
	13C-PCB-156	71.6	25 -150	
	13C-PCB-157	70.3	25 -150	
	13C-PCB-159	69.9	25 -150	
	13C-PCB-167	69.7	25 -150	
	13C-PCB-169	71.8	25 -150	
	13C-PCB-170	61.3	25 -150	
	13C-PCB-180	63.2	25 -150	
	13C-PCB-188	54.6	25 -150	
	13C-PCB-189	66.3	25 -150	
	13C-PCB-194	69.4	25 -150	
	13C-PCB-202	44.6	25 -150	
	13C-PCB-206	94.5	25 -150	
	13C-PCB-208	92.2	25 -150	
	13C-PCB-209	104	25 -150	
CRS	13C-PCB-79	85.1	30 -135	
	13C-PCB-178	76.1	30 -135	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	9.14			
PCB-2	0.776			J
PCB-3	1.32			J
PCB-4/10	22.9			
PCB-5/8	21.5			
PCB-6	4.11			J
PCB-7/9	ND	0.793		
PCB-11	46.5			B
PCB-12/13	ND	0.690		
PCB-14	ND	0.594		
PCB-15	7.11			
PCB-16/32	31.0			
PCB-17	16.1			
PCB-18	48.0			
PCB-19	9.16			
PCB-20/21/33	20.4			
PCB-22	15.0			
PCB-23	ND	0.368		
PCB-24/27	3.87			J
PCB-25	2.65			J
PCB-26	5.65			
PCB-28	30.2			
PCB-29	0.340			J
PCB-30	ND	0.224		
PCB-31	28.2			
PCB-34	ND	0.342		
PCB-35	0.829			J
PCB-36	ND	0.353		
PCB-37	7.94			
PCB-38	0.812			J
PCB-39	ND	0.364		
PCB-40	6.01			
PCB-41/64/71/72	27.8			
PCB-42/59	9.34			J
PCB-43/49	24.9			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	45.2			
PCB-45	6.70			
PCB-46	3.02			J
PCB-47	25.9			B
PCB-48/75	5.06			J
PCB-50	ND	0.437		
PCB-51	45.8			
PCB-52/69	62.4			
PCB-53	6.75			
PCB-54	ND	0.332		
PCB-55	ND		0.477	
PCB-56/60	11.7			
PCB-57	ND	0.289		
PCB-58	ND	0.284		
PCB-61/70	31.8			B
PCB-62	ND	0.329		
PCB-63	0.779			J
PCB-65	ND	0.339		
PCB-66/76	15.2			
PCB-67	0.683			J
PCB-68	11.3			
PCB-73	ND	0.347		
PCB-74	9.05			
PCB-77	2.53			J
PCB-78	ND	0.278		
PCB-79	0.494			J
PCB-80	ND	0.240		
PCB-81	0.359			J
PCB-82	7.65			
PCB-83	ND	0.897		
PCB-84/92	29.4			
PCB-85/116	8.37			J
PCB-86	ND	1.44		
PCB-87/117/125	22.1			
PCB-88/91	9.69			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.33		
PCB-90/101	56.8			
PCB-93	ND	1.43		
PCB-94	ND		0.439	
PCB-95/98/102	60.2			
PCB-96	0.728			J
PCB-97	16.6			
PCB-99	20.2			
PCB-100	ND	1.01		
PCB-103	ND	1.00		
PCB-104	ND	0.770		
PCB-105	14.8			
PCB-106/118	41.3			
PCB-107/109	2.81			J
PCB-108/112	2.37			J
PCB-110	65.9			
PCB-111/115	1.01			J
PCB-113	ND	0.985		
PCB-114	0.880			J
PCB-119	0.821			J
PCB-120	ND	0.750		
PCB-121	ND	0.864		
PCB-122	0.402			J
PCB-123	0.733			J
PCB-124	2.28			J
PCB-126	ND	0.484		
PCB-127	ND	0.384		
PCB-128/162	8.19			J
PCB-129	3.23			J
PCB-130	3.91			J
PCB-131	ND	0.518		
PCB-132/161	16.2			
PCB-133/142	ND		1.45	
PCB-134/143	2.87			J
PCB-135	7.07			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	6.72			
PCB-137	2.57			J
PCB-138/163/164	52.2			
PCB-139/149	45.7			
PCB-140	ND	0.652		
PCB-141	9.56			
PCB-144	2.65			J
PCB-145	ND	0.464		
PCB-146/165	7.07			J
PCB-147	1.40			J
PCB-148	ND	0.620		
PCB-150	ND	0.449		
PCB-151	12.3			
PCB-152	ND	0.434		
PCB-153	44.2			B
PCB-154	0.518			J
PCB-155	ND	0.423		
PCB-156	5.06			
PCB-157	1.54			J
PCB-158/160	6.37			J
PCB-159	ND	0.306		
PCB-166	ND	0.327		
PCB-167	2.35			J
PCB-168	ND	0.323		
PCB-169	ND	0.350		
PCB-170	12.9			
PCB-171	3.96			J
PCB-172	2.66			J
PCB-173	ND	0.488		
PCB-174	18.1			
PCB-175	0.752			J
PCB-176	2.20			J
PCB-177	8.68			
PCB-178	3.98			J
PCB-179	8.10			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	36.2			
PCB-181	ND	0.399		
PCB-182/187	29.1			
PCB-183	10.4			
PCB-184	ND	0.310		
PCB-185	2.89			J
PCB-186	ND	0.285		
PCB-188	ND	0.273		
PCB-189	0.537			J
PCB-190	2.94			J
PCB-191	0.480			J
PCB-192	ND	0.310		
PCB-193	1.84			J
PCB-194	11.0			B
PCB-195	4.02			J
PCB-196/203	17.9			
PCB-197	ND	0.432		
PCB-198	0.786			J
PCB-199	19.1			
PCB-200	2.19			J
PCB-201	2.13			J
PCB-202	ND		3.30	
PCB-204	ND	0.446		
PCB-205	0.475			J
PCB-206	11.1			
PCB-207	1.26			J
PCB-208	3.13			J, B
PCB-209	5.57			
Total monoCB	11.2			
Total diCB	102			
Total triCB	220			
Total tetraCB	353			
Total pentaCB	365			
Total hexaCB	242		243	
Total heptaCB	146			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	57.7		61.0	
Total nonaCB	15.4			
DecaCB	5.57			
Total PCB	1520			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-D-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 10:00

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-02 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 09:05 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	65.6	15 -150	
	13C-PCB-3	66.8	15 -150	
	13C-PCB-4	66.6	25 -150	
	13C-PCB-11	90.0	25 -150	
	13C-PCB-9	73.7	25 -150	
	13C-PCB-19	78.3	25 -150	
	13C-PCB-28	91.5	25 -150	
	13C-PCB-32	82.2	25 -150	
	13C-PCB-37	97.4	25 -150	
	13C-PCB-47	84.8	25 -150	
	13C-PCB-52	85.1	25 -150	
	13C-PCB-54	72.4	25 -150	
	13C-PCB-70	87.7	25 -150	
	13C-PCB-77	92.2	25 -150	
	13C-PCB-80	88.1	25 -150	
	13C-PCB-81	90.4	25 -150	
	13C-PCB-95	82.9	25 -150	
	13C-PCB-97	90.0	25 -150	
	13C-PCB-101	87.3	25 -150	
	13C-PCB-104	85.5	25 -150	
	13C-PCB-105	101	25 -150	
	13C-PCB-114	95.8	25 -150	
	13C-PCB-118	95.1	25 -150	
	13C-PCB-123	95.6	25 -150	
	13C-PCB-126	109	25 -150	
	13C-PCB-127	104	25 -150	
	13C-PCB-138	91.5	25 -150	
	13C-PCB-141	89.9	25 -150	
	13C-PCB-153	83.5	25 -150	
	13C-PCB-155	76.6	25 -150	
	13C-PCB-156	93.2	25 -150	
	13C-PCB-157	91.3	25 -150	
	13C-PCB-159	93.7	25 -150	
	13C-PCB-167	92.0	25 -150	
	13C-PCB-169	92.8	25 -150	
	13C-PCB-170	82.9	25 -150	
	13C-PCB-180	80.7	25 -150	
	13C-PCB-188	76.3	25 -150	
	13C-PCB-189	87.1	25 -150	
	13C-PCB-194	88.3	25 -150	
	13C-PCB-202	74.3	25 -150	
	13C-PCB-206	84.7	25 -150	
	13C-PCB-208	78.2	25 -150	
	13C-PCB-209	88.0	25 -150	
CRS	13C-PCB-79	96.8	30 -135	
	13C-PCB-178	91.4	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	10.3			
PCB-2	0.884			J
PCB-3	1.35			J
PCB-4/10	22.4			
PCB-5/8	22.2			
PCB-6	4.81			J
PCB-7/9	2.54			J
PCB-11	46.9			B
PCB-12/13	ND	1.22		
PCB-14	ND	0.554		
PCB-15	7.67			
PCB-16/32	30.5			
PCB-17	16.7			
PCB-18	50.2			
PCB-19	9.16			
PCB-20/21/33	22.2			
PCB-22	15.3			
PCB-23	ND	0.473		
PCB-24/27	4.01			J
PCB-25	3.02			J
PCB-26	5.70			
PCB-28	31.0			
PCB-29	ND	0.419		
PCB-30	ND	0.279		
PCB-31	30.0			
PCB-34	ND	0.440		
PCB-35	0.841			J
PCB-36	ND	0.442		
PCB-37	7.69			
PCB-38	1.27			J
PCB-39	ND	0.455		
PCB-40	6.94			
PCB-41/64/71/72	30.7			
PCB-42/59	9.60			J
PCB-43/49	27.7			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	49.6			
PCB-45	6.50			
PCB-46	2.84			J
PCB-47	42.9			B
PCB-48/75	5.04			J
PCB-50	ND	0.763		
PCB-51	56.9			
PCB-52/69	67.5			
PCB-53	7.02			
PCB-54	ND	0.580		
PCB-55	ND	0.426		
PCB-56/60	12.4			
PCB-57	ND	0.481		
PCB-58	ND	0.474		
PCB-61/70	34.1			B
PCB-62	ND	0.568		
PCB-63	0.786			J
PCB-65	ND	0.586		
PCB-66/76	16.3			
PCB-67	ND		0.486	
PCB-68	12.7			
PCB-73	ND	0.552		
PCB-74	9.83			
PCB-77	2.45			J
PCB-78	ND	0.472		
PCB-79	0.704			J
PCB-80	ND	0.396		
PCB-81	0.325			J
PCB-82	8.54			
PCB-83	ND	0.847		
PCB-84/92	30.8			
PCB-85/116	9.44			J
PCB-86	ND	1.36		
PCB-87/117/125	25.5			
PCB-88/91	10.7			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.30		
PCB-90/101	62.7			
PCB-93	ND	1.27		
PCB-94	ND	0.780		
PCB-95/98/102	67.3			
PCB-96	ND		0.642	
PCB-97	18.1			
PCB-99	22.4			
PCB-100	ND	0.966		
PCB-103	ND	0.962		
PCB-104	ND	0.737		
PCB-105	15.9			
PCB-106/118	44.9			
PCB-107/109	2.97			J
PCB-108/112	2.55			J
PCB-110	74.7			
PCB-111/115	ND		0.671	
PCB-113	ND	0.965		
PCB-114	0.856			J
PCB-119	ND		0.565	
PCB-120	ND	0.708		
PCB-121	ND	0.765		
PCB-122	ND		0.374	
PCB-123	0.779			J
PCB-124	ND		2.31	
PCB-126	ND	0.478		
PCB-127	ND	0.778		
PCB-128/162	10.1			
PCB-129	3.20			J
PCB-130	ND		3.52	
PCB-131	ND	0.675		
PCB-132/161	15.9			
PCB-133/142	1.68			J
PCB-134/143	3.68			J
PCB-135	7.63			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	7.91			
PCB-137	ND		2.39	
PCB-138/163/164	60.2			
PCB-139/149	49.6			
PCB-140	ND	0.981		
PCB-141	11.4			
PCB-144	2.46			J
PCB-145	ND	0.698		
PCB-146/165	8.04			J
PCB-147	1.18			J
PCB-148	ND	0.933		
PCB-150	ND	0.676		
PCB-151	14.1			
PCB-152	ND	0.652		
PCB-153	50.1			B
PCB-154	ND	0.857		
PCB-155	ND	0.636		
PCB-156	5.43			
PCB-157	1.59			J
PCB-158/160	7.18			J
PCB-159	ND	0.412		
PCB-166	ND	0.441		
PCB-167	2.63			J
PCB-168	ND	0.421		
PCB-169	ND	0.466		
PCB-170	14.5			
PCB-171	3.95			J
PCB-172	2.67			J
PCB-173	ND	0.556		
PCB-174	18.7			
PCB-175	0.549			J
PCB-176	2.11			J
PCB-177	9.60			
PCB-178	3.53			J
PCB-179	8.45			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	40.4			
PCB-181	ND	0.455		
PCB-182/187	32.9			
PCB-183	10.7			
PCB-184	ND	0.366		
PCB-185	2.74			J
PCB-186	ND	0.337		
PCB-188	ND	0.322		
PCB-189	0.657			J
PCB-190	3.67			J
PCB-191	ND		0.621	
PCB-192	ND	0.353		
PCB-193	2.17			J
PCB-194	12.1			B
PCB-195	4.95			J
PCB-196/203	21.2			
PCB-197	0.691			J
PCB-198	ND		0.996	
PCB-199	22.2			
PCB-200	ND		2.21	
PCB-201	2.37			J
PCB-202	4.67			J
PCB-204	ND	0.638		
PCB-205	0.663			J
PCB-206	11.2			
PCB-207	1.36			J
PCB-208	3.38			B, J
PCB-209	5.63			
Total monoCB	12.5			
Total diCB	106			
Total triCB	228			
Total tetraCB	403			
Total pentaCB	398		403	
Total hexaCB	264		270	
Total heptaCB	157		158	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	68.9		72.1	
Total nonaCB	15.9			
DecaCB	5.63			
Total PCB	1660			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH3-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 0.998 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 10:10 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	72.5	15 -150	
	13C-PCB-3	71.0	15 -150	
	13C-PCB-4	68.9	25 -150	
	13C-PCB-11	90.1	25 -150	
	13C-PCB-9	74.7	25 -150	
	13C-PCB-19	74.2	25 -150	
	13C-PCB-28	87.0	25 -150	
	13C-PCB-32	76.7	25 -150	
	13C-PCB-37	95.1	25 -150	
	13C-PCB-47	83.8	25 -150	
	13C-PCB-52	86.5	25 -150	
	13C-PCB-54	69.1	25 -150	
	13C-PCB-70	89.6	25 -150	
	13C-PCB-77	92.2	25 -150	
	13C-PCB-80	89.6	25 -150	
	13C-PCB-81	89.8	25 -150	
	13C-PCB-95	87.0	25 -150	
	13C-PCB-97	90.2	25 -150	
	13C-PCB-101	87.9	25 -150	
	13C-PCB-104	86.0	25 -150	
	13C-PCB-105	105	25 -150	
	13C-PCB-114	101	25 -150	
	13C-PCB-118	96.6	25 -150	
	13C-PCB-123	97.2	25 -150	
	13C-PCB-126	111	25 -150	
	13C-PCB-127	106	25 -150	
	13C-PCB-138	91.2	25 -150	
	13C-PCB-141	90.2	25 -150	
	13C-PCB-153	88.6	25 -150	
	13C-PCB-155	77.5	25 -150	
	13C-PCB-156	93.3	25 -150	
	13C-PCB-157	90.6	25 -150	
	13C-PCB-159	91.6	25 -150	
	13C-PCB-167	92.4	25 -150	
	13C-PCB-169	95.8	25 -150	
	13C-PCB-170	83.3	25 -150	
	13C-PCB-180	84.2	25 -150	
	13C-PCB-188	78.3	25 -150	
	13C-PCB-189	91.1	25 -150	
	13C-PCB-194	87.4	25 -150	
	13C-PCB-202	70.8	25 -150	
	13C-PCB-206	86.8	25 -150	
	13C-PCB-208	78.2	25 -150	
	13C-PCB-209	90.0	25 -150	
CRS	13C-PCB-79	93.6	30 -135	
	13C-PCB-178	85.9	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	14.0			
PCB-2	0.852			J
PCB-3	1.34			J
PCB-4/10	22.8			
PCB-5/8	12.2			
PCB-6	3.24			J
PCB-7/9	ND	1.45		
PCB-11	25.8			B
PCB-12/13	ND	1.15		
PCB-14	ND	0.994		
PCB-15	4.53			J
PCB-16/32	20.0			
PCB-17	10.3			
PCB-18	33.1			
PCB-19	8.58			
PCB-20/21/33	8.92			J
PCB-22	8.21			
PCB-23	ND	0.383		
PCB-24/27	2.92			J
PCB-25	1.50			J
PCB-26	3.12			J
PCB-28	15.6			
PCB-29	ND	0.383		
PCB-30	ND	0.341		
PCB-31	15.2			
PCB-34	ND	0.356		
PCB-35	ND	0.400		
PCB-36	ND	0.358		
PCB-37	3.67			J
PCB-38	1.81			J
PCB-39	ND	0.369		
PCB-40	4.66			J
PCB-41/64/71/72	19.7			J
PCB-42/59	5.74			J
PCB-43/49	22.3			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	39.4			
PCB-45	4.50			J
PCB-46	2.35			J
PCB-47	67.5			B
PCB-48/75	2.53			J
PCB-50	ND	0.602		
PCB-51	64.5			
PCB-52/69	69.5			
PCB-53	5.81			
PCB-54	ND	0.457		
PCB-55	0.410			J
PCB-56/60	6.47			J
PCB-57	ND	0.326		
PCB-58	ND	0.321		
PCB-61/70	21.6			B
PCB-62	ND	0.365		
PCB-63	0.419			J
PCB-65	ND	0.376		
PCB-66/76	9.34			J
PCB-67	ND	0.335		
PCB-68	20.0			
PCB-73	ND	0.361		
PCB-74	5.82			
PCB-77	1.36			J
PCB-78	ND	0.319		
PCB-79	0.496			J
PCB-80	ND	0.265		
PCB-81	0.310			J
PCB-82	5.37			
PCB-83	ND	0.970		
PCB-84/92	26.2			
PCB-85/116	6.60			J
PCB-86	ND	1.56		
PCB-87/117/125	18.8			
PCB-88/91	9.63			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.43		
PCB-90/101	49.4			
PCB-93	ND	1.47		
PCB-94	ND	1.38		
PCB-95/98/102	66.4			
PCB-96	ND		0.815	
PCB-97	14.8			
PCB-99	16.8			
PCB-100	ND	1.09		
PCB-103	ND	1.09		
PCB-104	ND	0.832		
PCB-105	9.20			
PCB-106/118	25.1			
PCB-107/109	1.79			J
PCB-108/112	2.33			J
PCB-110	56.5			
PCB-111/115	ND	0.869		
PCB-113	ND	1.07		
PCB-114	0.624			J
PCB-119	0.768			J
PCB-120	ND	0.812		
PCB-121	ND	0.887		
PCB-122	0.437			J
PCB-123	ND		0.615	
PCB-124	1.60			J
PCB-126	0.402			J
PCB-127	ND	0.618		
PCB-128/162	5.01			J
PCB-129	1.98			J
PCB-130	2.98			J
PCB-131	ND	0.539		
PCB-132/161	11.7			
PCB-133/142	1.21			J
PCB-134/143	2.26			J
PCB-135	5.16			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	5.49			
PCB-137	1.96			J
PCB-138/163/164	35.3			
PCB-139/149	30.2			
PCB-140	ND	0.659		
PCB-141	6.88			
PCB-144	ND		1.43	
PCB-145	ND	0.468		
PCB-146/165	4.83			J
PCB-147	1.03			J
PCB-148	ND	0.626		
PCB-150	ND	0.454		
PCB-151	8.65			
PCB-152	ND	0.438		
PCB-153	29.3			B
PCB-154	ND	0.577		
PCB-155	ND	0.427		
PCB-156	2.78			J
PCB-157	1.01			J
PCB-158/160	4.13			J
PCB-159	ND	0.308		
PCB-166	ND	0.329		
PCB-167	1.55			J
PCB-168	ND	0.336		
PCB-169	ND	0.347		
PCB-170	7.89			
PCB-171	2.22			J
PCB-172	1.58			J
PCB-173	ND	0.374		
PCB-174	12.1			
PCB-175	0.576			J
PCB-176	1.55			J
PCB-177	5.68			
PCB-178	2.52			J
PCB-179	5.16			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 Date Received: 12-May-2016 9:48
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	24.3			
PCB-181	ND	0.306		
PCB-182/187	21.4			
PCB-183	7.60			
PCB-184	ND	0.261		
PCB-185	1.51			J
PCB-186	ND	0.240		
PCB-188	ND	0.230		
PCB-189	0.353			J
PCB-190	1.94			J
PCB-191	0.472			J
PCB-192	ND	0.238		
PCB-193	1.03			J
PCB-194	7.33			B
PCB-195	2.45			J
PCB-196/203	11.8			
PCB-197	0.509			J
PCB-198	ND	0.574		
PCB-199	12.4			
PCB-200	1.38			J
PCB-201	1.60			J
PCB-202	2.85			J
PCB-204	ND	0.403		
PCB-205	0.341			J
PCB-206	6.19			
PCB-207	0.892			J
PCB-208	1.80			J, B
PCB-209	3.70			J
Total monoCB	16.2			
Total diCB	68.6			
Total triCB	133			
Total tetraCB	375			
Total pentaCB	313		314	
Total hexaCB	163		165	
Total heptaCB	97.9			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	40.7			
Total nonaCB	8.88			
DecaCB	3.70			
Total PCB	1220			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH5-100516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 15:00

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600620-04 — Date Received: 12-May-2016 9:48
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 04:44 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	42.9	15 -150	
	13C-PCB-3	54.6	15 -150	
	13C-PCB-4	44.3	25 -150	
	13C-PCB-11	79.2	25 -150	
	13C-PCB-9	59.8	25 -150	
	13C-PCB-19	52.1	25 -150	
	13C-PCB-28	78.0	25 -150	
	13C-PCB-32	69.5	25 -150	
	13C-PCB-37	85.7	25 -150	
	13C-PCB-47	77.8	25 -150	
	13C-PCB-52	77.8	25 -150	
	13C-PCB-54	53.0	25 -150	
	13C-PCB-70	78.9	25 -150	
	13C-PCB-77	76.5	25 -150	
	13C-PCB-80	80.0	25 -150	
	13C-PCB-81	79.2	25 -150	
	13C-PCB-95	76.7	25 -150	
	13C-PCB-97	79.4	25 -150	
	13C-PCB-101	79.3	25 -150	
	13C-PCB-104	77.1	25 -150	
	13C-PCB-105	86.5	25 -150	
	13C-PCB-114	87.7	25 -150	
	13C-PCB-118	84.2	25 -150	
	13C-PCB-123	86.7	25 -150	
	13C-PCB-126	95.0	25 -150	
	13C-PCB-127	92.3	25 -150	
	13C-PCB-138	83.2	25 -150	
	13C-PCB-141	76.9	25 -150	
	13C-PCB-153	76.8	25 -150	
	13C-PCB-155	73.2	25 -150	
	13C-PCB-156	86.6	25 -150	
	13C-PCB-157	83.5	25 -150	
	13C-PCB-159	85.3	25 -150	
	13C-PCB-167	86.2	25 -150	
	13C-PCB-169	86.5	25 -150	
	13C-PCB-170	81.1	25 -150	
	13C-PCB-180	79.8	25 -150	
	13C-PCB-188	69.4	25 -150	
	13C-PCB-189	85.8	25 -150	
	13C-PCB-194	78.7	25 -150	
	13C-PCB-202	71.5	25 -150	
	13C-PCB-206	77.9	25 -150	
	13C-PCB-208	69.0	25 -150	
	13C-PCB-209	83.3	25 -150	
CRS	13C-PCB-79	86.2	30 -135	
	13C-PCB-178	88.9	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-S-100516 — EPA Method 1699

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 8:45

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600620-01 Date Received: 12-May-2016 9:48
QC Batch: B6E0084 Date Extracted: 16-May-2016 8:13
Date Analyzed: 25-May-16 21:13 Column: ZB-50 Analyst: ANP
31-May-16 15:30 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	76.9			B
alpha-BHC	203000			D
Lindane (gamma-BHC)	306000			E, D
beta-BHC	120000			D
delta-BHC	61100			D
Heptachlor	35.4			J
Aldrin	103			
Oxychlordane	ND	20.9		
cis-Heptachlor Epoxide	523			
trans-Heptachlor Epoxide	604000			E, D
trans-Chlordane (gamma)	382			
trans-Nonachlor	133			
cis-Chlordane (alpha)	678			
Endosulfan I (alpha)	ND	44.2		
2,4'-DDE	15.6			J
4,4'-DDE	220			
Dieldrin	157000			D
Endrin	12100			
cis-Nonachlor	ND	23.4		
Endosulfan II (beta)	ND	168		
2,4'-DDD	366			
2,4'-DDT	427			
4,4'-DDD	794			
4,4'-DDT	2160			
Endosulfan Sulfate	ND	80.1		
4,4'-Methoxychlor	334			
Mirex	ND	1.21		
Endrin Aldehyde	20300			
Endrin Ketone	83100			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	56.3	5 - 120	
IS	13C6-alpha-BHC	77.1	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	85.1	11 - 120	D
IS	13C6-beta-BHC	82.2	32 - 130	D
IS	13C6-delta-BHC	72.9	36 - 137	D
IS	13C10-Heptachlor	201	5 - 120	H
IS	13C12-Aldrin	53.0	5 - 120	
IS	13C10-Oxychlordane	68.3	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	53.9	27 - 137	
IS	13C10-trans-Chlordane (gamma)	58.3	21 - 132	
IS	13C10-trans-Nonachlor	58.6	14 - 136	
IS	13C9-Endosulfan I (alpha)	30.7	15 - 148	
IS	13C12-2,4'-DDE	56.3	47 - 160	
IS	13C12-4,4'-DDE	57.5	47 - 160	
IS	13C12-Dieldrin	39.2	40 - 151	D, H
IS	13C12-Endrin	26.0	35 - 155	I, H
IS	13C10-cis-Nonachlor	64.3	36 - 139	
IS	13C9-Endosulfan II (beta)	15.0	5 - 122	I
IS	13C12-2,4'-DDD	64.8	5 - 199	
IS	13C12-2,4'-DDT	75.4	5 - 199	
IS	13C12-4,4'-DDD	62.7	5 - 120	
IS	13C12-4,4'-DDT	66.4	5 - 120	
IS	13C9-Endosulfan Sulfate	15.2	15 - 148	
IS	13C12-Methoxychlor	7.90	5 - 120	
IS	13C10-Mirex	43.7	5 - 120	
IS	13C12-Endrin Aldehyde	2.80	15 - 148	H
IS	13C12-Endrin Ketone	8.88	15 - 148	D, H

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-D-100516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600620-02	Date Received:	12-May-2016 9:48
Project:	A6E0284	Sample Size:	1.02 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	10-May-2016 10:00			Date Analyzed:	25-May-16 22:02 Column: ZB-50 Analyst: ANP		
					31-May-16 16:19 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	75.2			B
alpha-BHC	204000			D
Lindane (gamma-BHC)	285000			D
beta-BHC	120000			D
delta-BHC	61000			D
Heptachlor	33.3			J
Aldrin	101			
Oxychlordane	ND	26.1		
cis-Heptachlor Epoxide	593			
trans-Heptachlor Epoxide	2190000			E, D
trans-Chlordane (gamma)	393			
trans-Nonachlor	141			
cis-Chlordane (alpha)	1660			
Endosulfan I (alpha)	ND	36.8		
2,4'-DDE	16.3			J
4,4'-DDE	219			
Dieldrin	179000			D
Endrin	13000			
cis-Nonachlor	ND	43.4		
Endosulfan II (beta)	ND	70.6		
2,4'-DDD	360			
2,4'-DDT	412			
4,4'-DDD	754			
4,4'-DDT	1900			
Endosulfan Sulfate	131			J
4,4'-Methoxychlor	343			
Mirex	ND	1.82		
Endrin Aldehyde	888			
Endrin Ketone	102000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	48.0	5 - 120	
IS	13C6-alpha-BHC	84.6	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	111	11 - 120	D
IS	13C6-beta-BHC	112	32 - 130	D
IS	13C6-delta-BHC	116	36 - 137	D
IS	13C10-Heptachlor	227	5 - 120	H
IS	13C12-Aldrin	51.1	5 - 120	
IS	13C10-Oxychlordane	70.9	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	71.1	27 - 137	
IS	13C10-trans-Chlordane (gamma)	52.7	21 - 132	
IS	13C10-trans-Nonachlor	53.1	14 - 136	
IS	13C9-Endosulfan I (alpha)	47.5	15 - 148	
IS	13C12-2,4'-DDE	45.4	47 - 160	H
IS	13C12-4,4'-DDE	51.3	47 - 160	
IS	13C12-Dieldrin	79.4	40 - 151	D
IS	13C12-Endrin	72.8	35 - 155	
IS	13C10-cis-Nonachlor	70.1	36 - 139	
IS	13C9-Endosulfan II (beta)	75.7	5 - 122	
IS	13C12-2,4'-DDD	68.7	5 - 199	
IS	13C12-2,4'-DDT	79.8	5 - 199	
IS	13C12-4,4'-DDD	69.4	5 - 120	
IS	13C12-4,4'-DDT	75.5	5 - 120	
IS	13C9-Endosulfan Sulfate	85.1	15 - 148	
IS	13C12-Methoxychlor	57.4	5 - 120	
IS	13C10-Mirex	42.0	5 - 120	
IS	13C12-Endrin Aldehyde	55.5	15 - 148	
IS	13C12-Endrin Ketone	61.5	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH3-100516 — EPA Method 1699

Client Data
Name: Apex Laboratories
Project: A6E0284
Date Collected: 10-May-2016 13:00

Sample Data
Matrix: Water
Sample Size: 1.03 L

Laboratory Data
Lab Sample: 1600620-03 — Date Received: 12-May-2016 9:48
QC Batch: B6E0084 — Date Extracted: 16-May-2016 8:13
Date Analyzed: 25-May-16 22:51 Column: ZB-50 Analyst: ANP
31-May-16 17:08 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	78.3			B
alpha-BHC	203000			D
Lindane (gamma-BHC)	281000			D
beta-BHC	147000			D
delta-BHC	68200			D
Heptachlor	32.2			J
Aldrin	102			
Oxychlordane	ND	24.7		
cis-Heptachlor Epoxide	596			
trans-Heptachlor Epoxide	1400000			E, D
trans-Chlordane (gamma)	365			
trans-Nonachlor	134			
cis-Chlordane (alpha)	1670			
Endosulfan I (alpha)	ND	36.8		
2,4'-DDE	18.1			J
4,4'-DDE	234			
Dieldrin	184000			D
Endrin	12500			
cis-Nonachlor	ND	34.8		
Endosulfan II (beta)	ND	62.9		
2,4'-DDD	386			
2,4'-DDT	367			
4,4'-DDD	773			
4,4'-DDT	1730			
Endosulfan Sulfate	ND	22.0		
4,4'-Methoxychlor	281			
Mirex	ND	2.56		
Endrin Aldehyde	801			
Endrin Ketone	105000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	62.0	5 - 120	
IS	13C6-alpha-BHC	90.6	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	123	11 - 120	D, H
IS	13C6-beta-BHC	89.3	32 - 130	D
IS	13C6-delta-BHC	103	36 - 137	D
IS	13C10-Heptachlor	250	5 - 120	H
IS	13C12-Aldrin	44.9	5 - 120	
IS	13C10-Oxychlordane	64.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	62.1	27 - 137	
IS	13C10-trans-Chlordane (gamma)	51.2	21 - 132	
IS	13C10-trans-Nonachlor	46.9	14 - 136	
IS	13C9-Endosulfan I (alpha)	42.4	15 - 148	
IS	13C12-2,4'-DDE	41.5	47 - 160	H
IS	13C12-4,4'-DDE	45.5	47 - 160	H
IS	13C12-Dieldrin	71.0	40 - 151	D
IS	13C12-Endrin	69.8	35 - 155	
IS	13C10-cis-Nonachlor	63.6	36 - 139	
IS	13C9-Endosulfan II (beta)	70.3	5 - 122	
IS	13C12-2,4'-DDD	61.6	5 - 199	
IS	13C12-2,4'-DDT	72.0	5 - 199	
IS	13C12-4,4'-DDD	61.9	5 - 120	
IS	13C12-4,4'-DDT	64.3	5 - 120	
IS	13C9-Endosulfan Sulfate	85.9	15 - 148	
IS	13C12-Methoxychlor	44.6	5 - 120	
IS	13C10-Mirex	32.2	5 - 120	
IS	13C12-Endrin Aldehyde	53.3	15 - 148	
IS	13C12-Endrin Ketone	59.4	15 - 148	D

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH5-100516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600620-04	Date Received:	12-May-2016 9:48
Project:	A6E0284	Sample Size:	1.02 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	10-May-2016 15:00			Date Analyzed:	25-May-16 23:40 Column: ZB-50 Analyst: ANP		
					31-May-16 17:56 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	89.4			B
alpha-BHC	233000			D
Lindane (gamma-BHC)	340000			D
beta-BHC	126000			D
delta-BHC	76200			D
Heptachlor	29.5			J
Aldrin	97.0			
Oxychlordane	ND	26.2		
cis-Heptachlor Epoxide	732			
trans-Heptachlor Epoxide	3380000			E, D
trans-Chlordane (gamma)	374			
trans-Nonachlor	64.6			
cis-Chlordane (alpha)	1780			
Endosulfan I (alpha)	ND	35.8		
2,4'-DDE	17.6			J
4,4'-DDE	209			
Dieldrin	196000			D
Endrin	16500			
cis-Nonachlor	ND	45.7		
Endosulfan II (beta)	ND	91.8		
2,4'-DDD	354			
2,4'-DDT	324			
4,4'-DDD	612			
4,4'-DDT	1740			
Endosulfan Sulfate	ND	32.0		
4,4'-Methoxychlor	244			
Mirex	ND	3.81		
Endrin Aldehyde	1830			
Endrin Ketone	135000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	55.7	5 - 120	
IS	13C6-alpha-BHC	77.1	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	108	11 - 120	D
IS	13C6-beta-BHC	105	32 - 130	D
IS	13C6-delta-BHC	92.2	36 - 137	D
IS	13C10-Heptachlor	242	5 - 120	H
IS	13C12-Aldrin	41.4	5 - 120	
IS	13C10-Oxychlordane	58.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	59.2	27 - 137	
IS	13C10-trans-Chlordane (gamma)	40.4	21 - 132	
IS	13C10-trans-Nonachlor	40.2	14 - 136	
IS	13C9-Endosulfan I (alpha)	35.5	15 - 148	
IS	13C12-2,4'-DDE	34.0	47 - 160	H
IS	13C12-4,4'-DDE	34.5	47 - 160	H
IS	13C12-Dieldrin	103	40 - 151	D
IS	13C12-Endrin	54.4	35 - 155	
IS	13C10-cis-Nonachlor	49.4	36 - 139	
IS	13C9-Endosulfan II (beta)	51.5	5 - 122	
IS	13C12-2,4'-DDD	48.6	5 - 199	
IS	13C12-2,4'-DDT	56.2	5 - 199	
IS	13C12-4,4'-DDD	48.8	5 - 120	
IS	13C12-4,4'-DDT	46.0	5 - 120	
IS	13C9-Endosulfan Sulfate	72.0	15 - 148	
IS	13C12-Methoxychlor	32.7	5 - 120	
IS	13C10-Mirex	23.6	5 - 120	
IS	13C12-Endrin Aldehyde	32.3	15 - 148	
IS	13C12-Endrin Ketone	50.4	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Vista Work Order No. 1600631
Case Narrative

Sample Condition on Receipt:

Four aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

EPA Method 1613

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613 using a ZB-5MS GC column.

Holding Times

These samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1668A

These samples were extracted and analyzed for 209 PCB congeners by EPA Method 1668A using a ZB-1 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. PCB-11 was detected at 6.15 pg/L in the Method Blank. No other analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method

acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

EPA Method 1699

These samples were extracted and analyzed for chlorinated pesticides by EPA Method 1699 using a ZB-50 GC column.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected above the sample quantitation limit in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The recoveries of many of the labeled internal standard recoveries were outside the method acceptance criteria due to matrix interferences and high analyte concentration levels. The affected internal standards are listed in the table below.

Sample ID: 22B-U-MH4-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 0.954 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 26-May-16 23:30 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.20		
1,2,3,7,8-PeCDD	ND	1.90		
1,2,3,4,7,8-HxCDD	ND	1.30		
1,2,3,6,7,8-HxCDD	ND	1.26		
1,2,3,7,8,9-HxCDD	ND	1.57		
1,2,3,4,6,7,8-HpCDD	ND	2.52		
OCDD	ND		7.46	
2,3,7,8-TCDF	ND	1.21		
1,2,3,7,8-PeCDF	ND	1.26		
2,3,4,7,8-PeCDF	ND	1.21		
1,2,3,4,7,8-HxCDF	ND	1.05		
1,2,3,6,7,8-HxCDF	ND	1.03		
2,3,4,6,7,8-HxCDF	ND	1.17		
1,2,3,7,8,9-HxCDF	ND	2.25		
1,2,3,4,6,7,8-HpCDF	ND	1.27		
1,2,3,4,7,8,9-HpCDF	ND	1.64		
OCDF	ND	2.74		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	80.8	25 - 164	
	13C-1,2,3,7,8-PeCDD	88.5	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	96.0	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	92.5	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	87.5	23 - 140	
	13C-OCDD	73.2	17 - 157	
	13C-2,3,7,8-TCDF	85.3	24 - 169	
	13C-1,2,3,7,8-PeCDF	93.4	24 - 185	
	13C-2,3,4,7,8-PeCDF	94.4	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	72.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	76.9	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	75.4	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	78.5	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	74.3	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	88.3	26 - 138	
	13C-OCDF	70.6	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	76.1	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH6-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 0.971 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 00:16 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.47		
1,2,3,7,8-PeCDD	ND	1.98		
1,2,3,4,7,8-HxCDD	ND	1.31		
1,2,3,6,7,8-HxCDD	ND	1.28		
1,2,3,7,8,9-HxCDD	ND	1.60		
1,2,3,4,6,7,8-HpCDD	ND	1.86		
OCDD	5.39			J
2,3,7,8-TCDF	ND	1.49		
1,2,3,7,8-PeCDF	ND	1.13		
2,3,4,7,8-PeCDF	ND	1.05		
1,2,3,4,7,8-HxCDF	ND	0.744		
1,2,3,6,7,8-HxCDF	ND	0.763		
2,3,4,6,7,8-HxCDF	ND	0.884		
1,2,3,7,8,9-HxCDF	ND	1.69		
1,2,3,4,6,7,8-HpCDF	ND	0.988		
1,2,3,4,7,8,9-HpCDF	ND	1.37		
OCDF	ND	2.46		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	91.9	25 - 164	
	13C-1,2,3,7,8-PeCDD	103	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	81.6	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	99.7	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	99.4	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	89.6	23 - 140	
	13C-OCDD	77.2	17 - 157	
	13C-2,3,7,8-TCDF	91.0	24 - 169	
	13C-1,2,3,7,8-PeCDF	104	24 - 185	
	13C-2,3,4,7,8-PeCDF	105	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	74.9	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	88.5	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	84.0	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	82.8	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	80.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	87.5	26 - 138	
	13C-OCDF	77.5	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	82.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00162

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH7-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 0.961 L

Laboratory Data
Lab Sample: 1600631-03 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 01:02 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.00		
1,2,3,7,8-PeCDD	ND	1.97		
1,2,3,4,7,8-HxCDD	ND	1.19		
1,2,3,6,7,8-HxCDD	ND	1.12		
1,2,3,7,8,9-HxCDD	ND	1.41		
1,2,3,4,6,7,8-HpCDD	ND	1.49		
OCDD	ND	2.43		
2,3,7,8-TCDF	ND	0.951		
1,2,3,7,8-PeCDF	ND	0.973		
2,3,4,7,8-PeCDF	ND	0.929		
1,2,3,4,7,8-HxCDF	ND	0.811		
1,2,3,6,7,8-HxCDF	ND	0.802		
2,3,4,6,7,8-HxCDF	ND	0.954		
1,2,3,7,8,9-HxCDF	ND	1.79		
1,2,3,4,6,7,8-HpCDF	ND	0.971		
1,2,3,4,7,8,9-HpCDF	ND	1.20		
OCDF	ND	2.13		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	90.2	25 - 164	
	13C-1,2,3,7,8-PeCDD	104	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	81.3	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	99.5	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	95.9	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	90.5	23 - 140	
	13C-OCDD	72.9	17 - 157	
	13C-2,3,7,8-TCDF	90.7	24 - 169	
	13C-1,2,3,7,8-PeCDF	100	24 - 185	
	13C-2,3,4,7,8-PeCDF	107	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	74.9	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	91.7	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	87.2	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	84.9	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	79.6	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	94.3	26 - 138	
	13C-OCDF	75.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-RB-110516

EPA Method 1613B

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.947 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0143 Date Extracted: 25-May-2016 8:36
Date Analyzed : 27-May-16 01:48 Column: ZB-5MS Analyst: WJL

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
2,3,7,8-TCDD	ND	1.05		
1,2,3,7,8-PeCDD	ND	2.14		
1,2,3,4,7,8-HxCDD	ND	1.26		
1,2,3,6,7,8-HxCDD	ND	1.18		
1,2,3,7,8,9-HxCDD	ND	1.58		
1,2,3,4,6,7,8-HpCDD	ND	1.80		
OCDD	ND	2.72		
2,3,7,8-TCDF	ND	0.860		
1,2,3,7,8-PeCDF	ND	1.02		
2,3,4,7,8-PeCDF	ND	0.993		
1,2,3,4,7,8-HxCDF	ND	0.864		
1,2,3,6,7,8-HxCDF	ND	0.819		
2,3,4,6,7,8-HxCDF	ND	0.917		
1,2,3,7,8,9-HxCDF	ND	2.06		
1,2,3,4,6,7,8-HpCDF	ND	1.20		
1,2,3,4,7,8,9-HpCDF	ND	1.61		
OCDF	ND	2.56		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-2,3,7,8-TCDD	87.3	25 - 164	
	13C-1,2,3,7,8-PeCDD	95.6	25 - 181	
	13C-1,2,3,4,7,8-HxCDD	77.9	32 - 141	
	13C-1,2,3,6,7,8-HxCDD	98.1	28 - 130	
	13C-1,2,3,7,8,9-HxCDD	94.7	32 - 141	
	13C-1,2,3,4,6,7,8-HpCDD	81.7	23 - 140	
	13C-OCDD	61.4	17 - 157	
	13C-2,3,7,8-TCDF	88.9	24 - 169	
	13C-1,2,3,7,8-PeCDF	98.6	24 - 185	
	13C-2,3,4,7,8-PeCDF	97.5	21 - 178	
	13C-1,2,3,4,7,8-HxCDF	70.8	26 - 152	
	13C-1,2,3,6,7,8-HxCDF	82.8	26 - 123	
	13C-2,3,4,6,7,8-HxCDF	78.3	28 - 136	
	13C-1,2,3,7,8,9-HxCDF	78.1	29 - 147	
	13C-1,2,3,4,6,7,8-HpCDF	68.7	28 - 143	
	13C-1,2,3,4,7,8,9-HpCDF	83.3	26 - 138	
	13C-OCDF	61.1	17 - 157	
CRS	37Cl-2,3,7,8-TCDD	87.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data

TEQMinWHO2005Dioxin	0.00

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	12.4			
PCB-2	ND	0.908		
PCB-3	1.04			J
PCB-4/10	24.2			
PCB-5/8	14.7			
PCB-6	4.32			J
PCB-7/9	ND	2.76		
PCB-11	27.6			B
PCB-12/13	ND	0.677		
PCB-14	ND	0.583		
PCB-15	5.39			
PCB-16/32	22.5			
PCB-17	11.8			
PCB-18	36.7			
PCB-19	9.38			
PCB-20/21/33	13.2			J
PCB-22	10.9			
PCB-23	ND	0.356		
PCB-24/27	3.04			J
PCB-25	ND		1.86	
PCB-26	4.42			J
PCB-28	22.7			
PCB-29	ND	0.356		
PCB-30	ND	0.401		
PCB-31	21.1			
PCB-34	ND	0.331		
PCB-35	0.497			J
PCB-36	ND	0.323		
PCB-37	5.16			
PCB-38	0.776			J
PCB-39	ND	0.333		
PCB-40	4.79			J
PCB-41/64/71/72	22.6			
PCB-42/59	7.22			J
PCB-43/49	25.0			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	43.4			
PCB-45	4.95			J
PCB-46	1.96			J
PCB-47	42.6			B
PCB-48/75	3.06			J
PCB-50	ND	0.618		
PCB-51	47.7			
PCB-52/69	71.2			
PCB-53	5.78			
PCB-54	ND	0.470		
PCB-55	0.407			J
PCB-56/60	9.00			J
PCB-57	ND	0.321		
PCB-58	ND	0.316		
PCB-61/70	28.9			B
PCB-62	ND	0.351		
PCB-63	0.616			J
PCB-65	ND	0.362		
PCB-66/76	13.1			
PCB-67	0.478			J
PCB-68	17.8			
PCB-73	ND	0.384		
PCB-74	7.73			
PCB-77	2.13			J
PCB-78	ND	0.310		
PCB-79	0.587			J
PCB-80	ND	0.259		
PCB-81	0.174			J
PCB-82	7.16			
PCB-83	ND	0.527		
PCB-84/92	29.6			
PCB-85/116	9.08			J
PCB-86	ND	0.848		
PCB-87/117/125	23.8			
PCB-88/91	10.3			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	0.751		
PCB-90/101	60.2			
PCB-93	ND	0.853		
PCB-94	ND		0.474	
PCB-95/98/102	70.4			
PCB-96	ND		0.527	
PCB-97	17.8			
PCB-99	21.0			
PCB-100	ND	0.557		
PCB-103	ND		0.421	
PCB-104	ND	0.425		
PCB-105	13.8			
PCB-106/118	38.8			
PCB-107/109	2.37			J
PCB-108/112	2.74			J
PCB-110	68.4			
PCB-111/115	1.01			J
PCB-113	ND	0.558		
PCB-114	0.701			J
PCB-119	0.633			J
PCB-120	ND	0.441		
PCB-121	ND	0.514		
PCB-122	0.435			J
PCB-123	ND	0.490		
PCB-124	2.17			J
PCB-126	0.523			J
PCB-127	ND	0.596		
PCB-128/162	7.57			J
PCB-129	2.91			J
PCB-130	4.06			J
PCB-131	ND	0.498		
PCB-132/161	14.4			
PCB-133/142	1.49			J
PCB-134/143	2.87			J
PCB-135	5.96			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	6.87			
PCB-137	2.22			J
PCB-138/163/164	51.7			
PCB-139/149	40.1			
PCB-140	ND	0.617		
PCB-141	8.88			
PCB-144	2.06			J
PCB-145	ND	0.439		
PCB-146/165	7.04			J
PCB-147	1.09			J
PCB-148	ND	0.587		
PCB-150	ND	0.425		
PCB-151	11.2			
PCB-152	ND	0.410		
PCB-153	44.8			B
PCB-154	0.675			J
PCB-155	ND	0.400		
PCB-156	4.88			J
PCB-157	1.21			J
PCB-158/160	6.16			J
PCB-159	ND	0.317		
PCB-166	ND	0.339		
PCB-167	2.32			J
PCB-168	ND	0.310		
PCB-169	ND	0.356		
PCB-170	11.6			
PCB-171	3.54			J
PCB-172	2.68			J
PCB-173	ND	0.335		
PCB-174	17.3			
PCB-175	ND	0.326		
PCB-176	1.91			J
PCB-177	8.24			
PCB-178	3.66			J
PCB-179	7.12			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	31.8			
PCB-181	ND	0.274		
PCB-182/187	28.3			
PCB-183	9.24			
PCB-184	ND	0.216		
PCB-185	2.47			J
PCB-186	ND	0.199		
PCB-188	ND	0.190		
PCB-189	0.650			J
PCB-190	2.92			J
PCB-191	0.585			J
PCB-192	ND	0.213		
PCB-193	1.78			J
PCB-194	10.8			B
PCB-195	3.89			J
PCB-196/203	16.9			
PCB-197	0.608			J
PCB-198	0.730			J
PCB-199	17.2			
PCB-200	2.13			J
PCB-201	1.70			J
PCB-202	3.51			J
PCB-204	ND	0.429		
PCB-205	0.653			J
PCB-206	8.19			
PCB-207	1.05			J
PCB-208	2.56			J, B
PCB-209	4.10			J
Total monoCB	13.4			
Total diCB	76.2			
Total triCB	162		164	
Total tetraCB	361			
Total pentaCB	381		382	
Total hexaCB	230			
Total heptaCB	134			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	58.2			
Total nonaCB	11.8			
DecaCB	4.10			
Total PCB	1430			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 8:30

Sample Data
Matrix: Water
Sample Size: 1.00 L

Laboratory Data
Lab Sample: 1600631-01 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 05:49 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	33.7	15 -150	
	13C-PCB-3	44.7	15 -150	
	13C-PCB-4	36.6	25 -150	
	13C-PCB-11	70.3	25 -150	
	13C-PCB-9	51.1	25 -150	
	13C-PCB-19	47.2	25 -150	
	13C-PCB-28	59.0	25 -150	
	13C-PCB-32	63.3	25 -150	
	13C-PCB-37	76.5	25 -150	
	13C-PCB-47	72.5	25 -150	
	13C-PCB-52	70.3	25 -150	
	13C-PCB-54	46.8	25 -150	
	13C-PCB-70	71.7	25 -150	
	13C-PCB-77	72.4	25 -150	
	13C-PCB-80	74.8	25 -150	
	13C-PCB-81	73.6	25 -150	
	13C-PCB-95	68.9	25 -150	
	13C-PCB-97	75.2	25 -150	
	13C-PCB-101	75.8	25 -150	
	13C-PCB-104	74.3	25 -150	
	13C-PCB-105	86.8	25 -150	
	13C-PCB-114	85.6	25 -150	
	13C-PCB-118	77.5	25 -150	
	13C-PCB-123	81.3	25 -150	
	13C-PCB-126	90.4	25 -150	
	13C-PCB-127	91.7	25 -150	
	13C-PCB-138	77.7	25 -150	
	13C-PCB-141	77.4	25 -150	
	13C-PCB-153	78.6	25 -150	
	13C-PCB-155	69.2	25 -150	
	13C-PCB-156	82.6	25 -150	
	13C-PCB-157	78.7	25 -150	
	13C-PCB-159	82.7	25 -150	
	13C-PCB-167	83.2	25 -150	
	13C-PCB-169	82.6	25 -150	

	Labeled Standard	%R	LCL-UCL	Qualifiers
	13C-PCB-170	75.9	25 -150	
	13C-PCB-180	76.5	25 -150	
	13C-PCB-188	72.4	25 -150	
	13C-PCB-189	79.2	25 -150	
	13C-PCB-194	78.0	25 -150	
	13C-PCB-202	68.2	25 -150	
	13C-PCB-206	77.7	25 -150	
	13C-PCB-208	68.6	25 -150	
	13C-PCB-209	80.5	25 -150	
CRS	13C-PCB-79	82.8	30 -135	
	13C-PCB-178	82.8	30 -135	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	17.5			
PCB-2	0.723			J
PCB-3	1.29			J
PCB-4/10	25.0			
PCB-5/8	11.5			
PCB-6	2.35			J
PCB-7/9	1.84			J
PCB-11	18.2			B
PCB-12/13	ND	0.777		
PCB-14	ND	0.669		
PCB-15	3.63			J
PCB-16/32	21.8			
PCB-17	10.8			
PCB-18	33.7			
PCB-19	9.56			
PCB-20/21/33	8.90			J
PCB-22	8.15			
PCB-23	ND	0.336		
PCB-24/27	2.98			J
PCB-25	1.27			J
PCB-26	ND		2.51	
PCB-28	14.1			
PCB-29	ND	0.336		
PCB-30	ND	0.203		
PCB-31	14.1			
PCB-34	ND	0.313		
PCB-35	0.292			J
PCB-36	ND	0.299		
PCB-37	3.22			J
PCB-38	1.97			J
PCB-39	ND	0.309		
PCB-40	4.99			
PCB-41/64/71/72	21.6			
PCB-42/59	6.34			J
PCB-43/49	25.0			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	51.6			
PCB-45	5.52			
PCB-46	2.60			J
PCB-47	84.7			B
PCB-48/75	2.55			J
PCB-50	ND	0.558		
PCB-51	75.2			
PCB-52/69	84.2			
PCB-53	7.02			
PCB-54	ND	0.233		
PCB-55	0.367			J
PCB-56/60	6.55			J
PCB-57	ND	0.332		
PCB-58	ND	0.327		
PCB-61/70	23.2			B
PCB-62	ND	0.378		
PCB-63	ND		0.323	
PCB-65	ND	0.390		
PCB-66/76	9.43			J
PCB-67	0.272			J
PCB-68	28.2			
PCB-73	ND	0.371		
PCB-74	5.64			
PCB-77	0.566			J
PCB-78	ND	0.309		
PCB-79	ND		0.317	
PCB-80	ND	0.273		
PCB-81	0.288			J
PCB-82	6.58			
PCB-83	ND	0.646		
PCB-84/92	34.4			
PCB-85/116	7.02			J
PCB-86	ND	1.04		
PCB-87/117/125	20.9			
PCB-88/91	11.5			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	0.813			J
PCB-90/101	58.3			
PCB-93	ND	1.01		
PCB-94	ND	0.949		
PCB-95/98/102	79.8			
PCB-96	1.06			J
PCB-97	15.8			
PCB-99	19.0			
PCB-100	ND	0.816		
PCB-103	0.537			J
PCB-104	ND	0.622		
PCB-105	6.95			
PCB-106/118	22.4			
PCB-107/109	1.71			J
PCB-108/112	2.57			J
PCB-110	61.0			
PCB-111/115	0.707			J
PCB-113	ND	0.720		
PCB-114	0.503			J
PCB-119	0.763			J
PCB-120	ND	0.540		
PCB-121	ND	0.609		
PCB-122	ND	0.422		
PCB-123	0.486			J
PCB-124	1.24			J
PCB-126	ND	0.384		
PCB-127	ND	0.383		
PCB-128/162	5.43			J
PCB-129	2.06			J
PCB-130	2.43			J
PCB-131	ND	0.371		
PCB-132/161	11.2			
PCB-133/142	1.02			J
PCB-134/143	2.05			J
PCB-135	5.30			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	7.29			
PCB-137	1.55			J
PCB-138/163/164	30.8			
PCB-139/149	34.1			
PCB-140	ND	0.749		
PCB-141	5.90			
PCB-144	1.96			J
PCB-145	ND	0.532		
PCB-146/165	3.96			J
PCB-147	1.10			J
PCB-148	ND	0.712		
PCB-150	ND	0.516		
PCB-151	8.10			
PCB-152	ND	0.498		
PCB-153	25.1			B
PCB-154	0.493			J
PCB-155	ND	0.486		
PCB-156	2.39			J
PCB-157	0.726			J
PCB-158/160	3.36			J
PCB-159	ND	0.224		
PCB-166	ND	0.151		
PCB-167	1.10			J
PCB-168	ND	0.231		
PCB-169	ND	0.253		
PCB-170	6.37			
PCB-171	2.16			J
PCB-172	1.04			J
PCB-173	ND	0.323		
PCB-174	9.13			
PCB-175	0.488			J
PCB-176	1.25			J
PCB-177	ND		4.22	
PCB-178	1.68			J
PCB-179	4.42			J

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	16.6			
PCB-181	ND	0.264		
PCB-182/187	13.5			
PCB-183	4.90			J
PCB-184	ND	0.213		
PCB-185	ND		0.867	
PCB-186	ND	0.196		
PCB-188	ND	0.187		
PCB-189	0.179			J
PCB-190	1.33			J
PCB-191	ND		0.331	
PCB-192	ND	0.205		
PCB-193	0.854			J
PCB-194	5.08			B
PCB-195	1.86			J
PCB-196/203	8.07			J
PCB-197	ND	0.349		
PCB-198	9.34			
PCB-199	9.50			
PCB-200	1.23			J
PCB-201	1.00			J
PCB-202	2.08			J
PCB-204	ND	0.379		
PCB-205	0.222			J
PCB-206	5.60			
PCB-207	0.638			J
PCB-208	1.63			B, J
PCB-209	3.36			J
Total monoCB	19.5			
Total diCB	62.5			
Total triCB	131		133	
Total tetraCB	446			
Total pentaCB	354			
Total hexaCB	157			
Total heptaCB	63.8		69.3	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	38.4			
Total nonaCB	7.87			
DecaCB	3.36			
Total PCB	1280			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH6-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 10:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-02 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 06:54 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	71.5	15 -150	
	13C-PCB-3	72.1	15 -150	
	13C-PCB-4	68.9	25 -150	
	13C-PCB-11	88.2	25 -150	
	13C-PCB-9	72.4	25 -150	
	13C-PCB-19	74.4	25 -150	
	13C-PCB-28	77.8	25 -150	
	13C-PCB-32	81.1	25 -150	
	13C-PCB-37	97.8	25 -150	
	13C-PCB-47	77.2	25 -150	
	13C-PCB-52	79.9	25 -150	
	13C-PCB-54	63.2	25 -150	
	13C-PCB-70	85.6	25 -150	
	13C-PCB-77	91.4	25 -150	
	13C-PCB-80	85.0	25 -150	
	13C-PCB-81	88.8	25 -150	
	13C-PCB-95	79.3	25 -150	
	13C-PCB-97	85.9	25 -150	
	13C-PCB-101	83.9	25 -150	
	13C-PCB-104	76.2	25 -150	
	13C-PCB-105	95.9	25 -150	
	13C-PCB-114	91.9	25 -150	
	13C-PCB-118	92.1	25 -150	
	13C-PCB-123	95.2	25 -150	
	13C-PCB-126	104	25 -150	
	13C-PCB-127	97.9	25 -150	
	13C-PCB-138	87.1	25 -150	
	13C-PCB-141	86.4	25 -150	
	13C-PCB-153	85.5	25 -150	
	13C-PCB-155	72.2	25 -150	
	13C-PCB-156	90.8	25 -150	
	13C-PCB-157	87.7	25 -150	
	13C-PCB-159	90.3	25 -150	
	13C-PCB-167	90.3	25 -150	
	13C-PCB-169	93.4	25 -150	
	13C-PCB-170	86.1	25 -150	
	13C-PCB-180	81.0	25 -150	
	13C-PCB-188	75.8	25 -150	
	13C-PCB-189	86.7	25 -150	
	13C-PCB-194	86.0	25 -150	
	13C-PCB-202	73.3	25 -150	
	13C-PCB-206	84.8	25 -150	
	13C-PCB-208	77.2	25 -150	
	13C-PCB-209	85.5	25 -150	
CRS	13C-PCB-79	95.8	30 -135	
	13C-PCB-178	91.0	30 -135	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	1.47			J
PCB-2	ND	1.02		
PCB-3	ND	1.01		
PCB-4/10	28.2			
PCB-5/8	2.17			J
PCB-6	ND	1.56		
PCB-7/9	ND	1.54		
PCB-11	11.1			B
PCB-12/13	ND	1.49		
PCB-14	ND	1.28		
PCB-15	5.65			
PCB-16/32	21.3			
PCB-17	10.4			
PCB-18	33.3			
PCB-19	10.3			
PCB-20/21/33	3.59			J
PCB-22	6.48			
PCB-23	ND	0.380		
PCB-24/27	3.29			J
PCB-25	1.38			J
PCB-26	2.81			J
PCB-28	16.4			
PCB-29	ND	0.238		
PCB-30	ND	0.287		
PCB-31	12.5			
PCB-34	ND	0.354		
PCB-35	ND	0.399		
PCB-36	ND	0.385		
PCB-37	3.82			J
PCB-38	1.10			J
PCB-39	ND	0.397		
PCB-40	4.35			J
PCB-41/64/71/72	14.4			J
PCB-42/59	5.47			J
PCB-43/49	13.6			

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	20.4			
PCB-45	5.05			
PCB-46	2.47			J
PCB-47	41.8			B
PCB-48/75	2.10			J
PCB-50	ND	0.605		
PCB-51	56.1			
PCB-52/69	27.6			
PCB-53	5.19			
PCB-54	ND	0.459		
PCB-55	ND	0.332		
PCB-56/60	4.71			J
PCB-57	ND	0.364		
PCB-58	ND	0.657		
PCB-61/70	11.8			B
PCB-62	ND	0.399		
PCB-63	ND	0.642		
PCB-65	ND	0.412		
PCB-66/76	6.60			J
PCB-67	ND	0.374		
PCB-68	14.1			
PCB-73	ND	0.397		
PCB-74	3.37			J
PCB-77	0.948			J
PCB-78	ND	0.357		
PCB-79	ND	0.352		
PCB-80	ND	0.308		
PCB-81	ND	0.409		
PCB-82	2.89			J
PCB-83	ND	0.912		
PCB-84/92	14.1			
PCB-85/116	3.93			J
PCB-86	ND	1.47		
PCB-87/117/125	8.81			J
PCB-88/91	5.34			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.31		
PCB-90/101	23.0			
PCB-93	ND	1.42		
PCB-94	ND	1.33		
PCB-95/98/102	30.6			
PCB-96	ND	0.995		
PCB-97	7.05			
PCB-99	9.65			
PCB-100	ND	1.13		
PCB-103	ND	1.12		
PCB-104	ND	0.860		
PCB-105	4.92			J
PCB-106/118	15.7			
PCB-107/109	ND		1.04	
PCB-108/112	1.30			J
PCB-110	34.3			
PCB-111/115	0.409			J
PCB-113	ND	0.977		
PCB-114	ND		0.228	
PCB-119	ND		0.334	
PCB-120	ND	0.763		
PCB-121	ND	0.854		
PCB-122	ND	0.564		
PCB-123	ND		0.335	
PCB-124	1.00			J
PCB-126	ND	0.531		
PCB-127	ND	0.533		
PCB-128/162	3.95			J
PCB-129	1.28			J
PCB-130	ND		1.38	
PCB-131	ND	0.429		
PCB-132/161	6.29			J
PCB-133/142	ND		0.501	
PCB-134/143	1.38			J
PCB-135	3.12			J

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	2.94			J
PCB-137	1.10			J
PCB-138/163/164	22.8			
PCB-139/149	18.8			
PCB-140	ND	0.837		
PCB-141	3.65			J
PCB-144	1.02			J
PCB-145	ND	0.595		
PCB-146/165	3.09			J
PCB-147	0.510			J
PCB-148	ND	0.795		
PCB-150	ND	0.577		
PCB-151	5.00			
PCB-152	ND	0.556		
PCB-153	17.6			B
PCB-154	ND	0.731		
PCB-155	ND	0.543		
PCB-156	1.86			J
PCB-157	0.603			J
PCB-158/160	2.64			J
PCB-159	ND	0.278		
PCB-166	ND	0.298		
PCB-167	1.09			J
PCB-168	ND	0.268		
PCB-169	ND	0.302		
PCB-170	4.52			J
PCB-171	ND		1.02	
PCB-172	0.879			J
PCB-173	ND	0.429		
PCB-174	5.87			
PCB-175	ND	0.363		
PCB-176	0.626			J
PCB-177	3.21			J
PCB-178	1.65			J
PCB-179	2.93			J

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	11.8			
PCB-181	ND	0.352		
PCB-182/187	9.93			
PCB-183	3.32			J
PCB-184	ND	0.284		
PCB-185	0.796			J
PCB-186	ND	0.261		
PCB-188	ND	0.250		
PCB-189	0.218			J
PCB-190	1.18			J
PCB-191	ND	0.255		
PCB-192	ND	0.273		
PCB-193	ND	0.256		
PCB-194	4.95			B
PCB-195	1.67			J
PCB-196/203	8.01			J
PCB-197	ND	0.358		
PCB-198	ND	0.554		
PCB-199	7.72			
PCB-200	0.881			J
PCB-201	0.855			J
PCB-202	1.95			J
PCB-204	ND	0.389		
PCB-205	ND		0.253	
PCB-206	6.32			
PCB-207	0.667			J
PCB-208	1.39			B, J
PCB-209	2.59			J
Total monoCB	1.47			
Total diCB	47.1			
Total triCB	127			
Total tetraCB	240			
Total pentaCB	163		165	
Total hexaCB	98.8		101	
Total heptaCB	46.9		47.9	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	26.0		26.3	
Total nonaCB	8.37			
DecaCB	2.59			
Total PCB	761			

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-MH7-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 13:30

Sample Data
Matrix: Water
Sample Size: 1.01 L

Laboratory Data
Lab Sample: 1600631-03 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 08:00 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	68.1	15 -150	
	13C-PCB-3	67.6	15 -150	
	13C-PCB-4	67.6	25 -150	
	13C-PCB-11	80.3	25 -150	
	13C-PCB-9	73.2	25 -150	
	13C-PCB-19	74.3	25 -150	
	13C-PCB-28	74.1	25 -150	
	13C-PCB-32	79.4	25 -150	
	13C-PCB-37	90.6	25 -150	
	13C-PCB-47	80.2	25 -150	
	13C-PCB-52	83.4	25 -150	
	13C-PCB-54	64.9	25 -150	
	13C-PCB-70	86.1	25 -150	
	13C-PCB-77	94.6	25 -150	
	13C-PCB-80	87.2	25 -150	
	13C-PCB-81	90.5	25 -150	
	13C-PCB-95	83.6	25 -150	
	13C-PCB-97	90.0	25 -150	
	13C-PCB-101	87.4	25 -150	
	13C-PCB-104	80.2	25 -150	
	13C-PCB-105	107	25 -150	
	13C-PCB-114	104	25 -150	
	13C-PCB-118	94.0	25 -150	
	13C-PCB-123	98.3	25 -150	
	13C-PCB-126	113	25 -150	
	13C-PCB-127	109	25 -150	
	13C-PCB-138	92.2	25 -150	
	13C-PCB-141	90.5	25 -150	
	13C-PCB-153	89.7	25 -150	
	13C-PCB-155	76.6	25 -150	
	13C-PCB-156	97.7	25 -150	
	13C-PCB-157	94.9	25 -150	
	13C-PCB-159	92.5	25 -150	
	13C-PCB-167	93.2	25 -150	
	13C-PCB-169	99.2	25 -150	
	13C-PCB-170	90.1	25 -150	
	13C-PCB-180	86.1	25 -150	
	13C-PCB-188	78.7	25 -150	
	13C-PCB-189	93.1	25 -150	
	13C-PCB-194	86.5	25 -150	
	13C-PCB-202	75.4	25 -150	
	13C-PCB-206	82.6	25 -150	
	13C-PCB-208	74.6	25 -150	
	13C-PCB-209	85.9	25 -150	
CRS	13C-PCB-79	90.4	30 -135	
	13C-PCB-178	87.3	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-1	0.484			J
PCB-2	ND	0.790		
PCB-3	ND	0.788		
PCB-4/10	ND	1.84		
PCB-5/8	ND	2.09		
PCB-6	ND	1.62		
PCB-7/9	ND	1.60		
PCB-11	10.1			B
PCB-12/13	ND	1.61		
PCB-14	ND	1.38		
PCB-15	ND	1.41		
PCB-16/32	1.25			J
PCB-17	0.986			J
PCB-18	1.16			J
PCB-19	ND	0.449		
PCB-20/21/33	ND		0.741	
PCB-22	3.64			J
PCB-23	ND	0.367		
PCB-24/27	ND	0.285		
PCB-25	ND	0.405		
PCB-26	ND	0.359		
PCB-28	1.23			J
PCB-29	ND	0.367		
PCB-30	ND	0.284		
PCB-31	ND		0.805	
PCB-34	ND	0.342		
PCB-35	ND	0.381		
PCB-36	ND	0.368		
PCB-37	ND	0.355		
PCB-38	1.72			J
PCB-39	ND	0.380		
PCB-40	ND	0.623		
PCB-41/64/71/72	0.573			J
PCB-42/59	ND	0.432		
PCB-43/49	2.35			J

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-44	ND	0.613		
PCB-45	ND	0.527		
PCB-46	ND	0.578		
PCB-47	71.7			B
PCB-48/75	ND	0.403		
PCB-50	ND	0.561		
PCB-51	78.8			
PCB-52/69	0.813			J
PCB-53	ND		0.336	
PCB-54	ND	0.426		
PCB-55	ND	0.304		
PCB-56/60	ND	0.224		
PCB-57	ND	0.332		
PCB-58	ND	0.327		
PCB-61/70	0.646			J, B
PCB-62	ND	0.393		
PCB-63	ND	0.319		
PCB-65	ND	0.406		
PCB-66/76	0.387			J
PCB-67	ND	0.340		
PCB-68	24.2			
PCB-73	ND	0.389		
PCB-74	ND	0.306		
PCB-77	ND	0.303		
PCB-78	ND	0.328		
PCB-79	ND	0.323		
PCB-80	ND	0.283		
PCB-81	ND	0.299		
PCB-82	ND	1.26		
PCB-83	ND	0.810		
PCB-84/92	ND	1.07		
PCB-85/116	ND	0.967		
PCB-86	ND	1.30		
PCB-87/117/125	ND	0.846		
PCB-88/91	ND	0.914		

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-89	ND	1.15		
PCB-90/101	ND	0.737		
PCB-93	ND	1.25		
PCB-94	ND	1.17		
PCB-95/98/102	ND	1.03		
PCB-96	ND	0.968		
PCB-97	ND	1.04		
PCB-99	ND	0.919		
PCB-100	ND	1.10		
PCB-103	ND	1.09		
PCB-104	ND	0.837		
PCB-105	ND	0.397		
PCB-106/118	ND	0.548		
PCB-107/109	ND	0.703		
PCB-108/112	ND	0.958		
PCB-110	ND	0.613		
PCB-111/115	ND	0.725		
PCB-113	ND	0.857		
PCB-114	ND	0.424		
PCB-119	ND	0.717		
PCB-120	ND	0.678		
PCB-121	ND	0.753		
PCB-122	ND	0.505		
PCB-123	ND	0.750		
PCB-124	ND	0.720		
PCB-126	ND	0.480		
PCB-127	ND	0.466		
PCB-128/162	ND	0.407		
PCB-129	ND	0.513		
PCB-130	ND	0.584		
PCB-131	ND	0.531		
PCB-132/161	ND	0.383		
PCB-133/142	ND	0.494		
PCB-134/143	ND	0.482		
PCB-135	ND	0.703		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-136	ND	0.491		
PCB-137	ND	0.456		
PCB-138/163/164	0.776			J
PCB-139/149	ND		0.917	
PCB-140	ND	0.721		
PCB-141	ND	0.465		
PCB-144	ND	0.655		
PCB-145	ND	0.513		
PCB-146/165	ND	0.415		
PCB-147	ND	0.720		
PCB-148	ND	0.686		
PCB-150	ND	0.497		
PCB-151	ND	0.686		
PCB-152	ND	0.480		
PCB-153	0.641			B, J
PCB-154	ND	0.630		
PCB-155	ND	0.468		
PCB-156	ND	0.339		
PCB-157	ND	0.358		
PCB-158/160	ND	0.344		
PCB-159	ND	0.344		
PCB-166	ND	0.369		
PCB-167	ND	0.346		
PCB-168	ND	0.331		
PCB-169	ND	0.405		
PCB-170	ND	0.276		
PCB-171	ND	0.283		
PCB-172	ND	0.304		
PCB-173	ND	0.372		
PCB-174	ND	0.319		
PCB-175	ND	0.297		
PCB-176	ND	0.214		
PCB-177	ND	0.325		
PCB-178	ND	0.290		
PCB-179	ND	0.224		

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL- Lower control limit - upper control limit
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 Date Received: 13-May-2016 9:55
QC Batch: B6E0115 Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
PCB-180	ND		0.433	
PCB-181	ND	0.305		
PCB-182/187	ND	0.345		
PCB-183	ND	0.254		
PCB-184	ND	0.233		
PCB-185	ND	0.293		
PCB-186	ND	0.214		
PCB-188	ND	0.205		
PCB-189	ND	0.183		
PCB-190	ND	0.205		
PCB-191	ND	0.221		
PCB-192	ND	0.237		
PCB-193	ND	0.222		
PCB-194	0.734			B, J
PCB-195	ND	0.296		
PCB-196/203	ND	0.568		
PCB-197	ND	0.403		
PCB-198	ND	0.624		
PCB-199	ND	0.635		
PCB-200	ND	0.455		
PCB-201	ND	0.429		
PCB-202	ND	0.462		
PCB-204	ND	0.438		
PCB-205	ND	0.210		
PCB-206	ND	0.361		
PCB-207	ND	0.232		
PCB-208	ND	0.235		
PCB-209	1.27			J
Total monoCB	0.484			
Total diCB	10.1			
Total triCB	9.99		11.5	
Total tetraCB	179		180	
Total pentaCB	ND	1.30		
Total hexaCB	1.42		2.33	
Total heptaCB	ND		0.433	

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Total octaCB	0.734			
Total nonaCB	ND	0.361		
DecaCB	1.27			
Total PCB	203			

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-RB-110516 — EPA Method 1668A

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 0.996 L

Laboratory Data
Lab Sample: 1600631-04 — Date Received: 13-May-2016 9:55
QC Batch: B6E0115 — Date Extracted: 20-May-2016 8:47
Date Analyzed : 24-May-16 03:38 Column: ZB-1 Analyst: MAS

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C-PCB-1	64.7	15 -150	
	13C-PCB-3	63.9	15 -150	
	13C-PCB-4	64.0	25 -150	
	13C-PCB-11	69.2	25 -150	
	13C-PCB-9	64.4	25 -150	
	13C-PCB-19	67.6	25 -150	
	13C-PCB-28	67.7	25 -150	
	13C-PCB-32	70.9	25 -150	
	13C-PCB-37	79.5	25 -150	
	13C-PCB-47	63.5	25 -150	
	13C-PCB-52	66.9	25 -150	
	13C-PCB-54	55.1	25 -150	
	13C-PCB-70	74.4	25 -150	
	13C-PCB-77	81.1	25 -150	
	13C-PCB-80	75.5	25 -150	
	13C-PCB-81	78.8	25 -150	
	13C-PCB-95	71.2	25 -150	
	13C-PCB-97	77.7	25 -150	
	13C-PCB-101	75.3	25 -150	
	13C-PCB-104	63.3	25 -150	
	13C-PCB-105	94.5	25 -150	
	13C-PCB-114	90.4	25 -150	
	13C-PCB-118	81.3	25 -150	
	13C-PCB-123	82.5	25 -150	
	13C-PCB-126	98.1	25 -150	
	13C-PCB-127	96.8	25 -150	
	13C-PCB-138	82.1	25 -150	
	13C-PCB-141	81.2	25 -150	
	13C-PCB-153	81.3	25 -150	
	13C-PCB-155	65.5	25 -150	
	13C-PCB-156	83.5	25 -150	
	13C-PCB-157	80.6	25 -150	
	13C-PCB-159	83.5	25 -150	
	13C-PCB-167	85.2	25 -150	
	13C-PCB-169	84.6	25 -150	
	13C-PCB-170	77.2	25 -150	
	13C-PCB-180	75.1	25 -150	
	13C-PCB-188	71.8	25 -150	
	13C-PCB-189	81.1	25 -150	
	13C-PCB-194	75.3	25 -150	
	13C-PCB-202	69.0	25 -150	
	13C-PCB-206	75.7	25 -150	
	13C-PCB-208	66.1	25 -150	
	13C-PCB-209	80.6	25 -150	
CRS	13C-PCB-79	77.9	30 -135	
	13C-PCB-178	74.2	30 -135	

DL - Sample specifc estimated detection limit
LCL-UCL- Lower control limit - upper control limit
EMPC - Estimated maximum possible concentration
See individual congeners for qualifiers.

Sample ID: 22B-U-MH4-110516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600631-01	Date Received:	13-May-2016 9:55
Project:	A6E0342	Sample Size:	1.03 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	11-May-2016 8:30			Date Analyzed:	26-May-16 00:29 Column: ZB-50 Analyst: ANP		
					31-May-16 18:45 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	78.0			B
alpha-BHC	205000			D
Lindane (gamma-BHC)	320000			D
beta-BHC	123000			D
delta-BHC	78400			D
Heptachlor	35.5			J
Aldrin	138			
Oxychlordane	ND	30.1		
cis-Heptachlor Epoxide	657			
trans-Heptachlor Epoxide	1830000			E, D
trans-Chlordane (gamma)	361			
trans-Nonachlor	117			
cis-Chlordane (alpha)	1070			
Endosulfan I (alpha)	ND	41.3		
2,4'-DDE	16.4			J
4,4'-DDE	235			
Dieldrin	199000			D
Endrin	15500			
cis-Nonachlor	61.8			
Endosulfan II (beta)	ND	120		
2,4'-DDD	353			
2,4'-DDT	430			
4,4'-DDD	682			
4,4'-DDT	2480			
Endosulfan Sulfate	ND	52.0		
4,4'-Methoxychlor	284			
Mirex	ND	3.93		
Endrin Aldehyde	14700			
Endrin Ketone	113000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	54.7	5 - 120	
IS	13C6-alpha-BHC	86.6	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	101	11 - 120	D
IS	13C6-beta-BHC	108	32 - 130	D
IS	13C6-delta-BHC	85.7	36 - 137	D
IS	13C10-Heptachlor	225	5 - 120	H
IS	13C12-Aldrin	43.0	5 - 120	
IS	13C10-Oxychlordane	60.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	55.4	27 - 137	
IS	13C10-trans-Chlordane (gamma)	41.1	21 - 132	
IS	13C10-trans-Nonachlor	41.0	14 - 136	
IS	13C9-Endosulfan I (alpha)	35.0	15 - 148	
IS	13C12-2,4'-DDE	35.2	47 - 160	H
IS	13C12-4,4'-DDE	35.7	47 - 160	H
IS	13C12-Dieldrin	73.0	40 - 151	D
IS	13C12-Endrin	49.0	35 - 155	
IS	13C10-cis-Nonachlor	48.7	36 - 139	
IS	13C9-Endosulfan II (beta)	35.1	5 - 122	
IS	13C12-2,4'-DDD	50.1	5 - 199	
IS	13C12-2,4'-DDT	55.2	5 - 199	
IS	13C12-4,4'-DDD	48.3	5 - 120	
IS	13C12-4,4'-DDT	43.7	5 - 120	
IS	13C9-Endosulfan Sulfate	41.2	15 - 148	
IS	13C12-Methoxychlor	23.5	5 - 120	
IS	13C10-Mirex	22.9	5 - 120	
IS	13C12-Endrin Aldehyde	3.74	15 - 148	H
IS	13C12-Endrin Ketone	24.8	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH6-110516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600631-02	Date Received:	13-May-2016 9:55
Project:	A6E0342	Sample Size:	1.01 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	11-May-2016 10:30			Date Analyzed:	26-May-16 01:18 Column: ZB-50 Analyst: ANP		
					31-May-16 19:34 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	96.5			B
alpha-BHC	219000			D
Lindane (gamma-BHC)	281000			D
beta-BHC	135000			D
delta-BHC	71900			D
Heptachlor	27.5			J
Aldrin	100			
Oxychlordane	ND	26.8		
cis-Heptachlor Epoxide	709			
trans-Heptachlor Epoxide	2580000			E, D
trans-Chlordane (gamma)	419			
trans-Nonachlor	ND	21.6		
cis-Chlordane (alpha)	1350			
Endosulfan I (alpha)	ND	40.7		
2,4'-DDE	15.8			J
4,4'-DDE	233			
Dieldrin	282000			D
Endrin	17900			
cis-Nonachlor	ND	45.1		
Endosulfan II (beta)	ND	119		
2,4'-DDD	269			
2,4'-DDT	304			
4,4'-DDD	409			
4,4'-DDT	1480			
Endosulfan Sulfate	ND	53.8		
4,4'-Methoxychlor	186			
Mirex	ND	3.97		
Endrin Aldehyde	7850			
Endrin Ketone	126000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	46.3	5 - 120	
IS	13C6-alpha-BHC	81.5	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	111	11 - 120	D
IS	13C6-beta-BHC	105	32 - 130	D
IS	13C6-delta-BHC	102	36 - 137	D
IS	13C10-Heptachlor	231	5 - 120	H
IS	13C12-Aldrin	28.5	5 - 120	
IS	13C10-Oxychlordane	55.7	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	56.6	27 - 137	
IS	13C10-trans-Chlordane (gamma)	37.5	21 - 132	
IS	13C10-trans-Nonachlor	39.1	14 - 136	
IS	13C9-Endosulfan I (alpha)	31.1	15 - 148	
IS	13C12-2,4'-DDE	34.7	47 - 160	H
IS	13C12-4,4'-DDE	33.9	47 - 160	H
IS	13C12-Dieldrin	59.8	40 - 151	D
IS	13C12-Endrin	49.0	35 - 155	
IS	13C10-cis-Nonachlor	47.7	36 - 139	
IS	13C9-Endosulfan II (beta)	35.3	5 - 122	
IS	13C12-2,4'-DDD	49.0	5 - 199	
IS	13C12-2,4'-DDT	52.8	5 - 199	
IS	13C12-4,4'-DDD	48.7	5 - 120	
IS	13C12-4,4'-DDT	39.9	5 - 120	
IS	13C9-Endosulfan Sulfate	45.3	15 - 148	
IS	13C12-Methoxychlor	21.6	5 - 120	
IS	13C10-Mirex	20.9	5 - 120	
IS	13C12-Endrin Aldehyde	5.87	15 - 148	H
IS	13C12-Endrin Ketone	30.2	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-MH7-110516 — EPA Method 1699

Client Data		Sample Data		Laboratory Data			
Name:	Apex Laboratories	Matrix:	Water	Lab Sample:	1600631-03	Date Received:	13-May-2016 9:55
Project:	A6E0342	Sample Size:	1.00 L	QC Batch:	B6E0084	Date Extracted:	16-May-2016 8:13
Date Collected:	11-May-2016 13:30			Date Analyzed:	26-May-16 02:07 Column: ZB-50 Analyst: ANP		
					31-May-16 20:23 Column: ZB-50 Analyst: ANP		

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	100			B
alpha-BHC	341000			D
Lindane (gamma-BHC)	408000			D
beta-BHC	170000			D
delta-BHC	135000			D
Heptachlor	33.7			J
Aldrin	129			
Oxychlordane	ND	39.5		
cis-Heptachlor Epoxide	1310			
trans-Heptachlor Epoxide	5690000			E, D
trans-Chlordane (gamma)	679			
trans-Nonachlor	ND	39.4		
cis-Chlordane (alpha)	3290			
Endosulfan I (alpha)	ND	57.4		
2,4'-DDE	13.1			J
4,4'-DDE	231			
Dieldrin	474000			D
Endrin	44800			D
cis-Nonachlor	ND	66.3		
Endosulfan II (beta)	ND	97.1		
2,4'-DDD	488			
2,4'-DDT	500			
4,4'-DDD	685			
4,4'-DDT	2100			
Endosulfan Sulfate	305			
4,4'-Methoxychlor	238			
Mirex	ND	4.38		
Endrin Aldehyde	6000			
Endrin Ketone	216000			D

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	48.9	5 - 120	
IS	13C6-alpha-BHC	88.5	32 - 130	D
IS	13C6-Lindane (gamma-BHC)	153	11 - 120	D, H
IS	13C6-beta-BHC	138	32 - 130	D, H
IS	13C6-delta-BHC	119	36 - 137	D
IS	13C10-Heptachlor	227	5 - 120	H
IS	13C12-Aldrin	49.5	5 - 120	
IS	13C10-Oxychlordane	66.3	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	62.5	27 - 137	
IS	13C10-trans-Chlordane (gamma)	40.8	21 - 132	
IS	13C10-trans-Nonachlor	39.1	14 - 136	
IS	13C9-Endosulfan I (alpha)	40.3	15 - 148	
IS	13C12-2,4'-DDE	35.7	47 - 160	H
IS	13C12-4,4'-DDE	35.7	47 - 160	H
IS	13C12-Dieldrin	86.9	40 - 151	D
IS	13C12-Endrin	79.8	35 - 155	D
IS	13C10-cis-Nonachlor	53.0	36 - 139	
IS	13C9-Endosulfan II (beta)	77.4	5 - 122	
IS	13C12-2,4'-DDD	50.8	5 - 199	
IS	13C12-2,4'-DDT	48.1	5 - 199	
IS	13C12-4,4'-DDD	48.9	5 - 120	
IS	13C12-4,4'-DDT	45.3	5 - 120	
IS	13C9-Endosulfan Sulfate	81.3	15 - 148	
IS	13C12-Methoxychlor	33.9	5 - 120	
IS	13C10-Mirex	26.2	5 - 120	
IS	13C12-Endrin Aldehyde	27.8	15 - 148	
IS	13C12-Endrin Ketone	63.3	15 - 148	D

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

Sample ID: 22B-U-RB-110516 — EPA Method 1699

Client Data
Name: Apex Laboratories
Project: A6E0342
Date Collected: 11-May-2016 16:30

Sample Data
Matrix: Water
Sample Size: 1.02 L

Laboratory Data
Lab Sample: 1600631-04 — Date Received: 13-May-2016 9:55
QC Batch: B6E0084 — Date Extracted: 16-May-2016 8:13
Date Analyzed: 25-May-16 20:24 Column: ZB-50 Analyst: ANP

Analyte	Conc. (pg/L)	DL	EMPC	Qualifiers
Hexachlorobenzene	3.77			J, B
alpha-BHC	12.9			J
Lindane (gamma-BHC)	ND		12.7	
beta-BHC	ND	3.70		
delta-BHC	ND	2.68		
Heptachlor	ND	0.544		
Aldrin	ND	2.15		
Oxychlordane	ND	5.13		
cis-Heptachlor Epoxide	ND	3.96		
trans-Heptachlor Epoxide	41.9			
trans-Chlordane (gamma)	ND	4.84		
trans-Nonachlor	ND	4.57		
cis-Chlordane (alpha)	ND	4.53		
Endosulfan I (alpha)	ND	6.80		
2,4'-DDE	ND	2.30		
4,4'-DDE	ND	2.53		
Dieldrin	4.72			J
Endrin	ND	6.28		
cis-Nonachlor	ND	5.10		
Endosulfan II (beta)	ND	11.3		
2,4'-DDD	ND	3.29		
2,4'-DDT	ND	4.89		
4,4'-DDD	ND	4.18		
4,4'-DDT	ND	6.48		
Endosulfan Sulfate	ND	3.22		
4,4'-Methoxychlor	ND	2.65		
Mirex	ND	0.860		
Endrin Aldehyde	ND	18.0		
Endrin Ketone	ND	10.5		

	Labeled Standard	%R	LCL-UCL	Qualifiers
IS	13C6-Hexachlorobenzene	42.5	5 - 120	
IS	13C6-alpha-BHC	55.9	32 - 130	
IS	13C6-Lindane (gamma-BHC)	58.9	11 - 120	
IS	13C6-beta-BHC	62.0	32 - 130	
IS	13C6-delta-BHC	62.2	36 - 137	
IS	13C10-Heptachlor	157	5 - 120	H
IS	13C12-Aldrin	39.6	5 - 120	
IS	13C10-Oxychlordane	53.3	23 - 135	
IS	13C10-cis-Heptachlor Epoxide	53.9	27 - 137	
IS	13C10-trans-Chlordane (gamma)	42.4	21 - 132	
IS	13C10-trans-Nonachlor	43.3	14 - 136	
IS	13C9-Endosulfan I (alpha)	37.6	15 - 148	
IS	13C12-2,4'-DDE	42.1	47 - 160	H
IS	13C12-4,4'-DDE	41.1	47 - 160	H
IS	13C12-Dieldrin	52.2	40 - 151	
IS	13C12-Endrin	46.7	35 - 155	
IS	13C10-cis-Nonachlor	53.7	36 - 139	
IS	13C9-Endosulfan II (beta)	38.7	5 - 122	
IS	13C12-2,4'-DDD	50.5	5 - 199	
IS	13C12-2,4'-DDT	53.6	5 - 199	
IS	13C12-4,4'-DDD	49.7	5 - 120	
IS	13C12-4,4'-DDT	52.8	5 - 120	
IS	13C9-Endosulfan Sulfate	65.8	15 - 148	
IS	13C12-Methoxychlor	43.3	5 - 120	
IS	13C10-Mirex	35.5	5 - 120	
IS	13C12-Endrin Aldehyde	20.6	15 - 148	
IS	13C12-Endrin Ketone	60.7	15 - 148	

DL - Sample specifc estimated detection limit
EMPC - Estimated maximum possible concentration
LCL-UCL - Lower control limit - upper control limit

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