

Final Source Control Evaluation Report

Dolan Property – 2700 NW Front Avenue,
Portland, Oregon
ECSI 6147

Prepared for:

Dolan and Company, LLC

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Project No. M1381.01.001

Prepared by:

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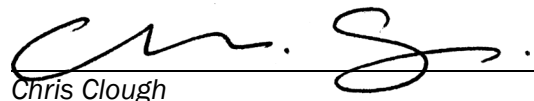


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*The material and data in this report were prepared
under the supervision and direction of the undersigned.*

Maul Foster & Alongi, Inc.

A handwritten signature in black ink, appearing to read "Chris Clough", is written over a horizontal line.

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Abbreviations

BEHP	bis(2-ethylhexyl)phthalate
COI	contaminant of interest
Clarus	Clarus Water Solutions
CUL	cleanup level
DEQ	Oregon Department of Environmental Quality
Dolan	Dolan and Company, LLC
EPA	U.S. Environmental Protection Agency
Geodesign	Geodesign, Inc.
JSCS	joint source control strategy
MFA	Maul Foster & Alongi, Inc.
mg/kg	milligrams per kilogram
NPDES	National Pollutant Discharge Eliminations System
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
PGE	Portland General Electric
Quantum	Quantum Resource Recovery, Inc.
ROD	Record of Decision
SCE	source control evaluation
SCM	source control measure
SLV	screening level value
the site	2700 NW Front Avenue, Portland, Oregon
TSS	total suspended solids
ug/kg	micrograms per kilogram
ug/L	micrograms per liter
UST	underground storage tank
WISCO	Willamette Iron and Steel Works Corporation
work plan	2017 Final Stormwater Source Control Evaluation

1 Introduction

On behalf of Dolan and Company, LLC (Dolan), Maul Foster & Alongi, Inc. (MFA) has prepared this final source control evaluation (SCE) report for the Dolan property (the site), located along the Willamette River at 2700 NW Front Avenue, Portland, Oregon (see Figure 1-1).

1.1 Purpose

This report has been prepared pursuant to the 2017 Final Stormwater Source Control Evaluation Work Plan (work plan; MFA 2017), the 2021 Supplemental Stormwater Source Control Evaluation Work Plan (MFA, 2021a) and the additional stormwater monitoring activities proposed in the Source Control Evaluation Report (MFA 2021b). The purpose of the investigation was to complete additional SCE activities to inform selection of stormwater source control measures (SCMs) and document the ongoing stormwater source control measures for Basins C/D, E, and F at the site. The site stormwater system is shown on Figure 1-2.

Some of the activities detailed within this report were previously documented in the 2021 Source Control Evaluation Report (2021b) and are described here to provide a complete summary of SCE information to assist with regulatory evaluation. This Final Source Control Evaluation Report presents the following:

- Section 2: A background of the site location, history, and previous SCE activities and data summaries.
- Section 3: A summary of potential contaminants of interest.
- Section 4: A detailed description of SCE activities conducted in accordance with the 2017 work plan, the January 2021 supplemental SCE work plan, and discussions with Oregon Department of Environmental Quality (DEQ).
- Section 5: Chemical analysis and results from stormwater solids and surface soil sampling activities in drainage Basins E and F and stormwater sampling activities in Basins C/D, E, and F.
- Section 6: A SCM proposal based on analytical data. Dolan began implementing the SCMs prior to 2022.
- Section 7: A summary of the SCE monitoring activities and source control measure that lead to the conclusion that source has been achieved for the site.

1.2 SCE Scope of Work

In accordance with the work plan and supplemental discussions with DEQ, the following SCE activities have been completed at the site:

- Clean-out of solids in the storm lines between catch basins CB-14 and CB-15 in Basin E and catch basins CB-16 and CB-17 in Basin F.

- Collection of two stormwater solids samples, one each from the solids removed from the storm lines in Basins E and F.
- Collection of two 10-point composite surface soil samples: one each from Basins E and F.
- Performed and documented ongoing storm system maintenance, including inspection and replacement of stormwater basin filters, clean-out of solids in the storm lines within Basins C and D, and pump station maintenance.
- Observation of site conditions during wet weather to confirm stormwater overland flow paths at Basin G, specifically at the south portion of Basin G where the driveway slopes toward Front Avenue.
- Collection of stormwater samples from three qualifying storm events.
- Analysis of surface soil and catch basin sediment samples for the following contaminants of interest (COIs): total cadmium and zinc, polycyclic aromatic hydrocarbons (PAHs), and bis(2-ethylhexyl)phthalate (BEHP).
- Analysis of stormwater samples for total arsenic, total copper, total cadmium, total zinc, PAHs, and BEHP. The stormwater basin COIs were determined through review of prior stormwater data, comparison to applicable screening levels, and discussions with DEQ.
- Comparison of analytical data to the Initial Upland Screening Level Values (SLVs) from Table 3-1 of the Portland Harbor Joint Source Control Strategy (JSCS) and the rank-order charts (Appendix E in DEQ 2010). In addition, although not identified in the work plan, analytical data were also compared to cleanup levels (CULs) from Table 17 of the Portland Harbor Record of Decision (ROD; EPA, 2020)

2 Background

2.1 Site Location, History, and Description

The site is approximately 12 acres and is active and currently used as a commercial property. It is generally flat with the majority being paved. The site is bordered to the northwest by the Sulzer Pump US, Inc. (Sulzer) property, to the southwest by NW Front Avenue, and to the southeast by the former Port of Portland Terminal 1 North.

The Dolan site was once part of the Sulzer property and was included in prior environmental assessment activities. The site was developed between 1905 and 1922 with several industrial manufacturing and marine-type shipping and receiving buildings associated with the Oregon Railroad and Navigation Company. The northwest and central portion of the site was operated by Willamette Iron and Steel Works Corporation (WISCO). WISCO produced, fabricated, and repaired metal logging equipment, steam-powered locomotives, pulp and paper mill equipment, water pipelines, penstocks, steel-hulled marine vessels, and ship engines prior to 1946. During that time, there were also several tenants that manufactured paint and varnish, performed food distribution and storage of cooking oil, and/or stored vehicles and equipment at the Site.

After 1946, WISCO expanded and took over much of the site, producing penstocks, bridge cranes, spillway gates, valves, pumps, missile silos, prototype rocket fuel tanks, and marine vessels until the 1970s. In the 1970s and 1980s, industrial activities on the property were primarily related to auxiliary pump manufacturing for the nuclear power industry and tunnel boring equipment.

In the mid-to-late 1980s, Sulzer acquired the property and began metal fabrication, machining, pump testing, and painting operations, which continue on the Sulzer property to the northwest of the Site.

In March 2005, Dolan purchased the site from Sulzer. The site includes a large warehouse building, several smaller office and former manufacturing buildings, paved parking and loading areas, and a large gravel parking area. Dolan uses the warehouse, the paved parking, and the loading areas where it stores and ships packaged lighting fixtures. Two of the other buildings are currently leased to tenants for office space, and the gravel parking area is leased for truck container parking and storage. From 2010 to 2015, Dolan leased a portion of the site to Quantum Resource Recovery, Inc. (Quantum), which conducted metal recycling operations. Due to the nature of the recycling operations, a Clarus Water Solutions (Clarus) stormwater treatment system was installed in 2013 to treat stormwater from Quantum's operational areas (Basins C/D on Figure 1-2).

2.2 Description of Site Stormwater System

The site stormwater system includes seven stormwater drainage basins, designated Basins A through G, as shown on Figure 1-2.

Basin A includes the northwest half of the warehouse building and a portion of the alley between the Sulzer property at 2800 NW Front Avenue and Dolan property. Runoff from this basin is conveyed through a series of roof drains that run below grade along the northwest side of the building. These roof drains are believed to connect to the Sulzer storm system that runs along the northwest site boundary. The roofing material is asphalt and no industrial activities are conducted by Dolan in this area. Sulzer uses the alley for material, equipment, and dumpster storage, as well as for parking.

Basin B includes the warehouse building loading areas and the southeast portion of the paved parking area along NW Front Avenue. Catch basins in this drainage area include CB-32 through CB-37. Catch basins CB-34 through CB-37 drain to a sanitary sewer vault located toward the north end of the warehouse building. The sanitary sewer vault then discharges to the south, connecting with CB-32 and 33, and discharges to the City of Portland sanitary sewer in NW Front Avenue.

Basin C includes the southeast half of the warehouse building, a small, paved area directly northeast of the warehouse building, and the northwest portion of the paved parking area along NW Front Avenue. Runoff from this drainage basin previously discharged to the Willamette River at Outfalls C and C-1. Routes to these outfalls were modified by previous tenants who no longer operate at the site. The prior outlets of catch basins CB-3 and CB-41 were plugged and the catch basins were rerouted to manhole MHSW1. Stormwater is then pumped from MHSW1 to CB-39, where it combines with runoff from Basin D.

Basin D includes the central portion of the site and buildings formerly leased by Quantum. Runoff from drainage Basins C and D is conveyed to flow-control manhole MHSW4. This manhole houses a weir that is designed to divert flows up to the 6-month, 24-hour storm event (up to approximately 400 gallons per minute) to the Clarus stormwater treatment system. Flow in excess of the 6-month, 24-hour storm event bypasses the weir and discharges to the Willamette River at Outfall D (Columbia

West 2013). The stormwater diverted for treatment flows by gravity to an oil/water separator and is then pumped to aboveground storage tanks that feed into the Clarus treatment system, discussed further in Section 2.3.3. Treated stormwater is then discharged to the Willamette River at Outfall D.

Basin E is located along the northeast site boundary and includes a small portion of the Sulzer easement; Dolan has a right to use a small storage shed located in the easement. Catch basins CB-14 and CB-15 convey stormwater from this basin to the Willamette River at Outfall E.

Basin F includes an office building and small gravel parking area at the east corner of the site. Catch basins CB-16 and CB-17 convey stormwater from this basin to the Willamette River at City of Portland Outfall 15.

Basin G includes the large gravel parking area and office building on the south portion of the Site. Stormwater in this area infiltrates on the site.

2.3 Previous Environmental Activities

Sulzer entered into the DEQ voluntary cleanup program in August 2002, when the site was still under Sulzer ownership, and has completed multiple environmental investigations on the property that included both the current Dolan site and the adjacent Sulzer property at 2800 NW Front Avenue. Geodesign, Inc. (Geodesign) completed an expanded preliminary assessment and several SCEs, which included sampling and analysis of catch basin sediments and stormwater on both the Sulzer- and Dolan-owned properties. A Phase 1 environmental site assessment was also completed for the Dolan site in early 2015. A summary of these environmental investigations as they relate to the Dolan site is provided below.

2.3.1 Soil Investigations

According to the Phase I investigation completed by Partner Engineering and Science, Inc. in 2015, an oil pipeline owned by Portland General Electric (PGE) was identified on the eastern side of the site (Partner 2015). The pipeline ran across the site to a substation at the PGE property located at 2635 NE Front Avenue. Soil sampling conducted at the Site in 2004 identified gasoline and diesel fuel and heavy oil in the soil. The gasoline and diesel concentrations exceeded DEQ Level 2 numerical Soil Matrix Cleanup Standards at the time. Between 1993 and 2004, PGE decommissioned several underground storage tanks (USTs) on the PGE property and removed over 5,000 tons of petroleum-contaminated soil surrounding the USTs. Impacted soil was discovered in the south corner of the site and west corner of the Terminal 1 property. However, according to the no further action letter issued to PGE by DEQ in December 2006, DEQ stated these impacts were observed at depths greater than 16 feet below ground surface (bgs) and therefore the potential for exposure was low (DEQ 2006). The no further action letter also determined that residual soil contamination of the PGE and neighboring properties does not pose an unacceptable risk to human health or the environment. The subsurface soil contamination on the Dolan Site was left in place. Since this contaminated soil is located at depths greater than 16 feet bgs, it is not a source of stormwater contamination on the Dolan site.

Sulzer operated numerous USTs, five of which were located on the Dolan site. Four of the USTs on the Dolan site contained heating oil; one contained diesel fuel. In 2010, K&S Environmental, Inc. decommissioned one 8,000-gallon heating oil UST in place and removed a second on the Dolan site as part of a risk-based cleanup. The tanks were located between the southern former office building

and former Quantum building. Soil sampling during decommissioning encountered petroleum-contaminated soil at approximately 13 feet bgs in and around the tank area. Residual soil contamination was determined to be within generic risk-based standards for the applicable exposure pathways at the site. Therefore, no soil was removed as part of this decommissioning.

Sulzer also operated several electrical power substations on both the Sulzer and Dolan properties. Dolan still operates two substations at the site; Substations No. 5 and 6. Substation No. 5 is located at the north end of the building in Basin G; Substation No. 6 is located along the exterior of the warehouse building and extends into both Basins B and D. Dolan decommissioned Substation No. 4, which is located at the north end of the former Quantum building (Basin D). Laboratory analysis of shallow soil samples collected in this area did not detect polychlorinated biphenyls (PCBs) at concentrations above the laboratory method reporting limits.

In addition to the substations, a pad-mounted transformer is located along the eastern exterior of the warehouse building. The transformer is owned and operated by PGE. The transformer is not believed to contain PCBs and is in good condition with no evidence of leaking or damage.

2.3.2 Geodesign Catch Basin Sediment SCE

Geodesign conducted catch basin sediment sampling in October 2005 (Geodesign 2007) and November 2008 (Geodesign 2015). In 2005, sediment samples were collected from catch basins within the following basins on the Dolan site:

- Composite of Outfalls C and D
- Composite of Outfall E and COP Outfall 15
- Discrete sample at Outfall D

The 2005 sediment sampling data from the above locations was submitted to DEQ as part of the 2017 Final SCE Work Plan (MFA 2017) and a copy of this table is provided in Appendix A, Table A-1. With the exception of renumbering the tables for use in Appendix A, the tables presented are unchanged from the prior submission.

In 2008, sediment samples were collected from the following locations on the Dolan site:

- Composite of CB-30 and CB-31 (Outfall C)
- Composite of CB-41 and CB-49 (Outfall C-1)
- Composite of CB-39, CB-40, and CB-43 (Outfall D)
- Composite of CB-14 and CB-15 (Outfall E)
- Composite of CB-16 and CB-17 (COP Outfall 15)

The 2008 sediment sampling data from these locations are included in Appendix A, Table A-2.

Based on potential COIs associated with historical industrial activities at the site, sediment samples were analyzed for metals, PCBs, phthalates, PAHs, and total organic carbon (TOC). GeoDesign compared the results to the JSCS criteria SLVs for stormwater sediment (DEQ 2010).

2.3.3 Geodesign Stormwater SCE

Geodesign collected stormwater samples in May and December 2006 (Geodesign 2007) and again from 2006 through 2014 (Geodesign 2015). Stormwater samples were collected in 2006 at the following locations and associated outfall basins at the Dolan site:

- Stormwater vault downstream of MHSW-4 (Outfall D)
- Outfall C
- CB-5 (Outfall D)
- CB-15 (Outfall E)
- CB-16 (COP Outfall 15)

Stormwater sampling data from these locations are included in Appendix A, Tables A-3 and A-4.

Stormwater samples were collected from 2006 to 2014 at the following locations and associated basins at the Dolan site:

- Outfall C
- Outfall C-1
- Manhole (Outfall D)
- CB-14 and 15 (Outfall E)
- CB-16 and CB-17 (COP Outfall 15)

Based on potential COIs associated with historical industrial activities at the site and the catch basin sediment data, stormwater samples were analyzed for metals; pH; total suspended solids (TSS); oil and grease; diesel-range and heavy oil-range hydrocarbons; PCBs; phthalates; and PAHs. The results are compared to the JSCS SLVs on Tables A-3 through A-5.

In 2013, Dolan and Quantum, the site tenant at the time, installed the Clarus treatment system. The system is designed to remove solids and metals from stormwater. The Clarus stormwater treatment system was installed to comply with Quantum's National Pollutant Discharge Eliminations System (NPDES) Stormwater Discharge Permit benchmarks. Quantum vacated the property in 2015 and there is no current NPDES permit requirement for the site. The Clarus treatment system remains in operation at the site. Stormwater samples collected by Quantum under their 1200-Z Permit during the 2013-2014 monitoring year are included in Appendix A, Table A-6.

2.3.4 MFA Stormwater SCE

In a February 8, 2016 letter to Dolan, DEQ requested that Dolan complete an SCE for the site. MFA conducted the SCE stormwater sampling in May, October, and November 2017 in accordance with the DEQ-approved work plan (MFA 2017). The 2017 SCE included collection and analysis of stormwater samples to characterize the Outfall D drainage basin (combined Basins C and D), the Outfall E drainage basin (Basin E), and the drainage basin that discharges to the City of Portland storm line leading to Outfall 15 (Basin F; see Figure 1-2).

Pre-treatment stormwater samples (i.e., samples collected prior to treatment in the Clarus system), were collected at MHSW-4 to evaluate combined flows from Basins C and D, samples from catch

basins CB-14 and CB-15 were composited to evaluate Basin E, and CB-16 was sampled to evaluate Basin F. A post-treatment system sample was also collected of the Clarus system effluent and identified with the sample ID CSWTS.

At MHSW-4, the entry point into the manhole vault is greater than 10 feet below ground surface. Samples were collected by opening the manhole and placing sample containers onto a stormwater swing sampling pole. The containers were then lowered into the MHSW-4 and water was collected from the influent pipe before it could enter the standing water present in the lower section of the vault. At catch basins CB-14, CB-15, and CB-16, water sheet flows across the ground surface toward these catch basins. At each location, MFA removed the catch basin grate and filter, and placed the sample containers into the vault, to collect flow as it entered at the lip of the basin.

Stormwater SCE data collected at the site for drainage basins C/D, E, and F was submitted to the DEQ through email correspondence in December 2017. Results were compared to surface water CULs and JSCS SLVs., See Appendix A, Table A-8. Hydrographs, water quality (Table A-7), and analytical laboratory reports from the 2017 events are also presented in Appendix A. Hydrographs for the samples from the Clarus system were not prepared as the discharge from the system is not directly correlated to the beginning of a storm event.

The stormwater data for each drainage basin included detections of total and dissolved metals, several PAHs, and BEHP at concentrations above either the ROD CULs or the JSCS SLVs. Concentrations above the knee of the curve on the rank-order charts (knee curve) were limited to one detection of total arsenic and total copper from the Basin C/D (from pre-treatment samples), total and dissolved cadmium and zinc from the Basin E, and a single detection of total suspended solids (TSS) from the Outfall F drainage basin. Based on the 2017 results, it was concluded that source control measures may be warranted for Basins E and F, as the exceedances within Basin C/D were addressed by the Clarus system.

3 Contaminants of Interest

Initial COIs were evaluated by GeoDesign and per DEQ request, stormwater was evaluated to JSCS screening levels during Sultzer's ownership of the site as early as 2006 (GeoDesign 2007). Based on the site history, a list of site COIs was developed by GeoDesign and discussed in a *Supplemental SCE* indicated that samples would be analyzed for the following:

- Total and TCLP metals
- pH
- TSS
- Diesel-and oil-range petroleum hydrocarbons.
- Oil and grease
- PCBs
- Phthalates

- PAHs

According to a 2006 Supplemental SCE report, GeoDesign indicated in an August 2005 letter to DEQ that particulates on paved surfaces and catch basin sediments are the only potential sources that could directly impact the Willamette River. In the conclusion of the supplemental SCE, GeoDesign proposed reducing future sampling to eliminate TLCP metals and reduce total metals (to aluminum, cadmium, copper, lead, manganese, mercury, silver, and zinc) for stormwater samples. Catch basin sediment COIs were total organic carbon, PCBs, PAHs, total metals (aluminum, cadmium, copper, lead, manganese, mercury, silver, and zinc), and grain size analysis. GeoDesign compared these results to the JSCS SLVs for stormwater sediment (see Appendix A, Tables A-1 and A-2). Results of historical sampling indicated that remaining COIs were consistently below JSCS SLVs and other applicable screening.

GeoDesign prepared a *Source Control Evaluation Report* for the Site in 2015 (GeoDesign 2015). The GeoDesign SCE results were compared to the JSCS SLVs in Appendix A, Tables A-3 and A-4. GeoDesign indicated that PAHs, PCBs, and several metals remained within typical ranges for industrial sites in the Portland Harbor area.

In 2017, based on the historical stormwater dataset shown on Table A-5, MFA identified site COIs for Basins C/D, E, and F. MFA assessed historical sampling data and eliminated COIs that had been continuously reported below JSCS SLVs and ROD CULs. COIs that had historically been reported above the SLVs and CULs in these basins were determined to be total metals (aluminum, arsenic, cadmium, copper, lead, manganese, and zinc), PCBs, and PAHs. Phthalates were also determined to be a COI for Basins C/D and E. Remaining Portland Harbor COIs were eliminated from future sampling scopes.

Based upon stormwater sampling data collected in 2017, the site COIs were again revised to eliminate analytes consistently below JSCS and ROD screening levels. MFA proposed to reduce the COIs for future sampling events to the following:

- Total arsenic and copper (in Basin C/D)
- Total cadmium and zinc (in Basins E and F)
- PAHs
- BEHP
- TSS

DEQ approved the reduction of COIs via email in June 2021.

Dolan does not use, store, or manufacture products containing Portland Harbor COIs. The COIs are likely legacy contaminants associated with former industrial use of the site and were characterized in prior SCEs completed during the Sulzer and recent Dolan ownership. Dolan's use of the Site is commercial in nature, for the warehousing of finished products, and no industrial uses are planned. COIs present at concentrations in soil, catch basin solids, and stormwater are typical for former industrial sites.

4 Source Control Evaluation Activities

Based upon discussions with DEQ, the 2017 Final Stormwater SCE Work Plan (MFA 2017), the results of the SCE activities described in Section 2.3.4, and the Supplemental Stormwater SCE Work Plan (MFA 2021a), MFA conducted the following activities.

4.1 March 2021 SCE Activities

In March 2021, MFA conducted sampling of stormwater solids in Basins E and Basin F in accordance with the Supplemental Stormwater Source Control Evaluation Work Plan (MFA 2021a). Stormwater solids were collected and composited from CB-14 and CB-15, and from CB-16 and CB-17, in Basin E and Basin F, respectively. Catch basins and stormwater lines were previously cleaned out in 2013. Thus, the samples collected represent solids deposited between 2013 and March 2021.

In addition, MFA collected two 10-point composite surface soil samples: one each from gravel-covered areas in Basin E and Basin F. MFA removed gravel from the samples to focus the sample analysis on fine-grained material that could be entrained in stormwater. The objective of this sample collection was to confirm whether the fine soil fraction of the gravel is the source of the COIs.

Field sampling data sheets for the stormwater solids and composite surface soil samples are included in Appendix B. Soil sample locations are shown on Figure 4-1.

4.2 Storm Conveyance System Maintenance

After the March 2021 sampling for stormwater solids (MFA 2021), Dolan conducted maintenance of the stormwater system. Stormwater solids were removed from the storm lines using a vacuum truck. Stormwater lines were cleaned in Basins E and F, as well as the pipe openings leading from the catch basins towards the outfall. The recovered material was captured and contained using a vactor truck. After the cleanout, the subcontractor replaced each of the catch basin filters with new fabric filters. Continued maintenance included additional stormwater basin filter replacement, jet cleaning stormwater lines within Basins C and D, additional vactor removal of sediments from storm lines, vault pump maintenance, and increasing the frequency of pavement sweeping to monthly. MFA understands the pump is part of the system to convey water to the Clarus system. These activities were implemented to reduce entrainment of solids into the stormwater and reduce COI concentrations. Filter replacements and cleaning activities were completed in January and February 2022 and pump maintenance was completed later in 2022. Ongoing monthly pavement sweeping and catch basin filter maintenance has continued since early-2022.

4.3 Stormwater Sample Collection

Based on the DEQ request for an additional three rounds of stormwater sampling, samples were collected during qualifying storm events in April and October 2022 and March 2023. Hydrographs of each storm event are presented in charts in Appendix C and water quality data parameters collected during each event are presented in Table 4-1.

Sampling was conducted at four basins at the site. Basin C and Basin D have a combined flow that is sampled at MHSW-4, prior to the Clarus stormwater treatment system. Basin E is collected as a composite sample from the flow into catch basins CB-14 and CB-15 and Basin F is sampled at CB-16. CB-16 was selected because surface flow first enter the stormwater system at this basin and samples were most likely to be representative of first flush. The stormwater systems and sample collection locations are presented on Figure 1-2.

MFA proposed a deviation from the stormwater sampling plan described in the work plan, to eliminate the post-Clarus samples from the additional sample events. This deviation was based on the conclusion that pre-Clarus sample results would be representative of future stormwater concentrations if the Clarus system was decommissioned. Post-Clarus samples would only be representative of continued system operation, which is not currently proposed. DEQ approved sampling the pre-Clarus location in September 2021.

4.3.1 April 2022

On April 29, 2022, MFA completed stormwater sample collection in accordance with the 2017 work plan and subsequent DEQ communications approving a reduction of COIs and sampling Basin C/D prior to treatment. Upon arrival, MFA confirmed that discharge had not begun at any of the three stormwater basins planned for sample collection. MFA conducted observation of the discharge monitoring points and each stormwater sample was collected within approximately 20 minutes of the beginning of discharge flow. During monitoring a sensor probe in the multiparameter meter failed which prevented field collection of oxidation-reduction potential data. All other parameters were recorded in accordance with industry standard operating procedures for collection of stormwater samples. Samples were collected into laboratory provided sample containers and immediately placed on ice.

During preparation of a hydrograph for the sampling event, it was confirmed that the storm event met DEQ criteria:

- Rainfall preceding the sampling event were less than 0.1-inches over the prior 24 hours.
- Minimum predicted rainfall exceeded 0.2-inches for the event.
- The storm was forecast to exceed 3 hour duration

In addition, all the samples were considered “first flush”, which the JSCS guidance defines as the sampling within the first 30 minutes of stormwater discharge (DEQ 2010).

4.3.2 October 2022

A second sampling event was completed on October 21, 2022. The sampling event was completed consistent with the prior event and the work plan. Light rain was noted prior to MFA arrival on-site; however, discharge monitoring locations were checked on arrival and no discharge was observed. Discharge points were monitored continually during the event to allow for collection as soon as possible after continuous discharge was recorded. Samples were collected within approximately 20 minutes of a continuous discharge, with the exception of Basin E, where flow rate was particularly low. MFA staff monitored the catch basins and collected the sample as soon as discharge flow rate was sufficient to allow for collection.

During preparation of a hydrograph for the sampling event, it was confirmed that the storm event met DEQ criteria (described in Section 4.3.1) and all samples except Basin E were considered “first flush”.

4.3.3 March 2023

A third sampling event was conducted on March 31, 2023. Light rain was noted in the vicinity of the site prior to MFA arrival; however, MFA was present at the facility approximately 2 hour prior to the first rain measured by the nearby City of Portland rain gauge. MFA monitored the sampling locations during periods of light rain between arrival and first noted discharges. Samples were collected from the monitoring points for Basins C/D and F within approximately 20 minutes of continuous discharge at the sampling location. One of the two sample collection locations within Basin E was inaccessible for a period of time preventing collection of the sample in the first 30 minutes of discharge.

MFA observed Basin G during the event. Stormwater runoff was observed flowing to the southeast as depicted on Figure 1-2, but the runoff infiltrated and did not leave the site.

During preparation of a hydrograph for the sampling event, it was confirmed that the storm event met DEQ criteria (described in Section 4.3.1) and all samples were considered “first flush”.

5 Chemical Analysis and Results

This section presents the results for the March 2021 stormwater solids and composite surface soil sampling, and the April and October 2022 and March 2023 stormwater sampling describe in Section 4.

Samples from each of the events were submitted to Apex Laboratories, LLC in Tigard, Oregon. Copies of the analytical laboratory reports are presented in Appendix D and data validation memorandums presenting quality assurance/quality control review of the analytical data are included in Appendix E. The results of the data quality review indicate that the data are of acceptable quality and are suitable for their intended purpose.

5.1 Analysis Performed

5.1.1 Stormwater Solids and Surface Soils Samples

Stormwater solids and surface soil samples were analyzed for the following COIs:

- Total cadmium and total zinc by U.S. Environmental Protection Agency (EPA) Method 6020B
- PAHs by EPA Method 8270E SIM
- BEHP by EPA Method 8270E

5.1.2 Stormwater Samples

Stormwater samples were analyzed for the following COIs:

Basin C/D

- Total arsenic and total copper by EPA Method 200.8
- PAHs by EPA Method 8270E SIM
- BEHP by EPA Method 8270E
- TSS by Standard Method 2540D.

Basin E

- Total cadmium and total zinc by EPA Method 200.8
- PAHs by EPA Method 8270E SIM
- BEHP by EPA Method 8270E
- TSS by Standard Method 2540D.

Basin F

- Total cadmium and total zinc by EPA Method 200.8
- PAHs by EPA Method 8270E SIM
- BEHP by EPA Method 8270E
- TSS by Standard Method 2540D.

5.2 Laboratory Analytical Results

Analytical results are presented in Tables 5-1 and 5-2 and summarized below.

5.2.1 Stormwater Solids and Surface Soil Samples

5.2.1.1 Composite Surface Soil Samples

Cadmium, zinc, BEHP and PAHs were detected above the laboratory reporting limits in the composite surface soil sample. The results are summarized as follows:

- Cadmium: At Basin E, cadmium was detected at a concentration of 1.3 milligrams per kilogram (mg/kg) and an estimated concentration of 0.149 mg/kg in Basin F Samples.
- Zinc: At Basin E, zinc was detected at 270 mg/kg and 86.7 mg/kg in Basin F.
- BEHP: In Basin E, BEHP was detected at an estimated concentration of 162 micrograms per kilogram (ug/kg) and the Basin F sample was not detected above laboratory reporting limits.
- Twelve individual PAH analytes were detected in Basin E and two were detected in Basin F. All concentrations were low. Individual detections can be reviewed on Table 5-1, and are discussed further in Section 5.3.1.1.

5.2.1.2 Catch Basin Solid Samples

- Cadmium: At Basin E, cadmium was detected in the CB-14/CB-15 sample at a concentration of 2.37 mg/kg and at 0.295 mg/kg in Basin F.

- Zinc: At Basin E, zinc was detected at a concentration of 626 mg/kg and at a concentration of 145 mg/kg in Basin F.
- BEHP: Basin E had a concentration of 5,260 ug/kg while Basin F was had an estimated detection of 454 ug/kg.
- Nine individual PAH analytes were detected in Basin E and two were detected in Basin F. Individual detections can be reviewed on Table 5-1, and are discussed further in Section 5.3.1.2.

5.2.2 Stormwater Samples

5.2.2.1 April 2022 Stormwater Sample Event

Arsenic, cadmium, copper, zinc, BEHP, and TSS were detected in each sample that was analyzed for these COIs during the April 2022 event. Individual PAHs were detected in all three basins.

Specific results are summarized as follows:

- Arsenic: At Basin C/D, arsenic was detected at a concentration of 0.864 micrograms per liter (ug/L) in the primary samples and 0.920 ug/L in the duplicate sample.
- Copper: At Basin C/D the concentration of copper detected was 27.8 ug/L in the primary and 30.7 ug/L in the duplicate sample.
- Cadmium: At Basin E, cadmium was detected at a concentration of 0.608 ug/L and 0.148 ug/L in Basin F.
- Zinc: At Basin E zinc was detected at 463 ug/L and 101 ug/L in Basin F.
- BEHP: BEHP was not detected in either the primary or duplicate sample from Basin C/D or the sample collected from Basin F. An estimated concentration was detected in the Basin E sample at 1.1 ug/L.
- Estimated concentrations of individual PAHs were detected in several samples. Benzo(a)anthracene (0.0409 ug/L in Basin C/D duplicate), benzo(a)pyrene (0.0634 ug/L in Basin C/D duplicate and 0.163 ug/L in Basin E), and phenanthrene (0.0408 ug/L) in Basin E.
- TSS: Detections ranged from 14.0 to 90.9 milligrams per liter (mg/L).

5.2.2.2 October 2022 Sample Event

Arsenic, cadmium, copper, zinc, and TSS were detected in each sample that was analyzed for these COIs during the October 2022 event. BEHP was detected in Basin E. Individual PAHs were detected in all three basins.

Specific results are summarized as follows:

- Arsenic: At Basin C/D, arsenic was detected at a concentration of 1.39 ug/L in the primary and 1.49 ug/L in the duplicate sample.
- Copper: At Basin C/D, copper was detected at a concentration of 44.7 ug/L in the primary and 45.3 ug/L in the duplicate sample.
- Cadmium: At Basin E, cadmium was detected at a concentration of 1.11 ug/L and in the Basin F at 0.173 ug/L.
- Zinc: At Basin E, zinc was detected at a concentration of 666 ug/L and 105 ug/L in Basin F.

- BEHP: BEHP was detected at an estimated concentration of 3.1 ug/L in Basin E.
- Estimated concentrations of individual PAHs were detected in the three basins. Benzo(a)anthracene (0.0959 ug/L) was detected in Basin C/D, benzo(a)pyrene (0.163 ug/L) and phenanthrene (0.188 ug/L) were detected in Basin E. Nine individual PAHs were detected in Basin F (see Table 5-2 for the complete list).
- TSS: Detections ranged from 10.0 to 95.0 mg/L.

5.2.2.3 March 2023 Sample Event

Arsenic, cadmium, copper, and zinc were detected in each sample that was analyzed for these COIs during the March 2023 event. BEHP was not detected and individual PAHs were only detected within the Basin F sample. TSS was detected in Basins E and F.

Specific results are summarized as follows:

- Arsenic: At Basin C/D, arsenic was detected at a concentration of 0.297 ug/L in the primary and 0.300 ug/L in the duplicate sample.
- Copper: At Basin C/D, copper was detected at 11.1 ug/L in the primary and 11.3 ug/L in the duplicate sample.
- Cadmium: At Basin E, cadmium was detected at a concentration of 0.498 ug/L and an estimated concentration of 0.116 ug/L in Basin F.
- Zinc: Zinc was detected in Basin E at a concentration of 751 ug/L and 82.1 ug/L in Basin F.
- PAHs: Acenaphthene (0.0113 ug/L, estimated) and phenanthrene (0.0137 ug/L, estimated) were detected in Basin F. Individual PAHs were not detected in Basin C/D or Basin E.
- BEHP was not detected during the March 2023 event.
- TSS was detected at Basin F during the March event at a concentration of 236 mg/L. TSS was not detected in Basin C/D or Basin E.

5.3 Data Evaluation

5.3.1 Stormwater Solids and Surface Soil Samples

Stormwater solids and surface soil sample analytical results are presented in Table 5-1. The soil and stormwater solids results were compared to the riverbank soil/sediment CULs on Table 17 (Errata #2) of the Portland Harbor ROD and the JSCS soil/stormwater sediment SLVs.

Cadmium, zinc, and BEHP were detected in stormwater solids and/or surface soil samples at concentrations exceeding the JSCS SLVs and/or ROD CULs, but the concentrations were in the lower portion of the rank-order curve chart, see Appendix F. Individual PAHs and total PAHs were detected at concentrations significantly less than the JSCS SLVs, ROD CULs, and knee value of the rank-order curve. As detailed in Appendix E of the DEQ Guidance for Evaluating the Stormwater Pathway at Upland Sites (DEQ 2010), COI concentrations that fall within the lower portion of the rank-order curve are typical of industrial Portland Harbor upland sites and not likely to unusually impact stormwater.

5.3.1.1 Composite Surface Soil Samples

Concentrations of cadmium, zinc, BEHP and PAHs were detected above the laboratory reporting limits in each composite surface soil sample. The results are summarized as follows:

- Cadmium: The only exceedance for cadmium was in the Basin E sample. At 1.3 mg/kg, the detection exceeds the JSCS SLV and CUL. This concentration is in the lower portion of the rank-order curve, as the knee value of the curve appears to be approximately 3 mg/kg.
- Zinc: The concentrations at Basin E of 270 mg/kg and Basin F of 86.7 mg/kg are below the screening levels.
- BEHP: The BEHP concentration at Basin E of 162 ug/kg, which exceeds the CUL. BEHP was not detected at Basin F. The inflection point of the rank-order curve appears to be approximately 27,000 ug/kg. The concentration at Basin E is below the knee of the rank-order chart.
- Individual and total PAH concentrations did not exceed any screening levels.

5.3.1.2 Catch Basin Solid Samples

- Cadmium: At Basin E, the cadmium detection (2.37 mg/kg) exceeds the JSCS SLV and CUL. The Basin F sample detection did not exceed any screening levels for cadmium. This detection of 2.37 mg/kg in the lower portion of the rank-order curve, as the inflection point or knee of the curve appears to be approximately 3 mg/kg.
- Zinc: At Basin E, the zinc detection (626 mg/kg) exceeds the JSCS SLV and CUL. The Basin F sample detection did not exceed any screening levels for zinc. The Basin E concentration is in the lower portion of the rank-order curve, as the knee of the curve appears to be approximately 1,300 mg/kg.
- BEHP: The BEHP concentrations of 5,260 ug/kg in the Basin E and 454 ug/kg in the Basin F exceed the JSCS SLV and CUL. These concentrations are in the lower portion of the rank-order curve, as the knee of the curve appears to be approximately 27,000 mg/kg.
- Detected individual and total PAH concentrations in the Basin E did not exceed any screening levels. There were no detections in the Basin F sample.

5.3.1.3 Stormwater Solids and Surface Soil Sample Evaluation Conclusions

Evaluation of the data presented on Table 5-1 and discussed above indicates the following:

- COI concentrations in the catch basin solids samples were more elevated compared to the associated composite soil samples in both basins. This was expected, as it is likely the COIs are associated with the fine soil fraction in the gravel that is more susceptible to erosion and conveyance to and concentration in the catch basins.
- COI concentrations at Basin F are lower than Basin E.
- PAHs are not an upland COI.
- Although there are exceedances of JSCS SLVs and CULs for cadmium, zinc, and BEHP, concentrations fell within the lower/flatter portion of the rank-order charts, well below the knee of the rank-order curve chart, which has been described as typical of industrial Portland Harbor upland sites and not likely to unusually impact stormwater (DEQ 2010).

5.3.2 Stormwater Samples

Stormwater analytical results are presented in Table 5-2. The stormwater results were compared to the surface water CULs from Table 17 (Errata #2) of the Portland Harbor ROD, or the JSCS SLVs if no CUL is available. The stormwater sample results for the applicable COIs are displayed on the DEQ rank-order charts in Appendix F.

5.3.2.1 April 2022 Stormwater Sample Event

Arsenic, copper, zinc, and BEHP were detected at concentrations exceeding the ROD CULs and cadmium exceeded the JSCS SLV, but the concentrations were in the lower portion of the rank-order curve chart. Individual PAHs were detected, including two with concentrations exceeding the ROD CULs. The total PAH concentrations were significantly less than the knee of the rank-order curve value.

Specific results are summarized as follows:

- Arsenic: At Basin C/D, the arsenic concentration of 0.920 micrograms per liter (ug/L) exceeds the JSCS SLV and ROD CUL, but is below the knee of the rank-order curve at approximately 3 ug/L.
- Copper: At Basin C/D, the copper concentration of 30.7 ug/L exceeds the JSCS SLV and ROD CUL, but is below the knee of the rank-order curve at approximately 75 ug/L.
- Cadmium: The concentrations at Basin E of 0.608 ug/L and Basin F of 0.148 ug/L exceed the JSCS SLV, but are below the knee of the rank-order curve at approximately 1.1 ug/L.
- Zinc: The concentrations at Basin E of 463 ug/L and Basin F of 101 ug/L exceed the JSCS SLV and ROD CUL, but are below the approximate knee of the rank-order curve value of 750 ug/L.
- BEHP: The estimated concentration at Basin E of 1.1 ug/L exceeds the ROD CUL, but is below the approximate knee of the rank-order curve value of 5 ug/L. BEHP was not detected in the Basins C/D or F samples.
- The estimated concentrations of two PAHs at Basins C/D and one PAH at Basin F exceed the ROD CULs, however, total PAH concentrations at all basins are well below the approximate knee of the rank-order curve value of 2 ug/L.
- TSS concentrations are below the approximate knee of the rank-order curve value of 100 ug/L.

5.3.2.2 October 2022 Sample Event

Arsenic, copper, cadmium, zinc, and BEHP were detected at concentrations exceeding the JSCS SLVs and/or ROD CULs, but well below the knee of the rank-order curve, with the exception of cadmium within Basin E. Individual PAHs were detected, including six with concentrations exceeding the ROD CULs. The total PAH concentrations are less than the knee of the rank-order curve value.

Specific results are summarized as follows:

- Arsenic: At Basin C/D, the arsenic concentration of 1.49 ug/L exceeds the JSCS SLV and CUL, but is below the knee of the rank-order curve value of approximately 3 ug/L.
- Copper: At Basin C/D, the copper concentration of 45.3 ug/L exceeds the JSCS SLV and CUL, but is below the knee of the rank-order curve value of approximately 75 ug/L.

- Cadmium: At Basin E, the cadmium concentration of 1.11 ug/L exceeds the JSCS SLV, and is the same as the inflection point of the rank-order chart of approximately 1.1 ug/L (see Appendix F). The cadmium concentration of 0.173 ug/L at Basin F also exceeds the JSCS SLVs, but is well below the knee of the rank-order curve value.
- Zinc: The concentrations at Basin E of 666 ug/L and Basin F of 105 ug/L exceed the JSCS SLV and CUL, but are below the approximate knee of the rank-order curve value of 750 ug/L.
- BEHP: The estimated concentration at Basin E of 3.1 ug/L exceeds the CUL, but is below the approximate knee of the rank-order curve value of 5 ug/L. BEHP was not detected in the Basins C/D or F samples.
- The estimated concentrations of one PAH at Basin C/D, one PAH at Basin E, and six PAHs at Basin F exceeded the CULs, however, total PAH concentrations at all basins are well below the knee of the rank-order curve values.
- TSS concentrations are below the knee of the rank-order curve value of 100 ug/L.

5.3.2.3 March 2023 Sample Event

Arsenic, copper, cadmium, and zinc were detected at concentrations exceeding the JSCS SLVs and/or ROD CULs, but the concentrations were in the lower portion of the rank-order curve charts. Only two individual PAHs were detected at Basin F at concentrations less than the JSCS SLVs; the total PAH concentration at Basin F are significantly below the knee of the rank-order curve value.

Specific results are summarized as follows:

- Arsenic: At Basin C/D, the arsenic concentration of 0.300 ug/L exceeds the JSCS SLV and ROD CUL, but is below the knee of the rank-order curve value of approximately 3 ug/L.
- Copper: At Basin C/D, the copper concentration of 11.3 ug/L exceeds the JSCS SLV and CUL, but is below the knee of the rank-order curve value of approximately 75 ug/L.
- Cadmium: The concentrations at Basin E of 0.498 ug/L and Basin F of 0.116 ug/L exceed the JSCS SLV, but are below the knee of the rank-order curve value of approximately 1.1 ug/L.
- Zinc: The concentrations at Basin E of 751 ug/L and Basin F of 82.1 ug/L exceed the JSCS SLV and CUL, but are below the approximate knee of the rank-order curve value of 750 ug/L.
- PAHs were not detected at Basins C/D and E. Acenaphthene and phenanthrene were detected at Basin F at concentrations of 0.0113 ug/L and 0.0137 ug/L, respectively, and less than the ROD CULs. The total PAH concentration at Basin F is well below the knee of the rank-order curve value.
- BEHP was not detected during the March 2023 event.
- TSS was not detected at Basin C/D. At Basin E, the TSS concentration of 5 mg/L is much less than the knee of the rank-order curve value of 100 ug/L. At Basin F, the TSS concentration of 236 mg/L exceeds the knee of the rank-order curve. Although this Basin F TSS concentration is greater than the April and October 2022 concentrations, there is no corresponding increase in the concentrations of other COIs during the March 2023 event. In fact, cadmium, zinc, and individual PAHs were detected at their lowest concentrations at Basin F during the March 2023 event, indicating that TSS alone is not a source control concern.

5.3.2.4 Stormwater Sample Evaluation Conclusions

Evaluation of the data presented on Table 5-2 and discussed above indicates the following:

- Average concentrations of arsenic and copper at Basin C/D and cadmium and zinc at Basin E are less than average concentrations during the 2017 sampling events. Average concentrations of cadmium and zinc at Basin F are slightly elevated compared to the single 2017 sample event.
- Each of the individual PAHs detected during the 2022/2023 stormwater events were estimated values. These concentrations were just above the detection limits for the low-level method utilized for the analysis. All total PAH concentrations were below the knee of the rank-order curve.
- Although there are exceedances of the JSCS SLVs and CULs for arsenic, cadmium, copper, zinc, individual PAHs, and BEHP, the concentrations are below the knee value of the rank-order curves, with the exception of the cadmium concentration at Basin E during the October 2022 event, which was at the inflection point. The subsequent concentration during the March 2023 event was well below the knee value, indicating that the increased source control measures are an effective strategy for source control.
- All Basin C/D samples during the 2022/2023 events were collected from a location prior to treatment by the Clarus system. Concentrations of arsenic, copper, total PAHs, BEHP, and TSS are all well below the knee of the rank-order curve chart values, indicating operation of the Clarus system to treat Basin C/D stormwater is no longer necessary.

6 Source Control Measures

6.1 Identification of Source Control Measures

In 2017, based upon the initial stormwater sampling results, MFA concluded that additional SCMs may be needed for Basins E and F at the site. Based on the results of the stormwater sediment and surface soil sampling from 2021, MFA concluded that although cadmium, zinc, and BEHP concentrations in site soil and catch basin solids are typical of industrial Portland Harbor upland sites, stormwater quality at the site would benefit from additional SCMs such as more frequent pavement sweeping, clean-out of stormwater solids in catch basins, and more frequent monitoring and routine replacement of catch basin filters. These additional SCM were implemented as described in Section 4.2, in 2022 and the 2022/2023 stormwater sampling events confirm these SCMs are effective.

7 Conclusions

- Historical data (presented in Appendix Tables A-1 through A-8) addressed all the prior COIs relevant to the site based on site history and the reduction of COIs to the current list is detailed in Section 3.0.

- Based on the results of the 2017 SCE, MFA conducted sampling of stormwater solids and composite surface soil samples (one each from Basin E and Basin F), performed stormwater conveyance system maintenance, and three rounds of stormwater sampling.
- Data results showed that concentrations of COIs in soil and stormwater solids fell within the lower/flatter portion of the rank-order charts (below the knee value), indicating concentrations are typical for industrial sites. The results indicated source control could be achieved through continued site maintenance, which was improved in 2022 to including more frequent clean-out of stormwater solids in catch basins, monthly sweeping in paved portions of the site, and the routine monitoring and replacement of catch basin filters.
- To ensure source control was achieved, MFA conducted three stormwater sampling events within drainage basins C/D, E, and F in 2022 and 2023.
- The results of the stormwater sampling showed that COI concentrations that were above the JSCS SLVs or CULs, remained within the lower/flatter portion of the rank-order charts. The exception is one cadmium detection for Basin E, which was at the inflection point of the of the rank-order curve and one elevated detection of TSS in Basin F. Detections within the lower portion of the rank-order curve charts are typical for industrial sites.
- The results indicate that source control is being achieved through continued improved site maintenance.
- All sampling conducted within Basins C and D during the 2022/2023 events, were conducted prior to Clarus system treatment, with DEQ approval. This was done to observe that influent concentrations were sufficiently low to allow for the removal of the Clarus system. Based on the observed concentrations, the Clarus stormwater treatment system does not appear to be required to meet SCE goals and Dolan requests DEQ concurrence to discontinue system use at the site.
- COI detections are the result of legacy industrial activities and are not associated with Dolan's commercial uses of the Site.

References

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Limitations

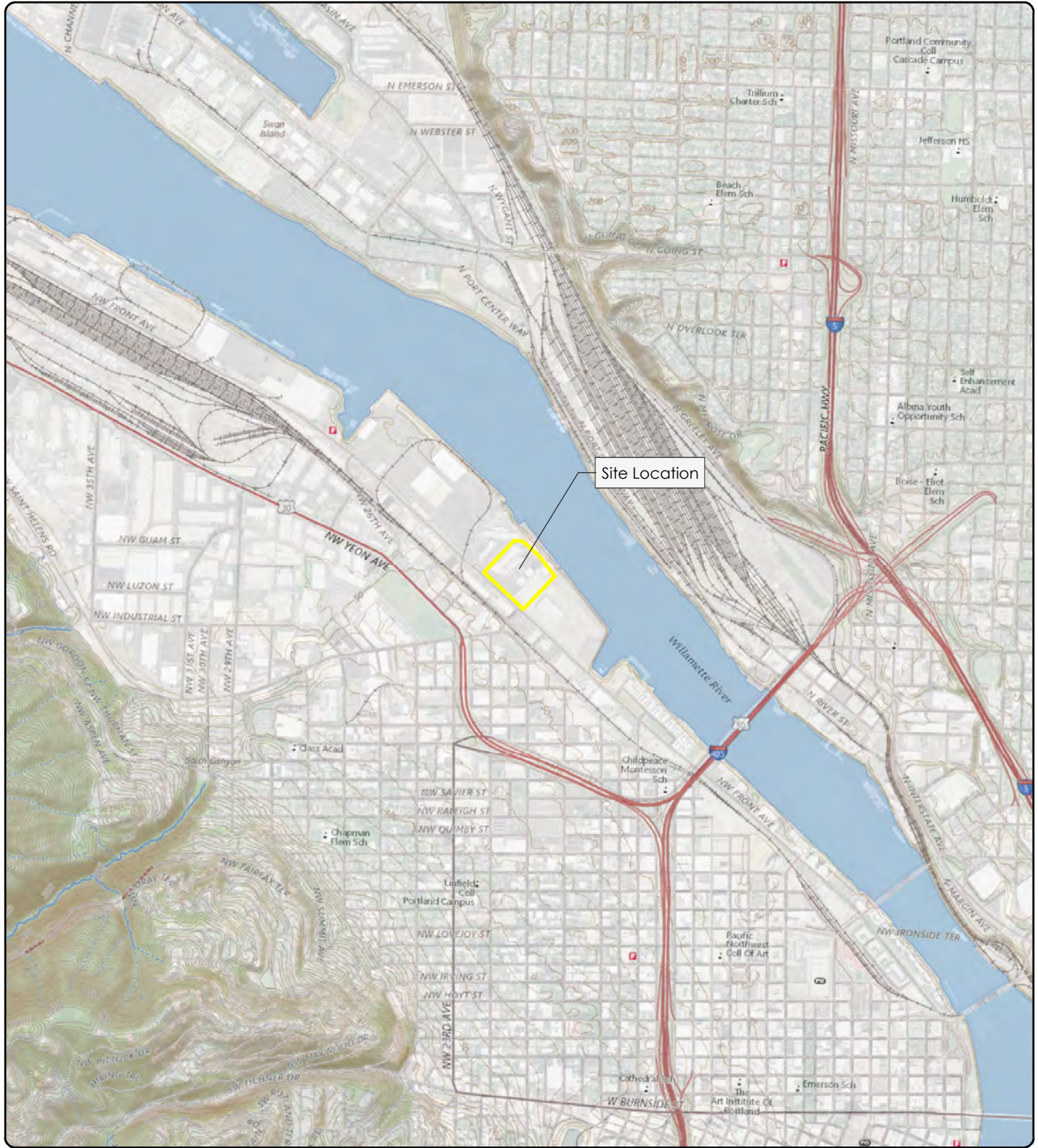
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Figures



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Source:
U.S. Geological Survey (2020) 7.5-minute
topographic quadrangle: Portland.
Township 1 North, Range 1 East, Section 28.
Property boundary obtained from Metro Region
Land Information System.

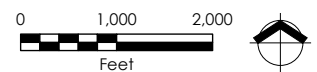


This product is for informational purposes and may not have been prepared for, or be suitable
for legal, engineering, or surveying purposes. Users of this information should review or
consult the primary data and information sources to ascertain the usability of the information.

Legend
 Site Boundary

**Figure 1-1
Site Location**

Final SCE Report
Dolan Property
2700 NW Front Avenue
Portland, Oregon





LEGEND

	PROPERTY BOUNDARY DRAINAGE
	AREA BOUNDARY STORMWATER
	LINE
	ABANDONED STORMWATER LINE
	STORMWATER RUNOFF FLOW DIRECTION
	STORMWATER LINE FLOW DIRECTION
	CATCH BASIN
	CATCH BASIN WITH FILTER INSERT
	CONTECH STORMFILTER
	STORMWATER MANHOLE
	ROOF DRAIN
	OUTFALL
	DRAINAGE AREA DESIGNATION
	GRAVEL SURFACE
	BUILDING
	STORMWATER SAMPLING LOCATION



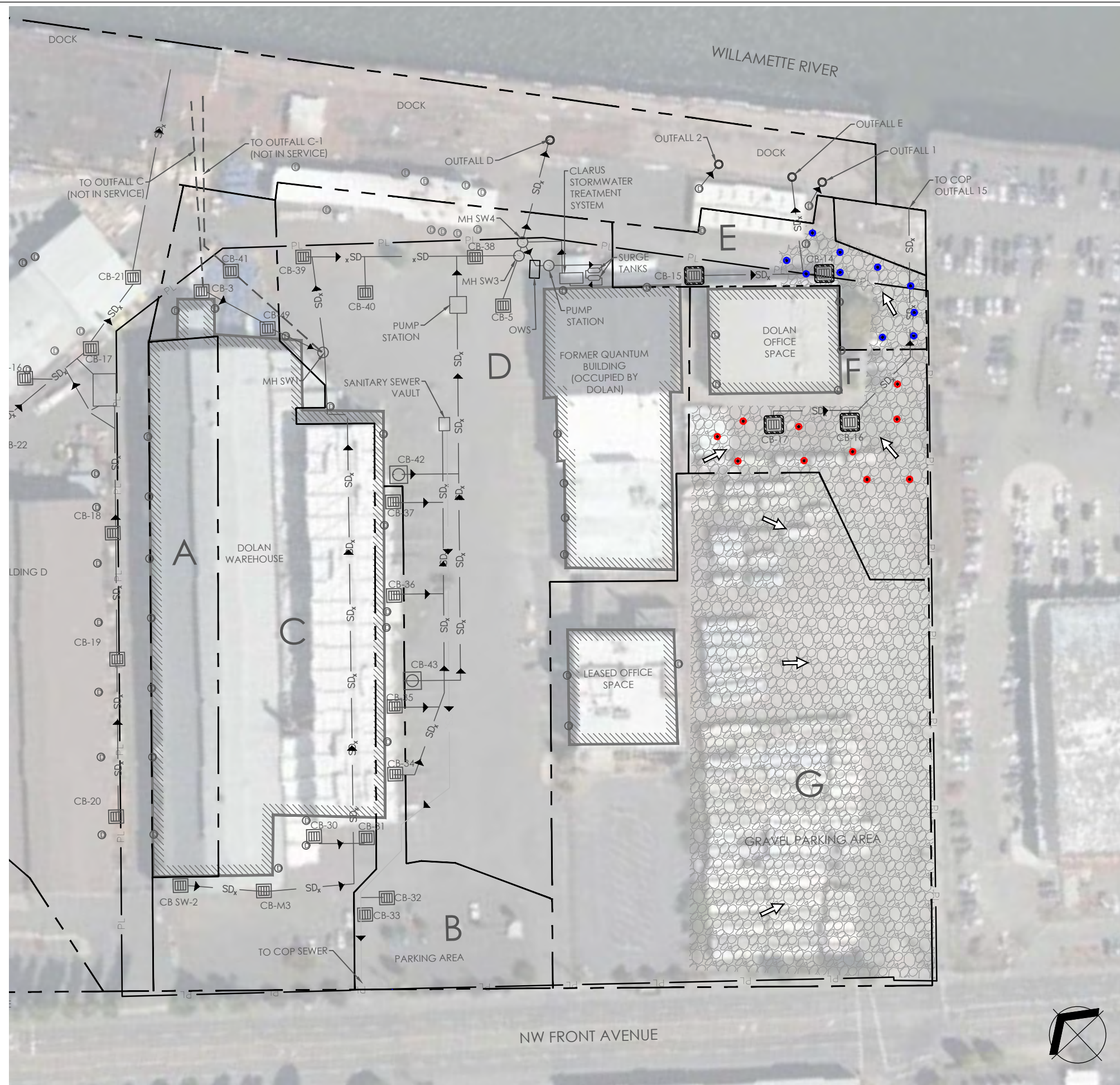
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

Figure 1-2
Site Stormwater System and
Stormwater Sample Locations
Final SCE Report
Dolan Property, Portland, Oregon

Filepath: G:\00_MFA Civil 3D\00_PROJECTS\1381.01 - Dolan SCE\PLANS\Figure 1-2.dwg

Printed by: Brian Tino

Date: 6/8/2021 9:31:33 AM



This figure prepared as supplemental visual information only and should not be used for construction purposes. Only plan sheets approved, stamped and signed by a registered professional engineer in the state of governing jurisdiction shall be used for construction. Additionally, only plans approved by the applicable governing jurisdiction(s) shall be used for final construction unless otherwise expressly noted in writing by the engineer of record.

LEGEND

- PL **PROPERTY BOUNDARY**
- DRAINAGE AREA BOUNDARY**
- SD_x **STORMWATER LINE**
- ABANDONED STORMWATER LINE**
- STORMWATER RUNOFF FLOW DIRECTION**
- STORMWATER LINE FLOW DIRECTION**
- CATCH BASIN**
- CATCH BASIN WITH FILTER INSERT**
- CONTECH STORMFILTER**
- STORMWATER MANHOLE**
- ROOF DRAIN**
- OUTFALL**
- DRAINAGE AREA DESIGNATION**
- GRAVEL SURFACE**
- BUILDING**
- BASIN F SURFACE SOIL COMPOSITE SUBSAMPLE LOCATION (APPROXIMATE)**
- BASIN E SURFACE SOIL COMPOSITE SUBSAMPLE LOCATION (APPROXIMATE)**



NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

Figure 4-1
Composite Soil Sample Locations

Final SCE Report
Dolan Property, Portland, Oregon

Tables



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Table 4-1
2022/2023 Water Quality Parameters
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon



Location	pH	Temperature (°C)	E Conductivity (uS/cm)	DO (mg/L)	ORP	Turbidity
April 29, 2022 Event						
Outfall C/D (MHSW-4)	7.50	13.4	1594	6.43	-- ^a	SC
Outfall E (CB-14/CB-15)	7.10	13.8	77.2	6.66	-- ^a	SC
Outfall F (CB-16)	7.40	12.7	89.4	7.20	-- ^a	CL
October 21, 2022 Event						
Outfall C/D (MHSW-4)	7.07	14.8	917	6.14	194.7	SC
Outfall E (CB-14/CB-15)	6.17	13.7	164.8	6.03	196.0	SC
Outfall F (CB-16)	6.29	13.1	60.6	8.61	192.9	SC
March 31, 2023 Event						
Outfall C/D (MHSW-4)	7.07	13.5	20.0	7.20	233.4	SC
Outfall E (CB-14/CB-15)	6.54	13.8	13.0	6.78	290.1	SC
Outfall F (CB-16)	7.00	13.0	26.0	8.11	228.9	CL
Notes -- = not analyzed. °C = degrees Celsius. uS/cm = microSeimens per centimeter. mg/L = milligrams per liter. NV = no value. SC = slightly cloudy. CL = cloudy. ^a = Due to equipment failure during the field event, the water quality parameter was not recorded.						

Table 5-1
Soil/Catch Basin Solids Analytical Results
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon



Location:	DEQ Portland Harbor JSCS Soil, Initial Upland Screen SLV ⁽¹⁾	EPA ROD CUL, Sediment / Riverbank Soil ⁽²⁾	BASIN-E		BASIN-F	
Sample ID:			BASIN-E-S-20200324-CS	CB14/CB15-SS-20200324	BASIN-F-S-20200324-CS	CB16/CB17-SS-20200324
Sample Type:			Composite Soil	CB Solids	Composite Soil	CB Solids
Collection Date:			3/24/2021	3/24/2021	3/24/2021	3/24/2021
Total Metals (mg/kg)						
Cadmium	1.0	0.51	1.3	2.37	0.149 J	0.295
Zinc	459	459	270	626	86.7	145
SVOCs (ug/kg)						
Bis(2-ethylhexyl)phthalate	330	135	162 J	5260	92 U	454 J
PAH (ug/kg)						
1-Methylnaphthalene	NV	NV	5.96 U	46.5 U	5.69 U	6.55 U
2-Methylnaphthalene	200	NV	5.96 U	46.5 U	5.69 U	6.55 U
Acenaphthene	300	NV	5.96 U	46.5 U	5.69 U	6.55 U
Acenaphthylene	200	NV	5.96 U	46.5 U	5.69 U	6.55 U
Anthracene	845	NV	11.7 J	46.5 U	5.69 U	6.55 U
Benzo(a)anthracene	1,050	NV	26.7	61.2 J	5.69 U	6.55 U
Benzo(a)pyrene	1,450	NV	31.1	59.2 J	5.69 U	6.55 U
Benzo(b)fluoranthene	NV	NV	109	171	7.02 J	6.55 U
Benzo(ghi)perylene	300	NV	86.4	124	5.69 U	6.55 U
Benzo(k)fluoranthene	13,000	NV	36.2 J	46.5 U	5.69 U	6.55 U
Chrysene	1,290	NV	61.5	239	5.69 U	6.55 U
Dibenzo(a,h)anthracene	1,300	NV	12.3	46.5 U	5.69 U	6.55 U
Dibenzofuran	NV	NV	5.96 U	46.5 U	5.69 U	6.55 U
Fluoranthene	2,230	NV	61.4	253	6.22 J	6.55 U
Fluorene	536	NV	5.96 U	46.5 U	5.69 U	6.55 U
Indeno(1,2,3-cd)pyrene	100	NV	83.7	86.9 J	5.69 U	6.55 U
Naphthalene	561	NV	6.43 J	46.5 U	5.69 U	6.55 U
Phenanthrene	1,170	NV	41	291	5.69 U	6.55 U
Pyrene	1,520	NV	53.8	193	5.69 U	6.55 U
Total PAHs (ND=0.5) ^(a)	NV	23,000	633	1,664	55.9	6.55 U
cPAH TEQ(ND=0.5) ^(b)	NV	774	65.8	115	6.99 J	6.55 U

Table 5-1
Soil/Catch Basin Solids Analytical Results
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon



NOTES:

Bold font indicates a detection.

Shading (color key below) indicates values that exceed Portland Harbor screening criteria; non-detects (U or UJ) were not compared with screening criteria.

Sediment/Riverbank Soil ROD CULs

JSCS, Soil, Initial Upland Screen

cPAH = carcinogenic PAH.

CB = catch basin.

DEQ = Oregon Department of Environmental Quality.

J = result is an estimated value.

JSCS = Joint Source Control Strategy.

mg/kg = milligrams per kilogram.

NV = no value available.

PAH = polycyclic aromatic hydrocarbon.

SLV = screening level value.

SVOC = Semivolatile organic compounds.

TEQ = toxicity equivalence.

U = result is non-detect.

ug/kg = micrograms per kilogram.

^(a)Total PAHs are the sum of 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene. Non-detected concentrations are treated as one-half the detection limit. When all concentrations are non-detect, the highest detection limit is used.

^(b)cPAH TEQs calculated by multiplying the cPAHs (benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-c,d)pyrene, and dibenzo(a,h)anthracene) by their respective TEFs and summing the resulting concentrations. Non-detect results were multiplied by one-half. When all cPAHs in a sample were non-detect, the highest non-detect value was reported.

REFERENCES:

⁽¹⁾DEQ Portland Harbor Joint Source Control Strategy, Table 3-1. December 2005.

⁽²⁾EPA Portland Harbor ROD. Table 17. June 2016

Table 5-2
2022/2023 Stormwater Analytical Results
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon



Basin:	Portland Harbor ROD CULs, Surface Water ⁽¹⁾⁽²⁾	Basin C/D						Basin E			Basin F			
Location:		MHSW-4						CB-14/CB-15			CB-16			
Sample ID:		OUTFALL C/D	DUP	OUTFALL C/D	DUP	OUTFALL C/D	DUP	OUTFALL E	OUTFALL E	OUTFALL E	CB-16	CB-16	CB-16	
Sample Date:		04/29/2022	04/29/2022	10/21/2022	10/21/2022	3/31/2023	3/31/2023	04/29/2022	10/21/2022	3/31/2023	04/29/2022	10/21/2022	3/31/2023	
Total Metals (ug/L)														
Aluminum	50-200 ^(a)	--	--	--	--	--	--	--	--	--	--	--	--	
Arsenic	0.018	0.864	0.920	1.39	1.49	0.297	0.300	--	--	--	--	--	--	
Cadmium	0.094 ^(a)	--	--	--	--	--	--	0.608	1.11	0.498	0.148	0.173	0.116 J	
Copper	2.74	27.8	30.7	44.7	45.3	11.1	11.3	--	--	--	--	--	--	
Lead	0.54 ^(a)	--	--	--	--	--	--	--	--	--	--	--	--	
Manganese	50 ^(a)	--	--	--	--	--	--	--	--	--	--	--	--	
Zinc	36.5	--	--	--	--	--	--	463	666	751	101	105	82.1	
PAHs (ug/L)														
1-Methylnaphthalene	NV	0.0879 U	0.0808 U	0.190 U	0.190 U	0.0755 U	0.0769 U	0.0808 U	0.204 U	0.0769 U	0.0755 U	0.0909 U	0.0204 U	
2-Methylnaphthalene	0.2 ^(a)	0.0879 U	0.0808 U	0.190 U	0.190 U	0.0755 U	0.0769 U	0.0808 U	0.204 U	0.0769 U	0.0755 U	0.0909 U	0.0204 U	
Acenaphthene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0113 J	
Acenaphthylene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Anthracene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Benzo(a)anthracene	0.0012	0.0440 U	0.0409 J	0.0959 J	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0535 J	0.0102 U	
Benzo(a)pyrene	0.00012	0.0659 U	0.0634 J	0.143 U	0.143 U	0.0566 U	0.0577 U	0.0606 U	0.163 J	0.0577 U	0.0575 J	0.128 J	0.0153 U	
Benzo(b)fluoranthene	0.0012	0.0659 U	0.0606 U	0.143 U	0.143 U	0.0566 U	0.0577 U	0.0606 U	0.153 U	0.0577 U	0.0566 U	0.118 J	0.0153 U	
Benzo(ghi)perylene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0654 J	0.0102 U	
Benzo(k)fluoranthene	0.0013	0.0659 U	0.0606 U	0.143 U	0.143 U	0.0566 U	0.0577 U	0.0606 U	0.153 U	0.0577 U	0.0566 U	0.0698 J	0.0153 U	
Carbazole	3.4 ^(a)	0.0659 U	0.0606 U	0.143 U	0.143 U	0.0566 U	0.0577 U	0.0606 U	--	0.0577 U	0.0566 U	0.0682 U	0.0153 U	
Chrysene	0.0013	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0491 J	0.0102 U	
Dibenzo(a,h)anthracene	0.00012	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Dibenzofuran	3.7 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	--	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Fluoranthene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Fluorene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Indeno(1,2,3-cd)pyrene	0.0012	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0618 J	0.0102 U	
Naphthalene	12	0.0879 U	0.0808 U	0.190 U	0.190 U	0.0755 U	0.0769 U	0.0808 U	0.204 U	0.0769 U	0.0755 U	0.0909 U	0.0204 U	
Phenanthrene	0.2 ^(a)	0.0440 U	0.0404 U	0.190 U	0.190 U	0.0377 U	0.0385 U	0.0408 J	0.188 J	0.0385 U	0.0377 U	0.0583 J	0.0137 J	
Pyrene	0.2 ^(a)	0.0440 U	0.0404 U	0.0952 U	0.0952 U	0.0377 U	0.0385 U	0.0404 U	0.102 U	0.0385 U	0.0377 U	0.0455 U	0.0102 U	
Total PAHs ^{(b)(3)}	NV	0.0879 U	0.468 J	1.07 J	0.190 U	0.0755 U	0.0769 U	0.435 J	1.27 J	0.0769 U	0.416 J	0.854 J	0.119 J	
Phthalates (ug/L)														
Bis(2-ethylhexyl)phthalate	0.2	0.879 U	0.808 U	1.9 U	1.9 U	0.755 U	0.769 U	1.10 J	3.1 J	0.769 U	0.755 U	0.909 U	0.204 U	
Additional (mg/L)														
Total Suspended Solids	NV	16.8	14.0	10.0	11.0 J	5.00 UJ	5.00 UJ	90.9	35.0	5.00 J	63.0	95.0	236	
Total Organic Carbon	NV	--	--	--	--	--	--	--	--	--	--	--	--	

Notes
Bold font indicates a detection.
Shading (color key below) indicates values that exceed Portland Harbor screening criteria; non-detect s (U or UJ) were not compared with screening criteria.
Portland Harbor ROD CULs, Surface Water
Portland Harbor JSCS Initial Upland Screening Level, Water
-- = not analyzed.
CUL = cleanup level.
DEQ = Oregon Department of Environmental Quality.
EPA = U.S. Environmental Protection Agency.
J = result is estimated.
JSCS = Joint Source Control Strategy.
mg/L = milligrams per liter.
NV = no value.
PAH = polycyclic aromatic hydrocarbon.
ROD = record of decision.
SCE = source control evaluation.
U = result is non-detect at the detection limit.
UJ = result is non-detect with an estimated detection limit.
ug/L = micrograms per liter.
^(a) Where Portland Harbor ROD CULs for surface water were not available, results are screened to Portland Harbor JSCS initial upland screening levels for water.
^(b) Total PAHs is the sum of 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3,-c,d)pyrene, naphthalene, phenanthrene, and pyrene. Non-detect results were multiplied by one-half. When all concentrations are non-detect, the highest detection limit is shown.
References
⁽¹⁾ EPA. 2020. Sean Sheldrake, Office of Environmental Cleanup. <i>Errata #2 for Portland Harbor Superfund Site Record of Decision ROD Table 17</i> . Memorandum to Portland Harbor site file. January 14.
⁽²⁾ DEQ. 2005. <i>Portland Harbor Joint Source Control Strategy</i> . "Table 3-1, Screening Level Values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water." December.
⁽³⁾ EPA. 2021. <i>Program Data Management Plan: Portland Harbor Remedial Design Investigation--Portland Harbor Superfund Site</i> . "Section 7.0, Calculation of Analyte Group Totals." U.S. Environmental Protection Agency Region 10. December.

Appendix A

Historical Investigation Data



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Historical Investigation Tables

Table A-1
October 31, 2005, Catch Basin Sediment Sampling Data
Sulzer Property 2007 SCE

Sample Collection Location	Composite #3 Outfalls C and D	Composite #6 Outfalls E and 15	CB-SB-5 Outfall D	JSCS Upland Soil/Sediment Screening Value (mg/kg)
Hydrocarbons by Method NWTPH-Dx (mg/kg)				
Diesel-range	2,390	1,750	2,020	--
Heavy-oil-range	6,180	4,390	5,050	--
TCLP Metals by USEPA 1311/6000/7000 Series Methods (mg/L)				
Arsenic	ND<1.0	ND<1.0	ND<1.0	TCLP not included for screening against soil/stormwater sediment criteria
Barium	ND<2.0	2.32	ND<2.0	
Cadmium	ND<0.20	ND<0.20	ND<0.20	
Chromium	ND<0.20	ND<0.20	ND<0.20	
Copper	ND<0.20	ND<0.20	ND<0.20	
Lead	ND<0.20	ND<0.20	0.347	
Mercury	ND<0.0002	ND<0.0002	ND<0.0002	
Selenium	ND<1.0	ND<1.0	ND<1.0	
Silver	ND<0.20	ND<0.20	ND<0.20	
Zinc	4.55	2.63	19.1	
PAHs by USEPA Method 8270-SIM (mg/kg)				
Acenaphthene	ND<0.330	ND<0.133	0.747	0.30
Acenaphthylene	ND<0.330	ND<0.133	ND<0.331	0.20
Anthracene	ND<0.330	ND<0.267	1.06	0.85
Benz(a)anthracene	ND<0.330	ND<0.133	0.78	1.05
Benzo(a)pyrene	ND<0.330	ND<0.267	ND<0.331	1.45
Benzo(b)fluoranthene	ND<0.330	ND<0.267	0.517	--
Benzo(g,h,i)perylene	ND<0.330	ND<0.267	ND<0.331	0.30
Benzo(k)fluoranthene	ND<0.330	ND<0.267	0.367	13
Chrysene	ND<0.330	ND<0.133	1.05	1.29
Dibenz(a,h)anthracene	ND<0.330	ND<0.267	ND<0.331	1.30
Fluoranthene	0.5	0.167	4.33	2.23
Fluorene	ND<0.330	ND<0.267	1.31	0.54
Indeno(1,2,3-cd)pyrene	ND<0.330	ND<0.267	ND<0.331	0.10
Naphthalene	ND<0.330	ND<0.133	0.355	0.56
Phenanthrene	0.398	0.528	6.08	1.17
Pyrene	0.453	0.307	3.22	1.52

Table A-1
October 31, 2005, Catch Basin Sediment Sampling Data
Sulzer Property 2007 SCE

NOTES:

Sediment sampling completed by Sterling Technologies, LLC, on October 31, 2005.

Yellow highlighting indicates analyte detected result exceeds one or more screening criteria.

Blue highlight indicates MDL of the non-detect result exceeds the screening criterion.

JSCS = Joint Source Control Strategy.

-- = not analyzed/not applicable.

MDL = method detection limit.

mg/kg = milligrams per kilogram.

mg/L = milligrams per liter.

ND = not detected at a concentration above laboratory MDL.

PAH = polycyclic aromatic hydrocarbon.

SCE = source control evaluation.

TCLP = toxicity characteristic leaching procedure.

USEPA = U.S. Environmental Protection Agency.

Table A-2
November 25, 2008, Catch Basin Sediment Sampling Data
Sulzer Pumps Facility 2015 SCE

Composite Sediment Sample ID and Corresponding Outfall	CB-30 and CB-31 Outfall C	CB-41 and CB-49 Outfall C-1	CB-39, CB-40, and CB-43 Outfall D	CB-14 and CB-15 Outfall E	CB-16 and CB-17 Outfall 15	JSCS Upland Soil/Sediment Screening Value
Total TAL 23 Metals by USEPA 6000/7000 Series Methods (mg/kg)						
Aluminum	9,500	8,440	8,070	7,810	17,900	--
Antimony	5.12	4.41	6.87	3.2	ND<2.90	64
Arsenic	5.45	4.55	7.47	3.75	6.07	7
Barium	148	111	368	179	548	--
Beryllium	ND<8.19	ND<2.79	ND<5.72	ND<3.79	ND<5.81	--
Cadmium	ND<4.09	4.17	10.2	ND<1.89	ND<2.90	1
Calcium	27,600	4,090	4,050	5,090	6,130	--
Chromium	3,260	123	211	50.4	36.1	111
Cobalt	17.3	11.7	18.1	9.28	14.6	--
Copper	382	137	210	171	83.8	149
Iron	94,900	57,900	58,600	38,500	96,000	--
Lead	169	119	150	79.3	70.7	17
Magnesium	3,310	2,630	2,140	2,470	3,840	--
Manganese	633	933	1,100	560	799	1,100
Mercury	ND<0.328	0.195	ND<0.229	0.17	ND<0.232	0.07
Nickel	267	103	169	37.7	28.7	48.6
Potassium	753	476	487	603	1,390	--
Selenium	ND<4.09	ND<1.40	ND<2.86	ND<1.89	ND<2.90	2
Silver	ND<8.19	ND<2.79	ND<5.72	ND<3.79	ND<5.81	5
Sodium	809	670	644	653	1,220	--
Thallium	ND<4.09	ND<1.40	ND>2.86	ND<1.89	ND<2.90	--
Vanadium	34.4	64.8	68.4	71.9	125	--
Zinc	1,240	866	1,510	638	319	459

Table A-2
November 25, 2008, Catch Basin Sediment Sampling Data
Sulzer Pumps Facility 2015 SCE

Composite Sediment Sample ID and Corresponding Outfall	CB-30 and CB-31 Outfall C	CB-41 and CB-49 Outfall C-1	CB-39, CB-40, and CB-43 Outfall D	CB-14 and CB-15 Outfall E	CB-16 and CB-17 Outfall 15	JSCS Upland Soil/Sediment Screening Value
PCBs by USEPA Method 8082A (ug/kg)^a						
Aroclor 1016	ND<71.2	ND<22.3	ND<47.0	ND<25.7	ND<46.7	530
Aroclor 1221	ND<99.7	ND<31.3	ND<65.8	ND<36.0	ND<65.4	--
Aroclor 1232	ND<71.2	ND<22.3	ND<47.0	ND<25.7	ND<46.7	--
Aroclor 1242	ND<71.2	ND<22.3	ND<47.0	ND<25.7	ND<46.7	--
Aroclor 1248	ND<71.2	ND<22.3	ND<47.0	ND<25.7	ND<46.7	1,500
Aroclor 1254	ND<71.2	397	180 J	35.9 J	ND<46.7	300
Aroclor 1260	ND<71.2	ND<22.3	ND<47.0	ND<25.7	ND<46.7	200
Total PCBs	ND	397	180 J	35.9 J	ND	0.39
Total Organic Carbon (mg/kg)	322,000	55,800	543,000	63,800	138,000	--
Phthalates by USEPA Method 8270C-SIM (ug/kg)						
Bis (2-ethylhexyl) phthalate	7,870	23,200	33,800	2,870	406	330
Benzylbutyl phthalate	24,200	ND<1,560	ND<1,550	ND<1,050	99.4	--
Diethyl phthalate	ND<1,130	ND<778	ND<775	ND<527	ND<42.8	600
Dimethyl phthalate	ND<1,130	ND<778	ND<775	ND<527	ND<42.8	--
Di-n-butyl phthalate	3,150	ND<1,560	ND<1,550	ND<527	ND<85.6	60
Di-n-octyl phthalate	ND<7,540	ND<6,220	ND<10,500	ND<3,510	ND<394	--
PAHs by USEPA Method 8270-SIM (ug/kg)						
Acenaphthene	ND<377	ND<260	ND<259	ND<176	ND<14.3	300
Acenaphthylene	ND<377	ND<260	ND<259	ND<176	ND<14.3	200
Anthracene	ND<377	ND<260	ND<259	ND<176	ND<14.3	845
Benz(a)anthracene	ND<377	262 J	ND<259	ND<176	ND<14.3	1,050
Benzo(a)pyrene	ND<757	ND<521	ND<591	ND<353	ND<28.7	1,450
Benzo(b)fluoranthene	ND<410	ND<282	ND<281	ND<191	ND<15.5	--
Benzo(g,h,i)perylene	ND<377	ND<260	ND<259	ND<176	ND<14.3	300
Benzo(k)fluoranthene	ND<377	ND<260	ND<259	ND<176	ND<14.3	13,000

Table A-2
November 25, 2008, Catch Basin Sediment Sampling Data
Sulzer Pumps Facility 2015 SCE

Composite Sediment Sample ID and Corresponding Outfall	CB-30 and CB-31 Outfall C	CB-41 and CB-49 Outfall C-1	CB-39, CB-40, and CB-43 Outfall D	CB-14 and CB-15 Outfall E	CB-16 and CB-17 Outfall 15	JSCS Upland Soil/Sediment Screening Value
Chrysene	ND<377	ND<260	ND<259	ND<176	ND<14.3	1,290
Dibenz(a,h)anthracene	ND<377	ND<260	ND<259	ND<176	ND<14.3	1,300
Fluoranthene	ND<377	481 J	353 J	ND<176	17.6 J	2,230
Fluorene	ND<377	ND<260	ND<259	ND<176	ND<14.3	536
Indeno(1,2,3-cd)pyrene	ND<377	ND<260	ND<259	ND<176	ND<14.3	100
1-Methylnaphthalene	ND<377	ND<260	ND<259	ND<176	ND<14.3	--
2-Methylnaphthalene	ND<377	ND<260	ND<259	ND<176	ND<14.3	200
Naphthalene	ND<377	ND<260	ND<259	ND<176	ND<14.3	561
Phenanthrene	ND<497	498 J	ND<341	ND<232	21 J	1,170
Pyrene	ND<377	453 J	330 J	ND<176	15.2 J	1,520

NOTES:

Bold font indicates detected analyte.

Chemical analysis completed by Apex Laboratories, LLC, of Tigard, Oregon.

Yellow highlighting indicates analyte detected result exceeds one or more screening criteria.

Blue highlight indicates MDL of non-detect result exceeds screening criterion.

-- = not analyzed, not applicable.

J = estimated result. Result detected below lowest point of calibration curve but above statistical MDL.

JSCS = Joint Source Control Strategy.

MDL = method detection limit.

mg/kg = milligrams per kilogram.

ND = not detected at concentration above laboratory MDL and/or method reporting limit.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

SCE = source control evaluation.

TAL = target analyte list.

ug/kg = micrograms per kilogram.

USEPA = U.S. Environmental Protection Agency.

^aLaboratory MDL reported in table.

Table A-3
December 13, 2006, Stormwater Sampling Data
Sulzer Pumps Facility 2007 SCE

Outfall	Dolan Vault	Outfall C	Outfall D	Outfall E	City Outfall 15	JSCS Water SLV	Portland Harbor USEPA PRG for RAO 3 Protected Water Uses, Surface Water	Portland Harbor USEPA PRG RAO 7 Direct Contact/Ingestion, Surface Water
Sample Collection Location	Dolan Vault	Outfall C	CB-5	CB-15	CB-16			
Total Metals by USEPA Method 200 Series (mg/L)								
Aluminum	0.16	ND<0.10	ND<0.10	0.24	2.3	0.05-0.2	--	--
Antimony	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.006	--	--
Barium	0.00844	0.0126	0.014	0.0361	0.0563	--	--	--
Beryllium	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	--	--
Cadmium	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.000094	--	--
Calcium	1.2	3.5	1.4	4.3	3.9	--	--	--
Chromium	0.00169	ND<0.001	ND<0.001	0.0016	0.00318	0.1	0.1	--
Cobalt	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	--	--	--
Copper	ND<0.0050	0.00684	0.00875	0.0137	0.0074	0.0027	--	0.003
Iron	0.17	0.13	ND<0.10	0.82	3.4	--	--	--
Lead	0.00142	0.00138	0.00108	0.003	0.00743	0.00054	--	--
Magnesium	0.18	0.84	0.28	0.62	1.3	--	--	--
Manganese	0.0217	0.0463	0.0138	0.0456	0.093	0.050	--	--
Mercury	ND<0.0002	ND<0.0002	ND<0.0002	ND<0.0002	ND<0.0002	0.00077	--	--
Molybdenum	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	--	--	--
Nickel	0.00101	0.00159	0.00217	0.0036	0.00217	0.016	--	--
Potassium	ND<0.50	ND<0.50	ND<0.50	0.58	0.95	--	--	--
Selenium	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	0.005	--	--
Silver	ND<0.002	ND<0.002	ND<0.002	ND<0.002	ND<0.002	0.00012	--	--
Sodium	1.6	6.9	2.2	3.9	2.6	--	--	--
Thallium	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	--	--
Vanadium	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	--	--	--
Zinc	0.406	0.568	0.194	0.227	0.0239	0.036	--	0.0365 (dissolved)

Table A-3
December 13, 2006, Stormwater Sampling Data
Sulzer Pumps Facility 2007 SCE

Outfall	Dolan Vault	Outfall C	Outfall D	Outfall E	City Outfall 15	JSCS Water SLV	Portland Harbor USEPA PRG for RAO 3 Protected Water Uses, Surface Water	Portland Harbor USEPA PRG RAO 7 Direct Contact/Ingestion, Surface Water
Sample Collection Location	Dolan Vault	Outfall C	CB-5	CB-15	CB-16			
pH (6020)	6.67	6.42	6.22	6.56	6.84	--	--	--
TSS by USEPA Method 160.2 (mg/L)	ND<5.0	ND<5.0	ND<5.0	5.0	15.0	--	--	--
Oil and Grease by USEPA Method 1664A (mg/L)	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--
Hydrocarbons by NWTPH-Dx (mg/L)								
Diesel-Range Hydrocarbons	ND<0.250	ND<0.250	0.329	ND<0.250	ND<0.250	--	--	--
Heavy-Oil-Range Hydrocarbons	ND<0.500	ND<0.500	ND<0.500	ND<0.500	ND<0.500	--	--	--
PCBs by USEPA Method 8082 (ug/L)^a								
PCB 1016	ND<0.077	ND<0.077	ND<0.077	ND<0.077	ND<0.077	0.96	--	--
PCB 1221	ND<0.16	ND<0.16	ND<0.16	ND<0.16	ND<0.16	0.034	--	--
PCB 1232	ND<0.18	ND<0.18	ND<0.18	ND<0.18	ND<0.18	0.034	--	--
PCB 1242	ND<0.099	ND<0.099	ND<0.099	ND<0.099	ND<0.099	0.034	--	--
PCB 1248	ND<0.039	ND<0.039	ND<0.039	ND<0.039	ND<0.039	0.034	--	--
PCB 1254	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<0.12	0.033	--	--
PCB 1260	ND<0.16	ND<0.16	ND<0.16	ND<0.16	ND<0.16	0.034	--	--
Phthalates by USEPA Method 8270C (ug/L)								
Total Phthalates	9.9	ND<6.0	ND<6.0	ND<6.0	ND<6.0	--	--	--
Bis (2-ethylhexyl) phthalate	8.9	ND<1.0	1.5	ND<1.0	1.4	2.2	0.2	3
Benzylbutyl phthalate	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	3	--	--

Table A-3
December 13, 2006, Stormwater Sampling Data
Sulzer Pumps Facility 2007 SCE

Outfall	Dolan Vault	Outfall C	Outfall D	Outfall E	City Outfall 15	JSCS Water SLV	Portland Harbor USEPA PRG for RAO 3 Protected Water Uses, Surface Water	Portland Harbor USEPA PRG RAO 7 Direct Contact/Ingestion, Surface Water
Sample Collection Location	Dolan Vault	Outfall C	CB-5	CB-15	CB-16			
Diethyl phthalate	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	3	--	--
Dimethyl phthalate	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	3	--	--
Di-n-butyl phthalate	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	3	--	--
Di-n-octyl phthalate	1.1	ND<10	ND<1.0	ND<1.0	ND<1.0	3	--	--
PAHs by USEPA Method 8270C-SIM (ug/L)^a								
Acenaphthene	ND<0.0018	ND<0.0018	ND<0.0018	ND<0.0018	ND<0.0018	0.2	--	--
Acenaphthylene	ND<0.0014	ND<0.0014	ND<0.0014	ND<0.0014	ND<0.0014	0.2	--	--
Anthracene	ND<0.00045	ND<0.00045	ND<0.00045	ND<0.00045	ND<0.00045	0.2	--	--
Benz(a)anthracene	ND<0.0010	ND<0.0010	ND<0.0010	ND<0.0010	ND<0.0010	0.018	0.001	0.03
Benzo(a)pyrene	ND<0.0011	ND<0.0011	ND<0.0011	ND<0.0011	ND<0.0011	0.018	0.0001	0.01
Benzo(b)fluoranthene	ND<0.0010	ND<0.0010	ND<0.0010	ND<0.0010	ND<0.0010	0.018	0.001	--
Benzo(g,h,i)perylene	ND<0.0011	ND<0.0011	ND<0.0011	ND<0.0011	ND<0.0011	0.2	--	--
Benzo(k)fluoranthene	ND<0.0021	ND<0.0021	ND<0.0021	ND<0.0021	ND<0.0021	0.018	0.001	--
Chrysene	ND<0.00068	ND<0.00068	ND<0.00068	ND<0.00068	ND<0.00068	0.018	0.001	--
Dibenz(a,h)- anthracene	ND<0.00096	ND<0.00096	ND<0.00096	ND<0.00096	ND<0.00096	0.018	0.0001	--
Fluoranthene	ND<0.00065	ND<0.00065	ND<0.00065	ND<0.00065	ND<0.00065	0.2	--	--
Fluorene	ND<0.0011	ND<0.0011	ND<0.0011	ND<0.0011	ND<0.0011	0.2	--	--
Indeno(1,2,3-cd) pyrene	ND<0.0012	ND<0.0012	ND<0.0012	ND<0.0012	ND<0.0012	0.018	0.001	--

Table A-3
December 13, 2006, Stormwater Sampling Data
Sulzer Pumps Facility 2007 SCE

Outfall	Dolan Vault	Outfall C	Outfall D	Outfall E	City Outfall 15	JSCS Water SLV	Portland Harbor USEPA PRG for RAO 3 Protected Water Uses, Surface Water	Portland Harbor USEPA PRG RAO 7 Direct Contact/Ingestion, Surface Water
Sample Collection Location	Dolan Vault	Outfall C	CB-5	CB-15	CB-16			
Naphthalene	ND<0.011	ND<0.011	ND<0.011	ND<0.011	ND<0.011	0.2	--	12
Phenanthrene	ND<0.00073	ND<0.00073	0.054	ND<0.00073	ND<0.00073	0.2	--	--
Pyrene	ND<0.00083	ND<0.00083	ND<0.00083	ND<0.00083	ND<0.00083	0.2	--	--
1-Methylnaphthalene	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0019	ND<0.0019	--	--	--
2-Methylnaphthalene	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0020	0.2	--	--

NOTES:

Chemical analysis performed by Apex Laboratories, LLC, of Tigard, Oregon, and Environmental Science Corp. of Mt. Juliet, Tennessee.

Yellow highlighting indicates analyte detected result exceeds one or more screening criteria.

Blue highlight indicates method detection limit of the non-detect result exceeds the screening criterion.

-- = not analyzed/not applicable.

JSCS = Joint Source Control Strategy.

mg/L = milligrams per liter.

ND = not detected at a concentration greater than the laboratory method reporting limit.

PAH = polycyclic aromatic hydrocarbon.

PCB = polychlorinated biphenyl.

PRG = preliminary remediation goal.

RAO = remedial action objective.

SCE = source control evaluation.

SLV = screening level value.

TSS = total suspended solids.

ug/L = micrograms per liter.

USEPA = U.S. Environmental Protection Agency.

^aLaboratory method detection limit reported in table.

Table A-4
May 7, 2006, Stormwater Sampling Data
Sulzer Pumps Facility 2007 SCE

Outfall	Outfall C	Outfall D	Outfall E	JSCS Water SLV	Portland Harbor USEPA PRG for RAO 3 Protected Water Uses, Surface Water	Portland Harbor USEPA PRG RAO 7 Direct Contact/Ingestion, Surface Water
Sample Collection Location	Outfall C	CB-5	CB-15			
Total Metals by USEPA Method 200 Series (mg/L)						
Chromium	ND<0.0010	0.00141	0.00471	0.1	0.1	--
Copper	0.0282	0.0332	0.0707	0.0027	--	--
Lead	0.0022	0.002	0.00702	0.00054	--	--
Zinc	0.329	0.693	0.279	0.036	--	0.0365 (dissolved)
pH (field measurement)	5.4	6.32	6.55	--	--	--
TSS by USEPA Method 160.2 (mg/L)	ND<10.0	ND<10.0	42	--	--	--
Oil and Grease by USEPA Method 1664/1664A	ND<4.85	ND<4.76	ND<4.76	--	--	--
PAHs by USEPA Method 8270M-SIM (ug/L)						
Acenaphthene	ND<0.0952	ND<0.0952	ND<0.0980	0.2	--	--
Acenaphthylene	ND<0.0952	ND<0.0952	ND<0.0980	0.2	--	--
Anthracene	ND<0.0952	ND<0.0952	ND<0.0980	0.2	--	--
Benz(a)anthracene	ND<0.0952	ND<0.0952	ND<0.0980	0.018	0.001	0.03
Benzo(a)pyrene	ND<0.0952	ND<0.0952	ND<0.0980	0.018	0.0001	0.01
Benzo(b)fluoranthene	ND<0.0952	ND<0.0952	ND<0.0980	0.018	0.001	--
Benzo(g,h,i)perylene	ND<0.0952	ND<0.0952	ND<0.0980	0.2	--	--
Benzo(k)fluoranthene	ND<0.0952	ND<0.0952	ND<0.0980	0.018	0.001	--
Chrysene	ND<0.0952	ND<0.0952	ND<0.0980	0.018	0.001	--
Dibenz(a,h)anthracene	ND<0.190	ND<0.190	ND<0.0196	0.018	0.0001	--
Fluoranthene	ND<0.0952	ND<0.0952	ND<0.0980	0.2	--	--

Table A-4
May 7, 2006, Stormwater Sampling Data
Sulzer Pumps Facility 2007 SCE

Outfall	Outfall C	Outfall D	Outfall E	JSCS Water SLV	Portland Harbor USEPA PRG for RAO 3 Protected Water Uses, Surface Water	Portland Harbor USEPA PRG RAO 7 Direct Contact/Ingestion, Surface Water
Sample Collection Location	Outfall C	CB-5	CB-15			
Fluorene	ND<0.0952	ND<0.143	ND<0.196	0.2	--	--
Indeno(1,2,3-cd)pyrene	ND<0.0952	ND<0.0952	ND<0.0980	0.018	0.001	--
Naphthalene	ND<0.0952	ND<0.190	ND<0.147	0.2	--	12
Phenanthrene	ND<0.0952	ND<0.0952	ND<0.147	0.2	--	--
Pyrene	ND<0.0952	ND<0.0952	ND<0.0980	0.2	--	--
NOTES: Stormwater sampling conducted by Sterling Technologies, LLC, during the May 7, 2006 USEPA defined rain event. Yellow highlighting indicates analyte detected result exceeds one or more screening criteria. Blue highlight indicates method detection limit of non-detect result exceeds screening criterion. -- = not analyzed/not applicable. JSCS = Joint Source Control Strategy. mg/L = milligrams per liter. ND = not detected at concentration greater than laboratory method reporting limit. PAH = polycyclic aromatic hydrocarbon. PRG = preliminary remediation goal. RAO = remedial action objective. SCE = source control evaluation. SLV = screening level value. TSS = total suspended solids. ug/L = micrograms per liter. USEPA = U.S. Environmental Protection Agency.						

Table A-5
Historical Stormwater Sampling Data
Sulzer Pumps Facility 2015 SCE

Outfall	Outfall C				Outfall C-1	Outfall D			
Sample ID	Outfall-C				Outfall C-1	Outfall-D			
Sample Collection Location	Outfall-C	Outfall-C	Outfall-C	Outfall-C	Outfall C-1	manhole	manhole	CB-5	CB-5
Date	10/03/2008	11/12/2007	12/13/2006	05/07/2006	10/03/2008	10/03/2008	11/12/2007	12/13/2006	05/07/2006
Total Metals by USEPA Method 200 Series (mg/L)									
Aluminum	0.507	ND<0.1	ND<0.10	--	5.37	ND<0.1	ND<0.1	ND<0.10	--
Antimony	ND<0.001	--	ND<0.001	--	0.00426	ND<0.001	--	ND<0.001	--
Arsenic	ND<0.001	--	--	--	0.0024	ND<0.001	--	--	--
Barium	0.026	0.0179	0.0126	--	0.137	0.0128	0.0126	0.014	--
Beryllium	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--
Cadmium	ND<0.001	ND<0.001	ND<0.001	--	0.00446	ND<0.001	ND<0.001	ND<0.001	--
Calcium	2.31	1.90	3.5	--	7.33	1.0	0.873	1.4	--
Chromium	0.00271	ND<0.001	ND<0.001	ND<0.0010	0.0203	0.00211	ND<0.001	ND<0.001	0.00141
Cobalt	ND<0.002	ND<0.002	ND<0.010	--	0.00358	ND<0.002	ND<0.002	ND<0.010	--
Copper	0.0163	0.00874	0.00684	0.0282	0.0722	0.0181	0.0119	0.00875	0.0332
Iron	0.958	0.232	0.13	--	10.9	0.238	0.141	ND<0.10	--
Lead	0.00559	0.00158	0.00138	0.0022	0.0737	0.00564	0.00133	0.00108	0.002
Magnesium	0.335	0.258	0.84	--	1.76	0.228	0.151	0.28	--
Manganese	0.0972	0.0292	0.0463	--	0.454	0.325	0.0206	0.0138	--
Mercury	ND<0.0001	ND<0.0002	ND<0.0002	--	ND<0.0001	ND<0.0001	ND<0.0002	ND<0.0002	--
Nickel	0.00322	0.00261	0.00159	--	0.0335	0.00216	0.00982	0.00217	--
Potassium	0.395	0.279	ND<0.50	--	1.68	0.268	0.214	ND<0.50	--
Selenium	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--
Silver	ND<0.002	ND<0.002	ND<0.002	--	ND<0.002	ND<0.002	ND<0.002	ND<0.002	--
Sodium	0.589	0.946	6.9	--	4.27	0.32	0.732	2.2	--
Thallium	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--
Vanadium	0.00283	ND<0.002	ND<0.010	--	0.025	0.00274	ND<0.002	ND<0.010	--
Zinc	0.173	0.208	0.568	0.329	0.696	0.0758	0.0723	0.194	0.693
pH by USEPA Method 6020	6.28	6.46	6.42	5.4	6.84	5.98	6.33	6.22	6.32
TSS by USEPA Method 160.2 (mg/L)	15.0	ND<5.0	ND<5.0	ND<10.0	106	6.0	ND<5.0	ND<5.0	ND<10.0
Oil and Grease by USEPA Method 1664A (mg/L)	ND<4.81	ND<5.0	ND<5.0	ND<4.85	8.66	ND<4.76	ND<4.96	ND<5.0	ND<4.76
Diesel-Range Hydrocarbons by Method NWTPH-Dx (mg/L)	0.254	ND<0.253	ND<0.250	--	1.16	0.42	ND<0.250	0.329	--
Heavy-Oil-Range Hydrocarbons by Method NWTPH-Dx (mg/L)	0.837	ND<0.505	ND<0.500	--	6.25	0.842	ND<0.500	ND<0.500	--
PCBs by USEPA Method 8082^a (ug/L)									
Aroclor 1016	ND<0.01	ND<0.021	ND<0.077	--	ND<0.01	ND<0.01	ND<0.021	ND<0.077	--
Aroclor 1221	ND<0.03	ND<0.021	ND<0.16	--	ND<0.03	ND<0.03	ND<0.021	ND<0.16	--
Aroclor 1232	ND<0.02	ND<0.021	ND<0.18	--	ND<0.03	ND<0.02	ND<0.021	ND<0.18	--
Aroclor 1242	ND<0.03	ND<0.021	ND<0.099	--	ND<0.03	ND<0.03	ND<0.021	ND<0.099	--
Aroclor 1248	ND<0.03	ND<0.021	ND<0.039	--	ND<0.03	ND<0.03	ND<0.021	ND<0.039	--
Aroclor 1254	ND<0.01	ND<0.021	ND<0.12	--	ND<0.01	ND<0.01	ND<0.021	ND<0.12	--
Aroclor 1260	ND<0.02	ND<0.021	ND<0.16	--	ND<0.02	ND<0.02	ND<0.021	ND<0.16	--
Total PCBs	ND	ND	ND	--	ND	ND	ND	ND	--

Table A-5
Historical Stormwater Sampling Data
Sulzer Pumps Facility 2015 SCE

Outfall	Outfall C				Outfall C-1	Outfall D			
Sample ID	Outfall-C				Outfall C-1	Outfall-D			
Sample Collection Location	Outfall-C	Outfall-C	Outfall-C	Outfall-C	Outfall C-1	manhole	manhole	CB-5	CB-5
Date	10/03/2008	11/12/2007	12/13/2006	05/07/2006	10/03/2008	10/03/2008	11/12/2007	12/13/2006	05/07/2006
Phthalates by USEPA Method 8270C-SIM^a (ug/L)									
Bis (2-ethylhexyl) phthalate	ND<1.9	ND<1.27	ND<1.0	--	6.63 J	ND<1.89	ND<1.11	1.5	--
Benzylbutyl phthalate	ND<1.9	ND<1.27	ND<1.0	--	ND<4.72	ND<1.89	ND<1.11	ND<1.0	--
Diethyl phthalate	ND<1.9	ND<1.27	ND<1.0	--	ND<4.72	ND<1.89	ND<1.11	ND<1.0	--
Dimethyl phthalate	ND<1.9	ND<1.27	ND<1.0	--	ND<4.72	ND<1.89	ND<1.11	ND<1.0	--
Di-n-butyl phthalate	ND<1.9	ND<1.27	ND<1.0	--	ND<4.72	ND<1.89	ND<1.11	ND<1.0	--
Di-n-octyl phthalate	ND<1.9	ND<1.27	ND<10	--	ND<4.72	ND<1.89	ND<1.11	ND<1.0	--
PAHs by USEPA Method 8270C-SIM^a (ug/L)									
Acenaphthene	ND<0.0381	ND<0.0159	ND<0.0018	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0140	ND<0.0018	ND<0.0952
Acenaphthylene	ND<0.0381	ND<0.0167	ND<0.0014	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0147	ND<0.0014	ND<0.0952
Anthracene	ND<0.0381	ND<0.0156	ND<0.00045	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0137	ND<0.00045	ND<0.0952
Benz(a)anthracene	ND<0.0381	ND<0.0186	ND<0.0010	ND<0.0952	ND<0.377	ND<0.0377	0.0181 J	ND<0.0010	ND<0.0952
Benzo(a)pyrene	ND<0.0381	ND<0.0129	ND<0.0011	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0113	ND<0.0011	ND<0.0952
Benzo(b)fluoranthene	ND<0.0381	ND<0.0156	ND<0.0010	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0137	ND<0.0010	ND<0.0952
Benzo(g,h,i)perylene	ND<0.0381	ND<0.0167	ND<0.0011	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0147	ND<0.0011	ND<0.0952
Benzo(k)fluoranthene	ND<0.0381	ND<0.0168	ND<0.0021	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0148	ND<0.0021	ND<0.0952
Chrysene	ND<0.0381	0.0125 J	ND<0.00068	ND<0.0952	ND<0.377	ND<0.0377	ND<0.00724	ND<0.00068	ND<0.0952
Dibenz(a,h)anthracene	ND<0.0381	0.0479 J	ND<0.00096	ND<0.190	ND<0.0583	ND<0.0377	0.0419 J	ND<0.00096	ND<0.190
Fluoranthene	0.0448 J	0.0227 J	ND<0.00065	ND<0.0952	0.348 J	ND<0.0377	0.0167 J	ND<0.00065	ND<0.0952
Fluorene	ND<0.0381	ND<0.0349	ND<0.0011	ND<0.0952	ND<0.189	ND<0.0377	ND<0.0307	ND<0.0011	ND<0.143
Indeno(1,2,3-cd)pyrene	ND<0.0381	0.0296 J	ND<0.0012	ND<0.0952	ND<0.189	ND<0.0377	0.0255 J	ND<0.0012	ND<0.0952
Naphthalene	ND<0.0381	0.0170 J	ND<0.011	ND<0.0952	ND<0.189	ND<0.0377	0.0180 J	ND<0.011	ND<0.190
Phenanthrene	0.0458 J	ND<0.0405	ND<0.00073	ND<0.0952	0.333 J	ND<0.0377	ND<0.0356	0.054	ND<0.0952
Pyrene	ND<0.0381	0.0171 J	ND<0.00083	ND<0.0952	0.339 J	ND<0.0377	ND<0.0149	ND<0.00083	ND<0.0952

Table A-5
Historical Stormwater Sampling Data
Sulzer Pumps Facility 2015 SCE

Outfall	Outfall E						City Outfall 15							JSCS Water SLV
Sample ID	DB-E	Outfall-E					OF-15	Outfall-15						
Sample Collection Location	CB-15	CB-14 & CB-15	CB-14 & CB-15	CB-14	CB-15	CB-15	CB-16	CB-16	CB-16 & 17	CB-16 & CB-17	CB-16	CB-17		
Date	07/22/2014	11/18/2013	10/03/2008	11/12/2007	12/13/2006	05/07/2006	07/22/2014	11/18/2013	10/03/2008	11/12/2007	12/13/2006	05/07/2006		
Total Metals by USEPA Method 200 Series (mg/L)														
Aluminum	0.603	1.13	1.27	ND<0.1	0.24	--	0.411	7.88	0.166	0.105	2.3	--	0.05-0.2	
Antimony	0.00116	ND<0.001	0.0012	--	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	--	0.006	
Arsenic	ND<0.001	ND<0.001	ND<0.001	--	--	--	ND<0.001	0.00108	ND<0.001	--	--	--	0.000045	
Barium	0.0619	0.157	0.0454	0.0228	0.0361	--	0.0218	0.0992	0.0928	0.0865	0.0563	--	--	
Beryllium	ND<0.001	ND<0.0002	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.0002	ND<0.001	ND<0.001	ND<0.001	--	--	
Cadmium	0.00264	0.00148	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	0.000233	ND<0.001	ND<0.001	ND<0.001	--	0.000094	
Calcium	1.960	2.30	5.58	2.3	4.3	--	3.66	10.80	7.74	5.27	3.9	--	--	
Chromium	0.00659	0.00726	0.00293	ND<0.001	0.0016	0.00471	ND<0.001	0.00824	0.0012	ND<0.001	0.00318	ND<0.0010	0.1	
Cobalt	0.00172	0.00152	ND<0.002	ND<0.002	ND<0.010	--	0.00544	0.00501	ND<0.002	ND<0.002	ND<0.010	--	--	
Copper	0.0541	0.0346	0.0423	0.0355	0.0137	0.0707	0.00946	0.0253	0.00406	0.00522	0.0074	ND<0.0020	0.0027	
Iron	4.38	3.350	3.73	0.324	0.82	--	0.341	8.2	1.1	0.783	3.4	--	--	
Lead	0.0163	0.0233	0.00688	0.00173	0.003	0.00702	0.000656	0.0176	ND<0.001	ND<0.001	0.00743	ND<0.0010	0.00054	
Magnesium	0.341	0.526	0.839	0.313	0.62	--	1.15	3.31	2.15	1.38	1.3	--	--	
Manganese	0.143	0.121	0.151	0.0223	0.0456	--	0.0952	0.485	0.434	0.188	0.093	--	0.050	
Mercury	ND<0.00008	ND<0.00008	ND<0.0001	ND<0.0002	ND<0.0002	--	ND<0.00008	ND<0.00008	ND<0.0001	ND<0.0002	ND<0.0002	--	0.00077	
Nickel	0.00822	0.00631	0.00333	0.00362	0.0036	--	0.00224	0.00891	0.00167	0.00221	0.00217	--	0.016	
Potassium	0.749	0.473	1.26	1.21	0.58	--	2.61	1.61	2.85	2.15	0.95	--	--	
Selenium	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	ND<0.001	ND<0.001	ND<0.001	ND<0.001	ND<0.001	--	0.005	
Silver	ND<0.0002	ND<0.0002	ND<0.002	ND<0.002	ND<0.002	--	ND<0.0002	ND<0.0002	ND<0.002	ND<0.002	ND<0.002	--	0.00012	
Sodium	0.636	1.49	1.26	0.906	3.9	--	1.59	5.57	1.91	1.84	2.6	--	--	
Thallium	ND<0.0002	ND<0.0002	ND<0.001	ND<0.001	ND<0.001	--	ND<0.0002	ND<0.0002	ND<0.001	ND<0.001	ND<0.001	--	--	
Vanadium	0.00331	0.00389	0.00579	ND<0.002	ND<0.010	--	ND<0.002	0.0146	ND<0.002	ND<0.002	ND<0.010	--	--	
Zinc	0.313	0.238	0.105	0.121	0.227	0.279	0.0282	0.0822	0.00909	0.00802	0.0239	0.0119	0.036	
pH by USEPA Method 6020	6.42	6.87	6.77	6.83	6.56	6.55	6.82	7.22	6.87	6.83	6.84	6.62	--	
TSS by USEPA Method 160.2 (mg/L)	43.0	35.0	27.0	8.0	5.0	42	5.0	86.0	7.0	8.0	15.0	ND<10.0	--	
Oil and Grease by USEPA Method 1664A (mg/L)	ND<4.76	ND<4.76	ND<4.76	ND<5.1	ND<5.0	ND<4.76	ND<4.81	ND<4.72	ND<5.0	ND<5.1	ND<5.0	ND<4.81	--	
Diesel-Range Hydrocarbons by Method NWTPH-Dx (mg/L)	ND<0.192	ND<0.189	0.295	0.556	ND<0.250	--	ND<0.192	ND<0.943	ND<0.240	0.556	ND<0.250	--	--	
Heavy-Oil-Range Hydrocarbons by Method NWTPH-Dx (mg/L)	0.717	1.08	0.612	2.65	ND<0.500	--	ND<0.385	1.93	ND<0.481	2.65	ND<0.500	--	--	
PCBs by USEPA Method 8082 ^a (ug/L)														
Aroclor 1016	ND<0.0192	ND<0.0190	ND<0.01	ND<0.021	ND<0.077	--	ND<0.0192	ND<0.0190	ND<0.01	ND<0.021	ND<0.077	--	0.96	
Aroclor 1221	ND<0.0192	ND<0.0190	ND<0.03	ND<0.021	ND<0.16	--	ND<0.0192	ND<0.0190	ND<0.03	ND<0.021	ND<0.16	--	0.034	
Aroclor 1232	ND<0.0192	ND<0.0190	ND<0.02	ND<0.021	ND<0.18	--	ND<0.0192	ND<0.0190	ND<0.02	ND<0.021	ND<0.18	--	0.034	
Aroclor 1242	0.0367 J	ND<0.0190	ND<0.03	ND<0.021	ND<0.099	--	ND<0.0192	ND<0.0190	ND<0.03	ND<0.021	ND<0.099	--	0.034	
Aroclor 1248	ND<0.0192	ND<0.0190	ND<0.03	ND<0.021	ND<0.039	--	ND<0.0192	ND<0.0190	ND<0.03	ND<0.021	ND<0.039	--	0.034	
Aroclor 1254	0.0273 J	ND<0.0190	ND<0.01	ND<0.021	ND<0.12	--	ND<0.0192	ND<0.0190	ND<0.01	ND<0.021	ND<0.12	--	0.033	
Aroclor 1260	0.11	0.0569	ND<0.02	ND<0.021	ND<0.16	--	ND<0.0192	ND<0.0190	ND<0.02	ND<0.021	ND<0.16	--	0.034	
Total PCBs	0.174 J	0.0569	ND	ND	ND	--	ND	ND	ND	ND	ND	--	0.000064	

Table A-5
Historical Stormwater Sampling Data
Sulzer Pumps Facility 2015 SCE

Outfall	Outfall E						City Outfall 15						JSCS Water SLV
Sample ID	DB-E	Outfall-E					OF-15	Outfall-15					
Sample Collection Location	CB-15	CB-14 & CB-15	CB-14 & CB-15	CB-14	CB-15	CB-15	CB-16	CB-16	CB-16 & 17	CB-16 & CB-17	CB-16	CB-17	
Date	07/22/2014	11/18/2013	10/03/2008	11/12/2007	12/13/2006	05/07/2006	07/22/2014	11/18/2013	10/03/2008	11/12/2007	12/13/2006	05/07/2006	
Phthalates by USEPA Method 8270C-SIM ^a (ug/L)													
Bis (2-ethylhexyl) phthalate	16.2 B	ND<4.19	ND<1.89	ND<2.30	ND<1.0	--	ND<0.769	ND<4.15	ND<0.943	ND<2.30	1.4	--	2.2
Benzylbutyl phthalate	ND<1.89	ND<5.71	ND<1.89	ND<2.30	ND<1.0	--	ND<0.769	ND<5.66	ND<0.943	ND<2.30	ND<1.0	--	3
Diethyl phthalate	ND<1.89	ND<5.71	ND<1.89	ND<2.30	ND<1.0	--	ND<0.769	ND<5.66	ND<0.943	ND<2.30	ND<1.0	--	3
Dimethyl phthalate	ND<1.89	ND<5.71	ND<1.89	ND<2.30	ND<1.0	--	0.968 J	ND<5.66	ND<0.943	ND<2.30	ND<1.0	--	3
Di-n-butyl phthalate	ND<1.89	ND<5.71	ND<1.89	ND<2.30	ND<1.0	--	ND<0.769	ND<5.66	ND<0.943	ND<2.30	ND<1.0	--	3
Di-n-octyl phthalate	6.7	ND<5.71	ND<1.89	ND<2.30	ND<1.0	--	ND<0.769	ND<5.66	ND<0.943	ND<2.30	ND<1.0	--	3
PAHs by USEPA Method 8270C-SIM ^a (ug/L)													
Acenaphthene	ND<0.0943	ND<0.0381	ND<0.0377	ND<0.0290	ND<0.0018	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0156	ND<0.0018	ND<0.0971	0.2
Acenaphthylene	ND<0.0943	ND<0.0381	ND<0.0377	ND<0.0303	ND<0.0014	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0163	ND<0.0014	ND<0.0971	0.2
Anthracene	ND<0.0943	ND<0.0381	ND<0.0377	ND<0.0283	ND<0.00045	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0152	ND<0.00045	ND<0.0971	0.2
Benz(a)anthracene	ND<0.0943	ND<0.0381	ND<0.0377	0.0352 J	ND<0.0010	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0181	ND<0.0010	ND<0.0971	0.018
Benzo(a)pyrene	ND<0.142	0.0417 J	ND<0.0377	ND<0.0234	ND<0.0011	ND<0.0980	ND<0.0577	0.0434 J	ND<0.0189	ND<0.0126	ND<0.0011	ND<0.0971	0.018
Benzo(b)fluoranthene	ND<0.0943	ND<0.0381	ND<0.0377	0.0291 J	ND<0.0010	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0152	ND<0.0010	ND<0.0971	0.018
Benzo(g,h,i)perylene	ND<0.0943	ND<0.0381	ND<0.0377	ND<0.0303	ND<0.0011	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0377	ND<0.0163	ND<0.0011	ND<0.0971	0.2
Benzo(k)fluoranthene	ND<0.0943	ND<0.0381	ND<0.0377	ND<0.0306	ND<0.0021	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0164	ND<0.0021	ND<0.0971	0.018
Chrysene	ND<0.0943	ND<0.0381	ND<0.0377	0.030 J	ND<0.00068	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.00805	ND<0.00068	ND<0.0971	0.018
Dibenz(a,h)anthracene	ND<0.0943	ND<0.0381	ND<0.0377	0.0910 J	ND<0.00096	ND<0.0196	ND<0.0385	ND<0.0377	ND<0.0377	0.0464 J	ND<0.00096	ND<0.194	0.018
Fluoranthene	0.108 J	0.0520 J	ND<0.0377	0.0686 J	ND<0.00065	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.00963	ND<0.00065	ND<0.0971	0.2
Fluorene	ND<0.0943	ND<0.0381	ND<0.0377	ND<0.0634	ND<0.0011	ND<0.196	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0341	ND<0.0011	ND<0.0971	0.2
Indeno(1,2,3-cd)pyrene	ND<0.0943	ND<0.0381	ND<0.0377	0.0619 J	ND<0.0012	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0377	0.0208 J	ND<0.0012	ND<0.0971	0.018
Naphthalene	ND<0.189	ND<0.0762	0.0795	0.0466 J	ND<0.011	ND<0.147	ND<0.0769	ND<0.0755	ND<0.0189	ND<0.0159	ND<0.011	ND<0.0971	0.2
Phenanthrene	0.210	0.0623 J	0.0718 J	0.135	ND<0.00073	ND<0.147	0.0425 J	ND<0.0377	ND<0.0189	ND<0.0395	ND<0.00073	ND<0.0971	0.2
Pyrene	ND<0.0943	0.0443 J	ND<0.0377	0.0739 J	ND<0.00083	ND<0.0980	ND<0.0385	ND<0.0377	ND<0.0189	ND<0.0165	ND<0.00083	ND<0.0971	0.2

Table A-5
Historical Stormwater Sampling Data
Sulzer Pumps Facility 2015 SCE

NOTES:	
Chemical analysis was performed by Apex Laboratories, LLC, of Tigard, Oregon; Analytical Resources, Inc., of Tukwila, Washington; and Keystone Laboratories of Newton, Iowa.	
	Yellow highlighting indicates analyte detected result exceeds one or more screening criteria.
	Blue highlight indicates MDL of non-detect result exceeds screening criterion.
-- = not analyzed/applicable,	
B = Analyte detected in associated blank at a level above the MRL.	
J = Estimated result. Result detected below lowest point of calibration curve but above statistical MDL.	
JSCS = Joint Source Control Strategy.	
MDL = method detection limit.	
mg/L = milligrams per liter.	
MRL = method reporting limit.	
ND = not detected at a concentration above laboratory MDL and/or the MRL.	
PAH = polycyclic aromatic hydrocarbon.	
PCB = polychlorinated biphenyl.	
SCE = source control evaluation.	
SLV = screening level value.	
TSS = total suspended solids.	
ug/L = micrograms per liter.	
USEPA = U.S. Environmental Protection Agency.	
^a Laboratory MDL reported in table.	

TABLE A-6
Quantum 2013–2014 Stormwater Sampling Data
1200-Z Industrial Stormwater General Permit

Sample Point	SL-1 (Clarus Effluent)	SL-1 (Clarus Effluent)	SL-1 (Clarus Effluent)	SL-1 (Clarus Effluent)
Sample Date	11/4/2013	12/17/2013	2/19/2014	3/27/2014
4,4'-dde (p,p'-ddx)	ND<0.0000472	--	ND<0.0000943	--
4,4'-ddt	ND<0.0000283	--	ND<0.0000566	--
acenaphthene	ND<0.000952	--	ND<0.000952	--
aldrin	ND<0.0000283	--	ND<0.0000566	--
aluminum	ND<0.05	ND<0.0801	0.192	0.30
anthracene	ND<0.000952	--	ND<0.000952	--
benzo(a)anthracene	ND<0.000952	--	ND<0.000952	--
benzo(a)pyrene	ND<0.000952	--	ND<0.000952	--
benzo(b)fluoranthene	ND<0.000952	--	ND<0.000952	--
benzo(k)fluoranthene	ND<0.000952	--	ND<0.000952	--
cadmium	ND<0.0002	0.000211	ND<0.0002	0.000333
chlordane (tech)	ND<0.000175	--	ND<0.000708	--
chromium	ND<0.001	ND<0.001	0.00131	0.00279
chrysene	ND<0.000952	--	ND<0.000952	--
cod	18.70	14.90	10	16
copper	0.0076	0.011	0.0129	0.021
cyanide - total	ND<0.005	--	ND<0.005	--
dibenzo(a,h)anthracene	ND<0.000952	--	ND<0.000952	--
dieldrin	ND<0.0000189	--	ND<0.0000377	--
fluoranthene	ND<0.000952	--	ND<0.000952	--
fluorene	ND<0.000952	--	ND<0.000952	--
hexachlorobenzene	--	ND<0.0000606	ND<0.0000566	--
indeno (1,2,3-cd) pyrene	ND<0.000952	--	ND<0.000952	--
iron	0.282	0.261	0.679	1.44
lead	0.00122	0.00358	0.00878	0.0134
mercury	ND<0.00008	ND<0.00008	ND<0.00008	ND<0.00008
nickel	0.00243	0.0024	0.00308	0.00609
oil/grease - total	ND<5	ND<4.85	ND<4.76	ND<4.76
pcb 1016	ND<0.0000943	ND<0.000101	0.00072	0.000895
pcb 1221	ND<0.0000943	ND<0.000101	ND<0.0000943	ND<0.0000943
pcb 1232	ND<0.0000943	ND<0.000101	ND<0.0000943	ND<0.0000943
pcb 1242	ND<0.0000943	ND<0.000101	ND<0.0000943	ND<0.0000943
pcb 1248	ND<0.0000943	ND<0.000101	ND<0.0000943	ND<0.0000943
pcb 1254	ND<0.0000943	ND<0.000101	ND<0.0000943	ND<0.0000943
pcb 1260	ND<0.0000943	ND<0.000101	ND<0.0000943	ND<0.0000943
pcb, total	<0.0000943	ND<0.000101	0.00072	0.000895
pentachlorophenol	<0.00381	--	ND<0.00381	--
pH	6.45	5.63	7.30	6.6
pyrene	ND<0.000952	--	ND<0.000952	--
TSS	ND<5	ND<5	6.00	21
zinc	0.0263	0.0373	0.0818	0.167
NOTES: -- = not analyzed, not applicable. ND = not detected at a concentration above laboratory MDL and/or the method reporting limit.				

Table A-7
2017 Water Quality Parameters
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon



Location	pH	Temperature (°C)	E Conductivity (uS/cm)	DO (mg/L)	ORP	Turbidity
May 11, 2017 Event						
Outfall C/D (MHSW-4)	6.22	15.7	50.3	6.42	127.3	8.87 NTU
Outfall E (CB-14)	4.71	16.9	62.1	6.65	207.0	42.8 NTU
Outfall E (CB-15)	5.63	15.6	53.3	5.73	165.5	6.28 NTU
October 19, 2017 Event						
Outfall C/D (MHSW-4)	5.12	14.3	28.0	6.20	123.9	SC
Outfall E (CB-15)	5.28	12.8	16.7	15.4	115.5	CL
November 8, 2017 Event						
Outfall C/D (MHSW-4)	7.11	9.2	20.6	8.84	74.6	6.83 NTU
Outfall E (CB-14)	7.36	6.6	21.4	10.73	65.4	22.9 NTU
Outfall E (CB-15)	7.85	7.2	43.8	9.14	77.6	10.19 NTU
Outfall F (CB-16)	7.02	6.6	79.6	9.62	76.8	26.7 NTU
Notes -- = not analyzed. °C = degrees Celsius. uS/cm = microSeimens per centimeter. mg/L = milligrams per liter. NV = no value. NTU = nephelometric turbidity units SC = slightly cloudy. CL = cloudy.						

Table A-8
2017 Stormwater Analytical Results
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon

Basin:	Portland Harbor ROD CULs, Surface Water ⁽¹⁾⁽²⁾	Basin C/D						Basin E		Basin F
		Post-Treatment			Pre-Treatment					
Sample Name:		CSWTS	CSWTS	CSWTS	MHSW4	MHSW-4	MHSW-4	CB-15/CB-14	CB-14 & CB-15 COMP	CB-16
Sample Date:		05/11/2017	10/19/2017	11/08/2017	05/11/2017	10/19/2017	11/08/2017	05/11/2017	11/08/2017	11/08/2017
Total Metals (ug/L)										
Aluminum	50-200 ^(a)	10.0 U	38.1	34.9	190	343	409	436	908	3,730
Arsenic	0.018	0.0496 J	0.270	1.31	0.488	0.797	4.07	0.430	0.599	0.702
Cadmium	0.094 ^(a)	0.123	0.144	0.161	0.699	0.423	0.312	2.50	1.14	0.105
Copper	2.74	6.06	11.8	19.9	38.3 J	31.9	81.6	36.8	33.2	19.0
Lead	0.54 ^(a)	0.480	1.99	2.14	5.46	17.3	15.3	4.14	5.75	5.41
Manganese	50 ^(a)	38.0	31.4	33.9	175	139	76.4	60.2	89.9	257
Zinc	36.5	105	95.8	98.8	363	185	186	1,370	568	64.9
Dissolved Metals (ug/L)										
Aluminum	50-200 ^(a)	0.421 U	0.421 U	100 U	37.8 J	5.84 J	109	13.0 J	100 U	568
Arsenic	0.018	0.0320 U	0.0759 J	1.26 U	0.357	0.384	3.64 U	0.185	0.236 U	0.386 U
Cadmium	0.094 ^(a)	0.111	0.139	0.150 U	0.685	0.185	0.329	1.73	0.517	0.100 U
Copper	2.74	4.18	0.111	18.0	50.0 J	0.165	0.552	25.7	14.6	13.0
Lead	0.54 ^(a)	0.0762 J	0.386	1.56 U	0.567	0.336	7.90	0.279	0.161	2.86 U
Manganese	50 ^(a)	1.65	23.6	28.8	125	30.6 J	51.4	28.0	12.6	185
Zinc	36.5	87.4	102	95.6	401	133	155	915	333	63.2
PCBs as Aroclors (ug/L)										
Aroclor 1016	0.96 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1221	0.034 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1232	0.034 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1242	0.034 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1248	0.034 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1254	0.034 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1260	0.034 ^(a)	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1262	NV	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Aroclor 1268	NV	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U
Total PCBs ^{(b)(4)}	0.0000064	0.00374 U	0.00402 U	0.00571 U	0.00379 U	0.00366 U	0.00759 U	0.0039 U	0.00379 U	0.00729 U

Table A-8
2017 Stormwater Analytical Results
Source Control Evaluation
Dolan and Company, LLC
Portland, Oregon

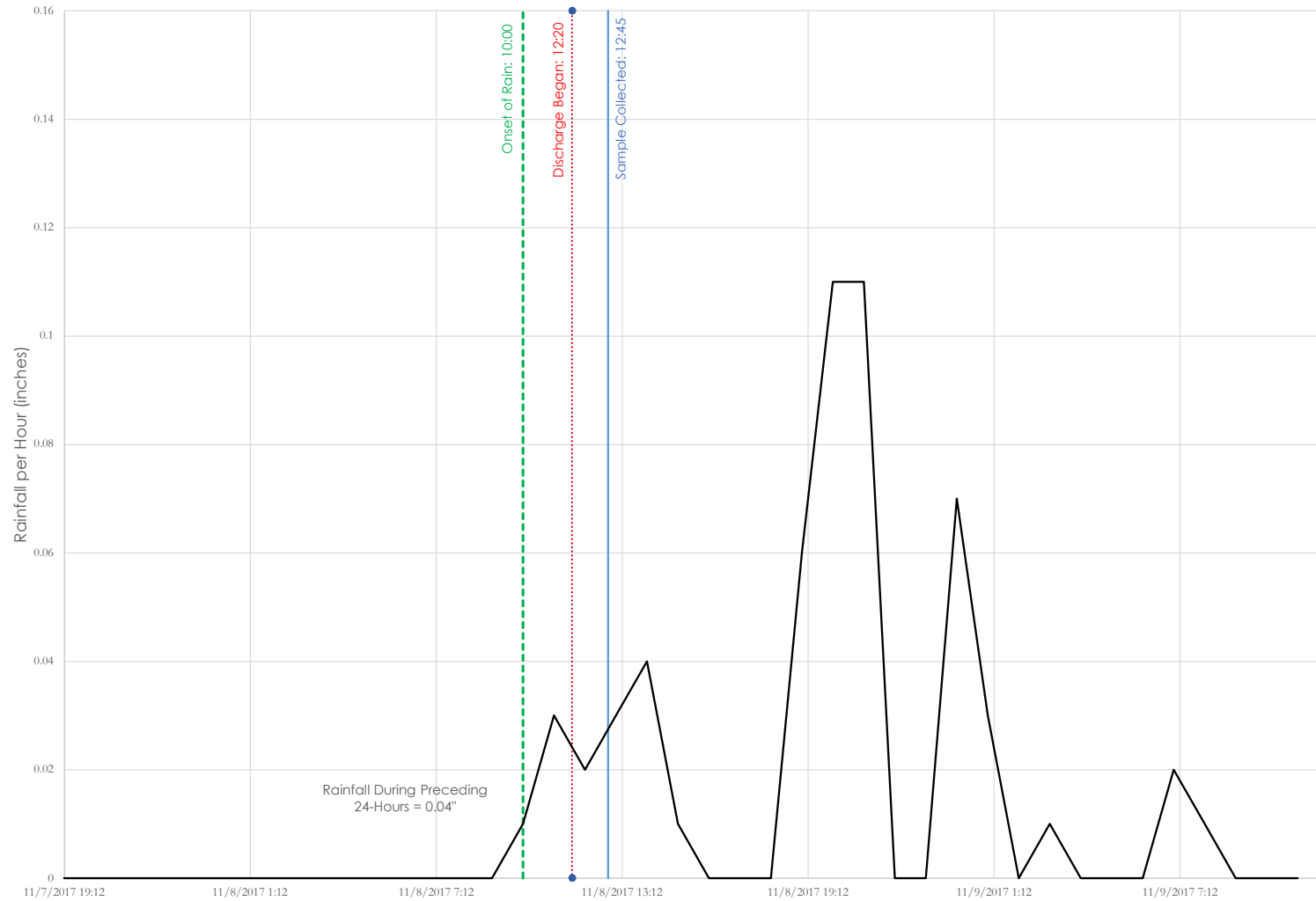


Basin:	Portland Harbor ROD CULs, Surface Water ⁽¹⁾⁽²⁾	Basin C/D						Basin E		Basin F
		Post-Treatment			Pre-Treatment					
		Sample Name:	CSWTS	CSWTS	CSWTS	MHSW4	MHSW-4	MHSW-4	CB-15/CB-14	CB-14 & CB-15 COMP
Sample Date:		05/11/2017	10/19/2017	11/08/2017	05/11/2017	10/19/2017	11/08/2017	05/11/2017	11/08/2017	11/08/2017
PAHs (ug/L)										
1-Methylnaphthalene	NV	--	0.0233 U	0.0225 U	--	0.0225 U	0.0284 J	--	0.0211 U	0.0239 U
2-Methylnaphthalene	0.2 ^(a)	0.00169 U	0.0267 U	0.0257 U	0.0287	0.0257 U	0.0379 J	0.00176 U	0.0241 U	0.0274 U
Acenaphthene	0.2 ^(a)	0.00181 U	0.0284 U	0.0273 U	0.0018 U	0.0273 U	0.0273 U	0.00188 U	0.0256 U	0.0291 U
Acenaphthylene	0.2 ^(a)	0.00514 U	0.0329 U	0.0317 U	0.00511 U	0.0317 U	0.0317 U	0.00534 U	0.0297 U	0.0337 U
Anthracene	0.2 ^(a)	0.00962 J	0.0216 U	0.0208 U	0.0478	0.0208 U	0.0208 U	0.0100 J	0.0195 U	0.0221 U
Benzo(a)anthracene	0.0012	0.00962 J	0.0241 U	0.0232 U	0.0478	0.0232 U	0.0232 U	0.0200	0.0218 U	0.0404 J
Benzo(a)pyrene	0.00012	0.00162 U	0.0166 U	0.0159 U	0.0766	0.0159 U	0.0159 U	0.0200	0.0149 U	0.0505
Benzo(b)fluoranthene	0.0012	0.00282 U	0.0190 U	0.0183 U	0.124	0.0183 U	0.0183 U	0.0300	0.0172 U	0.0909
Benzo(ghi)perylene	0.2 ^(a)	0.00144 U	0.0123 U	0.0118 U	0.0766	0.0118 U	0.0118 U	0.0300	0.0111 U	0.0505
Benzo(k)fluoranthene	0.0013	0.00142 U	0.0146 U	0.0140 U	0.0383	0.0140 U	0.0140 U	0.0200	0.0132 U	0.0149 U
Carbazole	3.4 ^(a)	--	--	--	--	--	--	--	--	--
Chrysene	0.0013	0.00962 J	0.00995 U	0.00957 U	0.0957	0.00957 U	0.00957 U	0.0300	0.00898 U	0.0606
Dibenzo(a,h)anthracene	0.00012	0.00141 U	0.0144 U	0.0138 U	0.00140 U	0.0138 U	0.0138 U	0.00146 U	0.0130 U	0.0147 U
Dibenzofuran	3.7 ^(a)	--	--	--	--	--	--	--	--	--
Fluoranthene	0.2 ^(a)	0.00962 J	0.0294 U	0.0282 U	0.124	0.0282 U	0.0282 U	0.0400	0.0265 U	0.0808
Fluorene	0.2 ^(a)	0.00205 U	0.0210 U	0.0202 U	0.00204 U	0.0202 U	0.0202 U	0.00213 U	0.0189 U	0.0215 U
Indeno(1,2,3-cd)pyrene	0.0012	0.00161 U	0.0263 U	0.0253 U	0.0670	0.0253 U	0.0253 U	0.0200	0.0237 U	0.0404 J
Naphthalene	12	0.00647 U	0.0169 U	0.0163 U	0.00643 U	0.0163 U	0.0163 U	0.00672 U	0.0153 U	0.0174 U
Phenanthrene	0.2 ^(a)	0.00962 J	0.0166 U	0.0159 U	0.0478	0.0159 U	0.0159 U	0.0500	0.0267 J	0.0404 J
Pyrene	0.2 ^(a)	0.00962 J	0.0179 U	0.0173 U	0.105	0.0284 J	0.0173 U	0.0300	0.0162 U	0.0909
Total PAHs ^{(c)(3)}	NV	0.0715 J	0.0329 U	0.0317 U	0.888	0.187 J	0.193 J	0.310 J	0.177 J	0.636 J
Phthalates (ug/L)										
Bis(2-ethylhexyl)phthalate	0.2	0.128 U	0.287 U	0.563 U	1.11	0.839 J	1.54 J	0.510	1.40	0.642 J
Butylbenzylphthalate	3 ^(a)	0.149 U	0.166 U	0.325 U	0.152 U	0.158 U	0.335 U	0.157 U	0.162 U	0.327 U
Diethyl phthalate	3 ^(a)	0.114 U	0.304 U	0.598 U	0.232 J	0.291 U	0.617 U	0.120 U	0.297 U	0.601 U
Dimethyl phthalate	3 ^(a)	0.104 U	0.273 U	0.536 U	0.29 J	0.261 U	0.553 U	0.109 U	0.267 U	0.539 U
Di-n-butyl phthalate	3 ^(a)	0.0997 U	0.373 U	0.733 U	0.299 J	0.357 U	0.756 U	1.21	0.365 U	0.737 U
Di-n-octyl phthalate	3 ^(a)	0.0560 U	0.148 U	0.29 U	0.0569 U	0.141 U	2.00 U	0.0590 U	0.144 U	0.292 U
Additional (mg/L)										
Total Suspended Solids	NV	1.1 U	1.1 U	1.1 U	7.0	11.0	17.0	45.0	74.0	108
Total Organic Carbon	NV	5.27	1.8	3.92	17.7	5.8	6.76	12.7	7.03	7.36

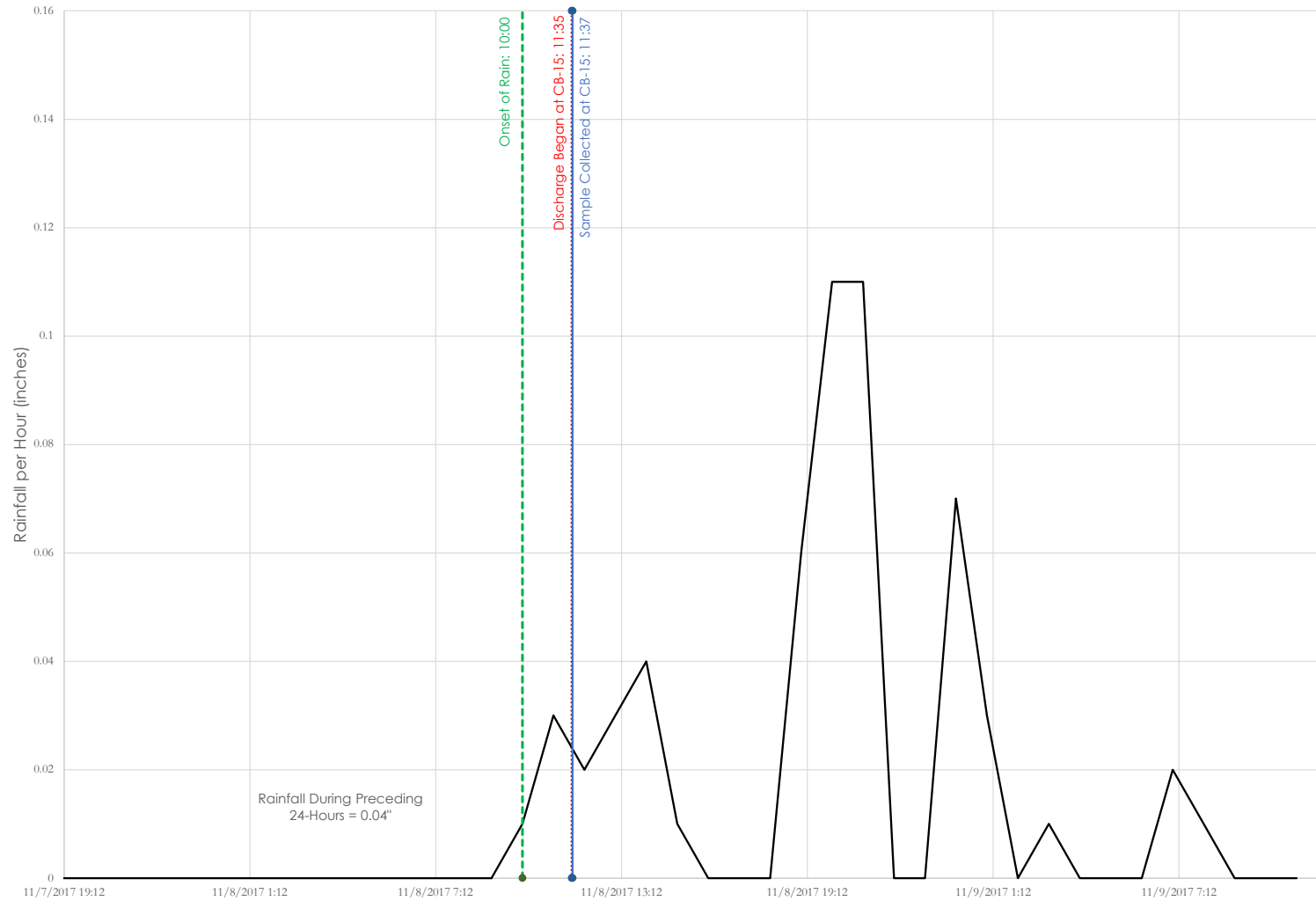
Notes Bold font indicates a detection. Shading (color key below) indicates values that exceed Portland Harbor screening criteria; non-detects (U or UJ) were not compared with screening criteria. Portland Harbor ROD CULs, Surface Water Portland Harbor JSCS Initial Upland Screening Level, Water -- = not analyzed. CUL = cleanup level. DEQ = Oregon Department of Environmental Quality. EPA = U.S. Environmental Protection Agency. J = result is estimated. JSCS = Joint Source Control Strategy. mg/L = milligrams per liter. NV = no value. PAH = polycyclic aromatic hydrocarbon. PCB = polychlorinated biphenyl. ROD = record of decision. SCE = source control evaluation. U = result is non-detect at the detection limit. UJ = result is non-detect with an estimated detection limit. ug/L = micrograms per liter. ^(a)Where Portland Harbor ROD CULs for surface water were not available, results are screened to Portland Harbor JSCS initial upland screening levels for water. ^(b)Total PCBs is the sum of all PCB Aroclors. When all results are non-detect, the highest detection limit is shown. ^(c)Total PAHs is the sum of 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, fluorene, indeno(1,2,3,-c,d)pyrene, naphthalene, phenanthrene, and pyrene. Non-detect results were multiplied by one-half. When all concentrations are non-detect, the highest detection limit is shown. References ⁽¹⁾EPA. 2020. Sean Sheldrake, Office of Environmental Cleanup. <i>Errata #2 for Portland Harbor Superfund Site Record of Decision ROD Table 17</i> . Memorandum to Portland Harbor site file. January 14. ⁽²⁾DEQ. 2005. <i>Portland Harbor Joint Source Control Strategy</i>. "Table 3-1, Screening Level Values for Soil/Stormwater Sediment, Stormwater, Groundwater, and Surface Water." December. ⁽³⁾EPA. 2021. <i>Program Data Management Plan: Portland Harbor Remedial Design Investigation--Portland Harbor Superfund Site</i>. "Section 7.0, Calculation of Analyte Group Totals." U.S. Environmental Protection Agency Region 10. December.

Historical Hydrographs

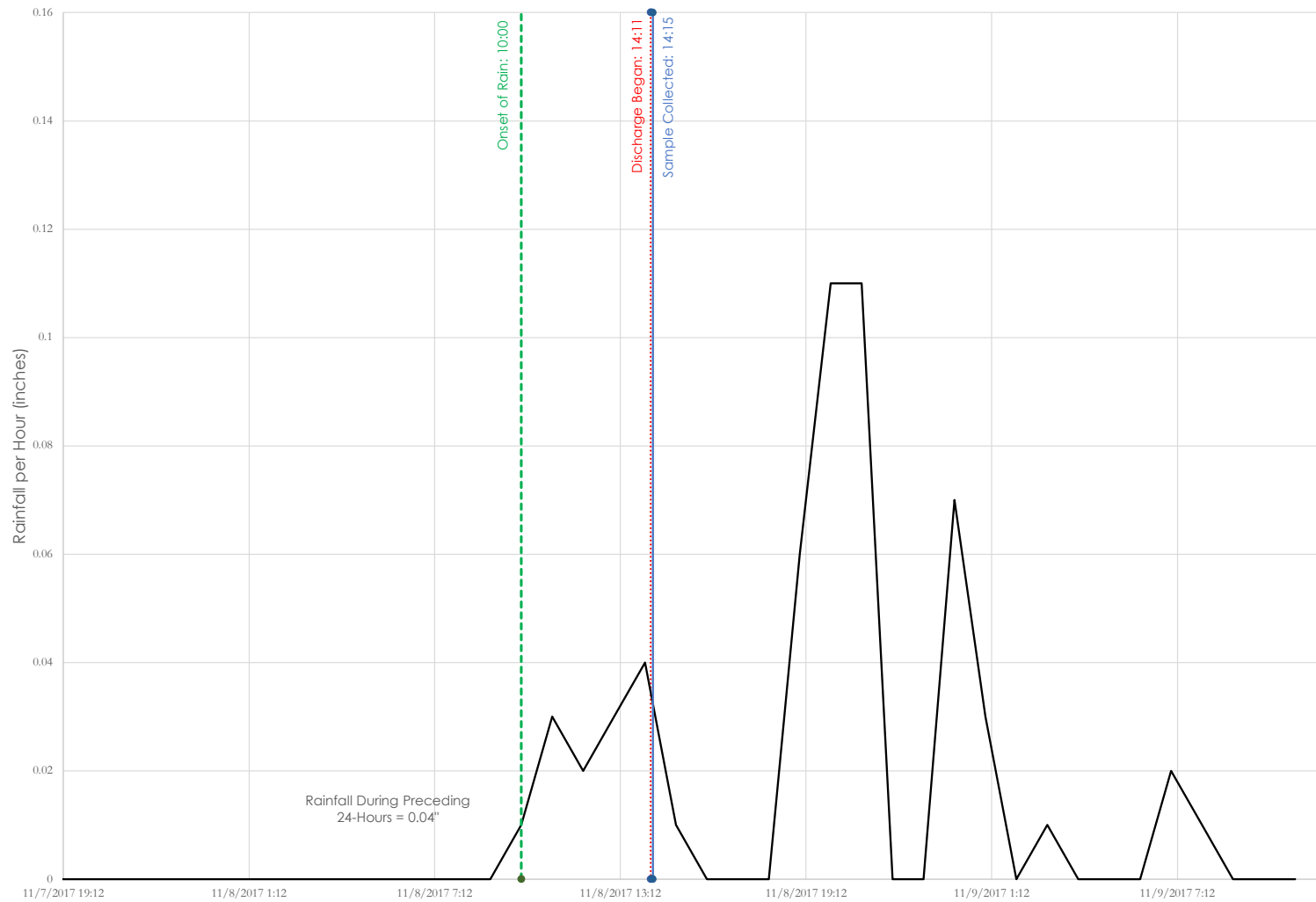
Hydrograph Basin C/D - MHSW4 November 8, 2017



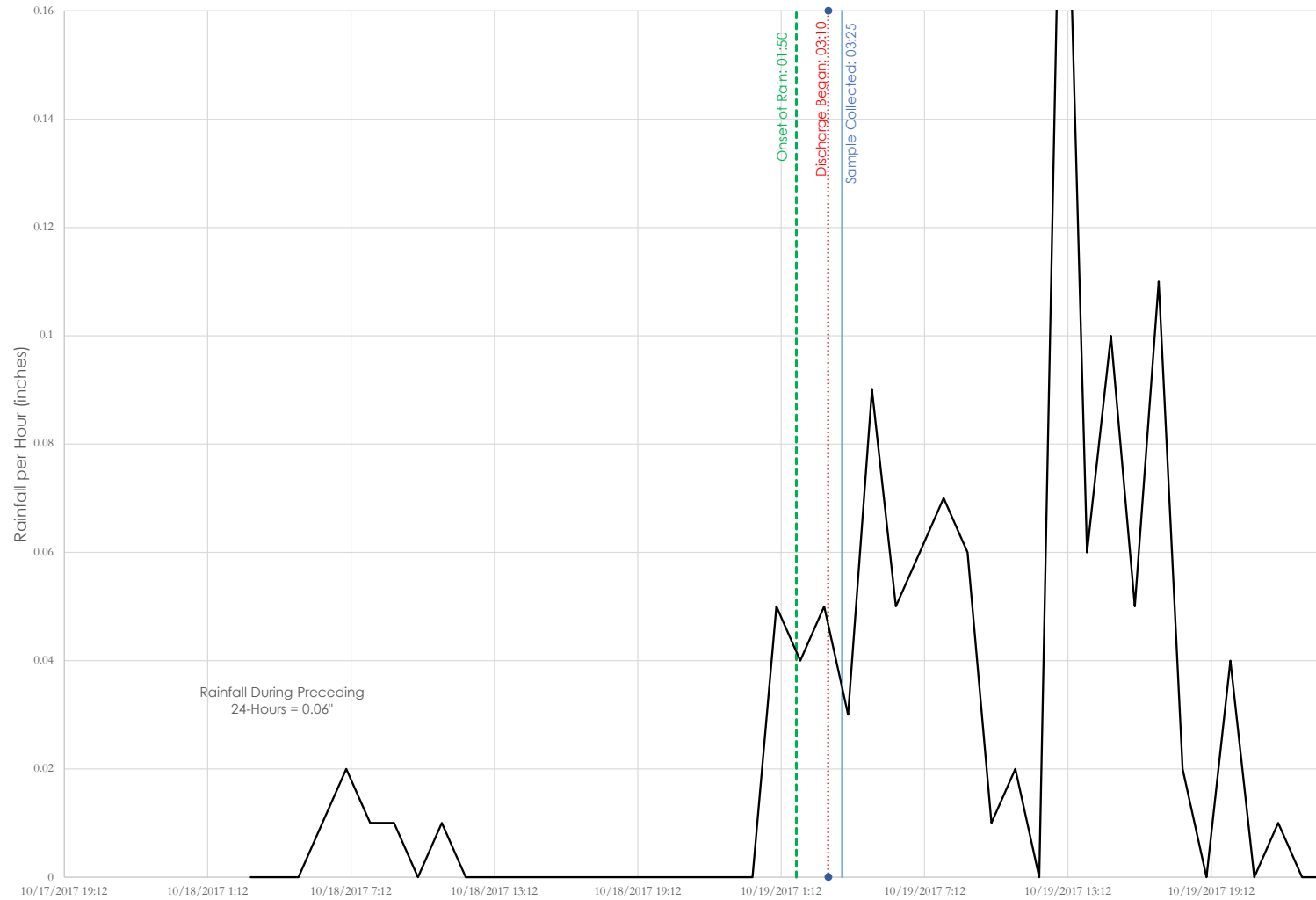
Hydrograph Basin E November 8, 2017



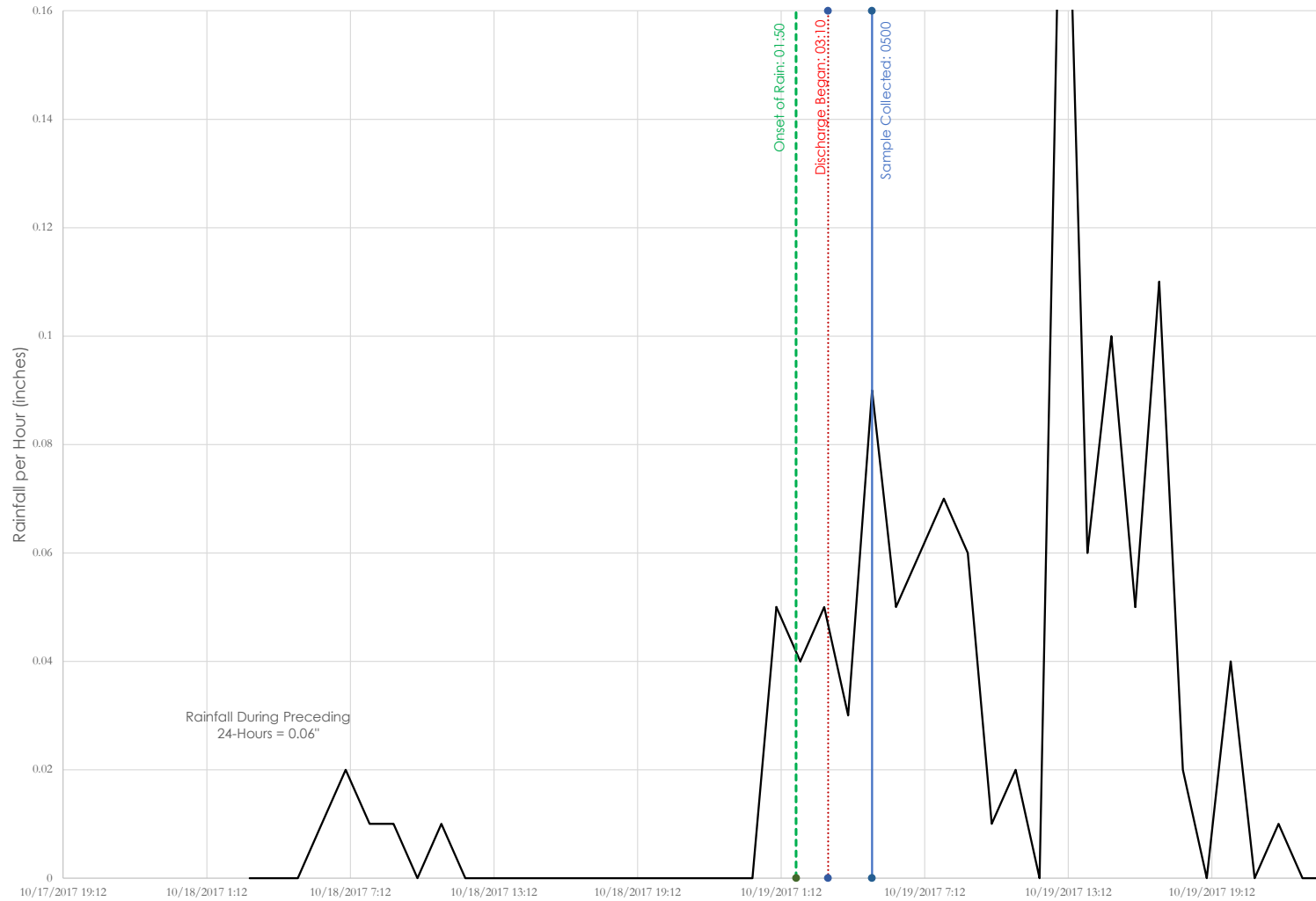
Hydrograph Basin F - CB-16 November 8, 2017



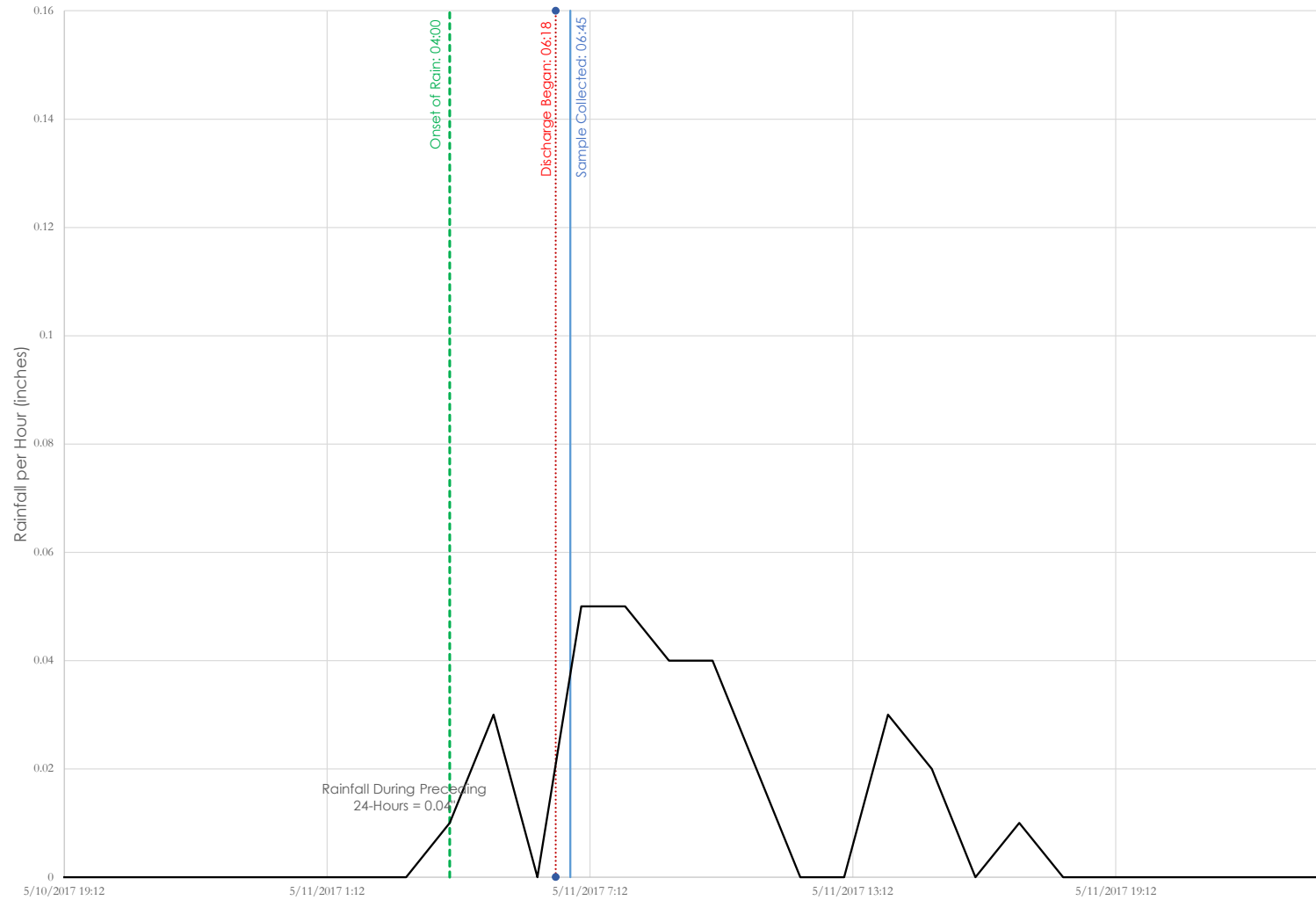
Hydrograph Basin C/D - MHSW4 October 19, 2017



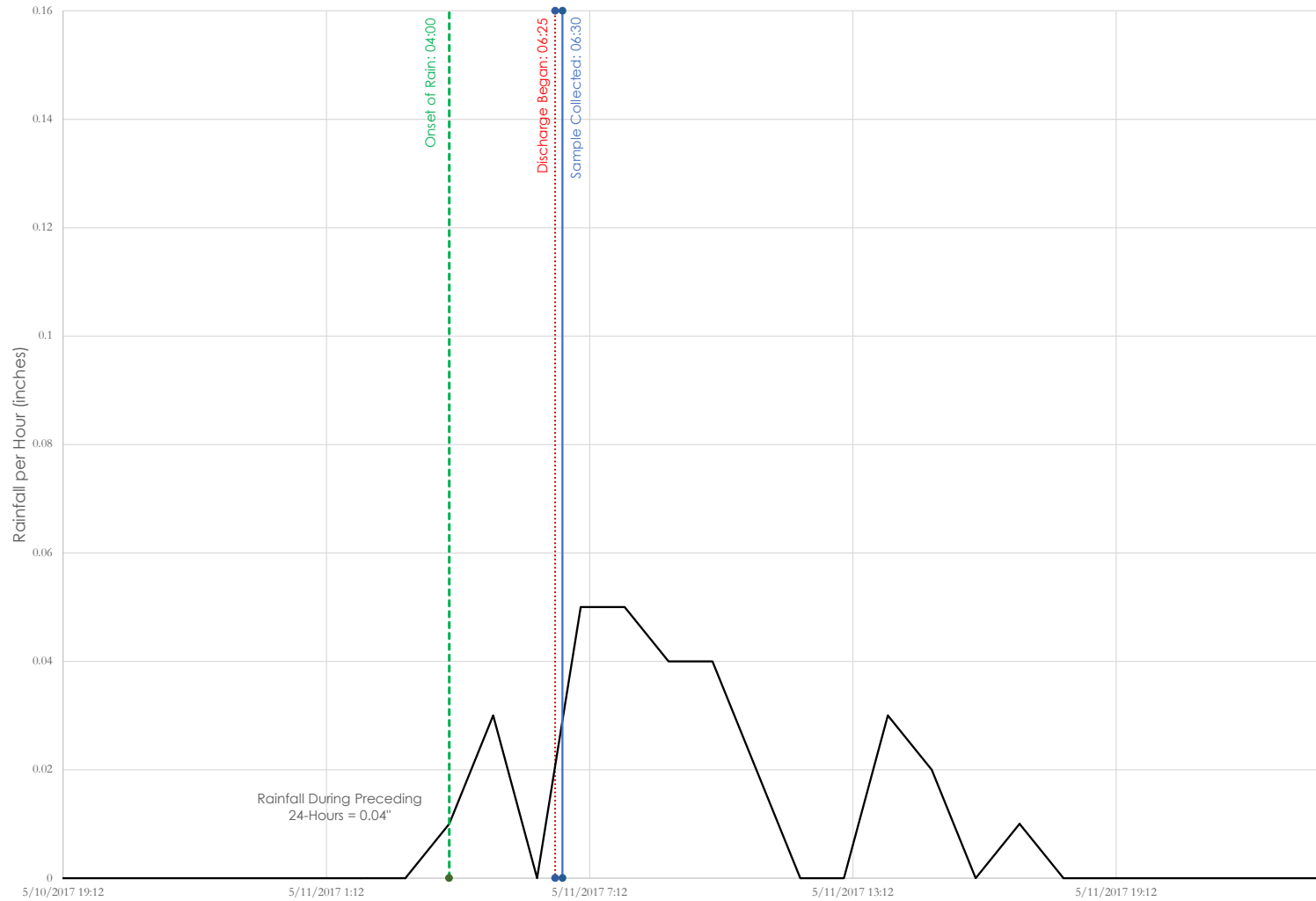
Hydrograph Basin E October 19, 2017



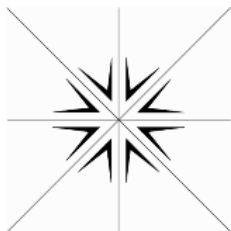
Hydrograph Basin C/D - MHSW4 May 11, 2017



Hydrograph Basin E May 11, 2017



Historical Analytical Laboratory Reports



Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

June 06, 2017

David Weatherby
Maul Foster & Alongi
400 E. Mill Plain Blvd.
Suite 400
Vancouver, WA 98660
TEL: (360) 694-2691
FAX: (360) 906-1958
RE: Dolan SCE / 1381.01.01

Dear David Weatherby:

Order No.: 1705127

Specialty Analytical received 5 sample(s) on 5/15/2017 for the analyses presented in the following report.

REVISED REPORT: Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French", written in a cursive style.

Marty French
Lab Director

Case Narrative

WO#: 1705127

Date: 6/6/2017

CLIENT:	Maul Foster & Alongi
Project:	Dolan SCE / 1381.01.01

Revision #1-

Report has been revised to reflect the following changes:

Inclusion of LCS/LCSD in QC summary report for SW8082A PCB Aroclors and SW8270D. Addition of 2-methylnaphthalene in reported QC summary report for SW8270D PAH method blank and LCS/LCDS. Corrected E200.8 dissolved Zinc value for sample CSWTS. Confirmed E200.8 total and dissolved Copper results for sample MHSW4.

Specialty Analytical

Date Reported: 06-Jun-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1705127-001
Client Sample ID: MHSW4

Collection Date: 5/11/2017 6:45:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	37.8	0.421	100	J	µg/L	1	5/22/2017 11:54:17 AM
Arsenic	0.357	0.0320	0.100		µg/L	1	5/22/2017 11:54:17 AM
Cadmium	0.685	0.0130	0.100		µg/L	1	5/22/2017 11:54:17 AM
Copper	50.0	0.0180	0.500		µg/L	1	5/22/2017 11:54:17 AM
Lead	0.567	0.0270	0.100		µg/L	1	5/22/2017 11:54:17 AM
Manganese	125	0.690	5.00		µg/L	10	5/22/2017 11:50:55 AM
Zinc	401	1.10	20.0		µg/L	10	5/24/2017 9:33:30 AM
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	190	0.421	10.0		µg/L	1	5/18/2017 2:26:26 PM
Arsenic	0.488	0.0320	0.100		µg/L	1	5/18/2017 2:26:26 PM
Cadmium	0.699	0.0130	0.100		µg/L	1	5/18/2017 2:26:26 PM
Copper	38.3	0.0180	0.500		µg/L	1	5/18/2017 2:26:26 PM
Lead	5.46	0.0270	0.100		µg/L	1	5/18/2017 2:26:26 PM
Manganese	175	0.690	5.00		µg/L	10	5/19/2017 10:19:43 AM
Zinc	363	1.10	20.0		µg/L	10	5/19/2017 10:19:43 AM
SEMIVOLATILE ORGANICS-LOW LEVEL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	1.11	0.130	0.483		µg/L	1	5/19/2017 3:07:00 PM
Butyl benzyl phthalate	ND	0.152	0.483		µg/L	1	5/19/2017 3:07:00 PM
Diethyl phthalate	0.232	0.116	0.483	J	µg/L	1	5/19/2017 3:07:00 PM
Dimethyl phthalate	0.290	0.105	0.483	J	µg/L	1	5/19/2017 3:07:00 PM
Di-n-butyl phthalate	0.299	0.101	0.483	J	µg/L	1	5/19/2017 3:07:00 PM
Di-n-octyl phthalate	ND	0.0569	0.483		µg/L	1	5/19/2017 3:07:00 PM
Surr: 2,4,6-Tribromophenol	92.5	3.1-129.7			%REC	1	5/19/2017 3:07:00 PM
Surr: 2-Fluorobiphenyl	101	3.1-126.2			%REC	1	5/19/2017 3:07:00 PM
Surr: 2-Fluorophenol	35.8	3.4-127.1			%REC	1	5/19/2017 3:07:00 PM
Surr: 4-Terphenyl-d14	65.7	41-122			%REC	1	5/19/2017 3:07:00 PM
Surr: Nitrobenzene-d5	92.5	8.9-129.9			%REC	1	5/19/2017 3:07:00 PM
Surr: Phenol-d6	19.8	0.6-128.5			%REC	1	5/19/2017 3:07:00 PM
PAH'S BY GC/MS- LOW LEVEL			SW8270D			Analyst: CK	
2-Methylnaphthalene	0.0287	0.00168	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Acenaphthene	ND	0.00180	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Acenaphthylene	ND	0.00511	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Anthracene	0.0478	0.00210	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Benz(a)anthracene	0.0478	0.00234	0.0172		µg/L	1	5/16/2017 6:06:00 PM

Specialty Analytical

Date Reported: 06-Jun-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1705127-001
Client Sample ID: MHSW4

Collection Date: 5/11/2017 6:45:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS- LOW LEVEL			SW8270D			Analyst: CK	
Benzo(a)pyrene	0.0766	0.00161	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Benzo(b)fluoranthene	0.124	0.00280	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Benzo(g,h,i)perylene	0.0766	0.00144	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Benzo(k)fluoranthene	0.0383	0.00142	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Chrysene	0.0957	0.00192	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Dibenz(a,h)anthracene	ND	0.00140	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Fluoranthene	0.124	0.00285	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Fluorene	ND	0.00204	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Indeno(1,2,3-cd)pyrene	0.0670	0.00160	0.0172		µg/L	1	5/16/2017 6:06:00 PM
Naphthalene	ND	0.00643	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Phenanthrene	0.0478	0.00544	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Pyrene	0.105	0.00270	0.0191		µg/L	1	5/16/2017 6:06:00 PM
Surr: 2-Fluorobiphenyl	52.5	18.6-106			%REC	1	5/16/2017 6:06:00 PM
Surr: Nitrobenzene-d5	73.9	17-130			%REC	1	5/16/2017 6:06:00 PM
Surr: p-Terphenyl-d14	65.4	39.6-131			%REC	1	5/16/2017 6:06:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1221	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1232	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1242	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1248	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1254	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1260	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1262	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Aroclor 1268	ND	0.00379	0.0194		µg/L	1	5/23/2017 12:37:33 PM
Surr: Decachlorobiphenyl	46.3	45-107			%REC	1	5/23/2017 12:37:33 PM
ORGANIC CARBON, TOTAL			M5310 B			Analyst: BW	
Organic Carbon, Total	17.7	0.830	5.00		mg/L	5	5/19/2017 2:11:27 PM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: BW	
Total Suspended Solids	7.0	1.1	5.0		mg/L	1	5/16/2017 4:24:42 PM

Specialty Analytical

Date Reported: 06-Jun-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1705127-003
Client Sample ID: CSWTS

Collection Date: 5/11/2017 9:00:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	ND	0.421	100		µg/L	1	5/22/2017 12:01:02 PM
Arsenic	ND	0.0320	0.100		µg/L	1	5/22/2017 12:01:02 PM
Cadmium	0.111	0.0130	0.100		µg/L	1	5/22/2017 12:01:02 PM
Copper	4.18	0.0180	0.500		µg/L	1	5/22/2017 12:01:02 PM
Lead	0.0762	0.0270	0.100	J	µg/L	1	5/22/2017 12:01:02 PM
Manganese	1.65	0.0690	0.500		µg/L	1	5/22/2017 12:01:02 PM
Zinc	87.4	0.110	2.00		µg/L	1	5/24/2017 3:22:48 PM
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	8.23	0.421	10.0	J	µg/L	1	5/18/2017 2:43:18 PM
Arsenic	0.0496	0.0320	0.100	J	µg/L	1	5/18/2017 2:43:18 PM
Cadmium	0.123	0.0130	0.100		µg/L	1	5/18/2017 2:43:18 PM
Copper	6.06	0.0180	0.500		µg/L	1	5/18/2017 2:43:18 PM
Lead	0.480	0.0270	0.100		µg/L	1	5/18/2017 2:43:18 PM
Manganese	38.0	0.0690	0.500		µg/L	1	5/18/2017 2:43:18 PM
Zinc	105	1.10	20.0		µg/L	10	5/19/2017 10:33:13 AM
SEMIVOLATILE ORGANICS-LOW LEVEL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	ND	0.128	0.475		µg/L	1	5/19/2017 3:33:00 PM
Butyl benzyl phthalate	ND	0.149	0.475		µg/L	1	5/19/2017 3:33:00 PM
Diethyl phthalate	ND	0.114	0.475		µg/L	1	5/19/2017 3:33:00 PM
Dimethyl phthalate	ND	0.104	0.475		µg/L	1	5/19/2017 3:33:00 PM
Di-n-butyl phthalate	ND	0.0997	0.475		µg/L	1	5/19/2017 3:33:00 PM
Di-n-octyl phthalate	ND	0.0560	0.475		µg/L	1	5/19/2017 3:33:00 PM
Surr: 2,4,6-Tribromophenol	76.0	13.1-129.7			%REC	1	5/19/2017 3:33:00 PM
Surr: 2-Fluorobiphenyl	113	13.1-126.2			%REC	1	5/19/2017 3:33:00 PM
Surr: 2-Fluorophenol	38.9	3.4-127.1			%REC	1	5/19/2017 3:33:00 PM
Surr: 4-Terphenyl-d14	76.8	41-122			%REC	1	5/19/2017 3:33:00 PM
Surr: Nitrobenzene-d5	99.6	18.9-129.9			%REC	1	5/19/2017 3:33:00 PM
Surr: Phenol-d6	21.3	0.6-128.5			%REC	1	5/19/2017 3:33:00 PM
PAH'S BY GC/MS- LOW LEVEL			SW8270D			Analyst: CK	
2-Methylnaphthalene	ND	0.00169	0.0192		µg/L	1	5/16/2017 6:31:00 PM
Acenaphthene	ND	0.00181	0.0192		µg/L	1	5/16/2017 6:31:00 PM
Acenaphthylene	ND	0.00514	0.0192		µg/L	1	5/16/2017 6:31:00 PM
Anthracene	0.00962	0.00211	0.0192	J	µg/L	1	5/16/2017 6:31:00 PM
Benz(a)anthracene	0.00962	0.00236	0.0173	J	µg/L	1	5/16/2017 6:31:00 PM

Specialty Analytical

Date Reported: 06-Jun-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1705127-003
Client Sample ID: CSWTS

Collection Date: 5/11/2017 9:00:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS- LOW LEVEL			SW8270D			Analyst: CK	
Benzo(a)pyrene	ND	0.00162	0.0173		µg/L	1	5/16/2017 6:31:00 PM
Benzo(b)fluoranthene	ND	0.00282	0.0173		µg/L	1	5/16/2017 6:31:00 PM
Benzo(g,h,i)perylene	ND	0.00144	0.0173		µg/L	1	5/16/2017 6:31:00 PM
Benzo(k)fluoranthene	ND	0.00142	0.0173		µg/L	1	5/16/2017 6:31:00 PM
Chrysene	0.00962	0.00193	0.0173	J	µg/L	1	5/16/2017 6:31:00 PM
Dibenz(a,h)anthracene	ND	0.00141	0.0173		µg/L	1	5/16/2017 6:31:00 PM
Fluoranthene	0.00962	0.00287	0.0192	J	µg/L	1	5/16/2017 6:31:00 PM
Fluorene	ND	0.00205	0.0192		µg/L	1	5/16/2017 6:31:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.00161	0.0173		µg/L	1	5/16/2017 6:31:00 PM
Naphthalene	ND	0.00647	0.0192		µg/L	1	5/16/2017 6:31:00 PM
Phenanthrene	0.00962	0.00547	0.0192	J	µg/L	1	5/16/2017 6:31:00 PM
Pyrene	0.00962	0.00271	0.0192	J	µg/L	1	5/16/2017 6:31:00 PM
Surr: 2-Fluorobiphenyl	55.2	18.6-106			%REC	1	5/16/2017 6:31:00 PM
Surr: Nitrobenzene-d5	84.9	17-130			%REC	1	5/16/2017 6:31:00 PM
Surr: p-Terphenyl-d14	71.0	39.6-131			%REC	1	5/16/2017 6:31:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1221	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1232	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1242	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1248	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1254	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1260	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1262	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Aroclor 1268	ND	0.00374	0.0192		µg/L	1	5/23/2017 12:51:33 PM
Surr: Decachlorobiphenyl	62.9	45-107			%REC	1	5/23/2017 12:51:33 PM
ORGANIC CARBON, TOTAL			M5310 B			Analyst: BW	
Organic Carbon, Total	5.27	0.830	5.00		mg/L	5	5/19/2017 3:41:27 PM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: BW	
Total Suspended Solids	ND	1.1	5.0		mg/L	1	5/16/2017 4:26:42 PM

Specialty Analytical

Date Reported: 06-Jun-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1705127-005
Client Sample ID: CB-15/CB-14

Collection Date: 5/11/2017

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	13.0	0.421	100	J	µg/L	1	5/22/2017 12:07:47 PM
Arsenic	0.185	0.0320	0.100		µg/L	1	5/22/2017 12:07:47 PM
Cadmium	1.73	0.0130	0.100		µg/L	1	5/22/2017 12:07:47 PM
Copper	25.7	0.0180	0.500		µg/L	1	5/22/2017 12:07:47 PM
Lead	0.279	0.0270	0.100		µg/L	1	5/22/2017 12:07:47 PM
Manganese	28.0	0.0690	0.500		µg/L	1	5/22/2017 12:07:47 PM
Zinc	915	1.10	20.0		µg/L	10	5/24/2017 9:40:16 AM
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	436	0.421	10.0		µg/L	1	5/18/2017 2:46:41 PM
Arsenic	0.430	0.0320	0.100		µg/L	1	5/18/2017 2:46:41 PM
Cadmium	2.50	0.0130	0.100		µg/L	1	5/18/2017 2:46:41 PM
Copper	36.8	0.0180	0.500		µg/L	1	5/18/2017 2:46:41 PM
Lead	4.14	0.0270	0.100		µg/L	1	5/18/2017 2:46:41 PM
Manganese	60.2	0.0690	0.500		µg/L	1	5/18/2017 2:46:41 PM
Zinc	1370	11.0	200		µg/L	100	5/19/2017 10:36:35 AM
SEMIVOLATILE ORGANICS-LOW LEVEL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	0.510	0.135	0.500		µg/L	1	5/19/2017 3:58:00 PM
Butyl benzyl phthalate	ND	0.157	0.500		µg/L	1	5/19/2017 3:58:00 PM
Diethyl phthalate	ND	0.120	0.500		µg/L	1	5/19/2017 3:58:00 PM
Dimethyl phthalate	ND	0.109	0.500		µg/L	1	5/19/2017 3:58:00 PM
Di-n-butyl phthalate	1.21	0.105	0.500		µg/L	1	5/19/2017 3:58:00 PM
Di-n-octyl phthalate	ND	0.0590	0.500		µg/L	1	5/19/2017 3:58:00 PM
Surr: 2,4,6-Tribromophenol	104	3.1-129.7			%REC	1	5/19/2017 3:58:00 PM
Surr: 2-Fluorobiphenyl	95.8	3.1-126.2			%REC	1	5/19/2017 3:58:00 PM
Surr: 2-Fluorophenol	35.6	3.4-127.1			%REC	1	5/19/2017 3:58:00 PM
Surr: 4-Terphenyl-d14	69.0	41-122			%REC	1	5/19/2017 3:58:00 PM
Surr: Nitrobenzene-d5	82.2	8.9-129.9			%REC	1	5/19/2017 3:58:00 PM
Surr: Phenol-d6	20.0	0.6-128.5			%REC	1	5/19/2017 3:58:00 PM
PAH'S BY GC/MS- LOW LEVEL			SW8270D			Analyst: CK	
2-Methylnaphthalene	ND	0.00176	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Acenaphthene	ND	0.00188	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Acenaphthylene	ND	0.00534	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Anthracene	0.0100	0.00219	0.0200	J	µg/L	1	5/16/2017 6:57:00 PM
Benz(a)anthracene	0.0200	0.00245	0.0180		µg/L	1	5/16/2017 6:57:00 PM

Specialty Analytical

Date Reported: 06-Jun-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1705127-005
Client Sample ID: CB-15/CB-14

Collection Date: 5/11/2017

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS- LOW LEVEL			SW8270D			Analyst: CK	
Benzo(a)pyrene	0.0200	0.00168	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Benzo(b)fluoranthene	0.0300	0.00293	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Benzo(g,h,i)perylene	0.0300	0.00150	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Benzo(k)fluoranthene	0.0200	0.00148	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Chrysene	0.0300	0.00201	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Dibenz(a,h)anthracene	ND	0.00146	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Fluoranthene	0.0400	0.00298	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Fluorene	ND	0.00213	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Indeno(1,2,3-cd)pyrene	0.0200	0.00167	0.0180		µg/L	1	5/16/2017 6:57:00 PM
Naphthalene	ND	0.00672	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Phenanthrene	0.0500	0.00568	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Pyrene	0.0300	0.00282	0.0200		µg/L	1	5/16/2017 6:57:00 PM
Surr: 2-Fluorobiphenyl	48.1	18.6-106			%REC	1	5/16/2017 6:57:00 PM
Surr: Nitrobenzene-d5	72.0	17-130			%REC	1	5/16/2017 6:57:00 PM
Surr: p-Terphenyl-d14	63.3	39.6-131			%REC	1	5/16/2017 6:57:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1221	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1232	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1242	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1248	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1254	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1260	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1262	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Aroclor 1268	ND	0.00390	0.0200		µg/L	1	5/23/2017 1:05:33 PM
Surr: Decachlorobiphenyl	89.6	45-107			%REC	1	5/23/2017 1:05:33 PM
ORGANIC CARBON, TOTAL			M5310 B			Analyst: BW	
Organic Carbon, Total	12.7	0.830	5.00		mg/L	5	5/19/2017 4:11:27 PM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: BW	
Total Suspended Solids	45.0	1.1	5.0		mg/L	1	5/16/2017 4:28:42 PM

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:				RunNo: 21427		
Client ID: ICV	Batch ID: 9948	TestNo: E200.8		E200.8	Analysis Date: 5/18/2017				SeqNo: 285302		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	504	10.0	500.0	0	101	90	110				
Arsenic	48.1	0.100	50.00	0	96.2	90	110				
Cadmium	48.3	0.100	50.00	0	96.5	90	110				
Chromium	50.4	0.100	50.00	0	101	90	110				
Copper	49.4	0.500	50.00	0	98.7	90	110				
Lead	48.9	0.100	50.00	0	97.8	90	110				
Manganese	49.9	0.500	50.00	0	99.8	90	110				
Nickel	49.7	0.500	50.00	0	99.3	90	110				
Zinc	48.7	2.00	50.00	0	97.4	90	110				

Sample ID: MB-9948	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: PBW	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/18/2017	SeqNo: 285303						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.819	10.0									J
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Lead	ND	0.100									
Manganese	0.378	0.500									J
Nickel	ND	0.500									
Zinc	0.778	2.00									J

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 1 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: LCS-9948	SampType: LCS	TestCode: 200.8		Units: µg/L	Prep Date: 5/17/2017			RunNo: 21427			
Client ID: LCSW	Batch ID: 9948	TestNo: E200.8		E200.8	Analysis Date: 5/18/2017			SeqNo: 285304			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	488	10.0	500.0	0	97.5	85	115				
Arsenic	48.9	0.100	50.00	0	97.8	85	115				
Cadmium	50.5	0.100	50.00	0	101	85	115				
Chromium	48.8	0.100	50.00	0	97.6	85	115				
Copper	50.4	0.500	50.00	0	101	85	115				
Lead	50.1	0.100	50.00	0	100	85	115				
Nickel	50.5	0.500	50.00	0	101	85	115				
Zinc	50.0	2.00	50.00	0	99.9	85	115				

Sample ID: 1705127-001CDUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: MHSW4	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/18/2017	SeqNo: 285306						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	192	10.0						189.8	0.939	20	
Arsenic	0.443	0.100						0.4881	9.70	20	
Cadmium	0.763	0.100						0.6993	8.66	20	
Chromium	1.57	0.100						1.928	20.3	20	RF
Copper	38.9	0.500						38.34	1.48	20	
Lead	5.46	0.100						5.460	0.0672	20	
Nickel	9.43	0.500						9.649	2.27	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 2 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: 1705127-001CMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: MHSW4	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/18/2017	SeqNo: 285307						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	678	10.0	500.0	189.8	97.6	70	130				
Arsenic	50.4	0.100	50.00	0.4881	99.9	70	130				
Cadmium	50.8	0.100	50.00	0.6993	100	70	130				
Chromium	50.4	0.100	50.00	1.928	96.9	70	130				
Copper	87.4	0.500	50.00	38.34	98.1	70	130				
Lead	55.3	0.100	50.00	5.460	99.7	70	130				
Nickel	59.1	0.500	50.00	9.649	98.8	70	130				

Sample ID: 1705127-001CMSD	SampType: MSD	TestCode: 200.8		Units: µg/L	Prep Date: 5/17/2017				RunNo: 21427		
Client ID: MHSW4	Batch ID: 9948	TestNo: E200.8		E200.8	Analysis Date: 5/18/2017				SeqNo: 285308		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	660	10.0	500.0	189.8	94.1	70	130	677.7	2.63	20	
Arsenic	49.3	0.100	50.00	0.4881	97.7	70	130	50.42	2.18	20	
Cadmium	49.6	0.100	50.00	0.6993	97.9	70	130	50.85	2.42	20	
Chromium	49.3	0.100	50.00	1.928	94.7	70	130	50.36	2.22	20	
Copper	85.2	0.500	50.00	38.34	93.8	70	130	87.36	2.48	20	
Lead	55.2	0.100	50.00	5.460	99.5	70	130	55.29	0.187	20	
Nickel	57.6	0.500	50.00	9.649	95.8	70	130	59.06	2.59	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 3 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 21427			
Client ID: ICV	Batch ID: 9948	TestNo: E200.8		E200.8	Analysis Date: 5/19/2017			SeqNo: 285491			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	50.9	0.100	50.00	0	102	90	110				
Manganese	49.9	0.500	50.00	0	99.7	90	110				
Zinc	49.0	2.00	50.00	0	97.9	90	110				

Sample ID: LCS-9948	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: LCSW	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/19/2017	SeqNo: 285493						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	48.1	0.500	50.00	0	96.2	85	115				

Sample ID: 1705127-001CDUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: MHSW4	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/19/2017	SeqNo: 285495						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	184	5.00						175.3	4.88	20	
Zinc	403	20.0						362.8	10.5	20	

Sample ID: 1705127-001CMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: MHSW4	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/19/2017	SeqNo: 285496						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	219	5.00	50.00	175.3	87.5	70	130				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: 1705127-001CMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21427						
Client ID: MHSW4	Batch ID: 9948	TestNo: E200.8	E200.8	Analysis Date: 5/19/2017	SeqNo: 285496						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	397	20.0	50.00	362.8	67.5	70	130				SMC

Sample ID: 1705127-001CMSD		SampType: MSD		TestCode: 200.8		Units: µg/L		Prep Date: 5/17/2017		RunNo: 21427	
Client ID: MHSW4		Batch ID: 9948		TestNo: E200.8		E200.8		Analysis Date: 5/19/2017		SeqNo: 285497	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	221	5.00	50.00	175.3	91.3	70	130	219.1	0.878	20	
Zinc	401	20.0	50.00	362.8	76.8	70	130	396.5	1.16	20	

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:				RunNo: 21474			
Client ID: ICV	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017				SeqNo: 285857			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	470	100	500.0	0	94.1	90	110				
Arsenic	47.7	0.100	50.00	0	95.5	90	110				
Cadmium	47.0	0.100	50.00	0	94.0	90	110				
Copper	48.3	0.500	50.00	0	96.7	90	110				
Lead	46.9	0.100	50.00	0	93.7	90	110				
Manganese	47.2	0.500	50.00	0	94.3	90	110				

Sample ID: MB-9967	SampType: MBLK	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: PBW	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017	SeqNo: 285858						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Copper	ND	0.500									
Lead	ND	0.100									
Manganese	ND	0.500									

Sample ID: A1705164-001DDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017	SeqNo: 285866						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100						0	0	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: A1705164-001DDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017	SeqNo: 285866						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.985	0.100						0.9824	0.251	20	
Cadmium	ND	0.100						0	0	20	
Copper	0.0196	0.500						0.02217	12.2	20	J
Lead	ND	0.100						0	0	20	

Sample ID: A1705164-001DMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017	SeqNo: 285867						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	415	100	500.0	0	83.0	80	120				
Arsenic	47.8	0.100	50.00	0.9824	93.6	80	120				
Cadmium	49.1	0.100	50.00	0	98.1	80	120				
Copper	42.4	0.500	50.00	0.02217	84.7	80	120				
Lead	48.0	0.100	50.00	0	96.0	80	120				

Sample ID: A1705164-001DMSD	SampType: MSD	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017	SeqNo: 285870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	419	100	500.0	0	83.8	80	120	414.9	0.981	20	
Arsenic	48.1	0.100	50.00	0.9824	94.3	80	120	47.77	0.728	20	
Cadmium	50.6	0.100	50.00	0	101	80	120	49.06	3.03	20	
Copper	42.7	0.500	50.00	0.02217	85.4	80	120	42.35	0.819	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: A1705164-001DMSD	SampType: MSD	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/22/2017	SeqNo: 285870						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	48.8	0.100	50.00	0	97.6	80	120	47.98	1.70	20	

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 21474						
Client ID: ICV	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286312						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	49.0	2.00	50.00	0	98.0	90	110				

Sample ID: MB-9967	SampType: MBLK	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: PBW	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286314						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	2.00									

Sample ID: A1705164-001DDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286319						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	2.00						0	0	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 8 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: A1705164-001DMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286320						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	50.9	2.00	50.00	0	102	80	120				

Sample ID: A1705164-001DMSD	SampType: MSD	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286321						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	50.7	2.00	50.00	0	101	80	120	50.85	0.274	20	

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 21474						
Client ID: ICV	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286359						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	48.6	0.500	50.00	0	97.3	90	110				
Zinc	48.8	2.00	50.00	0	97.7	90	110				

Sample ID: A1705164-001DDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286362						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	900	10.0						949.2	5.33	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 9 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: A1705164-001DMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 5/22/2017	RunNo: 21474						
Client ID: ZZZZZZ	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286363						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1810	10.0	1000	949.2	86.4	80	120				

Sample ID: A1705164-001DMSD		SampType: MSD	TestCode: 200.8_DISS		Units: µg/L	Prep Date: 5/22/2017			RunNo: 21474		
Client ID: ZZZZZZ		Batch ID: 9967	TestNo: E200.8		E200.8	Analysis Date: 5/24/2017			SeqNo: 286364		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1890	10.0	1000	949.2	93.7	80	120	1813	3.94	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 21474						
Client ID: CCV	Batch ID: 9967	TestNo: E200.8	E200.8	Analysis Date: 5/24/2017	SeqNo: 286365						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	48.7	0.500	50.00	0	97.5	90	110				
Zinc	48.4	2.00	50.00	0	96.8	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 10 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8082LL_W

Sample ID: 1016/1260 CCV	SampType: CCV	TestCode: 8082LL_W	Units: µg/L	Prep Date:	RunNo: 21484						
Client ID: CCV	Batch ID: 9944	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 5/23/2017	SeqNo: 286036						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	2.07	0.0200	2.000	0	103	85	115				

Sample ID: LCS-9944	SampType: LCS	TestCode: 8082LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21484						
Client ID: LCSW	Batch ID: 9944	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 5/23/2017	SeqNo: 286037						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	2.24	0.0200	2.000	0	112	40.4	120				

Sample ID: LCSD-9944	SampType: LCSD	TestCode: 8082LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21484						
Client ID: LCSS02	Batch ID: 9944	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 5/23/2017	SeqNo: 286038						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.91	0.0200	2.000	0	95.7	40.4	120	2.242	15.8	20	

Sample ID: MB-9944	SampType: MBLK	TestCode: 8082LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21484						
Client ID: PBW	Batch ID: 9944	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 5/23/2017	SeqNo: 286039						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0200									
Aroclor 1221	ND	0.0200									
Aroclor 1232	ND	0.0200									
Aroclor 1242	ND	0.0200									

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 11 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8082LL_W

Sample ID: MB-9944	SampType: MBLK	TestCode: 8082LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21484						
Client ID: PBW	Batch ID: 9944	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 5/23/2017	SeqNo: 286039						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1248	ND	0.0200									
Aroclor 1254	ND	0.0200									
Aroclor 1260	ND	0.0200									
Aroclor 1262	ND	0.0200									
Aroclor 1268	ND	0.0200									
Surr: Decachlorobiphenyl	147		200.0		73.6	45	107				

Sample ID: 1016/1260 CCV	SampType: CCV	TestCode: 8082LL_W	Units: µg/L	Prep Date:	RunNo: 21484						
Client ID: CCV	Batch ID: 9944	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 5/23/2017	SeqNo: 286043						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.86	0.0200	2.000	0	93.2	85	115				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 12 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270LL_W

Sample ID: CCV MSSWS-1500	SampType: CCV	TestCode: 8270LL_W	Units: µg/L	Prep Date:	RunNo: 21462						
Client ID: CCV	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285827						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,4-Dichlorobenzene	20.1	0.500	20.00	0	100	80	120				
2,4,6-Trichlorophenol	19.1	0.500	20.00	0	95.4	80	120				
2,4-Dichlorophenol	19.6	0.500	20.00	0	97.8	80	120				
2-Nitrophenol	19.9	0.500	20.00	0	99.6	80	120				
4-Chloro-3-methylphenol	23.9	0.500	20.00	0	120	80	120				
Acenaphthene	19.9	0.500	20.00	0	99.6	80	120				
Benzo(a)pyrene	21.2	0.500	20.00	0	106	80	120				
Di-n-octyl phthalate	20.9	0.500	20.00	0	104	80	120				
Fluoranthene	17.7	0.500	20.00	0	88.3	80	120				
Hexachlorobutadiene	20.4	0.500	20.00	0	102	80	120				
N-Nitrosodiphenylamine	21.3	0.500	20.00	0	107	80	120				
Pentachlorophenol	17.4	0.500	20.00	0	87.2	80	120				
Phenol	20.0	0.500	20.00	0	100	80	120				

Sample ID: MB-9946	SampType: MBLK	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: PBW	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285828						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	0.500									
1,2-Dichlorobenzene	ND	0.500									
1,3-Dichlorobenzene	ND	0.500									
1,4-Dichlorobenzene	ND	0.500									
1-Methylnaphthalene	ND	0.500									
2,3,4-Trichlorophenol	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 13 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270LL_W

Sample ID: MB-9946	SampType: MBLK	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: PBW	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285828						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2,3,5,6-Tetrachlorophenol	ND	0.500									
2,3,5-Trichlorophenol	ND	0.500									
2,3,6-Trichlorophenol	ND	0.500									
2,4,5-Trichlorophenol	ND	0.500									
2,4,6-Trichlorophenol	ND	0.500									
2,4-Dichlorophenol	ND	0.500									
2,4-Dimethylphenol	ND	0.500									
2,4-Dinitrophenol	ND	0.500									
2,4-Dinitrotoluene	ND	0.500									
2,6-Dinitrotoluene	ND	0.500									
2-Chloronaphthalene	ND	0.500									
2-Chlorophenol	ND	0.500									
2-Methylnaphthalene	ND	0.500									
2-Methylphenol	ND	0.500									
2-Nitroaniline	ND	0.500									
2-Nitrophenol	ND	0.500									
3-&4-Methylphenol	ND	1.00									
3,3´-Dichlorobenzidine	ND	0.500									
3-Nitroaniline	ND	0.500									
4,6-Dinitro-2-methylphenol	ND	0.500									
4-Bromophenyl phenyl ether	ND	0.500									
4-Chloro-3-methylphenol	ND	0.500									
4-Chloroaniline	ND	0.500									
4-Chlorophenyl phenyl ether	ND	0.500									
4-Nitroaniline	ND	0.500									
4-Nitrophenol	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 14 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi

Project: Dolan SCE / 1381.01.01

TestCode: 8270LL_W

Sample ID: MB-9946	SampType: MBLK	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: PBW	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285828						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.500									
Acenaphthylene	ND	0.500									
Anthracene	ND	0.500									
Azobenzene	ND	0.500									
Benz(a)anthracene	ND	0.500									
Benzo(a)pyrene	ND	0.500									
Benzo(b)fluoranthene	ND	0.500									
Benzo(g,h,i)perylene	ND	0.500									
Benzo(k)fluoranthene	ND	0.500									
Benzoic Acid	ND	5.00									
Benzyl Alcohol	ND	0.500									
Bis(2-chloroethoxy)methane	ND	0.500									
Bis(2-chloroethyl)ether	ND	0.500									
Bis(2-chloroisopropyl)ether	ND	0.500									
Bis(2-ethylhexyl)phthalate	ND	0.500									
Butyl benzyl phthalate	ND	0.500									
Carbazole	ND	0.500									
Chrysene	ND	0.500									
Dibenz(a,h)anthracene	ND	0.500									
Dibenzofuran	ND	0.500									
Diethyl phthalate	ND	0.500									
Dimethyl phthalate	ND	0.500									
Di-n-butyl phthalate	ND	0.500									
Di-n-octyl phthalate	ND	0.500									
Fluoranthene	ND	0.500									
Fluorene	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270LL_W

Sample ID: MB-9946	SampType: MBLK	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: PBW	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285828						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexachlorobenzene	ND	0.500									
Hexachlorobutadiene	ND	0.500									
Hexachlorocyclopentadiene	ND	0.500									
Hexachloroethane	ND	0.500									
Indeno(1,2,3-cd)pyrene	ND	0.500									
Isophorone	ND	0.500									
Naphthalene	ND	0.500									
Nitrobenzene	ND	0.500									
N-Nitrosodimethylamine	ND	0.500									
N-Nitrosodi-n-propylamine	ND	0.500									
N-Nitrosodiphenylamine	ND	0.500									
Pentachlorophenol	ND	0.500									
Phenanthrene	ND	0.500									
Phenol	ND	0.500									
Pyrene	ND	0.500									
Pyridine	ND	0.500									
Surr: 2,4,6-Tribromophenol	81.8		100.0		81.8	33.1	129.7				
Surr: 2-Fluorobiphenyl	109		100.0		109	33.1	126.2				
Surr: 2-Fluorophenol	76.4		100.0		76.4	13.4	127.1				
Surr: 4-Terphenyl-d14	67.0		100.0		67.0	41	122				
Surr: Nitrobenzene-d5	83.2		100.0		83.2	28.9	129.9				
Surr: Phenol-d6	96.1		100.0		96.1	10.6	128.5				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 16 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270LL_W

Sample ID: LCS-9946	SampType: LCS	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: LCSW	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285832						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	30.6	0.500	40.00	0	76.5	42.4	104				
1,4-Dichlorobenzene	32.5	0.500	40.00	0	81.3	37.9	105				
2,4-Dinitrotoluene	41.2	0.500	40.00	0	103	52.9	133				
2-Chlorophenol	32.5	0.500	40.00	0	81.2	27.8	118				
4-Chloro-3-methylphenol	48.8	0.500	40.00	0	122	33.5	129				
4-Nitrophenol	28.9	0.500	40.00	0	72.2	11.4	119.1				
Acenaphthene	36.2	0.500	40.00	0	90.6	42.4	124				
N-Nitrosodi-n-propylamine	39.3	0.500	40.00	0	98.2	33.9	138				
Pentachlorophenol	23.5	0.500	40.00	0	58.8	43.3	113				
Phenol	33.7	0.500	40.00	0	84.2	6.73	124.7				
Pyrene	30.6	0.500	40.00	0	76.6	59.4	119				

Sample ID: LCSD-9946	SampType: LCSD	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: LCSS02	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285833						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	31.1	0.500	40.00	0	77.8	42.4	104	30.60	1.75	20	
1,4-Dichlorobenzene	30.3	0.500	40.00	0	75.7	37.9	105	32.52	7.13	20	
2,4-Dinitrotoluene	39.5	0.500	40.00	0	98.7	52.9	133	41.23	4.36	20	
2-Chlorophenol	33.4	0.500	40.00	0	83.6	27.8	118	32.50	2.88	20	
4-Chloro-3-methylphenol	47.7	0.500	40.00	0	119	33.5	129	48.80	2.24	20	
4-Nitrophenol	30.2	0.500	40.00	0	75.5	11.4	119.1	28.88	4.44	20	
Acenaphthene	36.4	0.500	40.00	0	91.0	42.4	124	36.23	0.441	20	
N-Nitrosodi-n-propylamine	40.9	0.500	40.00	0	102	33.9	138	39.27	4.02	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 17 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270LL_W

Sample ID: LCSD-9946	SampType: LCSD	TestCode: 8270LL_W	Units: µg/L	Prep Date: 5/17/2017	RunNo: 21462						
Client ID: LCSS02	Batch ID: 9946	TestNo: SW8270D	SW 3510C	Analysis Date: 5/19/2017	SeqNo: 285833						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pentachlorophenol	24.7	0.500	40.00	0	61.7	43.3	113	23.53	4.73	20	
Phenol	34.4	0.500	40.00	0	86.1	6.73	114.7	33.68	2.20	20	
Pyrene	30.7	0.500	40.00	0	76.8	59.4	119	30.64	0.326	20	

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHRBDM_W

Sample ID: CCV MSSWS-1500	SampType: CCV	TestCode: PAHRBDM_	Units: µg/L	Prep Date:	RunNo: 21402						
Client ID: CCV	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284964						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylnaphthalene	2.30	0.0200	2.000	0	115	80	120				
Acenaphthene	2.16	0.0200	2.000	0	108	80	120				
Acenaphthylene	2.27	0.0200	2.000	0	114	80	120				
Anthracene	2.25	0.0200	2.000	0	112	80	120				
Benz(a)anthracene	2.19	0.0180	2.000	0	110	80	120				
Benzo(a)pyrene	2.16	0.0180	2.000	0	108	80	120				
Benzo(b)fluoranthene	2.10	0.0180	2.000	0	105	80	120				
Benzo(g,h,i)perylene	2.33	0.0180	2.000	0	116	80	120				
Benzo(k)fluoranthene	2.12	0.0180	2.000	0	106	80	120				
Chrysene	2.19	0.0180	2.000	0	110	80	120				
Dibenz(a,h)anthracene	2.36	0.0180	2.000	0	118	80	120				
Fluoranthene	2.14	0.0200	2.000	0	107	80	120				
Fluorene	2.34	0.0200	2.000	0	117	80	120				
Indeno(1,2,3-cd)pyrene	2.38	0.0180	2.000	0	119	80	120				
Naphthalene	2.33	0.0200	2.000	0	116	80	120				
Phenanthrene	2.25	0.0200	2.000	0	112	80	120				
Pyrene	2.23	0.0200	2.000	0	112	80	120				

Sample ID: MB-9925	SampType: MBLK	TestCode: PAHRBDM_	Units: µg/L	Prep Date: 5/15/2017	RunNo: 21402						
Client ID: PBW	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284965						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylnaphthalene	ND	0.0200									
Acenaphthene	ND	0.0200									

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 19 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHRBDM_W

Sample ID: MB-9925	SampType: MBLK	TestCode: PAHRBDM_	Units: µg/L	Prep Date: 5/15/2017	RunNo: 21402						
Client ID: PBW	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284965						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthylene	ND	0.0200									
Anthracene	ND	0.0200									
Benz(a)anthracene	ND	0.0180									
Benzo(a)pyrene	ND	0.0180									
Benzo(b)fluoranthene	ND	0.0180									
Benzo(g,h,i)perylene	ND	0.0180									
Benzo(k)fluoranthene	ND	0.0180									
Chrysene	ND	0.0180									
Dibenz(a,h)anthracene	ND	0.0180									
Fluoranthene	ND	0.0200									
Fluorene	ND	0.0200									
Indeno(1,2,3-cd)pyrene	ND	0.0180									
Naphthalene	ND	0.0200									
Phenanthrene	ND	0.0200									
Pyrene	ND	0.0200									
Surr: 2-Fluorobiphenyl	47.4		100.0		47.4	18.6	106				
Surr: Nitrobenzene-d5	79.0		100.0		79.0	17	130				
Surr: p-Terphenyl-d14	65.1		100.0		65.1	39.6	131				

Sample ID: LCSD-9925	SampType: LCSD	TestCode: PAHRBDM_	Units: µg/L	Prep Date: 5/16/2017	RunNo: 21402						
Client ID: LCSS02	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284974						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylnaphthalene	4.31	0.0200	5.000	0	86.2	30	130	4.170	3.30	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 20 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHRBDM_W

Sample ID: LCSD-9925	SampType: LCSD	TestCode: PAHRBDM_	Units: µg/L	Prep Date: 5/16/2017	RunNo: 21402						
Client ID: LCSS02	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284974						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.60	0.0200	5.000	0	72.0	26.8	87.5	3.470	3.68	20	
Acenaphthylene	4.00	0.0200	5.000	0	80.0	29	89.1	3.860	3.56	20	
Anthracene	4.06	0.0200	5.000	0	81.2	42	97.4	3.990	1.74	20	
Benz(a)anthracene	3.92	0.0180	5.000	0	78.4	34.2	95.8	3.630	7.68	20	
Benzo(a)pyrene	4.10	0.0180	5.000	0	82.0	23.4	103	3.700	10.3	20	
Benzo(b)fluoranthene	3.82	0.0180	5.000	0	76.4	36.6	99.5	3.480	9.32	20	
Benzo(g,h,i)perylene	4.31	0.0180	5.000	0	86.2	10.3	109	3.900	9.99	20	
Benzo(k)fluoranthene	3.95	0.0180	5.000	0	79.0	39.7	93.4	3.570	10.1	20	
Chrysene	3.78	0.0180	5.000	0	75.6	36.8	99.8	3.490	7.98	20	
Dibenz(a,h)anthracene	4.47	0.0180	5.000	0	89.4	5.05	119	4.040	10.1	20	
Fluoranthene	3.85	0.0200	5.000	0	77.0	42.4	95.9	3.760	2.37	20	
Fluorene	4.09	0.0200	5.000	0	81.8	37.4	88.4	3.930	3.99	20	
Indeno(1,2,3-cd)pyrene	4.46	0.0180	5.000	0	89.2	10.5	98.4	4.020	10.4	20	
Naphthalene	4.11	0.0200	5.000	0	82.2	16.8	96.9	4.010	2.46	20	
Phenanthrene	3.95	0.0200	5.000	0	79.0	35.8	92.9	3.880	1.79	20	
Pvrene	4.05	0.0200	5.000	0	81.0	39.4	97.5	3.740	7.96	20	

Sample ID: LCS-9925	SampType: LCS	TestCode: PAHRBDM_	Units: µg/L	Prep Date: 5/15/2017	RunNo: 21402						
Client ID: LCSW	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284975						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
2-Methylnaphthalene	4.17	0.0200	5.000	0	83.4	30	130				
Acenaphthene	3.47	0.0200	5.000	0	69.4	26.8	87.5				
Acenaphthylene	3.86	0.0200	5.000	0	77.2	29	89.1				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 21 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHRBDM_W

Sample ID: LCS-9925	SampType: LCS	TestCode: PAHRBDM_	Units: µg/L	Prep Date: 5/15/2017	RunNo: 21402						
Client ID: LCSW	Batch ID: 9925	TestNo: SW8270D	SW 3510C	Analysis Date: 5/16/2017	SeqNo: 284975						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	3.99	0.0200	5.000	0	79.8	42	97.4				
Benz(a)anthracene	3.63	0.0180	5.000	0	72.6	34.2	95.8				
Benzo(a)pyrene	3.70	0.0180	5.000	0	74.0	23.4	103				
Benzo(b)fluoranthene	3.48	0.0180	5.000	0	69.6	36.6	99.5				
Benzo(g,h,i)perylene	3.90	0.0180	5.000	0	78.0	10.3	109				
Benzo(k)fluoranthene	3.57	0.0180	5.000	0	71.4	39.7	93.4				
Chrysene	3.49	0.0180	5.000	0	69.8	36.8	99.8				
Dibenz(a,h)anthracene	4.04	0.0180	5.000	0	80.8	5.05	119				
Fluoranthene	3.76	0.0200	5.000	0	75.2	42.4	95.9				
Fluorene	3.93	0.0200	5.000	0	78.6	37.4	88.4				
Indeno(1,2,3-cd)pyrene	4.02	0.0180	5.000	0	80.4	10.5	98.4				
Naphthalene	4.01	0.0200	5.000	0	80.2	16.8	96.9				
Phenanthrene	3.88	0.0200	5.000	0	77.6	35.8	92.9				
Pyrene	3.74	0.0200	5.000	0	74.8	39.4	97.5				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: TOC_W

Sample ID: MB-R21452	SampType: MBLK	TestCode: TOC_W	Units: mg/L	Prep Date:	RunNo: 21452						
Client ID: PBW	Batch ID: R21452	TestNo: M5310 B		Analysis Date: 5/19/2017	SeqNo: 285595						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	0.372	1.00									J

Sample ID: LCS-R21452	SampType: LCS	TestCode: TOC_W	Units: mg/L	Prep Date:	RunNo: 21452						
Client ID: LCSW	Batch ID: R21452	TestNo: M5310 B		Analysis Date: 5/19/2017	SeqNo: 285596						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	9.95	1.00	10.00	0	99.5	84.1	109				

Sample ID: 1705127-001AMS	SampType: MS	TestCode: TOC_W	Units: mg/L	Prep Date:	RunNo: 21452						
Client ID: MHSW4	Batch ID: R21452	TestNo: M5310 B		Analysis Date: 5/19/2017	SeqNo: 285598						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	43.4	5.00	25.00	17.69	103	74.7	121				

Sample ID: 1705127-001AMSD	SampType: MSD	TestCode: TOC_W	Units: mg/L	Prep Date:	RunNo: 21452						
Client ID: MHSW4	Batch ID: R21452	TestNo: M5310 B		Analysis Date: 5/19/2017	SeqNo: 285599						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	43.9	5.00	25.00	17.69	105	74.7	121	43.38	1.25	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 23 of 25
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: TOC_W

Sample ID: R21452CCV	SampType: CCV	TestCode: TOC_W	Units: mg/L	Prep Date:	RunNo: 21452						
Client ID: CCV	Batch ID: R21452	TestNo: M5310 B	Analysis Date: 5/19/2017	SeqNo: 285602							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	10.5	1.00	10.00	0	105	90	110				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1705127

07-Jun-17

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: TSS_WW

Sample ID: MB-R21384	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:					RunNo: 21384		
Client ID: PBW	Batch ID: R21384	TestNo: M2540 D		Analysis Date: 5/16/2017					SeqNo: 284770		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids

ND

5.0

Sample ID: LCS-R21384	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:				RunNo: 21384			
Client ID: LCSW	Batch ID: R21384	TestNo: M2540 D	Analysis Date: 5/16/2017				SeqNo: 284771				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids

88.0

5.0

100

0

88.0

80

105

Sample ID: 1705113-002BDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:					RunNo: 21384		
Client ID: ZZZZZZ	Batch ID: R21384	TestNo: M2540 D	Analysis Date: 5/16/2017					SeqNo: 284779			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids

8.0

5.0

4.0

66.7

20

RF

Sample ID: 1705132-002CDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 21384						
Client ID: ZZZZZZ	Batch ID: R21384	TestNo: M2540 D		Analysis Date: 5/16/2017	SeqNo: 284787						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids

13.0

5.0

12.0

8.0

20

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- * The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.



Specialty Analytical

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December 11, 2017

David Weatherby
Maul Foster & Alongi
400 E. Mill Plain Blvd.
Suite 400
Vancouver, WA 98660
TEL: (360) 694-2691
FAX: (360) 906-1958
RE: Dolan SCE / 1381.01.01

Dear David Weatherby:

Order No.: 1710169

Specialty Analytical received 3 sample(s) on 10/19/2017 for the analyses presented in the following report.

REVISED REPORT: Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French", written in a cursive style.

Marty French
Lab Director

Case Narrative

WO#: 1710169

Date: 12/11/2017

CLIENT:	Maul Foster & Alongi
Project:	Dolan SCE / 1381.01.01

Revision 1-

This report has been revised in MDL format per client request. Full QC for PCB Aroclors by method 8082 is included.

Revision 2-

This report has been revised to correct the analyte list for total and dissolved metals.

Specialty Analytical

Date Reported: 11-Dec-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1710169-001
Client Sample ID: MHSW-4

Collection Date: 10/19/2017 3:25:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	5.84	0.421	100	J	µg/L	1	10/23/2017 4:48:17 PM
Arsenic	0.384	0.0320	0.100		µg/L	1	10/23/2017 4:48:17 PM
Cadmium	0.185	0.0130	0.100		µg/L	1	10/23/2017 4:48:17 PM
Copper	17.0	0.0180	0.500		µg/L	1	10/23/2017 4:48:17 PM
Lead	0.336	0.0270	0.100		µg/L	1	10/23/2017 4:48:17 PM
Manganese	30.6	0.0690	0.500		µg/L	1	10/23/2017 4:48:17 PM
Zinc	133	1.10	20.0		µg/L	10	10/25/2017 12:48:31 P
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	343	0.421	10.0		µg/L	1	10/23/2017 11:24:06 A
Arsenic	0.797	0.0320	0.100		µg/L	1	10/23/2017 11:24:06 A
Cadmium	0.423	0.0130	0.100		µg/L	1	10/23/2017 11:24:06 A
Copper	31.9	0.0180	0.500		µg/L	1	10/23/2017 11:24:06 A
Lead	17.3	0.0270	0.100		µg/L	1	10/23/2017 11:24:06 A
Manganese	139	0.690	5.00		µg/L	10	10/23/2017 3:02:59 PM
Zinc	185	1.10	20.0		µg/L	10	10/23/2017 3:02:59 PM
SEMI-VOLATILE COMPOUNDS - BASE/NEUTRAL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	0.839	0.274	0.943	J	µg/L	1	10/25/2017 4:10:00 PM
Butyl benzyl phthalate	ND	0.158	0.943		µg/L	1	10/25/2017 4:10:00 PM
Diethyl phthalate	ND	0.291	0.943		µg/L	1	10/25/2017 4:10:00 PM
Dimethyl phthalate	ND	0.261	0.943		µg/L	1	10/25/2017 4:10:00 PM
Di-n-butyl phthalate	ND	0.357	0.943		µg/L	1	10/25/2017 4:10:00 PM
Di-n-octyl phthalate	ND	0.141	0.943		µg/L	1	10/25/2017 4:10:00 PM
Surr: 2-Fluorobiphenyl	69.6	33.1-96.2			%REC	1	10/25/2017 4:10:00 PM
Surr: 4-Terphenyl-d14	84.7	41-122			%REC	1	10/25/2017 4:10:00 PM
Surr: Nitrobenzene-d5	58.6	28.9-99.9			%REC	1	10/25/2017 4:10:00 PM
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
1-Methylnaphthalene	ND	0.0225	0.0474		µg/L	1	10/25/2017 6:13:00 PM
2-Methylnaphthalene	ND	0.0257	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Acenaphthene	ND	0.0273	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Acenaphthylene	ND	0.0317	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Anthracene	ND	0.0208	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Benz(a)anthracene	ND	0.0232	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Benzo(a)pyrene	ND	0.0159	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Benzo(b)fluoranthene	ND	0.0183	0.0474		µg/L	1	10/25/2017 6:13:00 PM

Specialty Analytical

Date Reported: 11-Dec-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1710169-001
Client Sample ID: MHSW-4

Collection Date: 10/19/2017 3:25:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
Benzo(g,h,i)perylene	ND	0.0118	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Benzo(k)fluoranthene	ND	0.0140	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Chrysene	ND	0.00957	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Dibenz(a,h)anthracene	ND	0.0138	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Fluoranthene	ND	0.0282	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Fluorene	ND	0.0202	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0253	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Naphthalene	ND	0.0163	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Phenanthrene	ND	0.0159	0.0474		µg/L	1	10/25/2017 6:13:00 PM
Pyrene	0.0284	0.0173	0.0474	J	µg/L	1	10/25/2017 6:13:00 PM
Surr: 2-Fluorobiphenyl	63.0	18.6-106			%REC	1	10/25/2017 6:13:00 PM
Surr: Nitrobenzene-d5	61.3	17-130			%REC	1	10/25/2017 6:13:00 PM
Surr: Terphenyl-d14	113	39.6-131			%REC	1	10/25/2017 6:13:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1221	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1232	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1242	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1248	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1254	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1260	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1262	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1268	ND	0.00366	0.0188		µg/L	1	10/26/2017 3:28:37 PM
Surr: Decachlorobiphenyl	72.1	45-107			%REC	1	10/26/2017 3:28:37 PM
SUB CONTRACTING			JB_CONTRACTIN			Analyst: knb	
Total Organic Carbon	atched Report	0	0			1	11/27/2017 9:09:25 AM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: ml1	
Total Suspended Solids	11.0	1.1	5.0		mg/L	1	10/23/2017 4:51:11 PM

Specialty Analytical

Date Reported: 11-Dec-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1710169-002
Client Sample ID: CB-15

Collection Date: 10/19/2017 3:45:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HOLD PER CLIENT REQUEST				PER CLIENT			Analyst: kel
Hold	12/1/2017	0	0	H		1	12/1/2017 9:40:45 AM
HOLD PER CLIENT REQUEST				PER CLIENT			Analyst: kel
Hold	12/1/2017	0	0	H		1	12/1/2017 9:40:45 AM
HOLD PER CLIENT REQUEST				PER CLIENT			Analyst: kel
Hold	12/1/2017	0	0	H		1	12/1/2017 9:40:45 AM
HOLD PER CLIENT REQUEST				PER CLIENT			Analyst: kel
Hold	12/1/2017	0	0	H		1	12/1/2017 9:40:45 AM
HOLD PER CLIENT REQUEST				PER CLIENT			Analyst: kel
Hold	12/1/2017	0	0	H		1	12/1/2017 9:40:45 AM

Specialty Analytical

Date Reported: 11-Dec-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1710169-003
Client Sample ID: CSWTS

Collection Date: 10/19/2017 5:00:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE				E200.8	Analyst: JRC		
Aluminum	ND	0.421	100	J	µg/L	1	10/23/2017 4:51:39 PM
Arsenic	0.0759	0.0320	0.100		µg/L	1	10/23/2017 4:51:39 PM
Cadmium	0.139	0.0130	0.100		µg/L	1	10/23/2017 4:51:39 PM
Copper	8.74	0.0180	0.500		µg/L	1	10/23/2017 4:51:39 PM
Lead	0.386	0.0270	0.100		µg/L	1	10/23/2017 4:51:39 PM
Manganese	23.6	0.0690	0.500		µg/L	1	10/23/2017 4:51:39 PM
Zinc	102	1.10	20.0		µg/L	10	10/25/2017 12:51:53 PM
ICP/MS METALS- TOTAL RECOVERABLE				E200.8	Analyst: JRC		
Aluminum	38.1	0.421	10.0		µg/L	1	10/23/2017 11:45:16 AM
Arsenic	0.270	0.0320	0.100		µg/L	1	10/23/2017 11:45:16 AM
Cadmium	0.144	0.0130	0.100		µg/L	1	10/23/2017 11:45:16 AM
Copper	11.8	0.0180	0.500		µg/L	1	10/23/2017 11:45:16 AM
Lead	1.99	0.0270	0.100		µg/L	1	10/23/2017 11:45:16 AM
Manganese	31.4	0.0690	0.500		µg/L	1	10/23/2017 11:45:16 AM
Zinc	95.8	1.10	20.0		µg/L	10	10/23/2017 3:16:29 PM
SEMI-VOLATILE COMPOUNDS - BASE/NEUTRAL				SW8270D	Analyst: CK		
Bis(2-ethylhexyl)phthalate	ND	0.287	0.985		µg/L	1	10/25/2017 5:48:00 PM
Butyl benzyl phthalate	ND	0.166	0.985		µg/L	1	10/25/2017 5:48:00 PM
Diethyl phthalate	ND	0.304	0.985		µg/L	1	10/25/2017 5:48:00 PM
Dimethyl phthalate	ND	0.273	0.985		µg/L	1	10/25/2017 5:48:00 PM
Di-n-butyl phthalate	ND	0.373	0.985		µg/L	1	10/25/2017 5:48:00 PM
Di-n-octyl phthalate	ND	0.148	0.985		µg/L	1	10/25/2017 5:48:00 PM
Surr: 2-Fluorobiphenyl	72.3	33.1-96.2			%REC	1	10/25/2017 5:48:00 PM
Surr: 4-Terphenyl-d14	79.4	41-122			%REC	1	10/25/2017 5:48:00 PM
Surr: Nitrobenzene-d5	92.2	28.9-99.9			%REC	1	10/25/2017 5:48:00 PM
PAH'S BY GC/MS - LOW LEVEL				SW8270D	Analyst: CK		
1-Methylnaphthalene	ND	0.0233	0.0493		µg/L	1	10/25/2017 6:39:00 PM
2-Methylnaphthalene	ND	0.0267	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Acenaphthene	ND	0.0284	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Acenaphthylene	ND	0.0329	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Anthracene	ND	0.0216	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Benz(a)anthracene	ND	0.0241	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Benzo(a)pyrene	ND	0.0166	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Benzo(b)fluoranthene	ND	0.0190	0.0493		µg/L	1	10/25/2017 6:39:00 PM

Specialty Analytical

Date Reported: 11-Dec-17

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1710169-003
Client Sample ID: CSWTS

Collection Date: 10/19/2017 5:00:00 AM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
Benzo(g,h,i)perylene	ND	0.0123	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Benzo(k)fluoranthene	ND	0.0146	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Chrysene	ND	0.00995	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Dibenz(a,h)anthracene	ND	0.0144	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Fluoranthene	ND	0.0294	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Fluorene	ND	0.0210	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0263	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Naphthalene	ND	0.0169	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Phenanthrene	ND	0.0166	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Pyrene	ND	0.0179	0.0493		µg/L	1	10/25/2017 6:39:00 PM
Surr: 2-Fluorobiphenyl	64.0	18.6-106			%REC	1	10/25/2017 6:39:00 PM
Surr: Nitrobenzene-d5	64.7	17-130			%REC	1	10/25/2017 6:39:00 PM
Surr: Terphenyl-d14	114	39.6-131			%REC	1	10/25/2017 6:39:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1221	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1232	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1242	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1248	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1254	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1260	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1262	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Aroclor 1268	ND	0.00402	0.0206		µg/L	1	10/26/2017 3:28:37 PM
Surr: Decachlorobiphenyl	67.7	45-107			%REC	1	10/26/2017 3:28:37 PM
SUB CONTRACTING			JB_CONTRACTIN			Analyst: knb	
Total Organic Carbon	atched Report	0	0			1	11/27/2017 9:09:25 AM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: ml1	
Total Suspended Solids	ND	1.1	5.0		mg/L	1	10/23/2017 4:52:11 PM

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 23439			
Client ID: ICV	Batch ID: 10769	TestNo: E200.8		E200.8	Analysis Date: 10/23/2017			SeqNo: 311655			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	504	10.0	500.0	0	101	90	110				
Arsenic	51.4	0.100	50.00	0	103	90	110				
Cadmium	52.1	0.100	50.00	0	104	90	110				
Copper	51.6	0.500	50.00	0	103	90	110				
Lead	48.6	0.100	50.00	0	97.2	90	110				
Manganese	50.9	0.500	50.00	0	102	90	110				
Vanadium	51.0	0.500	50.00	0	102	90	110				
Zinc	52.9	2.00	50.00	0	106	90	110				

Sample ID: MB-10769	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: PBW	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 311656						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Lead	ND	0.100									
Zinc	0.349	2.00									J

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 1 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: 1710169-001CDUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: MHSW-4	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 311658						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	324	10.0						343.5	5.68	20	
Arsenic	0.734	0.100						0.7966	8.20	20	
Cadmium	0.431	0.100						0.4234	1.75	20	
Chromium	4.46	0.100						5.166	14.7	20	
Copper	30.1	0.500						31.94	5.87	20	
Lead	16.9	0.100						17.34	2.66	20	

Sample ID: LCS-10769	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: LCSW	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 311659						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	431	10.0	500.0	0	86.2	85	115				
Arsenic	45.7	0.100	50.00	0	91.3	85	115				
Cadmium	46.1	0.100	50.00	0	92.2	85	115				
Chromium	43.4	0.100	50.00	0	86.8	85	115				
Copper	45.2	0.500	50.00	0	90.4	85	115				
Lead	44.7	0.100	50.00	0	89.4	85	115				
Manganese	44.9	0.500	50.00	0	89.8	85	115				
Zinc	49.3	2.00	50.00	0	98.5	85	115				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 2 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: 1710169-001CMS	SampType: MS	TestCode: 200.8		Units: µg/L	Prep Date: 10/19/2017			RunNo: 23439			
Client ID: MHSW-4	Batch ID: 10769	TestNo: E200.8		E200.8	Analysis Date: 10/23/2017			SeqNo: 311660			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	809	10.0	500.0	343.5	93.1	70	130				
Arsenic	48.8	0.100	50.00	0.7966	96.1	70	130				
Cadmium	49.2	0.100	50.00	0.4234	97.5	70	130				
Chromium	50.4	0.100	50.00	5.166	90.4	70	130				
Copper	76.8	0.500	50.00	31.94	89.7	70	130				
Lead	64.4	0.100	50.00	17.34	94.1	70	130				

Sample ID: 1710169-001CMSD	SampType: MSD	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: MHSW-4	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 311661						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	817	10.0	500.0	343.5	94.7	70	130	808.9	0.965	20	
Arsenic	48.1	0.100	50.00	0.7966	94.5	70	130	48.83	1.58	20	
Cadmium	48.2	0.100	50.00	0.4234	95.6	70	130	49.19	1.96	20	
Chromium	51.9	0.100	50.00	5.166	93.6	70	130	50.39	3.05	20	
Copper	77.5	0.500	50.00	31.94	91.2	70	130	76.79	0.962	20	
Lead	64.8	0.100	50.00	17.34	94.9	70	130	64.37	0.643	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23439						
Client ID: CCV	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 311681						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503	10.0	500.0	0	101	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 3 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 23439			
Client ID: CCV	Batch ID: 10769	TestNo: E200.8		E200.8	Analysis Date: 10/23/2017			SeqNo: 311681			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.4	0.100	50.00	0	98.8	90	110				
Cadmium	50.8	0.100	50.00	0	102	90	110				
Chromium	48.4	0.100	50.00	0	96.7	90	110				
Copper	49.5	0.500	50.00	0	99.0	90	110				
Lead	49.9	0.100	50.00	0	99.9	90	110				
Zinc	50.9	2.00	50.00	0	102	90	110				

Sample ID: 1710169-001CDUP	SampType: DUP	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: MHSW-4	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312296						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	127	5.00						148.6	16.0	20	
Zinc	178	20.0						204.2	13.5	20	

Sample ID: 1710169-001CMS	SampType: MS	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: MHSW-4	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312297						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	172	5.00	50.00	148.6	47.7	70	130				SMC
Zinc	220	20.0	50.00	204.2	32.1	70	130				SMC

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 4 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: 1710169-001CMSD	SampType: MSD	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23439						
Client ID: MHSW-4	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312298						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	175	5.00	50.00	148.6	53.3	70	130	183.9	4.81	20	S
Zinc	234	20.0	50.00	204.2	60.0	70	130	240.0	2.47	20	S

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23439						
Client ID: CCV	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312414						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4870	100	5000	0	97.4	90	110				

Sample ID: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23531						
Client ID: ICV	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313178						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	41.6	0.500	40.00	0	104	90	110				

Sample ID: MB-10769	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23531						
Client ID: PBW	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313179						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 5 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: LCS-10769	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23531						
Client ID: LCSW	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313180						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	50.8	0.500	50.00	0	102	85	115				

Sample ID: LCSD-10769	SampType: LCSD	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23531						
Client ID: LCSS02	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313181						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	51.7	0.500	50.00	0	103	85	115	50.77	1.84	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23531						
Client ID: CCV	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313183						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	41.5	0.500	40.00	0	104	90	110				

Sample ID: CCB	SampType: CCB	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23531						
Client ID: CCB	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313184						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 6 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23532						
Client ID: ICV	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313187						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	42.7	10.0	40.00	0	107	90	110				

Sample ID: MB-10769	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23532						
Client ID: PBW	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313188						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	ND	10.0									

Sample ID: LCS-10769	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 10/19/2017	RunNo: 23532						
Client ID: LCSW	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313189						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	56.6	10.0	50.00	0	113	85	115				

Sample ID: LCSD-10769	SampType: LCSD	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23532						
Client ID: LCSS02	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313190						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	56.0	10.0	50.00	0	112	85	115	56.62	1.18	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 7 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23532						
Client ID: CCV	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313193						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	42.5	10.0	40.00	0	106	90	110				

Sample ID: CCB	SampType: CCB	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23532						
Client ID: CCB	Batch ID: 10769	TestNo: E200.8	E200.8	Analysis Date: 10/30/2017	SeqNo: 313194						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	ND	10.0									

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: LCS-10777	SampType: LCS	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: LCSW	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312265						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	504	100	500.0	0	101	90	110				
Arsenic	51.4	0.100	50.00	0	103	90	110				
Cadmium	52.1	0.100	50.00	0	104	90	110				
Chromium	50.7	0.100	50.00	0	101	90	110				
Copper	51.6	0.500	50.00	0	103	90	110				
Lead	48.6	0.100	50.00	0	97.2	90	110				
Manganese	50.9	0.500	50.00	0	102	90	110				
Zinc	52.9	2.00	50.00	0	106	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS		Units: µg/L	Prep Date:			RunNo: 23466			
Client ID: CCV	Batch ID: 10777	TestNo: E200.8		E200.8	Analysis Date: 10/23/2017			SeqNo: 312266			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	482	100	500.0	0	96.5	90	110				
Arsenic	49.5	0.100	50.00	0	99.1	90	110				
Cadmium	50.7	0.100	50.00	0	101	90	110				
Chromium	48.1	0.100	50.00	0	96.2	90	110				
Copper	49.9	0.500	50.00	0	99.8	90	110				
Lead	48.5	0.100	50.00	0	96.9	90	110				
Manganese	48.6	0.500	50.00	0	97.2	90	110				
Zinc	48.9	2.00	50.00	0	97.8	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 9 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: MB-10777	SampType: MBLK	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: PBW	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312267						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Lead	0.0299	0.100									J
Zinc	0.482	2.00									J

Sample ID: 1710151-001CDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312269						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.776	0.100						0.7954	2.52	20	
Cadmium	0.0182	0.100						0.02084	13.8	20	J
Chromium	2.66	0.100						2.608	1.88	20	
Copper	33.6	0.500						33.27	0.992	20	
Lead	0.173	0.100						0.1646	5.27	20	

Sample ID: 1710151-001CMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312270						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	51.0	0.100	50.00	0.7954	101	80	120				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 10 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: 1710151-001CMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312270						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	49.0	0.100	50.00	0.02084	98.0	80	120				
Chromium	50.9	0.100	50.00	2.608	96.5	80	120				
Copper	80.6	0.500	50.00	33.27	94.6	80	120				
Lead	45.1	0.100	50.00	0.1646	89.8	80	120				

Sample ID: 1710151-001CMSD	SampType: MSD	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312271						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.3	0.100	50.00	0.7954	99.0	80	120	51.05	1.48	20	
Cadmium	49.2	0.100	50.00	0.02084	98.4	80	120	49.04	0.383	20	
Chromium	50.2	0.100	50.00	2.608	95.2	80	120	50.86	1.30	20	
Copper	79.4	0.500	50.00	33.27	92.2	80	120	80.56	1.50	20	
Lead	45.7	0.100	50.00	0.1646	91.0	80	120	45.06	1.34	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: CCV	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312277						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.7	0.100	50.00	0	101	90	110				
Cadmium	51.0	0.100	50.00	0	102	90	110				
Chromium	50.4	0.100	50.00	0	101	90	110				
Copper	51.0	0.500	50.00	0	102	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 11 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: CCV	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/23/2017	SeqNo: 312277						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	47.6	0.100	50.00	0	95.2	90	110				
Zinc	51.7	2.00	50.00	0	103	90	110				

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: ICV	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312397						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	51.4	2.00	50.00	0	103	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: CCV	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312398						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	52.2	2.00	50.00	0	104	90	110				

Sample ID: 1710151-001CDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312400						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	113	20.0						107.3	5.29	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 12 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: 1710151-001CMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312401						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	607	20.0	500.0	107.3	99.9	80	120				

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: CCV	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312402						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	52.5	2.00	50.00	0	105	90	110				

Sample ID: 1710151-001CMSD	SampType: MSD	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23466						
Client ID: ZZZZZZ	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312403						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	604	20.0	500.0	107.3	99.3	80	120	607.1	0.555	20	

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23466						
Client ID: CCV	Batch ID: 10777	TestNo: E200.8	E200.8	Analysis Date: 10/25/2017	SeqNo: 312407						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	52.1	2.00	50.00	0	104	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 13 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8082LL_W

Sample ID: 1016/1260 CCV	SampType: CCV	TestCode: 8082LL_W	Units: µg/L	Prep Date:	RunNo: 23488						
Client ID: CCV	Batch ID: 10781	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 10/26/2017	SeqNo: 312655						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.87	0.0200	2.000	0	93.6	85	115				

Sample ID: MB-10781	SampType: MBLK	TestCode: 8082LL_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23488						
Client ID: PBW	Batch ID: 10781	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 10/26/2017	SeqNo: 312656						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0200									
Aroclor 1221	ND	0.0200									
Aroclor 1232	ND	0.0200									
Aroclor 1242	ND	0.0200									
Aroclor 1248	ND	0.0200									
Aroclor 1254	ND	0.0200									
Aroclor 1260	ND	0.0200									
Aroclor 1262	ND	0.0200									
Aroclor 1268	ND	0.0200									
Surr: Decachlorobiphenyl	167		200.0		83.4	45	107				

Sample ID: LCS-10781	SampType: LCS	TestCode: 8082LL_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23488						
Client ID: LCSW	Batch ID: 10781	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 10/26/2017	SeqNo: 312657						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.80	0.0200	2.000	0	90.0	40.4	120				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 14 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8082LL_W

Sample ID: LCSD-10781	SampType: LCSD	TestCode: 8082LL_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23488						
Client ID: LCSS02	Batch ID: 10781	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 10/26/2017	SeqNo: 312658						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	2.00	0.0200	2.000	0	100	40.4	120	1.800	10.7	20	

Sample ID: 1016/1260 CCV	SampType: CCV	TestCode: 8082LL_W	Units: µg/L	Prep Date:	RunNo: 23488						
Client ID: CCV	Batch ID: 10781	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 10/26/2017	SeqNo: 312661						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.99	0.0200	2.000	0	99.3	85	115				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: CCV MSSWS-1510	SampType: CCV	TestCode: 8270BN_W		Units: µg/L	Prep Date:			RunNo: 23507			
Client ID: CCV	Batch ID: 10784	TestNo: SW8270D		SW 3510C	Analysis Date: 10/25/2017			SeqNo: 312848			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	18.5	1.00	20.00	0	92.6	80	120				
1,2-Dichlorobenzene	19.6	1.00	20.00	0	98.2	80	120				
1,3-Dichlorobenzene	19.1	1.00	20.00	0	95.6	80	120				
1,4-Dichlorobenzene	20.3	1.00	20.00	0	101	80	120				
2,4-Dinitrotoluene	16.3	5.00	20.00	0	81.7	80	120				
2,6-Dinitrotoluene	18.4	5.00	20.00	0	92.0	80	120				
2-Chloronaphthalene	22.7	1.00	20.00	0	113	80	120				
2-Methylnaphthalene	19.1	1.00	20.00	0	95.7	80	120				
3-Nitroaniline	20.6	6.00	20.00	0	103	80	120				
4-Bromophenyl phenyl ether	23.1	1.00	20.00	0	115	80	120				
4-Chlorophenyl phenyl ether	19.6	1.00	20.00	0	98.2	80	120				
4-Nitroaniline	20.6	5.00	20.00	0	103	80	120				
Acenaphthene	19.6	1.00	20.00	0	98.2	80	120				
Acenaphthylene	19.9	1.00	20.00	0	99.4	80	120				
Anthracene	19.3	1.00	20.00	0	96.7	80	120				
Benz(a)anthracene	20.1	1.00	20.00	0	100	80	120				
Benzo(a)pyrene	21.9	1.00	20.00	0	110	80	120				
Benzo(b)fluoranthene	18.0	1.00	20.00	0	90.1	80	120				
Benzo(g,h,i)perylene	18.7	1.00	20.00	0	93.4	80	120				
Benzo(k)fluoranthene	23.9	1.00	20.00	0	119	80	120				
Bis(2-chloroethoxy)methane	23.6	1.00	20.00	0	118	80	120				
Bis(2-chloroethyl)ether	21.3	2.00	20.00	0	107	80	120				
Bis(2-chloroisopropyl)ether	21.6	1.00	20.00	0	108	80	120				
Bis(2-ethylhexyl)phthalate	22.3	1.00	20.00	0	112	80	120				
Butyl benzyl phthalate	22.8	1.00	20.00	0	114	80	120				
Chrysene	21.7	1.00	20.00	0	109	80	120				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: CCV MSSWS-1510	SampType: CCV	TestCode: 8270BN_W		Units: µg/L	Prep Date:			RunNo: 23507			
Client ID: CCV	Batch ID: 10784	TestNo: SW8270D		SW 3510C	Analysis Date: 10/25/2017			SeqNo: 312848			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	18.7	1.00	20.00	0	93.4	80	120				
Dibenzofuran	17.9	1.00	20.00	0	89.4	80	120				
Diethyl phthalate	18.1	1.00	20.00	0	90.6	80	120				
Dimethyl phthalate	20.1	1.00	20.00	0	101	80	120				
Di-n-butyl phthalate	19.2	1.00	20.00	0	96.2	80	120				
Di-n-octyl phthalate	22.4	1.00	20.00	0	112	80	120				
Fluoranthene	21.3	1.00	20.00	0	106	80	120				
Fluorene	21.4	1.00	20.00	0	107	80	120				
Hexachlorobenzene	23.6	1.00	20.00	0	118	80	120				
Hexachlorobutadiene	19.3	2.00	20.00	0	96.6	80	120				
Hexachlorocyclopentadiene	18.2	5.00	20.00	0	90.8	80	120				
Hexachloroethane	20.6	2.00	20.00	0	103	80	120				
Indeno(1,2,3-cd)pyrene	20.2	1.00	20.00	0	101	80	120				
Isophorone	23.9	1.00	20.00	0	120	80	120				
Naphthalene	17.9	1.00	20.00	0	89.3	80	120				
Nitrobenzene	23.9	1.00	20.00	0	120	80	120				
N-nitrosodimethylamine	19.3	5.00	20.00	0	96.5	80	120				
N-Nitrosodi-n-propylamine	19.7	2.00	20.00	0	98.4	80	120				
N-Nitrosodiphenylamine	20.8	1.00	20.00	0	104	80	120				
Phenanthrene	19.0	1.00	20.00	0	95.2	80	120				
Pyrene	22.8	1.00	20.00	0	114	80	120				
Pyridine	19.6	25.0	20.00	0	98.2	80	120				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 17 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: MB-10784	SampType: MBLK	TestCode: 8270BN_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23507						
Client ID: PBW	Batch ID: 10784	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312849						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
2,4-Dinitrotoluene	ND	5.00									
2,6-Dinitrotoluene	ND	5.00									
2-Chloronaphthalene	ND	1.00									
2-Methylnaphthalene	ND	1.00									
3-Nitroaniline	ND	6.00									
4-Bromophenyl phenyl ether	ND	1.00									
4-Chlorophenyl phenyl ether	ND	1.00									
4-Nitroaniline	ND	5.00									
Acenaphthene	ND	1.00									
Acenaphthylene	ND	1.00									
Anthracene	ND	1.00									
Benz(a)anthracene	ND	1.00									
Benzo(a)pyrene	ND	1.00									
Benzo(b)fluoranthene	ND	1.00									
Benzo(g,h,i)perylene	ND	1.00									
Benzo(k)fluoranthene	ND	1.00									
Bis(2-chloroethoxy)methane	ND	1.00									
Bis(2-chloroethyl)ether	ND	2.00									
Bis(2-chloroisopropyl)ether	ND	1.00									
Bis(2-ethylhexyl)phthalate	ND	1.00									
Butyl benzyl phthalate	ND	1.00									
Chrysene	ND	1.00									

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit	Page 18 of 28
	O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco	

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi

Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: MB-10784	SampType: MBLK	TestCode: 8270BN_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23507						
Client ID: PBW	Batch ID: 10784	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312849						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	ND	1.00									
Dibenzofuran	ND	1.00									
Diethyl phthalate	ND	1.00									
Dimethyl phthalate	ND	1.00									
Di-n-butyl phthalate	ND	1.00									
Di-n-octyl phthalate	ND	1.00									
Fluoranthene	ND	1.00									
Fluorene	ND	1.00									
Hexachlorobenzene	ND	1.00									
Hexachlorobutadiene	ND	2.00									
Hexachlorocyclopentadiene	ND	5.00									
Hexachloroethane	ND	2.00									
Indeno(1,2,3-cd)pyrene	ND	1.00									
Isophorone	ND	1.00									
Naphthalene	ND	1.00									
Nitrobenzene	ND	1.00									
N-nitrosodimethylamine	ND	5.00									
N-Nitrosodi-n-propylamine	ND	2.00									
N-Nitrosodiphenylamine	ND	1.00									
Phenanthrene	ND	1.00									
Pyrene	ND	1.00									
Pyridine	ND	25.0									
Surr: 2-Fluorobiphenyl	98.1		100.0		98.1	33.1	116.2				
Surr: 4-Terphenyl-d14	102		100.0		102	41	122				
Surr: Nitrobenzene-d5	76.1		100.0		76.1	28.9	119.9				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCS-10784	SampType: LCS	TestCode: 8270BN_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23507						
Client ID: LCSW	Batch ID: 10784	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312853						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	27.9	1.00	40.00	0	69.8	27.5	128.1				
1,2-Dichlorobenzene	24.8	1.00	40.00	0	61.9	40	120				
1,3-Dichlorobenzene	23.6	1.00	40.00	0	58.9	40	120				
1,4-Dichlorobenzene	25.3	1.00	40.00	0	63.2	27.8	120.9				
2,4-Dinitrotoluene	30.9	5.00	40.00	0	77.2	52.9	117.6				
2,6-Dinitrotoluene	29.4	5.00	40.00	0	73.5	40	120				
2-Chloronaphthalene	36.0	1.00	40.00	0	90.0	40	120				
2-Methylnaphthalene	30.4	1.00	40.00	0	76.1	40	120				
3-Nitroaniline	28.5	6.00	40.00	0	71.4	40	120				
4-Bromophenyl phenyl ether	31.0	1.00	40.00	0	77.5	40	120				
4-Chlorophenyl phenyl ether	30.3	1.00	40.00	0	75.7	40	120				
4-Nitroaniline	28.6	5.00	40.00	0	71.4	40	120				
Acenaphthene	28.9	1.00	40.00	0	72.3	39.8	114.2				
Acenaphthylene	30.4	1.00	40.00	0	76.0	40	120				
Anthracene	31.8	1.00	40.00	0	79.6	40	120				
Benz(a)anthracene	31.8	1.00	40.00	0	79.4	40	120				
Benzo(a)pyrene	34.8	1.00	40.00	0	87.1	40	120				
Benzo(b)fluoranthene	28.6	1.00	40.00	0	71.5	40	120				
Benzo(g,h,i)perylene	30.6	1.00	40.00	0	76.4	40	120				
Benzo(k)fluoranthene	39.1	1.00	40.00	0	97.6	40	120				
Bis(2-chloroethoxy)methane	29.2	1.00	40.00	0	73.1	40	120				
Bis(2-chloroethyl)ether	28.6	2.00	40.00	0	71.5	40	120				
Bis(2-chloroisopropyl)ether	23.4	1.00	40.00	0	58.4	40	120				
Bis(2-ethylhexyl)phthalate	32.8	1.00	40.00	0	82.0	40	120				
Butyl benzyl phthalate	33.5	1.00	40.00	0	83.8	40	120				
Chrysene	32.8	1.00	40.00	0	82.0	40	120				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCS-10784	SampType: LCS	TestCode: 8270BN_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23507						
Client ID: LCSW	Batch ID: 10784	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312853						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	31.1	1.00	40.00	0	77.8	40	120				
Dibenzofuran	31.7	1.00	40.00	0	79.2	40	120				
Diethyl phthalate	29.7	1.00	40.00	0	74.3	40	120				
Dimethyl phthalate	34.1	1.00	40.00	0	85.3	40	120				
Di-n-butyl phthalate	32.8	1.00	40.00	0	82.1	40	120				
Di-n-octyl phthalate	34.7	1.00	40.00	0	86.7	40	120				
Fluoranthene	34.1	1.00	40.00	0	85.3	40	120				
Fluorene	31.3	1.00	40.00	0	78.2	40	120				
Hexachlorobenzene	30.3	1.00	40.00	0	75.8	40	120				
Hexachlorobutadiene	24.4	2.00	40.00	0	61.1	40	120				
Hexachlorocyclopentadiene	27.9	5.00	40.00	0	69.7	40	120				
Hexachloroethane	24.4	2.00	40.00	0	60.9	40	120				
Indeno(1,2,3-cd)pyrene	31.9	1.00	40.00	0	79.8	40	120				
Isophorone	29.6	1.00	40.00	0	74.1	40	120				
Naphthalene	27.8	1.00	40.00	0	69.4	40	120				
Nitrobenzene	27.4	1.00	40.00	0	68.4	40	120				
N-nitrosodimethylamine	24.5	5.00	40.00	0	61.2	40	120				
N-Nitrosodi-n-propylamine	29.2	2.00	40.00	0	72.9	33.9	112.1				
N-Nitrosodiphenylamine	33.4	1.00	40.00	0	83.5	40	120				
Phenanthrene	30.7	1.00	40.00	0	76.8	40	120				
Pyrene	33.1	1.00	40.00	0	82.7	25	119				
Pyridine	22.0	1.00	40.00	0	55.1	20	120				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 21 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCSD-10784	SampType: LCSD	TestCode: 8270BN_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23507						
Client ID: LCSS02	Batch ID: 10784	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312854						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	28.9	1.00	40.00	0	72.3	27.5	128.1	27.92	3.45	20	
1,2-Dichlorobenzene	24.5	1.00	40.00	0	61.2	40	120	24.76	1.22	20	
1,3-Dichlorobenzene	24.3	1.00	40.00	0	60.8	40	120	23.55	3.13	20	
1,4-Dichlorobenzene	24.5	1.00	40.00	0	61.2	27.8	120.9	25.26	3.14	20	
2,4-Dinitrotoluene	31.8	5.00	40.00	0	79.6	52.9	117.6	30.86	3.16	20	
2,6-Dinitrotoluene	30.5	5.00	40.00	0	76.3	40	120	29.38	3.84	20	
2-Chloronaphthalene	32.5	1.00	40.00	0	81.4	40	120	35.99	10.1	20	
2-Methylnaphthalene	31.6	1.00	40.00	0	79.1	40	120	30.45	3.80	20	
3-Nitroaniline	33.9	6.00	40.00	0	84.8	40	120	28.54	17.3	20	
4-Bromophenyl phenyl ether	31.0	1.00	40.00	0	77.6	40	120	30.99	0.129	20	
4-Chlorophenyl phenyl ether	29.9	1.00	40.00	0	74.9	40	120	30.29	1.16	20	
4-Nitroaniline	34.0	5.00	40.00	0	84.9	40	120	28.55	17.3	20	
Acenaphthene	28.4	1.00	40.00	0	70.9	39.8	114.2	28.90	1.85	20	
Acenaphthylene	27.5	1.00	40.00	0	68.8	40	120	30.41	9.98	20	
Anthracene	31.4	1.00	40.00	0	78.4	40	120	31.84	1.55	20	
Benz(a)anthracene	33.6	1.00	40.00	0	84.0	40	120	31.75	5.63	20	
Benzo(a)pyrene	36.8	1.00	40.00	0	92.1	40	120	34.83	5.64	20	
Benzo(b)fluoranthene	31.6	1.00	40.00	0	79.0	40	120	28.59	9.97	20	
Benzo(g,h,i)perylene	36.3	1.00	40.00	0	90.8	40	120	30.56	17.2	20	
Benzo(k)fluoranthene	36.5	1.00	40.00	0	91.3	40	120	39.06	6.75	20	
Bis(2-chloroethoxy)methane	30.9	1.00	40.00	0	77.2	40	120	29.25	5.36	20	
Bis(2-chloroethyl)ether	27.5	2.00	40.00	0	68.7	40	120	28.61	4.03	20	
Bis(2-chloroisopropyl)ether	20.0	1.00	40.00	0	50.0	40	120	23.36	15.6	20	
Bis(2-ethylhexyl)phthalate	31.8	1.00	40.00	0	79.6	40	120	32.79	2.91	20	
Butyl benzyl phthalate	32.6	1.00	40.00	0	81.4	40	120	33.52	2.87	20	
Chrysene	32.6	1.00	40.00	0	81.6	40	120	32.78	0.397	20	

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit	Page 22 of 28
	O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco	

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCSD-10784	SampType: LCSD	TestCode: 8270BN_W	Units: µg/L	Prep Date: 10/23/2017	RunNo: 23507						
Client ID: LCSS02	Batch ID: 10784	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312854						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	37.4	1.00	40.00	0	93.6	40	120	31.14	18.3	20	
Dibenzofuran	29.4	1.00	40.00	0	73.4	40	120	31.68	7.64	20	
Diethyl phthalate	29.8	1.00	40.00	0	74.6	40	120	29.73	0.302	20	
Dimethyl phthalate	31.6	1.00	40.00	0	79.0	40	120	34.12	7.64	20	
Di-n-butyl phthalate	29.4	1.00	40.00	0	73.6	40	120	32.83	10.9	20	
Di-n-octyl phthalate	34.4	1.00	40.00	0	86.1	40	120	34.68	0.723	20	
Fluoranthene	35.1	1.00	40.00	0	87.7	40	120	34.13	2.75	20	
Fluorene	27.8	1.00	40.00	0	69.6	40	120	31.29	11.7	20	
Hexachlorobenzene	34.6	1.00	40.00	0	86.6	40	120	30.33	13.2	20	
Hexachlorobutadiene	25.1	2.00	40.00	0	62.8	40	120	24.44	2.66	20	
Hexachlorocyclopentadiene	31.1	5.00	40.00	0	77.8	40	120	27.89	11.0	20	
Hexachloroethane	25.0	2.00	40.00	0	62.5	40	120	24.35	2.67	20	
Indeno(1,2,3-cd)pyrene	37.6	1.00	40.00	0	94.1	40	120	31.92	16.4	20	
Isophorone	31.7	1.00	40.00	0	79.2	40	120	29.65	6.68	20	
Naphthalene	27.7	1.00	40.00	0	69.3	40	120	27.75	0.144	20	
Nitrobenzene	29.4	1.00	40.00	0	73.4	40	120	27.35	7.09	20	
N-nitrosodimethylamine	25.1	5.00	40.00	0	62.9	40	120	24.48	2.66	20	
N-Nitrosodi-n-propylamine	33.7	2.00	40.00	0	84.2	33.9	112.1	29.16	14.4	20	
N-Nitrosodiphenylamine	28.8	1.00	40.00	0	72.0	40	120	33.41	14.8	20	
Phenanthrene	30.1	1.00	40.00	0	75.2	40	120	30.71	2.01	20	
Pyrene	30.9	1.00	40.00	0	77.3	25	119	33.08	6.75	20	
Pyridine	25.4	25.0	40.00	0	63.6	20	120	22.04	14.3	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 23 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: CCV MSSWS-1510	SampType: CCV	TestCode: PAHLL_W	Units: µg/L	Prep Date:	RunNo: 23485						
Client ID: CCV	Batch ID: 10774	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312594						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	2.01	0.0500	2.000	0	101	80	120				
2-Methylnaphthalene	2.04	0.0500	2.000	0	102	80	120				
Acenaphthene	1.97	0.0500	2.000	0	98.5	80	120				
Acenaphthylene	2.15	0.0500	2.000	0	108	80	120				
Anthracene	1.91	0.0500	2.000	0	95.5	80	120				
Benz(a)anthracene	2.11	0.0500	2.000	0	106	80	120				
Benzo(a)pyrene	2.28	0.0500	2.000	0	114	80	120				
Benzo(b)fluoranthene	2.18	0.0500	2.000	0	109	80	120				
Benzo(g,h,i)perylene	2.14	0.0500	2.000	0	107	80	120				
Benzo(k)fluoranthene	2.30	0.0500	2.000	0	115	80	120				
Carbazole	2.09	0.0500	2.000	0	104	80	120				
Chrysene	2.07	0.0500	2.000	0	104	80	120				
Dibenz(a,h)anthracene	2.24	0.0500	2.000	0	112	80	120				
Dibenzofuran	1.96	0.0500	2.000	0	98.0	80	120				
Fluoranthene	2.08	0.0500	2.000	0	104	80	120				
Fluorene	2.06	0.0500	2.000	0	103	80	120				
Indeno(1,2,3-cd)pyrene	2.17	0.0500	2.000	0	108	80	120				
Naphthalene	2.03	0.0500	2.000	0	102	80	120				
Phenanthrene	1.89	0.0500	2.000	0	94.5	80	120				
Pyrene	2.23	0.0500	2.000	0	112	80	120				

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit	Page 24 of 28
	O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco	

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: MB-10774	SampType: MBLK	TestCode: PAHLL_W	Units: µg/L	Prep Date: 10/20/2017	RunNo: 23485						
Client ID: PBW	Batch ID: 10774	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312595						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.0500									
2-Methylnaphthalene	ND	0.0500									
Acenaphthene	ND	0.0500									
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	ND	0.0500									
Benzo(a)pyrene	ND	0.0500									
Benzo(b)fluoranthene	ND	0.0500									
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	ND	0.0500									
Carbazole	ND	0.0500									
Chrysene	ND	0.0500									
Dibenz(a,h)anthracene	ND	0.0500									
Dibenzofuran	ND	0.0500									
Fluoranthene	ND	0.0500									
Fluorene	ND	0.0500									
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	ND	0.0500									
Phenanthrene	ND	0.0500									
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	81.0		100.0		81.0	18.6	106				
Surr: Nitrobenzene-d5	87.5		100.0		87.5	17	130				
Surr: Terphenyl-d14	94.6		100.0		94.6	39.6	131				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 25 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: LCS-10774	SampType: LCS	TestCode: PAHLL_W	Units: µg/L	Prep Date: 10/20/2017	RunNo: 23485						
Client ID: LCSW	Batch ID: 10774	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312598						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.26	0.0500	5.000	0	65.2	39.6	131				
2-Methylnaphthalene	3.38	0.0500	5.000	0	67.6	25.6	106				
Acenaphthene	3.08	0.0500	5.000	0	61.6	35.1	131				
Acenaphthylene	3.54	0.0500	5.000	0	70.8	29	126				
Anthracene	3.48	0.0500	5.000	0	69.6	42	130				
Benz(a)anthracene	4.59	0.0500	5.000	0	91.8	34.2	129.1				
Benzo(a)pyrene	4.01	0.0500	5.000	0	80.2	23.4	127.4				
Benzo(b)fluoranthene	3.86	0.0500	5.000	0	77.2	36.6	125.8				
Benzo(g,h,i)perylene	3.67	0.0500	5.000	0	73.4	20.8	123				
Benzo(k)fluoranthene	4.07	0.0500	5.000	0	81.4	39.7	129.5				
Carbazole	3.88	0.0500	5.000	0	77.6	60	126				
Chrysene	4.29	0.0500	5.000	0	85.8	39.1	120				
Dibenz(a,h)anthracene	3.88	0.0500	5.000	0	77.6	5.05	123.4				
Dibenzofuran	3.43	0.0500	5.000	0	68.6	60	118				
Fluoranthene	3.88	0.0500	5.000	0	77.6	42.4	119				
Fluorene	3.43	0.0500	5.000	0	68.6	37.4	129				
Indeno(1,2,3-cd)pyrene	3.78	0.0500	5.000	0	75.6	10.5	125.9				
Naphthalene	3.09	0.0500	5.000	0	61.8	25.6	128.4				
Phenanthrene	3.38	0.0500	5.000	0	67.6	38.1	128.4				
Pyrene	4.85	0.0500	5.000	0	97.0	41.3	126				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 26 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: LCSD-10774	SampType: LCSD	TestCode: PAHLL_W	Units: µg/L	Prep Date: 10/20/2017	RunNo: 23485						
Client ID: LCSS02	Batch ID: 10774	TestNo: SW8270D	SW 3510C	Analysis Date: 10/25/2017	SeqNo: 312599						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.35	0.0500	5.000	0	67.0	39.6	131	3.260	2.72	20	
2-Methylnaphthalene	3.51	0.0500	5.000	0	70.2	25.6	106	3.380	3.77	20	
Acenaphthene	3.18	0.0500	5.000	0	63.6	35.1	131	3.080	3.19	20	
Acenaphthylene	3.67	0.0500	5.000	0	73.4	29	126	3.540	3.61	20	
Anthracene	3.60	0.0500	5.000	0	72.0	42	130	3.480	3.39	20	
Benz(a)anthracene	4.72	0.0500	5.000	0	94.4	34.2	129.1	4.590	2.79	20	
Benzo(a)pyrene	4.17	0.0500	5.000	0	83.4	23.4	127.4	4.010	3.91	20	
Benzo(b)fluoranthene	3.88	0.0500	5.000	0	77.6	36.6	125.8	3.860	0.517	20	
Benzo(g,h,i)perylene	3.79	0.0500	5.000	0	75.8	20.8	123	3.670	3.22	20	
Benzo(k)fluoranthene	4.10	0.0500	5.000	0	82.0	39.7	129.5	4.070	0.734	20	
Carbazole	4.04	0.0500	5.000	0	80.8	60	126	3.880	4.04	20	
Chrysene	4.40	0.0500	5.000	0	88.0	39.1	120	4.290	2.53	20	
Dibenz(a,h)anthracene	4.01	0.0500	5.000	0	80.2	5.05	123.4	3.880	3.30	20	
Dibenzofuran	3.54	0.0500	5.000	0	70.8	60	118	3.430	3.16	20	
Fluoranthene	4.03	0.0500	5.000	0	80.6	42.4	119	3.880	3.79	20	
Fluorene	3.53	0.0500	5.000	0	70.6	37.4	129	3.430	2.87	20	
Indeno(1,2,3-cd)pyrene	3.93	0.0500	5.000	0	78.6	10.5	125.9	3.780	3.89	20	
Naphthalene	3.21	0.0500	5.000	0	64.2	25.6	128.4	3.090	3.81	20	
Phenanthrene	3.49	0.0500	5.000	0	69.8	38.1	128.4	3.380	3.20	20	
Pyrene	5.14	0.0500	5.000	0	103	41.3	126	4.850	5.81	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 27 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1710169

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: TSS_WW

Sample ID: MB-R23448	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:					RunNo: 23448		
Client ID: PBW	Batch ID: R23448	TestNo: M2540 D	Analysis Date: 10/23/2017					SeqNo: 311794			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids ND 5.0

Sample ID: LCS-R23448	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:				RunNo: 23448			
Client ID: LCSW	Batch ID: R23448	TestNo: M2540 D	Analysis Date: 10/23/2017				SeqNo: 311795				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids 94.0 5.0 100.0 0 94.0 80 105

Sample ID: 1710163-003BDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 23448						
Client ID: ZZZZZZ	Batch ID: R23448	TestNo: M2540 D		Analysis Date: 10/23/2017	SeqNo: 311802						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids ND 5.0 0 0 20

Sample ID: 1710181-002ADUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 23448						
Client ID: ZZZZZZ	Batch ID: R23448	TestNo: M2540 D		Analysis Date: 10/23/2017	SeqNo: 311814						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids ND 5.0 0 0 20

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 28 of 28
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco



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November 20, 2017

Analytical Report for Service Request No: K1711554

Katherine Lynch
Specialty Analytical
9011 SE Jannsen Road
Clackamas, OR 97015

RE: 1710169

Dear Katherine,

Enclosed are the results of the sample(s) submitted to our laboratory October 24, 2017
For your reference, these analyses have been assigned our service request number **K1711554**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager



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Table of Contents

Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

Chain of Custody

General Chemistry

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

- # The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/analyte is offered by that state.

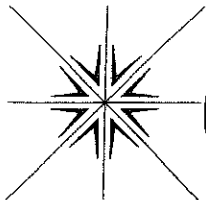


Chain of Custody

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CHAIN OF CUSTODY RECORD

Page 1 of 1



Specialty Analytical

11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Contact Person/Project Manager Katherine Lynch
Company Katherine@Specialtyanalytical.com
Address _____
Phone _____ Fax _____
Project No. _____ Project Name 1710169
Project Site Location OR _____ WA _____ Other _____
Invoice To _____ P.O. No. _____

Collected By:

Signature _____

Printed _____

Signature _____

Printed _____

Turn Around Time

☒ Normal 5-7 Business Days

☐ Rush _____

Specify

Rush Analyses Must Be Scheduled With The Lab In Advance

No. of Containers	Analyses												For Laboratory Use	
	TOC												Lab Job No.	
													Shipped Via	
													Air Bill No.	
													Temperature On Receipt _____ °C	
													Specialty Analytical Containers? Y / N	
													Specialty Analytical Trip Blanks? Y / N	
													Comments	Lab I.D.

Date	Time	Sample I.D.	Matrix
10-19-17	0325	MHSW-4	Water
10-19-17	0545	CB-15	Water
10-19-17	0500	CSWTS	Water

Relinquished By: Company: <u>K. Lynch SA</u>	Date <u>10/24/17</u>	Time <u>12:15</u>	Received By: Company: <u>B. Allen ALB</u>	Date <u>10/24/17</u>	Time <u>12:15</u>
Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt. Samples held beyond 60 days subject to storage fee(s)			Received For Lab By: _____ Date _____ Time _____		

PC H2

Cooler Receipt and Preservation Form

Client Specialty Analytical Service Request K17 11554
Received: 10/24/17 Opened: 10/24/17 By: BR Unloaded: 10/24/17 By: BR

1. Samples were received via? USPS Fed Ex UPS DHL PDX Courier Hand Delivered
2. Samples were received in: (circle) Cooler Box Envelope Other NA
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID	Tracking Number	NA	Filed

4. Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Were samples received in good condition (temperature, unbroken)? Indicate in the table below. NA Y N
If applicable, tissue samples were received: Frozen Partially Thawed Thawed
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? Indicate major discrepancies in the table on page 2. NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
11. Were VOA vials received without headspace? Indicate in the table below. NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577- 7222 Fax (360)636-1 068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Specialty Analytical
Project: 1710169
Sample Matrix: Water
Analysis Method: SM 5310 C
Prep Method: None

Service Request: K1711554
Date Collected: 10/19/17
Date Received: 10/24/17
Units: mg/L
Basis: NA

Carbon, Total Organic

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
MHSW-4	K1711554-001	5.80	0.50	1	11/15/17 04:27	
CSWTS	K1711554-002	1.8	1.0	2	11/09/17 17:58	
Method Blank	K1711554-MB1	ND U	0.50	1	11/09/17 13:45	
Method Blank	K1711554-MB2	ND U	0.50	1	11/14/17 17:29	
Method Blank	K1711554-MB3	ND U	0.50	1	11/15/17 02:51	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Specialty Analytical
Project 1710169
Sample Matrix: Water

Service Request:K1711554
Date Collected:10/19/17
Date Received:10/24/17

Analysis Method: SM 5310 C
Prep Method: None

Units:mg/L
Basis:NA

Replicate Sample Summary
Carbon, Total Organic

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
MHSW-4	K1711554-001DUP2	0.50	5.80	6.12	5.96	5	10	11/15/17
CSWTS	K1711554-002DUP	1.0	1.8	1.7	1.71	6	10	11/09/17

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Specialty Analytical
Project: 1710169
Sample Matrix: Water

Service Request: K1711554
Date Collected: 10/19/17
Date Received: 10/24/17
Date Analyzed: 11/15/17
Date Extracted: NA

**Matrix Spike Summary
Carbon, Total Organic**

Sample Name: MHSW-4
Lab Code: K1711554-001
Analysis Method: SM 5310 C
Prep Method: None

Units: mg/L
Basis: NA

**Matrix Spike
K1711554-001MS2**

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	5.80	31.9	25.0	105	83-117

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Specialty Analytical
Project: 1710169
Sample Matrix: Water

Service Request: K1711554
Date Analyzed: 11/09/17
Date Extracted: NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method: SM 5310 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 569461

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1711554-LCS1	24.3	24.0	101	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Specialty Analytical
Project: 1710169
Sample Matrix: Water

Service Request: K1711554
Date Analyzed: 11/14/17
Date Extracted: NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method: SM 5310 C
Prep Method: None

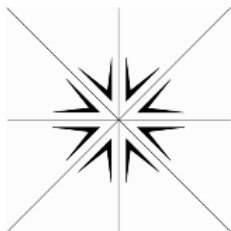
Units: mg/L
Basis: NA
Analysis Lot: 570031

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1711554-LCS2	24.6	24.0	103	83-117
Lab Control Sample	K1711554-LCS3	24.7	24.0	103	83-117

KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- * The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.



Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

January 03, 2018

David Weatherby
Maul Foster & Alongi
400 E. Mill Plain Blvd.
Suite 400
Vancouver, WA 98660
TEL: (360) 694-2691
FAX: (360) 906-1958
RE: Dolan SCE / 1381.01.01

Dear David Weatherby:

Order No.: 1711081

Specialty Analytical received 6 sample(s) on 11/9/2017 for the analyses presented in the following report.

REVISED REPORT: Please see case narrative for information on revision.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French". The signature is fluid and cursive, with the first name "Marty" being more prominent.

Marty French
Lab Director

Case Narrative

WO#: 1711081

Date: 1/3/2018

CLIENT:	Maul Foster & Alongi
Project:	Dolan SCE / 1381.01.01

Revision 1-

This report has been revised in MDL format per client request. Full QC for PCB Aroclors by method 8082 is included.

Revision 2-

This report has been revised to correct the analyte list for total and dissolved metals.

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-002
Client Sample ID: MHSW-4

Collection Date: 11/8/2017 12:45:00 PM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	109	0.421	100		µg/L	1	11/13/2017 1:40:07 PM
Arsenic	3.64	0.0320	0.100		µg/L	1	11/13/2017 1:40:07 PM
Cadmium	0.329	0.0130	0.100		µg/L	1	11/13/2017 1:40:07 PM
Copper	69.9	0.0180	0.500		µg/L	1	11/13/2017 1:40:07 PM
Lead	7.90	0.0270	0.100		µg/L	1	11/13/2017 1:40:07 PM
Manganese	51.4	0.0690	0.500		µg/L	1	11/13/2017 1:40:07 PM
Zinc	155	1.10	20.0		µg/L	10	11/15/2017 10:10:44 A
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	409	0.421	10.0		µg/L	1	11/13/2017 3:00:08 PM
Arsenic	4.07	0.0320	0.100		µg/L	1	11/13/2017 3:00:08 PM
Cadmium	0.312	0.0130	0.100		µg/L	1	11/13/2017 3:00:08 PM
Copper	81.6	0.0180	0.500		µg/L	1	11/13/2017 3:00:08 PM
Lead	15.3	0.0270	0.100		µg/L	1	11/13/2017 3:00:08 PM
Manganese	76.4	0.0690	0.500		µg/L	1	11/13/2017 3:00:08 PM
Zinc	186	1.10	20.0		µg/L	10	11/15/2017 10:27:36 A
SEMI-VOLATILE COMPOUNDS - BASE/NEUTRAL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	1.54	0.581	2.00	J	µg/L	1	11/13/2017 2:37:00 PM
Butyl benzyl phthalate	ND	0.335	2.00		µg/L	1	11/13/2017 2:37:00 PM
Diethyl phthalate	ND	0.617	2.00		µg/L	1	11/13/2017 2:37:00 PM
Dimethyl phthalate	ND	0.553	2.00		µg/L	1	11/13/2017 2:37:00 PM
Di-n-butyl phthalate	ND	0.756	2.00		µg/L	1	11/13/2017 2:37:00 PM
Di-n-octyl phthalate	0.539	0.299	2.00	J	µg/L	1	11/13/2017 2:37:00 PM
Surr: 2-Fluorobiphenyl	93.6	3.1-112.3			%REC	1	11/13/2017 2:37:00 PM
Surr: 4-Terphenyl-d14	99.0	41-122			%REC	1	11/13/2017 2:37:00 PM
Surr: Nitrobenzene-d5	56.3	28.9-99.9			%REC	1	11/13/2017 2:37:00 PM
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
1-Methylnaphthalene	0.0284	0.0225	0.0474	J	µg/L	1	11/14/2017 2:01:00 PM
2-Methylnaphthalene	0.0379	0.0257	0.0474	J	µg/L	1	11/14/2017 2:01:00 PM
Acenaphthene	ND	0.0273	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Acenaphthylene	ND	0.0317	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Anthracene	ND	0.0208	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Benz(a)anthracene	ND	0.0232	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Benzo(a)pyrene	ND	0.0159	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Benzo(b)fluoranthene	ND	0.0183	0.0474		µg/L	1	11/14/2017 2:01:00 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-002
Client Sample ID: MHSW-4

Collection Date: 11/8/2017 12:45:00 PM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
Benzo(g,h,i)perylene	ND	0.0118	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Benzo(k)fluoranthene	ND	0.0140	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Chrysene	ND	0.00957	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Dibenz(a,h)anthracene	ND	0.0138	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Fluoranthene	ND	0.0282	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Fluorene	ND	0.0202	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0253	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Naphthalene	ND	0.0163	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Phenanthrene	ND	0.0159	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Pyrene	ND	0.0173	0.0474		µg/L	1	11/14/2017 2:01:00 PM
Surr: 2-Fluorobiphenyl	67.4	18.6-106			%REC	1	11/14/2017 2:01:00 PM
Surr: Nitrobenzene-d5	68.3	17-130			%REC	1	11/14/2017 2:01:00 PM
Surr: Terphenyl-d14	91.9	39.6-131			%REC	1	11/14/2017 2:01:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1221	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1232	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1242	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1248	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1254	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1260	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1262	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Aroclor 1268	ND	0.00759	0.0389		µg/L	1	11/13/2017 2:46:00 PM
Surr: Decachlorobiphenyl	54.5	45-107			%REC	1	11/13/2017 2:46:00 PM
SUB CONTRACTING			JB_CONTRACTIN			Analyst: knb	
Total Organic Carbon	atched Report	0	0			1	11/27/2017 9:09:25 AM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: jtt	
Total Suspended Solids	17.0	1.1	5.0		mg/L	1	11/13/2017 4:05:43 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-004
Client Sample ID: CB-16

Collection Date: 11/8/2017 2:15:00 PM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	568	0.421	100		µg/L	1	11/13/2017 1:54:11 PM
Arsenic	0.386	0.0320	0.100		µg/L	1	11/13/2017 1:54:11 PM
Cadmium	0.0837	0.0130	0.100	J	µg/L	1	11/13/2017 1:54:11 PM
Copper	13.0	0.0180	0.500		µg/L	1	11/13/2017 1:54:11 PM
Lead	2.86	0.0270	0.100		µg/L	1	11/13/2017 1:54:11 PM
Manganese	185	0.690	5.00		µg/L	10	12/12/2017 9:52:35 AM
Zinc	63.2	0.110	2.00		µg/L	1	11/13/2017 1:54:11 PM
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	3730	4.21	100		µg/L	10	12/12/2017 9:55:58 AM
Arsenic	0.702	0.0320	0.100		µg/L	1	11/13/2017 3:03:30 PM
Cadmium	0.105	0.0130	0.100		µg/L	1	11/13/2017 3:03:30 PM
Copper	19.0	0.0180	0.500		µg/L	1	11/13/2017 3:03:30 PM
Lead	5.41	0.0270	0.100		µg/L	1	11/13/2017 3:03:30 PM
Manganese	257	0.690	5.00		µg/L	10	12/12/2017 9:55:58 AM
Zinc	64.9	0.110	2.00		µg/L	1	11/13/2017 3:03:30 PM
SEMI-VOLATILE COMPOUNDS - BASE/NEUTRAL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	0.642	0.566	1.95	J	µg/L	1	11/13/2017 3:02:00 PM
Butyl benzyl phthalate	ND	0.327	1.95		µg/L	1	11/13/2017 3:02:00 PM
Diethyl phthalate	ND	0.601	1.95		µg/L	1	11/13/2017 3:02:00 PM
Dimethyl phthalate	ND	0.539	1.95		µg/L	1	11/13/2017 3:02:00 PM
Di-n-butyl phthalate	ND	0.737	1.95		µg/L	1	11/13/2017 3:02:00 PM
Di-n-octyl phthalate	ND	0.292	1.95		µg/L	1	11/13/2017 3:02:00 PM
Surr: 2-Fluorobiphenyl	61.8	13.1-112.3			%REC	1	11/13/2017 3:02:00 PM
Surr: 4-Terphenyl-d14	98.0	41-122			%REC	1	11/13/2017 3:02:00 PM
Surr: Nitrobenzene-d5	52.5	28.9-99.9			%REC	1	11/13/2017 3:02:00 PM
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
1-Methylnaphthalene	ND	0.0239	0.0505		µg/L	1	11/14/2017 2:26:00 PM
2-Methylnaphthalene	ND	0.0274	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Acenaphthene	ND	0.0291	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Acenaphthylene	ND	0.0337	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Anthracene	ND	0.0221	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Benz(a)anthracene	0.0404	0.0247	0.0505	J	µg/L	1	11/14/2017 2:26:00 PM
Benzo(a)pyrene	0.0505	0.0170	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Benzo(b)fluoranthene	0.0909	0.0195	0.0505		µg/L	1	11/14/2017 2:26:00 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-004
Client Sample ID: CB-16

Collection Date: 11/8/2017 2:15:00 PM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
Benzo(g,h,i)perylene	0.0505	0.0126	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Benzo(k)fluoranthene	ND	0.0149	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Chrysene	0.0606	0.0102	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Dibenz(a,h)anthracene	ND	0.0147	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Fluoranthene	0.0808	0.0301	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Fluorene	ND	0.0215	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Indeno(1,2,3-cd)pyrene	0.0404	0.0270	0.0505	J	µg/L	1	11/14/2017 2:26:00 PM
Naphthalene	ND	0.0174	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Phenanthrene	0.0404	0.0170	0.0505	J	µg/L	1	11/14/2017 2:26:00 PM
Pyrene	0.0909	0.0184	0.0505		µg/L	1	11/14/2017 2:26:00 PM
Surr: 2-Fluorobiphenyl	63.0	18.6-106			%REC	1	11/14/2017 2:26:00 PM
Surr: Nitrobenzene-d5	63.9	17-130			%REC	1	11/14/2017 2:26:00 PM
Surr: Terphenyl-d14	101	39.6-131			%REC	1	11/14/2017 2:26:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1221	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1232	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1242	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1248	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1254	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1260	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1262	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Aroclor 1268	ND	0.00729	0.0374		µg/L	1	11/13/2017 3:03:00 PM
Surr: Decachlorobiphenyl	86.9	45-107			%REC	1	11/13/2017 3:03:00 PM
SUB CONTRACTING			JB_CONTRACTIN			Analyst: knb	
Total Organic Carbon	atched Report	0	0			1	11/27/2017 9:09:25 AM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: jtt	
Total Suspended Solids	108	1.1	5.0		mg/L	1	11/13/2017 4:06:43 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-005
Client Sample ID: CSWTS

Collection Date: 11/8/2017 2:55:00 PM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	17.9	0.421	100	J	µg/L	1	11/13/2017 1:57:33 PM
Arsenic	1.26	0.0320	0.100		µg/L	1	11/13/2017 1:57:33 PM
Cadmium	0.150	0.0130	0.100		µg/L	1	11/13/2017 1:57:33 PM
Copper	18.0	0.0180	0.500		µg/L	1	11/13/2017 1:57:33 PM
Lead	1.56	0.0270	0.100		µg/L	1	11/13/2017 1:57:33 PM
Manganese	28.8	0.0690	0.500		µg/L	1	11/13/2017 1:57:33 PM
Zinc	95.6	1.10	20.0		µg/L	10	11/15/2017 10:14:07 A
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	34.9	0.421	10.0		µg/L	1	11/13/2017 3:06:52 PM
Arsenic	1.31	0.0320	0.100		µg/L	1	11/13/2017 3:06:52 PM
Cadmium	0.161	0.0130	0.100		µg/L	1	11/13/2017 3:06:52 PM
Copper	19.9	0.0180	0.500		µg/L	1	11/13/2017 3:06:52 PM
Lead	2.14	0.0270	0.100		µg/L	1	11/13/2017 3:06:52 PM
Manganese	33.9	0.0690	0.500		µg/L	1	11/13/2017 3:06:52 PM
Zinc	98.8	0.110	2.00		µg/L	1	11/13/2017 3:06:52 PM
SEMI-VOLATILE COMPOUNDS - BASE/NEUTRAL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	ND	0.563	1.93		µg/L	1	11/13/2017 3:26:00 PM
Butyl benzyl phthalate	ND	0.325	1.93		µg/L	1	11/13/2017 3:26:00 PM
Diethyl phthalate	ND	0.598	1.93		µg/L	1	11/13/2017 3:26:00 PM
Dimethyl phthalate	ND	0.536	1.93		µg/L	1	11/13/2017 3:26:00 PM
Di-n-butyl phthalate	ND	0.733	1.93		µg/L	1	11/13/2017 3:26:00 PM
Di-n-octyl phthalate	ND	0.290	1.93		µg/L	1	11/13/2017 3:26:00 PM
Surr: 2-Fluorobiphenyl	101	13.1-112.3			%REC	1	11/13/2017 3:26:00 PM
Surr: 4-Terphenyl-d14	112	41-122			%REC	1	11/13/2017 3:26:00 PM
Surr: Nitrobenzene-d5	74.9	28.9-99.9			%REC	1	11/13/2017 3:26:00 PM
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
1-Methylnaphthalene	ND	0.0225	0.0474		µg/L	1	11/14/2017 2:52:00 PM
2-Methylnaphthalene	ND	0.0257	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Acenaphthene	ND	0.0273	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Acenaphthylene	ND	0.0317	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Anthracene	ND	0.0208	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Benz(a)anthracene	ND	0.0232	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Benzo(a)pyrene	ND	0.0159	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Benzo(b)fluoranthene	ND	0.0183	0.0474		µg/L	1	11/14/2017 2:52:00 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-005
Client Sample ID: CSWTS

Collection Date: 11/8/2017 2:55:00 PM

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
Benzo(g,h,i)perylene	ND	0.0118	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Benzo(k)fluoranthene	ND	0.0140	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Chrysene	ND	0.00957	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Dibenz(a,h)anthracene	ND	0.0138	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Fluoranthene	ND	0.0282	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Fluorene	ND	0.0202	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0253	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Naphthalene	ND	0.0163	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Phenanthrene	ND	0.0159	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Pyrene	ND	0.0173	0.0474		µg/L	1	11/14/2017 2:52:00 PM
Surr: 2-Fluorobiphenyl	67.1	18.6-106			%REC	1	11/14/2017 2:52:00 PM
Surr: Nitrobenzene-d5	71.1	17-130			%REC	1	11/14/2017 2:52:00 PM
Surr: Terphenyl-d14	94.3	39.6-131			%REC	1	11/14/2017 2:52:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1221	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1232	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1242	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1248	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1254	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1260	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1262	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Aroclor 1268	ND	0.00571	0.0293		µg/L	1	11/13/2017 3:20:00 PM
Surr: Decachlorobiphenyl	60.7	45-107			%REC	1	11/13/2017 3:20:00 PM
SUB CONTRACTING			JB_CONTRACTIN			Analyst: knb	
Total Organic Carbon	atched Report	0	0			1	11/27/2017 9:09:25 AM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: jtt	
Total Suspended Solids	ND	1.1	5.0		mg/L	1	11/13/2017 4:07:43 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-006
Client Sample ID: CB-14 & CB-15 COMP

Collection Date: 11/8/2017

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP/MS METALS- DISSOLVED RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	12.7	0.421	100	J	µg/L	1	11/13/2017 2:00:55 PM
Arsenic	0.236	0.0320	0.100	B	µg/L	1	11/13/2017 2:00:55 PM
Cadmium	0.517	0.0130	0.100		µg/L	1	11/13/2017 2:00:55 PM
Copper	14.6	0.0180	0.500		µg/L	1	11/13/2017 2:00:55 PM
Lead	0.161	0.0270	0.100	B	µg/L	1	11/13/2017 2:00:55 PM
Manganese	12.6	0.0690	0.500		µg/L	1	11/13/2017 2:00:55 PM
Zinc	333	1.10	20.0		µg/L	10	11/15/2017 10:17:29 A
ICP/MS METALS- TOTAL RECOVERABLE			E200.8			Analyst: JRC	
Aluminum	908	0.421	10.0		µg/L	1	11/13/2017 3:10:14 PM
Arsenic	0.599	0.0320	0.100		µg/L	1	11/13/2017 3:10:14 PM
Cadmium	1.14	0.0130	0.100		µg/L	1	11/13/2017 3:10:14 PM
Copper	33.2	0.0180	0.500		µg/L	1	11/13/2017 3:10:14 PM
Lead	5.75	0.0270	0.100		µg/L	1	11/13/2017 3:10:14 PM
Manganese	89.9	0.0690	0.500		µg/L	1	11/13/2017 3:10:14 PM
Zinc	568	1.10	20.0		µg/L	10	11/15/2017 10:30:58 A
SEMI-VOLATILE COMPOUNDS - BASE/NEUTRAL			SW8270D			Analyst: CK	
Bis(2-ethylhexyl)phthalate	1.40	0.280	0.962		µg/L	1	11/13/2017 3:51:00 PM
Butyl benzyl phthalate	ND	0.162	0.962		µg/L	1	11/13/2017 3:51:00 PM
Diethyl phthalate	ND	0.297	0.962		µg/L	1	11/13/2017 3:51:00 PM
Dimethyl phthalate	ND	0.267	0.962		µg/L	1	11/13/2017 3:51:00 PM
Di-n-butyl phthalate	ND	0.365	0.962		µg/L	1	11/13/2017 3:51:00 PM
Di-n-octyl phthalate	ND	0.144	0.962		µg/L	1	11/13/2017 3:51:00 PM
Surr: 2-Fluorobiphenyl	95.3	13.1-112.3			%REC	1	11/13/2017 3:51:00 PM
Surr: 4-Terphenyl-d14	101	41-122			%REC	1	11/13/2017 3:51:00 PM
Surr: Nitrobenzene-d5	93.6	28.9-99.9			%REC	1	11/13/2017 3:51:00 PM
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
1-Methylnaphthalene	ND	0.0211	0.0444		µg/L	1	11/14/2017 3:17:00 PM
2-Methylnaphthalene	ND	0.0241	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Acenaphthene	ND	0.0256	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Acenaphthylene	ND	0.0297	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Anthracene	ND	0.0195	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Benz(a)anthracene	ND	0.0218	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Benzo(a)pyrene	ND	0.0149	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Benzo(b)fluoranthene	ND	0.0172	0.0444		µg/L	1	11/14/2017 3:17:00 PM

Specialty Analytical

Date Reported: 03-Jan-18

CLIENT: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01
Lab ID: 1711081-006
Client Sample ID: CB-14 & CB-15 COMP

Collection Date: 11/8/2017

Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PAH'S BY GC/MS - LOW LEVEL			SW8270D			Analyst: CK	
Benzo(g,h,i)perylene	ND	0.0111	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Benzo(k)fluoranthene	ND	0.0132	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Chrysene	ND	0.00898	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Dibenz(a,h)anthracene	ND	0.0130	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Fluoranthene	ND	0.0265	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Fluorene	ND	0.0189	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0237	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Naphthalene	ND	0.0153	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Phenanthrene	0.0267	0.0149	0.0444	J	µg/L	1	11/14/2017 3:17:00 PM
Pyrene	ND	0.0162	0.0444		µg/L	1	11/14/2017 3:17:00 PM
Surr: 2-Fluorobiphenyl	58.0	18.6-106			%REC	1	11/14/2017 3:17:00 PM
Surr: Nitrobenzene-d5	60.0	17-130			%REC	1	11/14/2017 3:17:00 PM
Surr: Terphenyl-d14	90.2	39.6-131			%REC	1	11/14/2017 3:17:00 PM
PCB'S IN LIQUID			SW 8082A			Analyst: ajr	
Aroclor 1016	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1221	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1232	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1242	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1248	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1254	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1260	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1262	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Aroclor 1268	ND	0.00379	0.0194		µg/L	1	11/13/2017 3:37:00 PM
Surr: Decachlorobiphenyl	74.6	45-107			%REC	1	11/13/2017 3:37:00 PM
SUB CONTRACTING			JB_CONTRACTIN			Analyst: knb	
Total Organic Carbon	atched Report	0	0			1	11/27/2017 9:09:25 AM
TOTAL SUSPENDED SOLIDS			M2540 D			Analyst: jtt	
Total Suspended Solids	74.0	1.1	5.0		mg/L	1	11/13/2017 4:08:43 PM

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:				RunNo: 23719		
Client ID: ICV	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017				SeqNo: 315615		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503	10.0	500.0	0	101	90	110				
Arsenic	49.9	0.100	50.00	0	99.8	90	110				
Cadmium	51.9	0.100	50.00	0	104	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Lead	49.2	0.100	50.00	0	98.5	90	110				
Manganese	50.7	0.500	50.00	0	101	90	110				
Zinc	50.2	2.00	50.00	0	100	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 23719			
Client ID: CCV	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315616			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	528	10.0	500.0	0	106	90	110				
Arsenic	47.6	0.100	50.00	0	95.2	90	110				
Cadmium	50.5	0.100	50.00	0	101	90	110				
Copper	51.3	0.500	50.00	0	103	90	110				
Lead	48.3	0.100	50.00	0	96.5	90	110				
Manganese	51.5	0.500	50.00	0	103	90	110				
Zinc	48.7	2.00	50.00	0	97.3	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 1 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: MB-10915	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 11/13/2017	RunNo: 23719						
Client ID: PBW	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315617						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Copper	0.0535	0.500									J
Lead	ND	0.100									
Manganese	ND	0.500									
Zinc	0.121	2.00									J

Sample ID: LCS-10915	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 11/13/2017	RunNo: 23719						
Client ID: LCSW	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315618						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	475	10.0	500.0	0	95.0	85	115				
Arsenic	45.6	0.100	50.00	0	91.1	85	115				
Cadmium	51.5	0.100	50.00	0	103	85	115				
Copper	49.4	0.500	50.00	0	98.9	85	115				
Lead	48.1	0.100	50.00	0	96.2	85	115				
Manganese	48.6	0.500	50.00	0	97.2	85	115				
Zinc	49.6	2.00	50.00	0	99.3	85	115				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: A1711097-002ADUP	SampType: DUP	TestCode: 200.8		Units: µg/L	Prep Date: 11/13/2017				RunNo: 23719		
Client ID: ZZZZZZ	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017				SeqNo: 315620		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	252	100						281.9	11.3	20	
Arsenic	0.727	1.00						2.033	94.7	20	JRF
Cadmium	1.55	1.00						2.020	26.4	20	RF
Copper	39.8	5.00						50.96	24.6	20	RF
Lead	115	1.00						131.3	12.9	20	
Manganese	836	5.00						943.8	12.1	20	
Zinc	2740	20.0						2981	8.42	20	E

Sample ID: A1711097-002AMS	SampType: MS	TestCode: 200.8		Units: µg/L	Prep Date: 11/13/2017			RunNo: 23719			
Client ID: ZZZZZZ	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315621			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	806	100	500.0	281.9	105	70	130				
Arsenic	50.1	1.00	50.00	2.033	96.0	70	130				
Cadmium	54.8	1.00	50.00	2.020	106	70	130				
Copper	95.4	5.00	50.00	50.96	88.9	70	130				
Lead	177	1.00	50.00	131.3	92.3	70	130				
Manganese	976	5.00	50.00	943.8	64.5	70	130				SMC

Sample ID: A1711097-002AMSD	SampType: MSD	TestCode: 200.8	Units: µg/L	Prep Date: 11/13/2017	RunNo: 23719						
Client ID: ZZZZZZ	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315622						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 3 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: A1711097-002AMSD	SampType: MSD	TestCode: 200.8		Units: µg/L	Prep Date: 11/13/2017			RunNo: 23719			
Client ID: ZZZZZZ	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315622			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	834	100	500.0	281.9	110	70	130	805.8	3.38	20	
Arsenic	50.9	1.00	50.00	2.033	97.7	70	130	50.06	1.65	20	
Cadmium	55.9	1.00	50.00	2.020	108	70	130	54.82	1.89	20	
Copper	98.8	5.00	50.00	50.96	95.8	70	130	95.40	3.56	20	
Lead	195	1.00	50.00	131.3	128	70	130	177.5	9.53	20	
Manganese	1070	5.00	50.00	943.8	249	70	130	976.0	9.05	20	SEMC

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 23719			
Client ID: CCV	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315728			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	537	10.0	500.0	0	107	90	110				
Arsenic	48.1	0.100	50.00	0	96.1	90	110				
Cadmium	51.8	0.100	50.00	0	104	90	110				
Copper	51.6	0.500	50.00	0	103	90	110				
Lead	47.3	0.100	50.00	0	94.5	90	110				
Manganese	50.7	0.500	50.00	0	101	90	110				
Zinc	49.4	2.00	50.00	0	98.9	90	110				

Sample ID: ICV		SampType: ICV		TestCode: 200.8		Units: µg/L		Prep Date:		RunNo: 23719			
Client ID: ICV		Batch ID: 10915		TestNo: E200.8		E200.8		Analysis Date: 11/15/2017		SeqNo: 316041			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 4 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:				RunNo: 23719		
Client ID: ICV	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/15/2017				SeqNo: 316041		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	523	10.0	500.0	0	105	90	110				
Zinc	50.0	2.00	50.00	0	100	90	110				

Sample ID: MB-10915	SampType: MBLK	TestCode: 200.8	Units: µg/L	Prep Date: 11/13/2017	RunNo: 23719						
Client ID: PBW	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 11/15/2017	SeqNo: 316042						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	10.0									
Zinc	ND	2.00									

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:				RunNo: 23719		
Client ID: CCV	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 11/15/2017				SeqNo: 316048		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	539	10.0	500.0	0	108	90	110				
Zinc	49.2	2.00	50.00	0	98.5	90	110				

Sample ID: LCS-10915	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 11/13/2017	RunNo: 23719						
Client ID: LCSW	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 11/15/2017	SeqNo: 316052						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	495	10.0	500.0	0	99.0	85	115				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 5 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: LCS-10915	SampType: LCS	TestCode: 200.8	Units: µg/L	Prep Date: 11/13/2017	RunNo: 23719						
Client ID: LCSW	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 11/15/2017	SeqNo: 316052						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	49.3	2.00	50.00	0	98.6	85	115				

Sample ID: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23931						
Client ID: ICV	Batch ID: 10979	TestNo: E200.8	E200.8	Analysis Date: 11/29/2017	SeqNo: 318556						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	49.3	2.00	50.00	0	98.5	90	110				

Sample ID: ICV	SampType: ICV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 23931			
Client ID: ICV	Batch ID: 10979	TestNo: E200.8		E200.8	Analysis Date: 11/30/2017			SeqNo: 318917			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	50.1	0.100	50.00	0	100	90	110				
Cadmium	51.0	0.100	50.00	0	102	90	110				
Chromium	51.2	0.100	50.00	0	102	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Iron	5000	100	5000	0	99.9	90	110				
Lead	49.6	0.100	50.00	0	99.3	90	110				
Nickel	49.4	0.500	50.00	0	98.8	90	110				
Zinc	49.9	2.00	50.00	0	99.8	90	110				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23931						
Client ID: CCV	Batch ID: 10979	TestNo: E200.8	E200.8	Analysis Date: 12/1/2017	SeqNo: 319282						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	49.4	2.00	50.00	0	98.8	90	110				

Sample ID: ICV	SampType: ICV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23719						
Client ID: ICV	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 12/12/2017	SeqNo: 321455						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	49.1	0.500	50.00	0	98.2	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8	Units: µg/L	Prep Date:	RunNo: 23719						
Client ID: CCV	Batch ID: 10915	TestNo: E200.8	E200.8	Analysis Date: 12/12/2017	SeqNo: 321456						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513	10.0	500.0	0	103	90	110				
Manganese	48.8	0.500	50.00	0	97.7	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8		Units: µg/L	Prep Date:			RunNo: 23719			
Client ID: CCV	Batch ID: 10915	TestNo: E200.8		E200.8	Analysis Date: 12/12/2017			SeqNo: 321459			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	10.0	500.0	0	104	90	110				
Manganese	50.1	0.500	50.00	0	100	90	110				
Zinc	50.4	2.00	50.00	0	101	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 7 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8

Sample ID: CCV		SampType: CCV		TestCode: 200.8		Units: µg/L		Prep Date:			RunNo: 23719		
Client ID: CCV		Batch ID: 10915		TestNo: E200.8		E200.8		Analysis Date: 12/12/2017			SeqNo: 321459		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23721						
Client ID: ICV	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315659						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	503	100	500.0	0	101	90	110				
Arsenic	49.9	0.100	50.00	0	99.8	90	110				
Cadmium	51.9	0.100	50.00	0	104	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Lead	49.2	0.100	50.00	0	98.5	90	110				
Manganese	50.7	0.500	50.00	0	101	90	110				
Zinc	50.2	2.00	50.00	0	100	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS		Units: µg/L	Prep Date:			RunNo: 23721			
Client ID: CCV	Batch ID: 10902	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315660			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	533	100	500.0	0	107	90	110				
Arsenic	48.6	0.100	50.00	0	97.1	90	110				
Cadmium	51.0	0.100	50.00	0	102	90	110				
Copper	52.3	0.500	50.00	0	105	90	110				
Lead	49.9	0.100	50.00	0	99.9	90	110				
Manganese	52.0	0.500	50.00	0	104	90	110				
Zinc	49.6	2.00	50.00	0	99.2	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 9 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: MB-10902	SampType: MBLK	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23721						
Client ID: PBW	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315661						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.92	100									J
Arsenic	0.533	0.100									
Cadmium	0.0207	0.100									J
Chromium	ND	0.100									
Copper	0.119	0.500									J
Lead	0.311	0.100									
Manganese	0.194	0.500									J
Zinc	0.219	2.00									J

Sample ID: 1711026-001BDUP	SampType: DUP	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23721						
Client ID: ZZZZZZ	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315663						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8.36	100						8.195	1.94	20	J
Arsenic	0.681	0.100						0.7889	14.6	20	
Chromium	0.243	0.100						0.2526	3.76	20	
Copper	3.50	0.500						3.541	1.07	20	
Lead	0.0777	0.100						0.1344	53.5	20	JRF
Manganese	0.203	0.500						0.2304	12.9	20	J
Zinc	15.6	2.00						15.62	0.300	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 10 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: 1711026-001BMS	SampType: MS	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23721						
Client ID: ZZZZZZ	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 11/13/2017	SeqNo: 315664						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	429	100	500.0	8.195	84.2	80	120				
Arsenic	48.1	0.100	50.00	0.7889	94.6	80	120				
Cadmium	53.7	0.100	50.00	0.05716	107	80	120				
Copper	50.1	0.500	50.00	3.541	93.0	80	120				
Lead	54.1	0.100	50.00	0.1344	108	80	120				
Manganese	44.5	0.500	50.00	0.2304	88.5	80	120				
Zinc	67.9	2.00	50.00	15.62	105	80	120				

Sample ID: 1711026-001BMSD	SampType: MSD	TestCode: 200.8_DISS		Units: µg/L	Prep Date: 11/10/2017			RunNo: 23721			
Client ID: ZZZZZZ	Batch ID: 10902	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315665			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	430	100	500.0	8.195	84.4	80	120	429.2	0.276	20	
Arsenic	48.1	0.100	50.00	0.7889	94.5	80	120	48.09	0.0869	20	
Cadmium	53.7	0.100	50.00	0.05716	107	80	120	53.74	0.0489	20	
Copper	49.6	0.500	50.00	3.541	92.0	80	120	50.06	1.02	20	
Lead	49.3	0.100	50.00	0.1344	98.3	80	120	54.15	9.42	20	
Manganese	43.9	0.500	50.00	0.2304	87.4	80	120	44.50	1.28	20	
Zinc	67.2	2.00	50.00	15.62	103	80	120	67.93	1.04	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 11 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS		Units: µg/L	Prep Date:			RunNo: 23721			
Client ID: CCV	Batch ID: 10902	TestNo: E200.8		E200.8	Analysis Date: 11/13/2017			SeqNo: 315667			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	540	100	500.0	0	108	90	110				
Arsenic	47.4	0.100	50.00	0	94.8	90	110				
Cadmium	51.7	0.100	50.00	0	103	90	110				
Chromium	51.7	0.100	50.00	0	103	90	110				
Copper	50.6	0.500	50.00	0	101	90	110				
Lead	47.2	0.100	50.00	0	94.3	90	110				
Nickel	50.7	0.500	50.00	0	101	90	110				
Selenium	47.7	1.00	50.00	0	95.5	90	110				
Silver	51.2	0.100	50.00	0	102	90	110				
Zinc	48.9	2.00	50.00	0	97.8	90	110				

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS		Units: µg/L	Prep Date:			RunNo: 23721			
Client ID: ICV	Batch ID: 10902	TestNo: E200.8		E200.8	Analysis Date: 11/15/2017			SeqNo: 316028			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	523	100	500.0	0	105	90	110				
Arsenic	49.7	0.100	50.00	0	99.4	90	110				
Cadmium	51.2	0.100	50.00	0	102	90	110				
Chromium	51.2	0.100	50.00	0	102	90	110				
Copper	50.8	0.500	50.00	0	102	90	110				
Lead	49.4	0.100	50.00	0	98.9	90	110				
Magnesium	5280	100	5000	0	106	90	110				E
Zinc	50.0	2.00	50.00	0	100	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 12 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: MB-10902	SampType: MBLK	TestCode: 200.8_DISS	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23721						
Client ID: PBW	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 11/15/2017	SeqNo: 316029						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									
Arsenic	ND	0.100									
Cadmium	ND	0.100									
Chromium	ND	0.100									
Copper	ND	0.500									
Lead	ND	0.100									
Manganese	ND	0.500									
Zinc	ND	2.00									

Sample ID: ICV	SampType: ICV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23721						
Client ID: ICV	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 12/12/2017	SeqNo: 321463						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	495	100	500.0	0	99.1	90	110				
Manganese	49.1	0.500	50.00	0	98.2	90	110				

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23721						
Client ID: CCV	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 12/12/2017	SeqNo: 321464						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	513	100	500.0	0	103	90	110				
Manganese	48.8	0.500	50.00	0	97.7	90	110				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 13 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 200.8_DISS

Sample ID: CCV	SampType: CCV	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23721						
Client ID: CCV	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 12/12/2017	SeqNo: 321467						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	519	100	500.0	0	104	90	110				
Manganese	50.1	0.500	50.00	0	100	90	110				

Sample ID: CCB	SampType: CCB	TestCode: 200.8_DISS	Units: µg/L	Prep Date:	RunNo: 23721						
Client ID: CCB	Batch ID: 10902	TestNo: E200.8	E200.8	Analysis Date: 12/12/2017	SeqNo: 321468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	100									

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8082LL_W

Sample ID: LCS-10908	SampType: LCS	TestCode: 8082LL_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23727						
Client ID: LCSW	Batch ID: 10908	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 11/13/2017	SeqNo: 315801						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.72	0.0200	2.000	0	86.1	40.4	120				

Sample ID: LCSD-10908	SampType: LCSD	TestCode: 8082LL_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23727						
Client ID: LCSS02	Batch ID: 10908	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 11/13/2017	SeqNo: 315802						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.86	0.0200	2.000	0	92.8	40.4	120	1.722	7.46	20	

Sample ID: 1016/1260 CCV	SampType: CCV	TestCode: 8082LL_W	Units: µg/L	Prep Date:	RunNo: 23727						
Client ID: CCV	Batch ID: 10908	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 11/13/2017	SeqNo: 315808						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.80	0.0200	2.000	0	90.0	85	115				

Sample ID: 1016/1260 CCV	SampType: CCV	TestCode: 8082LL_W	Units: µg/L	Prep Date:	RunNo: 23727						
Client ID: CCV	Batch ID: 10908	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 11/13/2017	SeqNo: 315809						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016/1260	1.87	0.0200	2.000	0	93.6	85	115				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 15 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8082LL_W

Sample ID: MB-10908	SampType: MBLK	TestCode: 8082LL_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23727						
Client ID: PBW	Batch ID: 10908	TestNo: SW 8082A	SW3510_PCB	Analysis Date: 11/13/2017	SeqNo: 315810						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.0200									
Aroclor 1221	ND	0.0200									
Aroclor 1232	ND	0.0200									
Aroclor 1242	ND	0.0200									
Aroclor 1248	ND	0.0200									
Aroclor 1254	ND	0.0200									
Aroclor 1260	ND	0.0200									
Aroclor 1262	ND	0.0200									
Aroclor 1268	ND	0.0200									
Surr: Decachlorobiphenyl	147		200.0		73.4	45	107				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: CCV MSSWS-1510	SampType: CCV	TestCode: 8270BN_W	Units: µg/L	Prep Date:	RunNo: 23776						
Client ID: CCV	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316477						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	20.8	1.00	20.00	0	104	80	120				
1,2-Dichlorobenzene	19.3	1.00	20.00	0	96.7	80	120				
1,3-Dichlorobenzene	19.0	1.00	20.00	0	94.8	80	120				
1,4-Dichlorobenzene	20.2	1.00	20.00	0	101	80	120				
2,4-Dinitrotoluene	18.5	5.00	20.00	0	92.7	80	120				
2,6-Dinitrotoluene	18.6	5.00	20.00	0	93.0	80	120				
2-Chloronaphthalene	20.4	1.00	20.00	0	102	80	120				
2-Methylnaphthalene	20.1	1.00	20.00	0	101	80	120				
3-Nitroaniline	18.3	6.00	20.00	0	91.5	80	120				
4-Bromophenyl phenyl ether	17.3	1.00	20.00	0	86.4	80	120				
4-Chlorophenyl phenyl ether	18.4	1.00	20.00	0	91.9	80	120				
4-Nitroaniline	18.3	5.00	20.00	0	91.6	80	120				
Acenaphthene	19.3	1.00	20.00	0	96.3	80	120				
Acenaphthylene	20.2	1.00	20.00	0	101	80	120				
Anthracene	20.4	1.00	20.00	0	102	80	120				
Benz(a)anthracene	21.9	1.00	20.00	0	110	80	120				
Benzo(a)pyrene	22.8	1.00	20.00	0	114	80	120				
Benzo(b)fluoranthene	17.7	1.00	20.00	0	88.6	80	120				
Benzo(g,h,i)perylene	21.6	1.00	20.00	0	108	80	120				
Benzo(k)fluoranthene	23.2	1.00	20.00	0	116	80	120				
Bis(2-chloroethoxy)methane	21.0	1.00	20.00	0	105	80	120				
Bis(2-chloroethyl)ether	19.9	2.00	20.00	0	99.6	80	120				
Bis(2-chloroisopropyl)ether	19.3	1.00	20.00	0	96.7	80	120				
Bis(2-ethylhexyl)phthalate	21.4	1.00	20.00	0	107	80	120				
Butyl benzyl phthalate	23.8	1.00	20.00	0	119	80	120				
Chrysene	25.1	1.00	20.00	0	126	80	120				S

Qualifiers:	B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit	Page 17 of 29
	O	RSD is greater than RSDlimit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted reco	

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: CCV MSSWS-1510	SampType: CCV	TestCode: 8270BN_W	Units: µg/L	Prep Date:				RunNo: 23776			
Client ID: CCV	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017				SeqNo: 316477			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	20.2	1.00	20.00	0	101	80	120				
Dibenzofuran	17.5	1.00	20.00	0	87.5	80	120				
Diethyl phthalate	18.3	1.00	20.00	0	91.5	80	120				
Dimethyl phthalate	20.1	1.00	20.00	0	100	80	120				
Di-n-butyl phthalate	20.7	1.00	20.00	0	104	80	120				
Di-n-octyl phthalate	23.7	1.00	20.00	0	118	80	120				
Fluoranthene	20.7	1.00	20.00	0	104	80	120				
Fluorene	18.6	1.00	20.00	0	93.3	80	120				
Hexachlorobenzene	20.0	1.00	20.00	0	99.9	80	120				
Hexachlorobutadiene	22.0	2.00	20.00	0	110	80	120				
Hexachlorocyclopentadiene	20.6	5.00	20.00	0	103	80	120				
Hexachloroethane	20.2	2.00	20.00	0	101	80	120				
Indeno(1,2,3-cd)pyrene	21.7	1.00	20.00	0	109	80	120				
Isophorone	23.2	1.00	20.00	0	116	80	120				
Naphthalene	19.2	1.00	20.00	0	95.8	80	120				
Nitrobenzene	23.1	1.00	20.00	0	115	80	120				
N-nitrosodimethylamine	23.3	5.00	20.00	0	117	80	120				
N-Nitrosodi-n-propylamine	20.1	2.00	20.00	0	101	80	120				
N-Nitrosodiphenylamine	17.7	1.00	20.00	0	88.4	80	120				
Phenanthrene	20.0	1.00	20.00	0	100	80	120				
Pyrene	23.5	1.00	20.00	0	118	80	120				
Pyridine	20.4	25.0	20.00	0	102	80	120				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi

Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: MB-10909	SampType: MBLK	TestCode: 8270BN_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23776						
Client ID: PBW	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316478						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
2,4-Dinitrotoluene	ND	1.00									
2,6-Dinitrotoluene	ND	1.00									
2-Chloronaphthalene	ND	1.00									
2-Methylnaphthalene	ND	1.00									
3-Nitroaniline	ND	1.00									
4-Bromophenyl phenyl ether	ND	1.00									
4-Chlorophenyl phenyl ether	ND	1.00									
4-Nitroaniline	ND	1.00									
Acenaphthene	ND	1.00									
Acenaphthylene	ND	1.00									
Anthracene	ND	1.00									
Benz(a)anthracene	0.480	1.00									J
Benzo(a)pyrene	ND	1.00									
Benzo(b)fluoranthene	0.150	1.00									J
Benzo(g,h,i)perylene	ND	1.00									
Benzo(k)fluoranthene	0.150	1.00									J
Bis(2-chloroethoxy)methane	ND	1.00									
Bis(2-chloroethyl)ether	ND	1.00									
Bis(2-chloroisopropyl)ether	ND	1.00									
Bis(2-ethylhexyl)phthalate	ND	1.00									
Butyl benzyl phthalate	ND	1.00									
Chrysene	0.170	1.00									J

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi

Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: MB-10909	SampType: MBLK	TestCode: 8270BN_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23776						
Client ID: PBW	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316478						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	ND	1.00									
Dibenzofuran	ND	1.00									
Diethyl phthalate	ND	1.00									
Dimethyl phthalate	ND	1.00									
Di-n-butyl phthalate	ND	1.00									
Di-n-octyl phthalate	0.370	1.00									J
Fluoranthene	ND	1.00									
Fluorene	ND	1.00									
Hexachlorobenzene	ND	1.00									
Hexachlorobutadiene	ND	1.00									
Hexachlorocyclopentadiene	ND	1.00									
Hexachloroethane	ND	1.00									
Indeno(1,2,3-cd)pyrene	ND	1.00									
Isophorone	ND	1.00									
Naphthalene	ND	1.00									
Nitrobenzene	ND	1.00									
N-nitrosodimethylamine	ND	1.00									
N-Nitrosodi-n-propylamine	ND	1.00									
N-Nitrosodiphenylamine	ND	1.00									
Phenanthrene	ND	1.00									
Pyrene	ND	1.00									
Pyridine	ND	1.00									
Surr: 2-Fluorobiphenyl	66.6		100.0		66.6	33.1	112.3				
Surr: 4-Terphenyl-d14	79.2		100.0		79.2	41	122				
Surr: Nitrobenzene-d5	63.2		100.0		63.2	28.9	99.9				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCS-10909	SampType: LCS	TestCode: 8270BN_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23776						
Client ID: LCSW	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316483						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	30.0	1.00	40.00	0	75.1	27.5	128.1				
1,2-Dichlorobenzene	19.6	1.00	40.00	0	49.0	30	120				
1,3-Dichlorobenzene	13.8	1.00	40.00	0	34.6	30	120				
1,4-Dichlorobenzene	12.8	1.00	40.00	0	31.9	27.8	120.9				
2,4-Dinitrotoluene	32.4	1.00	40.00	0	80.9	52.9	117.6				
2,6-Dinitrotoluene	29.0	1.00	40.00	0	72.6	30	120				
2-Chloronaphthalene	31.6	1.00	40.00	0	78.9	30	120				
2-Methylnaphthalene	25.3	1.00	40.00	0	63.2	30	120				
3-Nitroaniline	28.3	1.00	40.00	0	70.8	30	120				
4-Bromophenyl phenyl ether	35.3	1.00	40.00	0	88.2	30	120				
4-Chlorophenyl phenyl ether	33.8	1.00	40.00	0	84.4	30	120				
4-Nitroaniline	28.3	1.00	40.00	0	70.8	30	120				
Acenaphthene	29.2	1.00	40.00	0	72.9	39.8	114.2				
Acenaphthylene	29.6	1.00	40.00	0	73.9	30	120				
Anthracene	33.6	1.00	40.00	0	84.0	30	120				
Benz(a)anthracene	20.0	1.00	40.00	0	50.0	30	120				
Benzo(a)pyrene	41.0	1.00	40.00	0	103	30	120				
Benzo(b)fluoranthene	41.9	1.00	40.00	0	105	30	120				
Benzo(g,h,i)perylene	29.7	1.00	40.00	0	74.2	30	120				
Benzo(k)fluoranthene	41.4	1.00	40.00	0	104	30	120				
Bis(2-chloroethoxy)methane	29.7	1.00	40.00	0	74.3	30	120				
Bis(2-chloroethyl)ether	16.1	1.00	40.00	0	40.2	30	120				
Bis(2-chloroisopropyl)ether	20.1	1.00	40.00	0	50.3	30	120				
Bis(2-ethylhexyl)phthalate	28.7	1.00	40.00	0	71.7	30	120				
Butyl benzyl phthalate	25.3	1.00	40.00	0	63.4	30	120				
Chrysene	24.5	1.00	40.00	0	61.2	30	120				

Qualifiers: B Analyte detected in the associated Method Blank
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit
S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCS-10909	SampType: LCS	TestCode: 8270BN_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23776						
Client ID: LCSW	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316483						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	33.1	1.00	40.00	0	82.8	30	120				
Dibenzofuran	34.5	1.00	40.00	0	86.3	30	120				
Diethyl phthalate	30.4	1.00	40.00	0	75.9	30	120				
Dimethyl phthalate	21.2	1.00	40.00	0	53.0	30	120				
Di-n-butyl phthalate	36.1	1.00	40.00	0	90.2	30	120				
Di-n-octyl phthalate	31.9	1.00	40.00	0	79.8	30	120				
Fluoranthene	33.1	1.00	40.00	0	82.7	30	120				
Fluorene	32.5	1.00	40.00	0	81.2	30	120				
Hexachlorobenzene	35.5	1.00	40.00	0	88.7	30	120				
Hexachlorobutadiene	26.2	1.00	40.00	0	65.5	30	120				
Hexachlorocyclopentadiene	18.4	1.00	40.00	0	46.1	30	120				
Hexachloroethane	15.4	1.00	40.00	0	38.4	30	120				
Indeno(1,2,3-cd)pyrene	32.0	1.00	40.00	0	80.1	30	120				
Isophorone	30.2	1.00	40.00	0	75.6	30	120				
Naphthalene	28.8	1.00	40.00	0	72.1	30	120				
Nitrobenzene	34.3	1.00	40.00	0	85.7	30	120				
N-nitrosodimethylamine	16.7	1.00	40.00	0	41.7	30	120				
N-Nitrosodi-n-propylamine	44.5	1.00	40.00	0	111	33.9	112.1				
N-Nitrosodiphenylamine	35.0	1.00	40.00	0	87.5	30	120				
Phenanthrene	31.8	1.00	40.00	0	79.5	30	120				
Pyrene	30.8	1.00	40.00	0	76.9	25	119				
Pyridine	9.42	1.00	40.00	0	23.6	20	120				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 22 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCSD-10909	SampType: LCSD	TestCode: 8270BN_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23776						
Client ID: LCSS02	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316506						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2,4-Trichlorobenzene	30.9	1.00	40.00	0	77.2	27.5	128.1	30.04	2.69	20	
1,2-Dichlorobenzene	19.1	1.00	40.00	0	47.7	30	120	19.61	2.74	20	
1,3-Dichlorobenzene	14.4	1.00	40.00	0	36.0	30	120	13.83	4.11	20	
1,4-Dichlorobenzene	13.3	1.00	40.00	0	33.2	27.8	120.9	12.75	4.00	20	
2,4-Dinitrotoluene	30.4	1.00	40.00	0	76.0	52.9	117.6	32.35	6.22	20	
2,6-Dinitrotoluene	32.2	1.00	40.00	0	80.4	30	120	29.02	10.3	20	
2-Chloronaphthalene	31.9	1.00	40.00	0	79.6	30	120	31.56	0.946	20	
2-Methylnaphthalene	29.5	1.00	40.00	0	73.7	30	120	25.29	15.3	20	
3-Nitroaniline	28.2	1.00	40.00	0	70.4	30	120	28.30	0.425	20	
4-Bromophenyl phenyl ether	40.4	1.00	40.00	0	101	30	120	35.27	13.5	20	
4-Chlorophenyl phenyl ether	30.0	1.00	40.00	0	75.0	30	120	33.77	11.8	20	
4-Nitroaniline	28.2	1.00	40.00	0	70.5	30	120	28.32	0.460	20	
Acenaphthene	32.0	1.00	40.00	0	79.9	39.8	114.2	29.15	9.23	20	
Acenaphthylene	27.3	1.00	40.00	0	68.2	30	120	29.56	8.06	20	
Anthracene	36.0	1.00	40.00	0	90.1	30	120	33.60	7.04	20	
Benz(a)anthracene	23.2	1.00	40.00	0	58.0	30	120	20.00	14.7	20	
Benzo(a)pyrene	38.6	1.00	40.00	0	96.6	30	120	41.04	6.08	20	
Benzo(b)fluoranthene	40.4	1.00	40.00	0	101	30	120	41.90	3.57	20	
Benzo(g,h,i)perylene	30.2	1.00	40.00	0	75.5	30	120	29.67	1.74	20	
Benzo(k)fluoranthene	43.3	1.00	40.00	0	108	30	120	41.44	4.48	20	
Bis(2-chloroethoxy)methane	32.1	1.00	40.00	0	80.2	30	120	29.72	7.61	20	
Bis(2-chloroethyl)ether	16.8	1.00	40.00	0	41.9	30	120	16.06	4.27	20	
Bis(2-chloroisopropyl)ether	22.3	1.00	40.00	0	55.8	30	120	20.12	10.3	20	
Bis(2-ethylhexyl)phthalate	31.3	1.00	40.00	0	78.2	30	120	28.69	8.57	20	
Butyl benzyl phthalate	26.2	1.00	40.00	0	65.4	30	120	25.34	3.18	20	
Chrysene	27.8	1.00	40.00	0	69.5	30	120	24.46	12.8	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 23 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: 8270BN_W

Sample ID: LCSD-10909	SampType: LCSD	TestCode: 8270BN_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23776						
Client ID: LCSS02	Batch ID: 10909	TestNo: SW8270D	SW 3510C	Analysis Date: 11/13/2017	SeqNo: 316506						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	34.7	1.00	40.00	0	86.7	30	120	33.12	4.54	20	
Dibenzofuran	28.7	1.00	40.00	0	71.7	30	120	34.51	18.4	20	
Diethyl phthalate	28.4	1.00	40.00	0	70.9	30	120	30.36	6.85	20	
Dimethyl phthalate	19.5	1.00	40.00	0	48.8	30	120	21.21	8.20	20	
Di-n-butyl phthalate	37.5	1.00	40.00	0	93.7	30	120	36.07	3.81	20	
Di-n-octyl phthalate	33.0	1.00	40.00	0	82.5	30	120	31.94	3.20	20	
Fluoranthene	36.9	1.00	40.00	0	92.3	30	120	33.09	10.9	20	
Fluorene	28.6	1.00	40.00	0	71.5	30	120	32.49	12.8	20	
Hexachlorobenzene	39.6	1.00	40.00	0	98.9	30	120	35.49	10.8	20	
Hexachlorobutadiene	27.2	1.00	40.00	0	68.0	30	120	26.19	3.75	20	
Hexachlorocyclopentadiene	19.1	1.00	40.00	0	47.7	30	120	18.44	3.41	20	
Hexachloroethane	16.9	1.00	40.00	0	42.2	30	120	15.37	9.36	20	
Indeno(1,2,3-cd)pyrene	34.1	1.00	40.00	0	85.4	30	120	32.05	6.32	20	
Isophorone	32.8	1.00	40.00	0	82.1	30	120	30.24	8.24	20	
Naphthalene	29.8	1.00	40.00	0	74.4	30	120	28.84	3.14	20	
Nitrobenzene	31.8	1.00	40.00	0	79.5	30	120	34.27	7.45	20	
N-nitrosodimethylamine	16.1	1.00	40.00	0	40.4	30	120	16.67	3.23	20	
N-Nitrosodi-n-propylamine	39.9	1.00	40.00	0	99.7	33.9	112.1	44.48	10.9	20	
N-Nitrosodiphenylamine	30.4	1.00	40.00	0	76.1	30	120	35.00	14.0	20	
Phenanthrene	32.8	1.00	40.00	0	82.0	30	120	31.79	3.16	20	
Pyrene	30.3	1.00	40.00	0	75.8	25	119	30.75	1.34	20	
Pyridine	9.71	1.00	40.00	0	24.3	20	120	9.420	3.03	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 24 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: CCV MSSWS-1510	SampType: CCV	TestCode: PAHLL_W	Units: µg/L	Prep Date:	RunNo: 23784						
Client ID: CCV	Batch ID: 10911	TestNo: SW8270D	SW 3510C	Analysis Date: 11/14/2017	SeqNo: 316592						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	1.73	0.0500	2.000	0	86.5	80	120				
2-Methylnaphthalene	1.75	0.0500	2.000	0	87.5	80	120				
Acenaphthene	1.70	0.0500	2.000	0	85.0	80	120				
Acenaphthylene	1.81	0.0500	2.000	0	90.5	80	120				
Anthracene	1.64	0.0500	2.000	0	82.0	80	120				
Benz(a)anthracene	1.95	0.0500	2.000	0	97.5	80	120				
Benzo(a)pyrene	1.69	0.0500	2.000	0	84.5	80	120				
Benzo(b)fluoranthene	1.71	0.0500	2.000	0	85.5	80	120				
Benzo(g,h,i)perylene	1.74	0.0500	2.000	0	87.0	80	120				
Benzo(k)fluoranthene	1.89	0.0500	2.000	0	94.5	80	120				
Carbazole	1.74	0.0500	2.000	0	87.0	80	120				
Chrysene	1.97	0.0500	2.000	0	98.5	80	120				
Dibenz(a,h)anthracene	1.67	0.0500	2.000	0	83.5	80	120				
Dibenzofuran	1.76	0.0500	2.000	0	88.0	80	120				
Fluoranthene	1.78	0.0500	2.000	0	89.0	80	120				
Fluorene	1.77	0.0500	2.000	0	88.5	80	120				
Indeno(1,2,3-cd)pyrene	1.68	0.0500	2.000	0	84.0	80	120				
Naphthalene	1.80	0.0500	2.000	0	90.0	80	120				
Phenanthrene	1.65	0.0500	2.000	0	82.5	80	120				
Pyrene	2.12	0.0500	2.000	0	106	80	120				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 25 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: MB-10911	SampType: MBLK	TestCode: PAHLL_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23784						
Client ID: PBW	Batch ID: 10911	TestNo: SW8270D	SW 3510C	Analysis Date: 11/14/2017	SeqNo: 316593						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	ND	0.0500									
2-Methylnaphthalene	ND	0.0500									
Acenaphthene	ND	0.0500									
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	ND	0.0500									
Benzo(a)pyrene	ND	0.0500									
Benzo(b)fluoranthene	ND	0.0500									
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	ND	0.0500									
Carbazole	ND	0.0500									
Chrysene	ND	0.0500									
Dibenz(a,h)anthracene	ND	0.0500									
Dibenzofuran	ND	0.0500									
Fluoranthene	ND	0.0500									
Fluorene	ND	0.0500									
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	ND	0.0500									
Phenanthrene	ND	0.0500									
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	77.4		100.0		77.4	18.6	106				
Surr: Nitrobenzene-d5	75.9		100.0		75.9	17	130				
Surr: Terphenyl-d14	101		100.0		101	39.6	131				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 26 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: LCS-10911	SampType: LCS	TestCode: PAHLL_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23784						
Client ID: LCSW	Batch ID: 10911	TestNo: SW8270D	SW 3510C	Analysis Date: 11/14/2017	SeqNo: 316600						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.13	0.0500	5.000	0	62.6	39.6	131				
2-Methylnaphthalene	3.16	0.0500	5.000	0	63.2	25.6	106				
Acenaphthene	2.95	0.0500	5.000	0	59.0	35.1	131				
Acenaphthylene	3.10	0.0500	5.000	0	62.0	29	126				
Anthracene	3.16	0.0500	5.000	0	63.2	42	130				
Benz(a)anthracene	3.90	0.0500	5.000	0	78.0	34.2	129.1				
Benzo(a)pyrene	3.62	0.0500	5.000	0	72.4	23.4	127.4				
Benzo(b)fluoranthene	3.30	0.0500	5.000	0	66.0	36.6	125.8				
Benzo(g,h,i)perylene	3.37	0.0500	5.000	0	67.4	20.8	123				
Benzo(k)fluoranthene	3.59	0.0500	5.000	0	71.8	39.7	129.5				
Carbazole	3.42	0.0500	5.000	0	68.4	60	126				
Chrysene	3.76	0.0500	5.000	0	75.2	39.1	120				
Dibenz(a,h)anthracene	3.48	0.0500	5.000	0	69.6	5.05	123.4				
Dibenzofuran	3.17	0.0500	5.000	0	63.4	60	118				
Fluoranthene	3.50	0.0500	5.000	0	70.0	42.4	119				
Fluorene	3.17	0.0500	5.000	0	63.4	37.4	129				
Indeno(1,2,3-cd)pyrene	3.46	0.0500	5.000	0	69.2	10.5	125.9				
Naphthalene	2.96	0.0500	5.000	0	59.2	25.6	128.4				
Phenanthrene	3.10	0.0500	5.000	0	62.0	38.1	128.4				
Pyrene	4.37	0.0500	5.000	0	87.4	41.3	126				

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 27 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: PAHLL_W

Sample ID: LCSD-10911	SampType: LCSD	TestCode: PAHLL_W	Units: µg/L	Prep Date: 11/10/2017	RunNo: 23784						
Client ID: LCSS02	Batch ID: 10911	TestNo: SW8270D	SW 3510C	Analysis Date: 11/14/2017	SeqNo: 316601						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1-Methylnaphthalene	3.19	0.0500	5.000	0	63.8	39.6	131	3.130	1.90	20	
2-Methylnaphthalene	3.21	0.0500	5.000	0	64.2	25.6	106	3.160	1.57	20	
Acenaphthene	3.00	0.0500	5.000	0	60.0	35.1	131	2.950	1.68	20	
Acenaphthylene	3.18	0.0500	5.000	0	63.6	29	126	3.100	2.55	20	
Anthracene	3.23	0.0500	5.000	0	64.6	42	130	3.160	2.19	20	
Benz(a)anthracene	3.95	0.0500	5.000	0	79.0	34.2	129.1	3.900	1.27	20	
Benzo(a)pyrene	3.72	0.0500	5.000	0	74.4	23.4	127.4	3.620	2.72	20	
Benzo(b)fluoranthene	3.30	0.0500	5.000	0	66.0	36.6	125.8	3.300	0	20	
Benzo(g,h,i)perylene	3.48	0.0500	5.000	0	69.6	20.8	123	3.370	3.21	20	
Benzo(k)fluoranthene	3.72	0.0500	5.000	0	74.4	39.7	129.5	3.590	3.56	20	
Carbazole	3.48	0.0500	5.000	0	69.6	60	126	3.420	1.74	20	
Chrysene	3.86	0.0500	5.000	0	77.2	39.1	120	3.760	2.62	20	
Dibenz(a,h)anthracene	3.61	0.0500	5.000	0	72.2	5.05	123.4	3.480	3.67	20	
Dibenzofuran	3.25	0.0500	5.000	0	65.0	60	118	3.170	2.49	20	
Fluoranthene	3.57	0.0500	5.000	0	71.4	42.4	119	3.500	1.98	20	
Fluorene	3.29	0.0500	5.000	0	65.8	37.4	129	3.170	3.72	20	
Indeno(1,2,3-cd)pyrene	3.59	0.0500	5.000	0	71.8	10.5	125.9	3.460	3.69	20	
Naphthalene	3.06	0.0500	5.000	0	61.2	25.6	128.4	2.960	3.32	20	
Phenanthrene	3.18	0.0500	5.000	0	63.6	38.1	128.4	3.100	2.55	20	
Pyrene	4.19	0.0500	5.000	0	83.8	41.3	126	4.370	4.21	20	

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 28 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

QC SUMMARY REPORT

WO#: 1711081

03-Jan-18

Specialty Analytical

Client: Maul Foster & Alongi
Project: Dolan SCE / 1381.01.01

TestCode: TSS_WW

Sample ID: MB-R23724	SampType: MBLK	TestCode: TSS_WW	Units: mg/L	Prep Date:					RunNo: 23724		
Client ID: PBW	Batch ID: R23724	TestNo: M2540 D	Analysis Date: 11/13/2017					SeqNo: 315701			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids ND 5.0

Sample ID: LCS-R23724	SampType: LCS	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 23724						
Client ID: LCSW	Batch ID: R23724	TestNo: M2540 D	Analysis Date: 11/13/2017	SeqNo: 315702							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids 95.0 5.0 100.0 0 95.0 80 105

Sample ID: 1711097-001CDUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 23724						
Client ID: ZZZZZZ	Batch ID: R23724	TestNo: M2540 D		Analysis Date: 11/13/2017	SeqNo: 315704						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids 3.0 5.0 3.0 0 20 J

Sample ID: 1711088-001ADUP	SampType: DUP	TestCode: TSS_WW	Units: mg/L	Prep Date:	RunNo: 23724						
Client ID: ZZZZZZ	Batch ID: R23724	TestNo: M2540 D		Analysis Date: 11/13/2017	SeqNo: 315837						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Suspended Solids 18.0 5.0 17.0 5.7 20

Qualifiers: B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 29 of 29
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Specialty Analytical
Katherine Lynch
11711 SE Capps Road
Clackamas, OR 97015

RE: 1711081
Work Order Number: 1711235

November 21, 2017

Attention Katherine Lynch:

Fremont Analytical, Inc. received 4 sample(s) on 11/14/2017 for the analyses presented in the following report.

Total Organic Carbon by SM 5310C

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike C. Ridgeway". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mike Ridgeway
Laboratory Director

CLIENT: Specialty Analytical
Project: 1711081
Work Order: 1711235

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1711235-001	MHSW-4	11/08/2017 12:45 PM	11/14/2017 1:20 PM
1711235-002	CB-16	11/08/2017 2:15 PM	11/14/2017 1:20 PM
1711235-003	CSWTS	11/08/2017 2:55 PM	11/14/2017 1:20 PM
1711235-004	CB-14 & CB-15 COMP	11/08/2017 12:00 AM	11/14/2017 1:20 PM

CLIENT: Specialty Analytical
Project: 1711081

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Work Order: 1711235

Date Reported: 11/21/2017

CLIENT: Specialty Analytical

Project: 1711081

Lab ID: 1711235-001

Client Sample ID: MHSW-4

Collection Date: 11/8/2017 12:45:00 PM

Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Organic Carbon by SM 5310C

Batch ID: R40038 Analyst: KT

Total Organic Carbon	6.76	2.50	D	mg/L	5	11/20/2017 4:37:12 PM
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Lab ID: 1711235-002

Client Sample ID: CB-16

Collection Date: 11/8/2017 2:15:00 PM

Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Organic Carbon by SM 5310C

Batch ID: R40038 Analyst: KT

Total Organic Carbon	7.36	2.50	D	mg/L	5	11/20/2017 6:10:46 PM
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Lab ID: 1711235-003

Client Sample ID: CSWTS

Collection Date: 11/8/2017 2:55:00 PM

Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Organic Carbon by SM 5310C

Batch ID: R40038 Analyst: KT

Total Organic Carbon	3.92	2.50	D	mg/L	5	11/20/2017 6:35:36 PM
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Analytical Report

Work Order: 1711235

Date Reported: 11/21/2017

CLIENT: Specialty Analytical

Project: 1711081

Lab ID: 1711235-004

Collection Date: 11/8/2017

Client Sample ID: CB-14 & CB-15 COMP

Matrix: Water

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Total Organic Carbon by SM 5310C

Batch ID: R40038

Analyst: KT

Total Organic Carbon	7.03	2.50	D	mg/L	5	11/20/2017 6:55:53 PM
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Date: 11/21/2017

Work Order: 1711235
CLIENT: Specialty Analytical
Project: 1711081

QC SUMMARY REPORT
Total Organic Carbon by SM 5310C

Sample ID	MB-R40038	SampType:	MBLK	Units:	mg/L	Prep Date:	11/20/2017	RunNo:	40038			
Client ID:	MBLKW	Batch ID:	R40038			Analysis Date:	11/20/2017	SeqNo:	771196			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Organic Carbon ND 0.500

Sample ID	LCS-R40038	SampType:	LCS	Units:	mg/L	Prep Date:	11/20/2017	RunNo:	40038		
Client ID:	LCSW	Batch ID:	R40038			Analysis Date:	11/20/2017	SeqNo:	771197		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Organic Carbon 5.62 0.500 5.000 0 112 80 120

Sample ID	1711235-001ADUP	SampType:	DUP	Units:	mg/L	Prep Date:	11/20/2017	RunNo:	40038			
Client ID:	MHSW-4	Batch ID:	R40038			Analysis Date:	11/20/2017	SeqNo:	771199			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Organic Carbon 7.08 2.50 6.765 4.62 20 D

Sample ID	1711235-001AMS	SampType:	MS	Units:	mg/L	Prep Date:	11/20/2017	RunNo:	40038		
Client ID:	MHSW-4	Batch ID:	R40038			Analysis Date:	11/20/2017	SeqNo:	771200		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Organic Carbon 33.3 2.50 25.00 6.765 106 70 130 D

Sample ID	1711235-001AMSD	SampType:	MSD	Units:	mg/L	Prep Date:	11/20/2017	RunNo:	40038			
Client ID:	MHSW-4	Batch ID:	R40038			Analysis Date:	11/20/2017	SeqNo:	771201			
Analyte		Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Total Organic Carbon 33.8 2.50 25.00 6.765 108 70 130 33.26 1.55 30 D

Client Name: **SPECIAL**
 Logged by: **Brianna Barnes**

Work Order Number: **1711235**
 Date Received: **11/14/2017 1:20:00 PM**

Chain of Custody

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

Log In

3. Coolers are present? Yes ☒ No ☐ NA ☐
 4. Shipping container/cooler in good condition? Yes ☒ No ☐
 5. Custody Seals present on shipping container/cooler?
 (Refer to comments for Custody Seals not intact) Yes ☐ No ☒ Not Required ☐
 6. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
 7. Were all items received at a temperature of >0°C to 10.0°C * Yes ☒ No ☐ NA ☐
 8. Sample(s) in proper container(s)? Yes ☐ No ☒
 9. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
 10. Are samples properly preserved? Yes ☒ No ☐
 11. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
 12. Is there headspace in the VOA vials? Yes ☐ No ☐ NA ☒
 13. Did all samples containers arrive in good condition(unbroken)? Yes ☒ No ☐
 14. Does paperwork match bottle labels? Yes ☒ No ☐
 15. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
 16. Is it clear what analyses were requested? Yes ☒ No ☐
 17. Were all holding times able to be met? Yes ☒ No ☐

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

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

19. Additional remarks:

Volume for TOC was received in poly bottles.

Item Information

Item #	Temp °C
Cooler	3.8
Sample	1.8

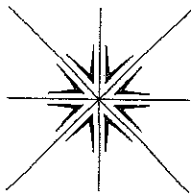
* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C

KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- * The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.

Page 1 of 1



11711 SE Capps Road
Clackamas, OR 97015
Phone: 503-607-1331
Fax: 503-607-1336

Company Maul Foster & Alongi

Address 2001 NW 19th Ave. Suite 200, Portland OR 97209

Phone 503-501-5204

Fax

Project No. 1381.01.01

Project Name Dolan SCE

Project Site Location OR X

WA	Other
1	1
2	2
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97	97
98	98
99	99
100	100

Invoice To

P.O. No.

Collected By:

Signature:

Printed.

Signature.

Printed.

Turn Around Time

☒ Normal 5-7 Business Days☐ Rush

Specify

Rush Analyses Must Be Scheduled With The Lab In Advance

Analyses

For Laboratory Use

Lab Job No. 771108

Shipped Via

Air Bill No.

Temperature On Receipt 4 °CSpecialty Analytical Containers? ☒ ☐Specialty Analytical Trip Blanks? ☐ / ☐[illegible]

Copies: White-Original

Yellow-Project File

Pink-Customer Copy

Appendix B

Stormwater Solid and Surface Soil Field Sampling Data Sheets



MAUL
FOSTER
ALONG I

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-

Soil Field Sampling Data Sheet

Client Name	Dolan LLC	Sample Location	Dolan Property				
Project Number	BB1.01.01	Sampler	R. PAVE				
Project Name	Dolan SCE	Sampling Date	3/24/21				
Sampling Event		Sample Name	CB14 CB15 - SS - 20200324				
Sub Area		Sample Depth	NA				
FSDS QA:		Easting		Northing		TOC	

Sample Information

Sampling Method	Sample Type	Sample Category	PID/FID	Sampling Time	Container Code	#
Grab	Soil	—	—	1020	2 oz. soil	
					4 oz. soil	
					8 oz. soil	
					Other	1
					Total Containers	0

Sample Description:

Poorly sorted fines w/ gravel. Slight oil sheen.

General Sampling Comment

Catch basin sample from CB14 & CB15
Filled gallon sample jar 1/2 full.

Sampling Method Code:

(1) Backhoe, (2) Hand Auger, (3) Drill Bit Cutting Head, (4) Geoprobe, (5) Split Spoon, (6) Shelby Tube, (7) Grab, (8) Other (Specify)

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-

Soil Field Sampling Data Sheet -

Client Name	Dolan LLC	Sample Location	NW Portland - Dolan Prop				
Project Number	1381.01.01	Sampler	R. PAUL				
Project Name	Dolan SCE	Sampling Date	3/24/21				
Sampling Event		Sample Name	CB16/CB17-SS-20200324				
Sub Area		Sample Depth	NA				
FSDS QA:		Easting		Northing		TOC	

Sample Information

Sampling Method	Sample Type	Sample Category	PID/FID	Sampling Time	Container Code	#
Grab	Soil	—	—	0940	2 oz. soil	
					4 oz. soil	
					8 oz. soil	
					Other	1
					Total Containers	0

Sample Description:

Catch Basin Sample from CB16 & CB17.
Poorly sorted fines w/ gravel.

General Sampling Comment

Filled gallon sample jar 1/2 full.

Sampling Method Code:

(1) Backhoe, (2) Hand Auger, (3) Drill Bit Cutting Head, (4) Geoprobe, (5) Split Spoon, (6) Shelby Tube, (7) Grab, (8) Other (Specify)

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-

Soil Field Sampling Data Sheet

Client Name	Dolan LLC	Sample Location	Dolan Property				
Project Number	1381.01	Sampler	R. Paul				
Project Name	Dolan SCE	Sampling Date	3/24/21				
Sampling Event		Sample Name	Basin F-S-20200324-CS				
Sub Area		Sample Depth	NA				
FSDS QA:		Easting		Northing		TOC	

Sample Information

Sampling Method	Sample Type	Sample Category	PID/FID	Sampling Time	Container Code	#
Grab	Soil	—	—	1000	2 oz. soil	
					4 oz. soil	
					8 oz. soil	
					Other	1
					Total Containers	0

Sample Description:

Poorly sorted fines w/ gravel.

General Sampling Comment

Composite (10) sample, Filled 1/2 32 oz jar

Sampling Method Code:

(1) Backhoe, (2) Hand Auger, (3) Drill Bit Cutting Head, (4) Geoprobe, (5) Split Spoon, (6) Shelby Tube, (7) Grab, (8) Other (Specify)

Maul Foster & Alongi, Inc.

109 East 13th Street, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-

Soil Field Sampling Data Sheet

Client Name	Dolan LLC	Sample Location	Dolan Property				
Project Number	1301.01.01	Sampler	R. Paul				
Project Name	Dolan SEC	Sampling Date	3/24/21				
Sampling Event		Sample Name	Basin E-8-20200324-CS				
Sub Area		Sample Depth	NA				
FSDS QA:		Easting		Northing		TOC	

Sample Information

Sampling Method	Sample Type	Sample Category	PID/FID	Sampling Time	Container Code	#
Grab	Soil			1040	2 oz. soil	
					4 oz. soil	
					8 oz. soil	
					Other	1
					Total Containers	0

Sample Description:

Partly Sorted Fines w/ gravel.

General Sampling Comment

Composite (10) sample, 1/2 32oz jar.

Sampling Method Code:

(1) Backhoe, (2) Hand Auger, (3) Drill Bit Cutting Head, (4) Geoprobe, (5) Split Spoon, (6) Shelby Tube, (7) Grab, (8) Other (Specify)

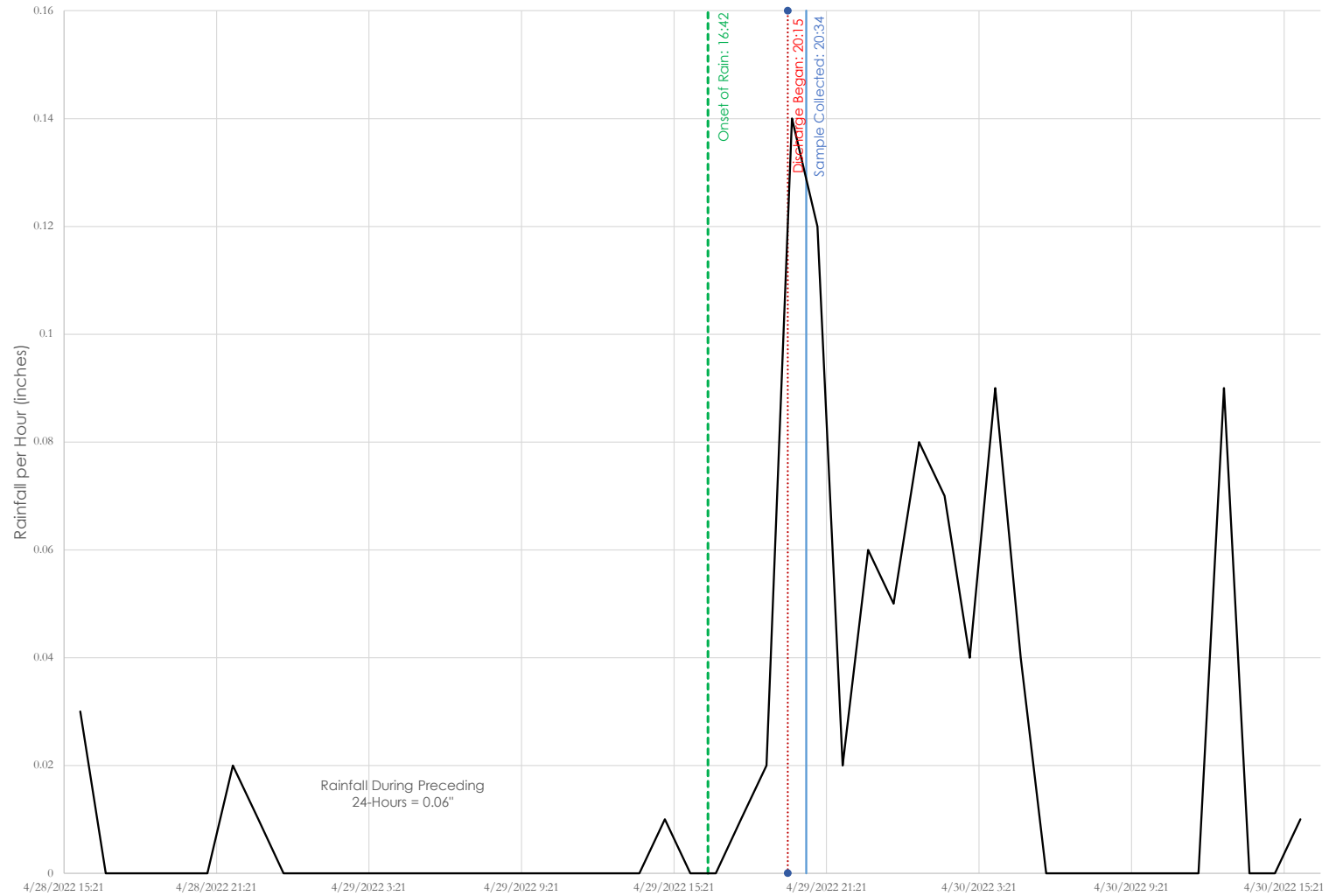
Appendix C

2022 and 2023 Stormwater Event Hydrographs



MAUL
FOSTER
ALONG I

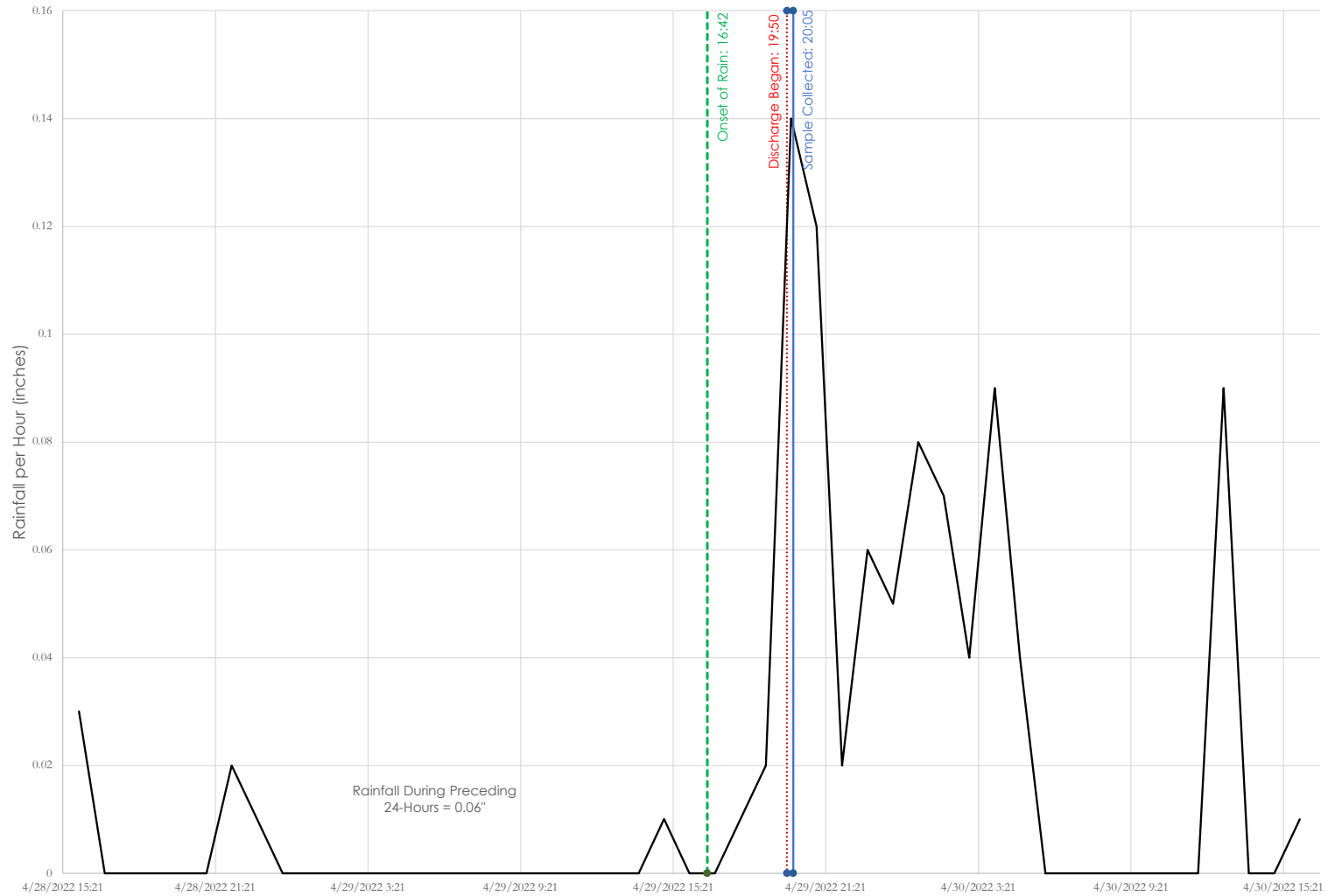
Hydrograph
Basin C/D - MHSW4
April 29, 2022



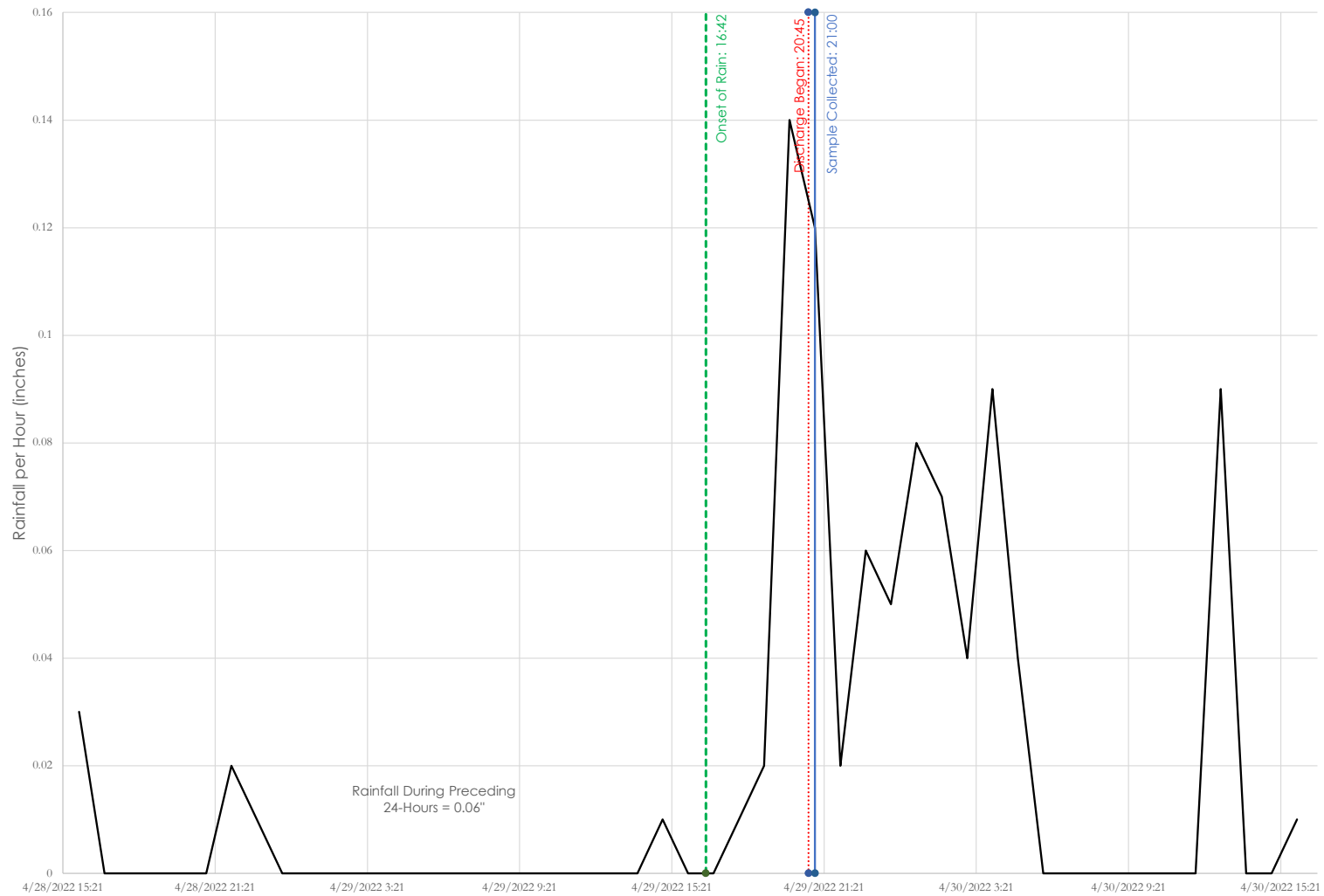
Hydrograph

Basin E - CB-14/CB-15

April 29, 2022



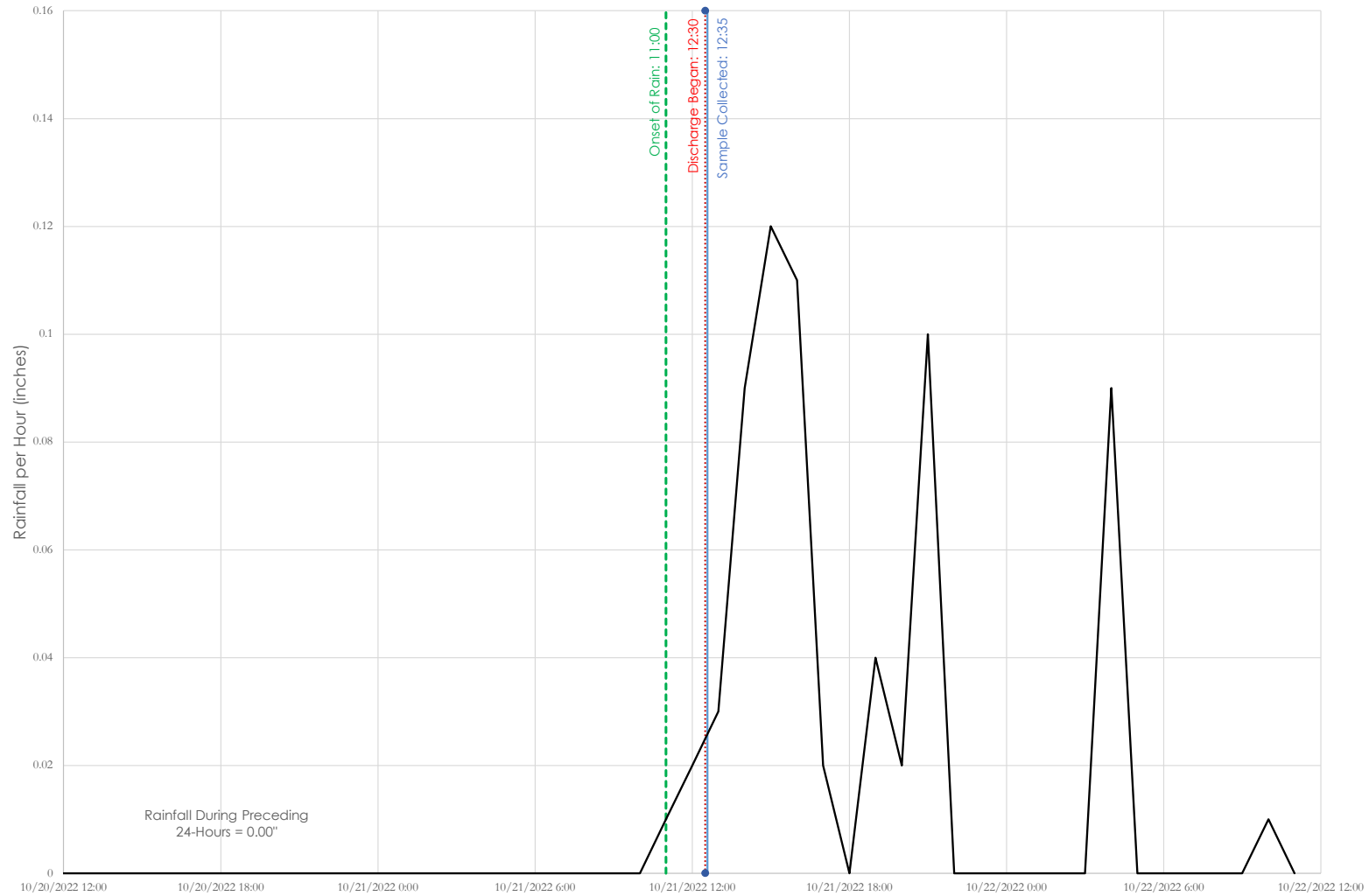
Hydrograph
Basin F - CB-16
April 29, 2022



Hydrograph

Basin C/D - MHSW4

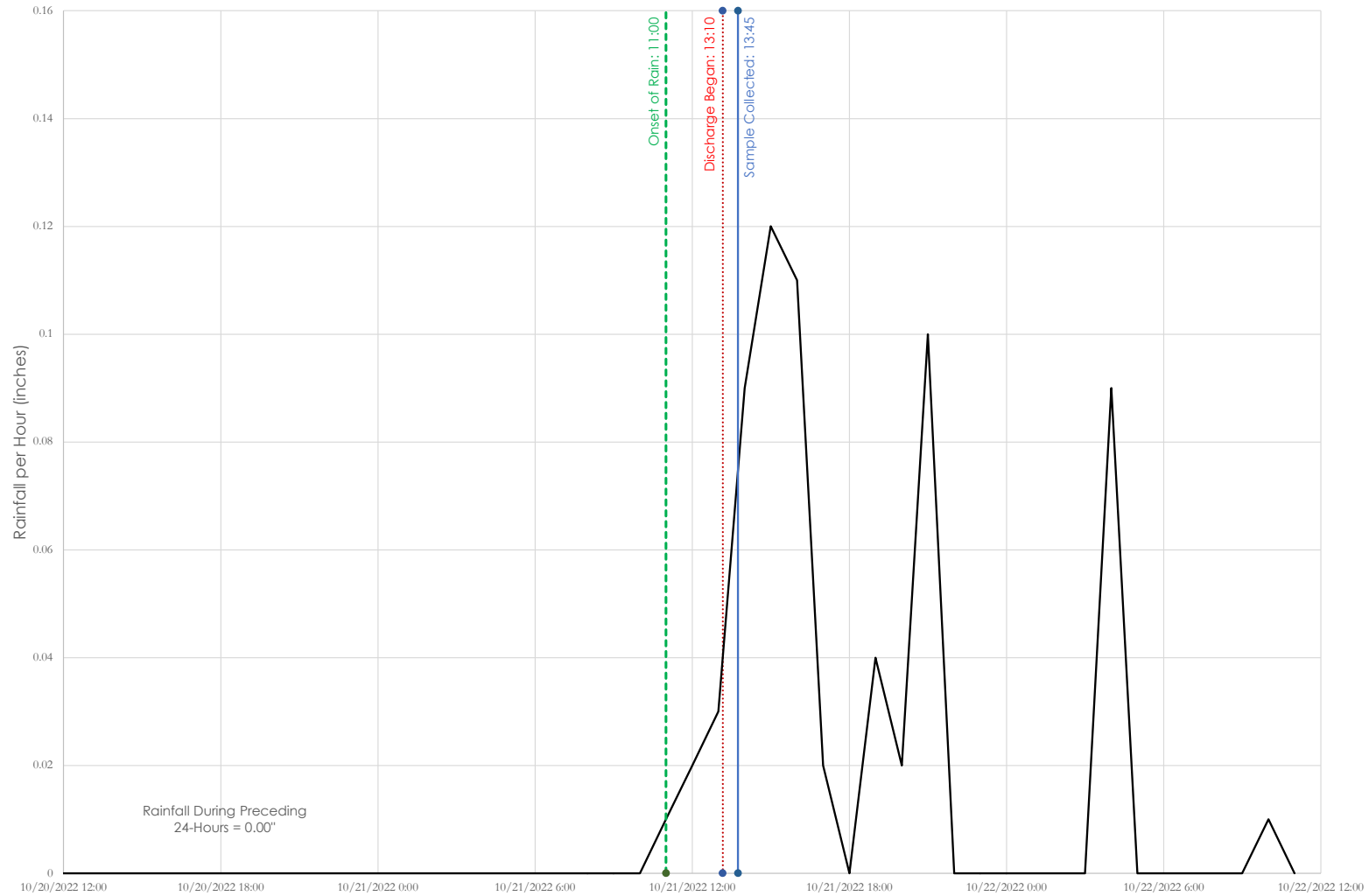
October 21, 2022



Hydrograph

Basin E - CB-14/CB-15

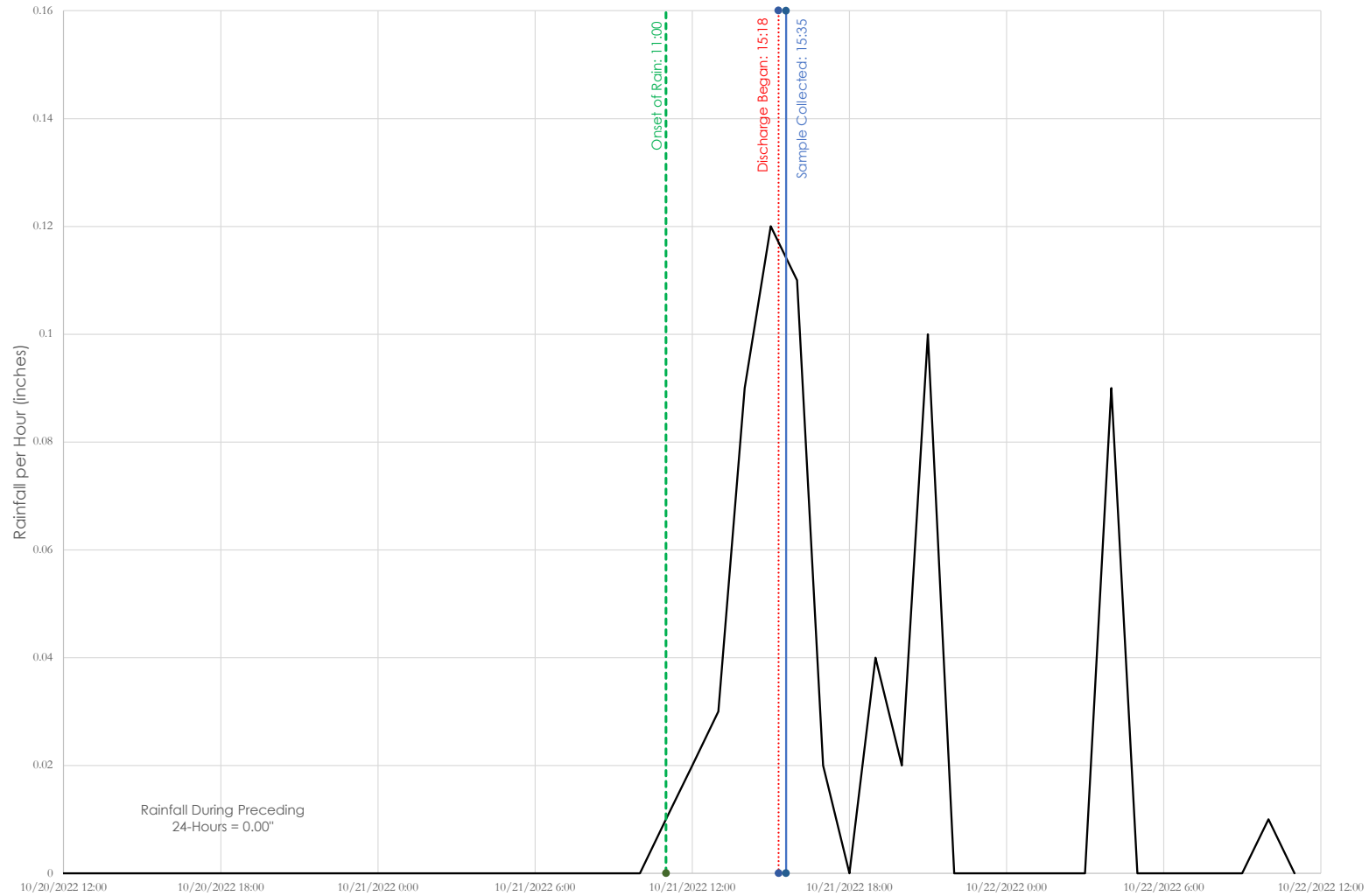
October 21, 2022



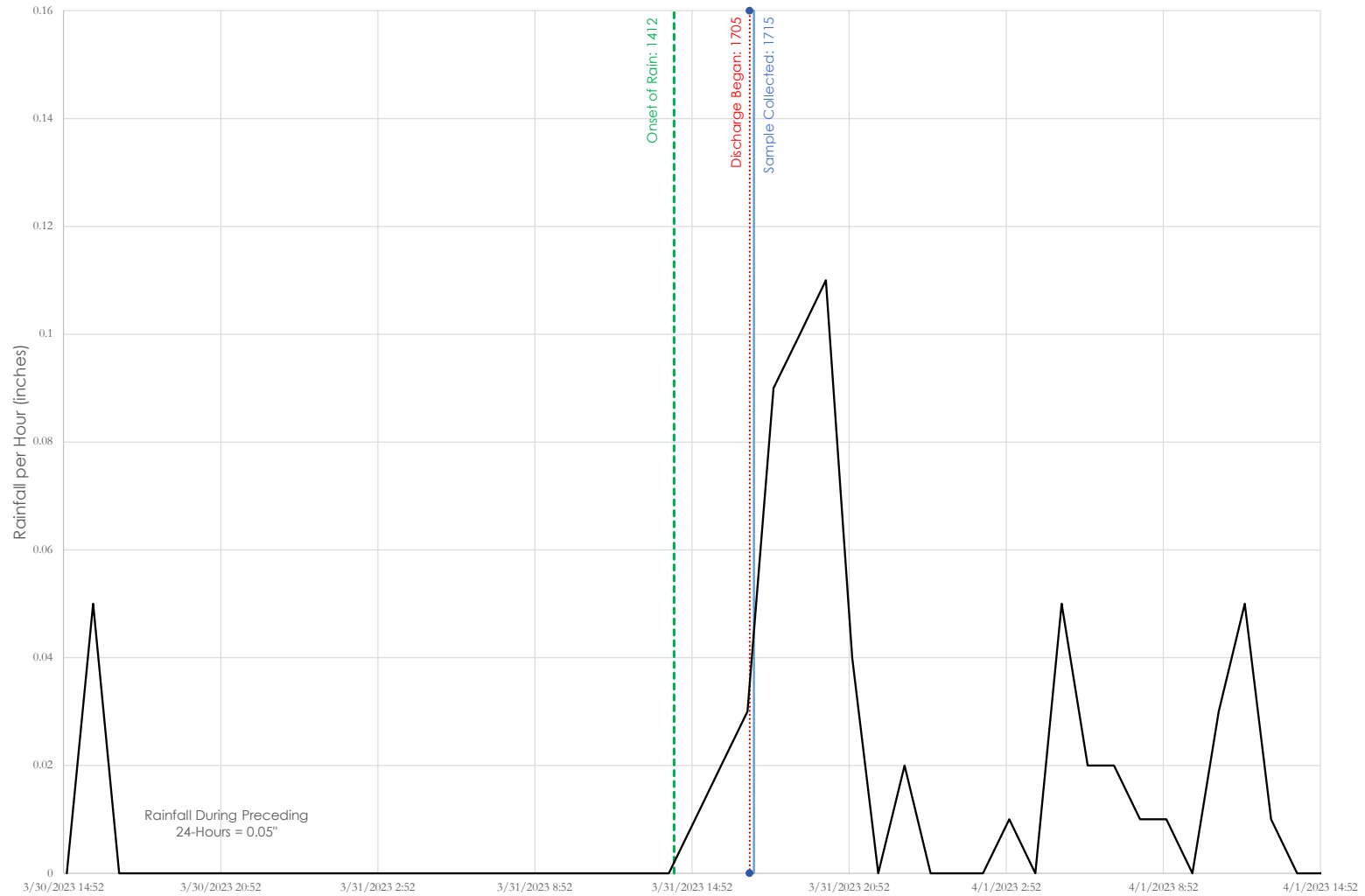
Hydrograph

Basin F - CB-16

October 21, 2022



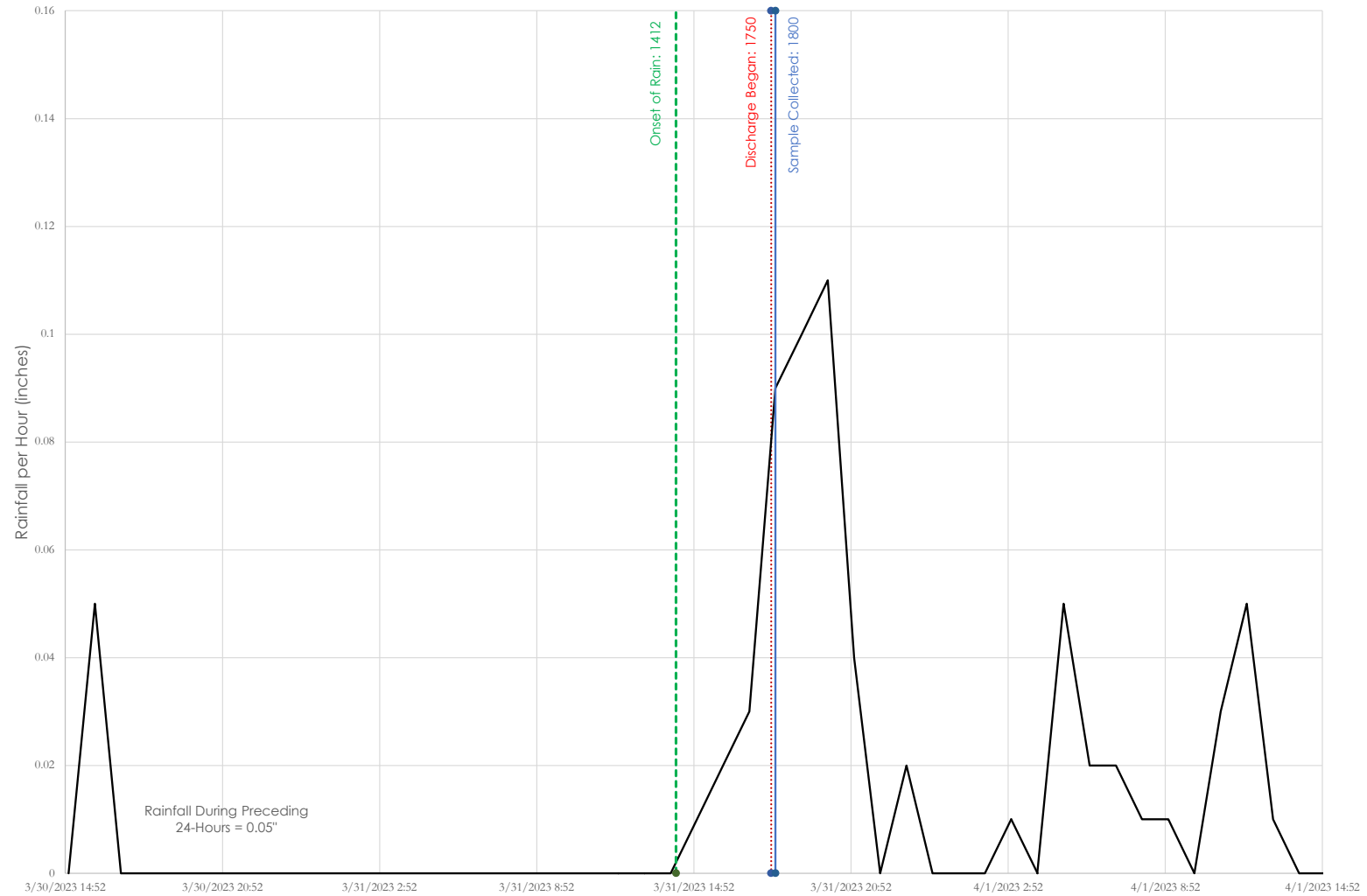
Hydrograph Basin C/D - MHSW4 March 31, 2023



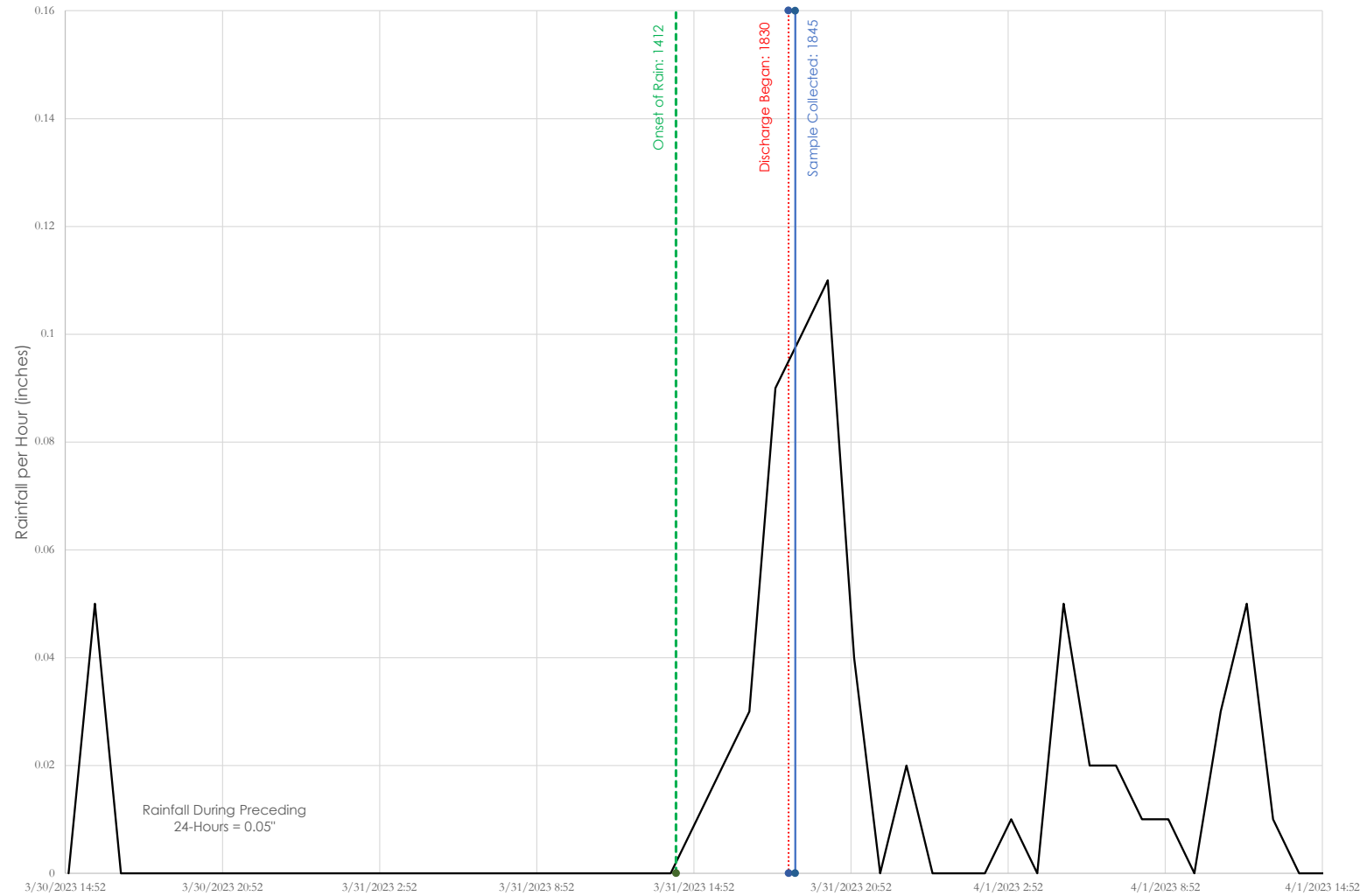
Hydrograph

Basin E - CB-14/CB-15

March 31, 2023



Hydrograph Basin F - CB-16 March 31, 2023



Appendix D

Analytical Laboratory Reports



MAUL
FOSTER
ALONGI



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Friday, June 10, 2022

Jessica Glenn

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

RE: A2E0026 - Dolan SCE - M1381.01.001.003

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

Enclosed are the results of analyses for work order A2E0026, which was received by the laboratory on 5/2/2022 at 12:44:00PM.

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

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	0.9 degC
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This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

Philip Nerenberg, Lab Director

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.

**ANALYTICAL REPORT****Apex Laboratories, LLC**6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062**Maul Foster & Alongi, INC.**3140 NE Broadway Street
Portland, OR 97232Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832****ANALYTICAL REPORT FOR SAMPLES****SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OUTFALL E	A2E0026-01	Water	04/29/22 20:05	05/02/22 12:44
OUTFALL C/D	A2E0026-02	Water	04/29/22 20:34	05/02/22 12:44
CB-16	A2E0026-03	Water	04/29/22 21:00	05/02/22 12:44
DUP	A2E0026-04	Water	04/29/22 00:00	05/02/22 12:44

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001.003

Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
OUTFALL E (A2E0026-01RE1)		Matrix: Water			Batch: 22E0112		R-04	
Acenaphthene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Acenaphthylene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Anthracene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Benz(a)anthracene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Benzo(a)pyrene	ND	0.0606	0.121	ug/L	4	05/10/22 18:18	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0606	0.121	ug/L	4	05/10/22 18:18	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0606	0.121	ug/L	4	05/10/22 18:18	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Chrysene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Fluoranthene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Fluorene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
1-Methylnaphthalene	ND	0.0808	0.162	ug/L	4	05/10/22 18:18	EPA 8270E	
2-Methylnaphthalene	ND	0.0808	0.162	ug/L	4	05/10/22 18:18	EPA 8270E	
Naphthalene	ND	0.0808	0.162	ug/L	4	05/10/22 18:18	EPA 8270E	
Phenanthrene	0.0408	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	J
Pyrene	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Carbazole	ND	0.0606	0.121	ug/L	4	05/10/22 18:18	EPA 8270E	
Dibenzofuran	ND	0.0404	0.0808	ug/L	4	05/10/22 18:18	EPA 8270E	
Bis(2-ethylhexyl)phthalate	1.10	0.808	1.62	ug/L	4	05/10/22 18:18	EPA 8270E	J
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	77 %	<i>Limits:</i>	44-120 %	4	05/10/22 18:18	EPA 8270E
<i>2-Fluorobiphenyl (Surr)</i>			67 %		44-120 %	4	05/10/22 18:18	EPA 8270E
<i>Phenol-d6 (Surr)</i>			21 %		10-133 %	4	05/10/22 18:18	EPA 8270E
<i>p-Terphenyl-d14 (Surr)</i>			55 %		50-134 %	4	05/10/22 18:18	EPA 8270E
<i>2-Fluorophenol (Surr)</i>			32 %		19-120 %	4	05/10/22 18:18	EPA 8270E
<i>2,4,6-Tribromophenol (Surr)</i>			85 %		43-140 %	4	05/10/22 18:18	EPA 8270E

OUTFALL C/D (A2E0026-02RE1)**Matrix: Water****Batch: 22E0112****R-04**

Acenaphthene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E
Acenaphthylene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E
Anthracene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E
Benz(a)anthracene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E
Benzo(a)pyrene	ND	0.0659	0.132	ug/L	4	05/10/22 18:53	EPA 8270E

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001.003

Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
OUTFALL C/D (A2E0026-02RE1)		Matrix: Water			Batch: 22E0112		R-04	
Benzo(b)fluoranthene	ND	0.0659	0.132	ug/L	4	05/10/22 18:53	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0659	0.132	ug/L	4	05/10/22 18:53	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Chrysene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Fluoranthene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Fluorene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
1-Methylnaphthalene	ND	0.0879	0.176	ug/L	4	05/10/22 18:53	EPA 8270E	
2-Methylnaphthalene	ND	0.0879	0.176	ug/L	4	05/10/22 18:53	EPA 8270E	
Naphthalene	ND	0.0879	0.176	ug/L	4	05/10/22 18:53	EPA 8270E	
Phenanthrene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Pyrene	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Carbazole	ND	0.0659	0.132	ug/L	4	05/10/22 18:53	EPA 8270E	
Dibenzofuran	ND	0.0440	0.0879	ug/L	4	05/10/22 18:53	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.879	1.76	ug/L	4	05/10/22 18:53	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 90 %	Limits: 44-120 %	4	05/10/22 18:53	EPA 8270E		
2-Fluorobiphenyl (Surr)		75 %	44-120 %	4	05/10/22 18:53	EPA 8270E		
Phenol-d6 (Surr)		27 %	10-133 %	4	05/10/22 18:53	EPA 8270E		
p-Terphenyl-d14 (Surr)		70 %	50-134 %	4	05/10/22 18:53	EPA 8270E		
2-Fluorophenol (Surr)		43 %	19-120 %	4	05/10/22 18:53	EPA 8270E		
2,4,6-Tribromophenol (Surr)		90 %	43-140 %	4	05/10/22 18:53	EPA 8270E		
CB-16 (A2E0026-03RE1)		Matrix: Water			Batch: 22E0112		R-04	
Acenaphthene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Acenaphthylene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Anthracene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Benz(a)anthracene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Benzo(a)pyrene	0.0575	0.0566	0.113	ug/L	4	05/10/22 19:29	EPA 8270E	J
Benzo(b)fluoranthene	ND	0.0566	0.113	ug/L	4	05/10/22 19:29	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0566	0.113	ug/L	4	05/10/22 19:29	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Chrysene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	

Apex Laboratories

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.

Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062Maul Foster & Alongi, INC.3140 NE Broadway Street
Portland, OR 97232Project: Dolan SCE

Project Number: M1381.01.001.003

Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
CB-16 (A2E0026-03RE1)		Matrix: Water			Batch: 22E0112		R-04	
Fluoranthene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Fluorene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
1-Methylnaphthalene	ND	0.0755	0.151	ug/L	4	05/10/22 19:29	EPA 8270E	
2-Methylnaphthalene	ND	0.0755	0.151	ug/L	4	05/10/22 19:29	EPA 8270E	
Naphthalene	ND	0.0755	0.151	ug/L	4	05/10/22 19:29	EPA 8270E	
Phenanthrene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Pyrene	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Carbazole	ND	0.0566	0.113	ug/L	4	05/10/22 19:29	EPA 8270E	
Dibenzofuran	ND	0.0377	0.0755	ug/L	4	05/10/22 19:29	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.755	1.51	ug/L	4	05/10/22 19:29	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	81 %	<i>Limits:</i>	44-120 %	4	05/10/22 19:29	EPA 8270E
<i>2-Fluorobiphenyl (Surr)</i>			67 %		44-120 %	4	05/10/22 19:29	EPA 8270E
<i>Phenol-d6 (Surr)</i>			20 %		10-133 %	4	05/10/22 19:29	EPA 8270E
<i>p-Terphenyl-d14 (Surr)</i>			56 %		50-134 %	4	05/10/22 19:29	EPA 8270E
<i>2-Fluorophenol (Surr)</i>			33 %		19-120 %	4	05/10/22 19:29	EPA 8270E
<i>2,4,6-Tribromophenol (Surr)</i>			82 %		43-140 %	4	05/10/22 19:29	EPA 8270E
DUP (A2E0026-04RE1)		Matrix: Water			Batch: 22E0112		R-04	
Acenaphthene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Acenaphthylene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Anthracene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Benz(a)anthracene	0.0409	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	J
Benzo(a)pyrene	0.0634	0.0606	0.121	ug/L	4	05/10/22 20:04	EPA 8270E	J
Benzo(b)fluoranthene	ND	0.0606	0.121	ug/L	4	05/10/22 20:04	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0606	0.121	ug/L	4	05/10/22 20:04	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Chrysene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Fluoranthene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Fluorene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
1-Methylnaphthalene	ND	0.0808	0.162	ug/L	4	05/10/22 20:04	EPA 8270E	
2-Methylnaphthalene	ND	0.0808	0.162	ug/L	4	05/10/22 20:04	EPA 8270E	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001.003

Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DUP (A2E0026-04RE1)		Matrix: Water			Batch: 22E0112		R-04	
Naphthalene	ND	0.0808	0.162	ug/L	4	05/10/22 20:04	EPA 8270E	
Phenanthrene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Pyrene	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Carbazole	ND	0.0606	0.121	ug/L	4	05/10/22 20:04	EPA 8270E	
Dibenzofuran	ND	0.0404	0.0808	ug/L	4	05/10/22 20:04	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.808	1.62	ug/L	4	05/10/22 20:04	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery:	54 %	Limits:	44-120 %	4	05/10/22 20:04	EPA 8270E
2-Fluorobiphenyl (Surr)			52 %		44-120 %	4	05/10/22 20:04	EPA 8270E
Phenol-d6 (Surr)			17 %		10-133 %	4	05/10/22 20:04	EPA 8270E
p-Terphenyl-d14 (Surr)			59 %		50-134 %	4	05/10/22 20:04	EPA 8270E
2-Fluorophenol (Surr)			24 %		19-120 %	4	05/10/22 20:04	EPA 8270E
2,4,6-Tribromophenol (Surr)			83 %		43-140 %	4	05/10/22 20:04	EPA 8270E

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Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
OUTFALL E (A2E0026-01)				Matrix: Water				
Batch: 22E0683								
Cadmium	0.608	0.100	0.200	ug/L	1	05/18/22 21:46	EPA 200.8	
Zinc	463	2.00	4.00	ug/L	1	05/18/22 21:46	EPA 200.8	
OUTFALL C/D (A2E0026-02)				Matrix: Water				
Batch: 22E0683								
Copper	27.8	1.00	2.00	ug/L	1	05/18/22 21:50	EPA 200.8	
CB-16 (A2E0026-03)				Matrix: Water				
Batch: 22E0683								
Zinc	101	2.00	4.00	ug/L	1	05/18/22 21:55	EPA 200.8	
DUP (A2E0026-04)				Matrix: Water				
Batch: 22E0683								
Copper	30.7	1.00	2.00	ug/L	1	05/18/22 22:00	EPA 200.8	

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**ANALYTICAL REPORT****Apex Laboratories, LLC**

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3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832****ANALYTICAL SAMPLE RESULTS****Total Metals by EPA 200.8 (ICPMS) - Low Level**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
OUTFALL C/D (A2E0026-02)		Matrix: Water						
Batch: 22F0114								
Arsenic	0.864	0.0200	0.0400	ug/L	1	06/07/22 00:04	EPA 200.8-LL	
CB-16 (A2E0026-03)		Matrix: Water						
Batch: 22F0114								
Cadmium	0.148	0.0200	0.0400	ug/L	1	06/07/22 00:12	EPA 200.8-LL	
DUP (A2E0026-04)		Matrix: Water						
Batch: 22F0114								
Arsenic	0.920	0.0200	0.0400	ug/L	1	06/07/22 00:19	EPA 200.8-LL	

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Project Number: M1381.01.001.003

Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
OUTFALL E (A2E0026-01)		Matrix: Water						
Batch: 22E0099								
Total Suspended Solids	90.9	7.14	7.14	mg/L	1	05/03/22 18:29	SM 2540 D	
OUTFALL C/D (A2E0026-02)		Matrix: Water						
Batch: 22E0099								
Total Suspended Solids	16.8	10.0	10.0	mg/L	1	05/03/22 18:29	SM 2540 D	
CB-16 (A2E0026-03)		Matrix: Water						
Batch: 22E0099								
Total Suspended Solids	63.0	12.5	12.5	mg/L	1	05/03/22 18:29	SM 2540 D	
DUP (A2E0026-04)		Matrix: Water						
Batch: 22E0099								
Total Suspended Solids	14.0	10.0	10.0	mg/L	1	05/03/22 18:29	SM 2540 D	

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ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0112 - EPA 3510C (Acid Extraction)						Water						
Blank (22E0112-BLK2)			Prepared: 05/04/22 06:58		Analyzed: 05/05/22 16:12							
EPA 8270E												
Acenaphthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	0.227	0.455	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.0227	0.0455	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.0909	0.182	ug/L	1	---	---	---	---	---	---	
Phenol	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0112 - EPA 3510C (Acid Extraction)						Water						
Blank (22E0112-BLK2)			Prepared: 05/04/22 06:58		Analyzed: 05/05/22 16:12							
2,3,5,6-Tetrachlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.0455	0.0909	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 93 %		Limits: 44-120 %		Dilution: 1x		Q-41				
2-Fluorobiphenyl (Surr)		74 %		44-120 %		"						
Phenol-d6 (Surr)		26 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		80 %		50-134 %		"						
2-Fluorophenol (Surr)		40 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		65 %		43-140 %		"						
LCS (22E0112-BS2)			Prepared: 05/04/22 06:58		Analyzed: 05/05/22 16:47							
EPA 8270E												
Acenaphthene	3.13	0.0100	0.0200	ug/L	1	4.00	---	78	47-122%	---	---	
Acenaphthylene	3.50	0.0100	0.0200	ug/L	1	4.00	---	88	41-130%	---	---	
Anthracene	3.55	0.0100	0.0200	ug/L	1	4.00	---	89	57-123%	---	---	
Benz(a)anthracene	3.66	0.0100	0.0200	ug/L	1	4.00	---	92	58-125%	---	---	
Benzo(a)pyrene	4.07	0.0150	0.0300	ug/L	1	4.00	---	102	54-128%	---	---	
Benzo(b)fluoranthene	3.66	0.0150	0.0300	ug/L	1	4.00	---	91	53-131%	---	---	
Benzo(k)fluoranthene	3.80	0.0150	0.0300	ug/L	1	4.00	---	95	57-129%	---	---	
Benzo(g,h,i)perylene	3.87	0.0100	0.0200	ug/L	1	4.00	---	97	50-134%	---	---	
Chrysene	3.52	0.0100	0.0200	ug/L	1	4.00	---	88	59-123%	---	---	
Dibenz(a,h)anthracene	3.67	0.0100	0.0200	ug/L	1	4.00	---	92	51-134%	---	---	
Fluoranthene	3.77	0.0100	0.0200	ug/L	1	4.00	---	94	57-128%	---	---	
Fluorene	3.26	0.0100	0.0200	ug/L	1	4.00	---	81	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.62	0.0100	0.0200	ug/L	1	4.00	---	90	52-134%	---	---	
1-Methylnaphthalene	2.82	0.0200	0.0400	ug/L	1	4.00	---	70	41-120%	---	---	
2-Methylnaphthalene	2.79	0.0200	0.0400	ug/L	1	4.00	---	70	40-121%	---	---	
Naphthalene	2.82	0.0200	0.0400	ug/L	1	4.00	---	71	40-121%	---	---	
Phenanthrene	3.30	0.0100	0.0200	ug/L	1	4.00	---	83	59-120%	---	---	
Pyrene	3.70	0.0100	0.0200	ug/L	1	4.00	---	93	57-126%	---	---	
Carbazole	3.92	0.0150	0.0300	ug/L	1	4.00	---	98	60-122%	---	---	
Dibenzofuran	3.12	0.0100	0.0200	ug/L	1	4.00	---	78	53-120%	---	---	
2-Chlorophenol	2.98	0.0500	0.100	ug/L	1	4.00	---	74	38-120%	---	---	

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ANALYTICAL REPORT

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0112 - EPA 3510C (Acid Extraction)						Water						
LCS (22E0112-BS2)			Prepared: 05/04/22 06:58		Analyzed: 05/05/22 16:47							
4-Chloro-3-methylphenol	3.35	0.100	0.200	ug/L	1	4.00	---	84	52-120%	---	---	
2,4-Dichlorophenol	3.05	0.0500	0.100	ug/L	1	4.00	---	76	47-121%	---	---	
2,4-Dimethylphenol	2.75	0.0500	0.100	ug/L	1	4.00	---	69	31-124%	---	---	
2,4-Dinitrophenol	3.63	0.250	0.500	ug/L	1	4.00	---	91	23-143%	---	---	
4,6-Dinitro-2-methylphenol	3.73	0.250	0.500	ug/L	1	4.00	---	93	44-137%	---	---	
2-Methylphenol	2.74	0.0250	0.0500	ug/L	1	4.00	---	68	30-120%	---	---	
3+4-Methylphenol(s)	2.48	0.0250	0.0500	ug/L	1	4.00	---	62	29-120%	---	---	
2-Nitrophenol	3.06	0.100	0.200	ug/L	1	4.00	---	76	47-123%	---	---	
4-Nitrophenol	1.14	0.100	0.200	ug/L	1	4.00	---	29	10-120%	---	---	
Pentachlorophenol (PCP)	3.05	0.100	0.200	ug/L	1	4.00	---	76	35-138%	---	---	
Phenol	1.14	0.200	0.400	ug/L	1	4.00	---	28	10-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.15	0.0500	0.100	ug/L	1	4.00	---	79	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	3.06	0.0500	0.100	ug/L	1	4.00	---	76	50-121%	---	---	
2,4,5-Trichlorophenol	3.13	0.0500	0.100	ug/L	1	4.00	---	78	53-123%	---	---	
2,4,6-Trichlorophenol	3.23	0.0500	0.100	ug/L	1	4.00	---	81	50-125%	---	---	
Bis(2-ethylhexyl)phtalate	3.80	0.200	0.400	ug/L	1	4.00	---	95	55-135%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 98 %		Limits: 44-120 %		Dilution: 1x						Q-41
2-Fluorobiphenyl (Surr)		80 %		44-120 %		"						
Phenol-d6 (Surr)		29 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		83 %		50-134 %		"						
2-Fluorophenol (Surr)		44 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		81 %		43-140 %		"						

Matrix Spike (22E0112-MS2)

Prepared: 05/04/22 06:58 Analyzed: 05/05/22 18:34

QC Source Sample: Non-SDG (A2E0006-02RE1)

EPA 8270E

Acenaphthene	3.18	0.00990	0.0198	ug/L	1	3.96	ND	80	47-122%	---	---
Acenaphthylene	3.43	0.00990	0.0198	ug/L	1	3.96	ND	87	41-130%	---	---
Anthracene	3.56	0.00990	0.0198	ug/L	1	3.96	ND	90	57-123%	---	---
Benz(a)anthracene	3.87	0.00990	0.0198	ug/L	1	3.96	ND	98	58-125%	---	---
Benzo(a)pyrene	4.32	0.0149	0.0297	ug/L	1	3.96	0.0158	109	54-128%	---	---
Benzo(b)fluoranthene	4.44	0.0149	0.0297	ug/L	1	3.96	0.0153	112	53-131%	---	---
Benzo(k)fluoranthene	4.27	0.0149	0.0297	ug/L	1	3.96	ND	108	57-129%	---	---
Chrysene	3.81	0.00990	0.0198	ug/L	1	3.96	ND	96	59-123%	---	---

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0112 - EPA 3510C (Acid Extraction)						Water						
Matrix Spike (22E0112-MS2)			Prepared: 05/04/22 06:58		Analyzed: 05/05/22 18:34							
QC Source Sample: Non-SDG (A2E0006-02RE1)												
Fluoranthene	3.84	0.00990	0.0198	ug/L	1	3.96	0.0140	97	57-128%	---	---	Q-01
Fluorene	3.38	0.00990	0.0198	ug/L	1	3.96	ND	85	52-124%	---	---	
1-Methylnaphthalene	2.66	0.0198	0.0396	ug/L	1	3.96	ND	67	41-120%	---	---	
2-Methylnaphthalene	2.61	0.0198	0.0396	ug/L	1	3.96	ND	66	40-121%	---	---	
Naphthalene	2.43	0.0198	0.0396	ug/L	1	3.96	ND	61	40-121%	---	---	
Phenanthrene	3.66	0.00990	0.0198	ug/L	1	3.96	0.0176	92	59-120%	---	---	
Pyrene	3.72	0.00990	0.0198	ug/L	1	3.96	0.0109	94	57-126%	---	---	
Carbazole	4.14	0.0149	0.0297	ug/L	1	3.96	ND	104	60-122%	---	---	
Dibenzofuran	3.23	0.00990	0.0198	ug/L	1	3.96	ND	82	53-120%	---	---	
2-Chlorophenol	2.73	0.0495	0.0990	ug/L	1	3.96	ND	69	38-120%	---	---	
4-Chloro-3-methylphenol	3.81	0.0990	0.198	ug/L	1	3.96	ND	96	52-120%	---	---	
2,4-Dichlorophenol	3.33	0.0495	0.0990	ug/L	1	3.96	ND	84	47-121%	---	---	
2,4-Dimethylphenol	2.62	0.0495	0.0990	ug/L	1	3.96	ND	66	31-124%	---	---	
2,4-Dinitrophenol	4.50	0.248	0.495	ug/L	1	3.96	ND	114	23-143%	---	---	
4,6-Dinitro-2-methylphenol	3.65	0.248	0.495	ug/L	1	3.96	ND	92	44-137%	---	---	
2-Methylphenol	2.64	0.0248	0.0495	ug/L	1	3.96	ND	67	30-120%	---	---	
3+4-Methylphenol(s)	2.42	0.0248	0.0495	ug/L	1	3.96	ND	61	29-120%	---	---	
2-Nitrophenol	2.90	0.0990	0.198	ug/L	1	3.96	ND	73	47-123%	---	---	
4-Nitrophenol	ND	0.0990	0.198	ug/L	1	3.96	ND		10-120%	---	---	
Pentachlorophenol (PCP)	4.18	0.0990	0.198	ug/L	1	3.96	ND	106	35-138%	---	---	
Phenol	1.09	0.198	0.396	ug/L	1	3.96	ND	27	10-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.84	0.0495	0.0990	ug/L	1	3.96	ND	97	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	3.82	0.0495	0.0990	ug/L	1	3.96	ND	97	50-121%	---	---	
2,4,5-Trichlorophenol	3.72	0.0495	0.0990	ug/L	1	3.96	ND	94	53-123%	---	---	
2,4,6-Trichlorophenol	3.65	0.0495	0.0990	ug/L	1	3.96	ND	92	50-125%	---	---	
Bis(2-ethylhexyl)phthalate	4.63	0.198	0.396	ug/L	1	3.96	ND	108	55-135%	---	---	
Benzo(e)pyrene	4.31	0.00990	0.0198	ug/L	1	3.96	ND	109	67-120%	---	---	
Perylene	4.43	0.00990	0.0198	ug/L	1	3.96	ND	112	62-130%	---	---	
1,1'-Biphenyl	3.01	0.00990	0.0198	ug/L	1	3.96	0.0123	76	49-120%	---	---	
2,3,5-Trimethylnaphthalene	3.36	0.00990	0.0198	ug/L	1	3.96	ND	85	47-120%	---	---	
2,6-Dimethylnaphthalene	3.07	0.00990	0.0198	ug/L	1	3.96	ND	78	35-120%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 79 %		Limits: 44-120 %		Dilution: 1x		Q-41				
2-Fluorobiphenyl (Surr)		73 %		44-120 %		"						

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0112 - EPA 3510C (Acid Extraction)						Water						
Matrix Spike (22E0112-MS2)			Prepared: 05/04/22 06:58 Analyzed: 05/05/22 18:34									
QC Source Sample: Non-SDG (A2E0006-02RE1)												
Surr: Phenol-d6 (Surr)		Recovery: 26 %		Limits: 10-133 %		Dilution: 1x						
p-Terphenyl-d14 (Surr)		54 %		50-134 %		"						
2-Fluorophenol (Surr)		38 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		95 %		43-140 %		"						
Matrix Spike (22E0112-MS3)			Prepared: 05/04/22 06:58 Analyzed: 05/09/22 12:10									
QC Source Sample: Non-SDG (A2E0006-02RE1)												
EPA 8270E												
Benzo(g,h,i)perylene	3.63	0.0396	0.0792	ug/L	4	3.96	ND	92	50-134%	---	---	
Dibenz(a,h)anthracene	3.69	0.0396	0.0792	ug/L	4	3.96	ND	93	51-134%	---	---	
Indeno(1,2,3-cd)pyrene	3.31	0.0396	0.0792	ug/L	4	3.96	ND	83	52-134%	---	---	
Matrix Spike Dup (22E0112-MSD2)			Prepared: 05/04/22 06:58 Analyzed: 05/05/22 19:09									
QC Source Sample: Non-SDG (A2E0006-02RE1)												
Acenaphthene	3.43	0.0103	0.0206	ug/L	1	4.12	ND	83	47-122%	8	30%	
Acenaphthylene	3.74	0.0103	0.0206	ug/L	1	4.12	ND	91	41-130%	9	30%	
Anthracene	3.85	0.0103	0.0206	ug/L	1	4.12	ND	93	57-123%	8	30%	
Benz(a)anthracene	3.97	0.0103	0.0206	ug/L	1	4.12	ND	96	58-125%	3	30%	
Benzo(a)pyrene	4.47	0.0155	0.0309	ug/L	1	4.12	0.0158	108	54-128%	3	30%	
Benzo(b)fluoranthene	4.27	0.0155	0.0309	ug/L	1	4.12	ND	104	53-131%	4	30%	
Benzo(k)fluoranthene	4.22	0.0155	0.0309	ug/L	1	4.12	ND	102	57-129%	1	30%	
Chrysene	3.95	0.0103	0.0206	ug/L	1	4.12	ND	96	59-123%	4	30%	
Fluoranthene	4.06	0.0103	0.0206	ug/L	1	4.12	0.0140	98	57-128%	6	30%	
Fluorene	3.59	0.0103	0.0206	ug/L	1	4.12	ND	87	52-124%	6	30%	
1-Methylnaphthalene	3.16	0.0206	0.0412	ug/L	1	4.12	ND	77	41-120%	17	30%	
2-Methylnaphthalene	3.11	0.0206	0.0412	ug/L	1	4.12	ND	75	40-121%	17	30%	
Naphthalene	3.04	0.0206	0.0412	ug/L	1	4.12	ND	74	40-121%	23	30%	
Phenanthrene	3.75	0.0103	0.0206	ug/L	1	4.12	0.0176	91	59-120%	2	30%	
Pyrene	3.95	0.0103	0.0206	ug/L	1	4.12	0.0109	95	57-126%	6	30%	
Carbazole	4.39	0.0155	0.0309	ug/L	1	4.12	ND	106	60-122%	6	30%	
Dibenzofuran	3.41	0.0103	0.0206	ug/L	1	4.12	ND	83	53-120%	5	30%	
2-Chlorophenol	3.57	0.0515	0.103	ug/L	1	4.12	ND	87	38-120%	27	30%	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001.003

Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0112 - EPA 3510C (Acid Extraction)						Water						
Matrix Spike Dup (22E0112-MSD2)			Prepared: 05/04/22 06:58 Analyzed: 05/05/22 19:09									
QC Source Sample: Non-SDG (A2E0006-02RE1)												
4-Chloro-3-methylphenol	4.06	0.103	0.206	ug/L	1	4.12	ND	99	52-120%	6	30%	
2,4-Dichlorophenol	3.70	0.0515	0.103	ug/L	1	4.12	ND	90	47-121%	10	30%	
2,4-Dimethylphenol	3.42	0.0515	0.103	ug/L	1	4.12	ND	83	31-124%	27	30%	
2,4-Dinitrophenol	4.31	0.258	0.515	ug/L	1	4.12	ND	104	23-143%	4	30%	
4,6-Dinitro-2-methylphenol	3.78	0.258	0.515	ug/L	1	4.12	ND	92	44-137%	4	30%	
2-Methylphenol	3.26	0.0258	0.0515	ug/L	1	4.12	ND	79	30-120%	21	30%	
3+4-Methylphenol(s)	3.00	0.0258	0.0515	ug/L	1	4.12	ND	73	29-120%	21	30%	
2-Nitrophenol	3.58	0.103	0.206	ug/L	1	4.12	ND	87	47-123%	21	30%	
4-Nitrophenol	1.66	0.103	0.206	ug/L	1	4.12	ND	40	10-120%	200	30%	Q-01
Pentachlorophenol (PCP)	4.04	0.103	0.206	ug/L	1	4.12	ND	98	35-138%	3	30%	
Phenol	1.38	0.206	0.412	ug/L	1	4.12	ND	33	10-120%	24	30%	
2,3,4,6-Tetrachlorophenol	3.86	0.0515	0.103	ug/L	1	4.12	ND	94	50-128%	0.6	30%	
2,3,5,6-Tetrachlorophenol	3.83	0.0515	0.103	ug/L	1	4.12	ND	93	50-121%	0.2	30%	
2,4,5-Trichlorophenol	3.81	0.0515	0.103	ug/L	1	4.12	ND	92	53-123%	2	30%	
2,4,6-Trichlorophenol	3.80	0.0515	0.103	ug/L	1	4.12	ND	92	50-125%	4	30%	
Bis(2-ethylhexyl)phthalate	4.62	0.206	0.412	ug/L	1	4.12	ND	104	55-135%	0.1	30%	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 99 %		Limits: 44-120 %		Dilution: 1x		Q-41				
2-Fluorobiphenyl (Surr)		78 %		44-120 %		"						
Phenol-d6 (Surr)		31 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		57 %		50-134 %		"						
2-Fluorophenol (Surr)		48 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		93 %		43-140 %		"						

Matrix Spike Dup (22E0112-MSD3)

Prepared: 05/04/22 06:58 Analyzed: 05/09/22 12:44

QC Source Sample: Non-SDG (A2E0006-02RE1)

Benzo(g,h,i)perylene	4.05	0.0412	0.0825	ug/L	4	4.12	ND	98	50-134%	11	30%
Dibenz(a,h)anthracene	4.12	0.0412	0.0825	ug/L	4	4.12	ND	100	51-134%	11	30%
Indeno(1,2,3-cd)pyrene	3.75	0.0412	0.0825	ug/L	4	4.12	ND	91	52-134%	12	30%

Apex Laboratories

Philip Nerenberg, Lab Director

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0683 - EPA 3015A						Water						
Blank (22E0683-BLK1)			Prepared: 05/18/22 10:01		Analyzed: 05/18/22 20:42							
EPA 200.8												
Cadmium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Copper	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
LCS (22E0683-BS1)			Prepared: 05/18/22 10:01		Analyzed: 05/18/22 20:47							
EPA 200.8												
Cadmium	53.0	0.100	0.200	ug/L	1	55.6	---	95	85-115%	---	---	
Copper	53.8	1.00	2.00	ug/L	1	55.6	---	97	85-115%	---	---	
Zinc	57.1	2.00	4.00	ug/L	1	55.6	---	103	85-115%	---	---	
Duplicate (22E0683-DUP1)			Prepared: 05/18/22 10:01		Analyzed: 05/18/22 21:07							
QC Source Sample: Non-SDG (A2E0010-01)												
Cadmium	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	20%	
Copper	2.23	1.00	2.00	ug/L	1	---	2.36	---	---	5	20%	
Zinc	116	2.00	4.00	ug/L	1	---	118	---	---	2	20%	
Matrix Spike (22E0683-MS1)			Prepared: 05/18/22 10:01		Analyzed: 05/18/22 21:11							
QC Source Sample: Non-SDG (A2E0010-01)												
EPA 200.8												
Cadmium	54.6	0.100	0.200	ug/L	1	55.6	ND	98	70-130%	---	---	
Copper	58.1	1.00	2.00	ug/L	1	55.6	2.36	100	70-130%	---	---	
Zinc	175	2.00	4.00	ug/L	1	55.6	118	102	70-130%	---	---	
Matrix Spike (22E0683-MS2)			Prepared: 05/18/22 10:01		Analyzed: 05/18/22 22:29							
QC Source Sample: Non-SDG (A2E0027-03)												
EPA 200.8												
Cadmium	51.0	0.100	0.200	ug/L	1	55.6	ND	92	70-130%	---	---	
Copper	53.6	1.00	2.00	ug/L	1	55.6	1.07	94	70-130%	---	---	
Zinc	68.6	2.00	4.00	ug/L	1	55.6	15.3	96	70-130%	---	---	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS) - Low Level

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22F0114 - EPA 3015A						Water						
Blank (22F0114-BLK1)			Prepared: 06/03/22 16:37 Analyzed: 06/06/22 23:35									
EPA 200.8-LL												
Cadmium	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Blank (22F0114-BLK2)			Prepared: 06/03/22 16:37 Analyzed: 06/07/22 22:27									
EPA 200.8-LL												
Arsenic	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	Q-16
LCS (22F0114-BS1)			Prepared: 06/03/22 16:37 Analyzed: 06/06/22 23:57									
EPA 200.8-LL												
Arsenic	5.73	0.0200	0.0400	ug/L	1	5.56	---	103	85-115%	---	---	
Cadmium	5.36	0.0200	0.0400	ug/L	1	5.56	---	97	85-115%	---	---	
Duplicate (22F0114-DUP1)			Prepared: 06/03/22 16:37 Analyzed: 06/07/22 00:41									
QC Source Sample: Non-SDG (A2E0356-02)												
Cadmium	ND	0.0200	0.0400	ug/L	1	---	ND	---	---	---	20%	
Duplicate (22F0114-DUP2)			Prepared: 06/03/22 16:37 Analyzed: 06/07/22 22:41									
QC Source Sample: Non-SDG (A2E0356-02RE1)												
Arsenic	0.210	0.0200	0.0400	ug/L	1	---	0.221	---	---	5	20%	Q-16
Matrix Spike (22F0114-MS1)			Prepared: 06/03/22 16:37 Analyzed: 06/07/22 00:56									
QC Source Sample: Non-SDG (A2E0356-03)												
EPA 200.8-LL												
Arsenic	6.61	0.0200	0.0400	ug/L	1	5.56	0.866	103	70-130%	---	---	
Cadmium	5.64	0.0200	0.0400	ug/L	1	5.56	0.0728	100	70-130%	---	---	

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Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832**

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22E0099 - Total Suspended Solids						Water						
Blank (22E0099-BLK1)			Prepared: 05/03/22 18:29 Analyzed: 05/03/22 18:29									
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Duplicate (22E0099-DUP1)			Prepared: 05/03/22 18:29 Analyzed: 05/03/22 18:29									
QC Source Sample: OUTFALL C/D (A2E0026-02)												
SM 2540 D												
Total Suspended Solids	15.6	10.0	10.0	mg/L	1	---	16.8	---	---	7.41	10%	
Duplicate (22E0099-DUP2)			Prepared: 05/03/22 18:29 Analyzed: 05/03/22 18:29									
QC Source Sample: Non-SDG (A2E0051-02)												
Total Suspended Solids	74.8	6.25	6.25	mg/L	1	---	70.5	---	---	5.85	10%	
Reference (22E0099-SRM1)			Prepared: 05/03/22 18:29 Analyzed: 05/03/22 18:29									
SM 2540 D												
Total Suspended Solids	796			mg/L	1	781		102	84.9-115.1%	---	---	

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**ANALYTICAL REPORT****Apex Laboratories, LLC**6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062**Maul Foster & Alongi, INC.**3140 NE Broadway Street
Portland, OR 97232Project: **Dolan SCE**Project Number: **M1381.01.001.003**Project Manager: **Jessica Glenn****Report ID:****A2E0026 - 06 10 22 0832****SAMPLE PREPARATION INFORMATION****Selected Semivolatile Organic Compounds by EPA 8270E****Prep: EPA 3510C (Acid Extraction)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22E0112							
A2E0026-01RE1	Water	EPA 8270E	04/29/22 20:05	05/04/22 06:58	990mL/1mL	1000mL/1mL	1.01
A2E0026-02RE1	Water	EPA 8270E	04/29/22 20:34	05/04/22 06:58	910mL/1mL	1000mL/1mL	1.10
A2E0026-03RE1	Water	EPA 8270E	04/29/22 21:00	05/04/22 06:58	1060mL/1mL	1000mL/1mL	0.94
A2E0026-04RE1	Water	EPA 8270E	04/29/22 00:00	05/04/22 06:58	990mL/1mL	1000mL/1mL	1.01

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: 22E0683							
A2E0026-01	Water	EPA 200.8	04/29/22 20:05	05/18/22 10:01	45mL/50mL	45mL/50mL	1.00
A2E0026-02	Water	EPA 200.8	04/29/22 20:34	05/18/22 10:01	45mL/50mL	45mL/50mL	1.00
A2E0026-03	Water	EPA 200.8	04/29/22 21:00	05/18/22 10:01	45mL/50mL	45mL/50mL	1.00
A2E0026-04	Water	EPA 200.8	04/29/22 00:00	05/18/22 10:01	45mL/50mL	45mL/50mL	1.00

Total Metals by EPA 200.8 (ICPMS) - Low Level**Prep: EPA 3015A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22F0114							
A2E0026-02	Water	EPA 200.8-LL	04/29/22 20:34	06/03/22 16:37	45mL/50mL	45mL/50mL	1.00
A2E0026-03	Water	EPA 200.8-LL	04/29/22 21:00	06/03/22 16:37	45mL/50mL	45mL/50mL	1.00
A2E0026-04	Water	EPA 200.8-LL	04/29/22 00:00	06/03/22 16:37	45mL/50mL	45mL/50mL	1.00

Solid and Moisture Determinations**Prep: Total Suspended Solids**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22E0099							
A2E0026-01	Water	SM 2540 D	04/29/22 20:05	05/03/22 18:29			NA
A2E0026-02	Water	SM 2540 D	04/29/22 20:34	05/03/22 18:29			NA
A2E0026-03	Water	SM 2540 D	04/29/22 21:00	05/03/22 18:29			NA
A2E0026-04	Water	SM 2540 D	04/29/22 00:00	05/03/22 18:29			NA

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001.003**

Project Manager: **Jessica Glenn**

Report ID:

A2E0026 - 06 10 22 0832

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-16** Reanalysis of an original Batch QC sample.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " 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).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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503-718-2323

ORELAP ID: OR100062

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3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001.003**

Project Manager: **Jessica Glenn**

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A2E0026 - 06 10 22 0832

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results 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.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Philip Nerenberg, Lab Director

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3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001.003**

Project Manager: **Jessica Glenn**

Report ID:

A2E0026 - 06 10 22 0832

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -

EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCEProject Number: M1381.01.001.003Project Manager: Jessica Glenn

Report ID:

A2E0026 - 06 10 22 0832

APEX LABS		CHAIN OF CUSTODY		Lab # <u>A2E0026</u> COC <u>1</u> of <u>1</u>	
Company: <u>MAUL FOSTER & ALONGI</u>		Project Mgr: <u>JESSICA GLENN</u>		Project Name: <u>DOLAN STRAUMATEL</u>	
Address: <u>3140 NE BROADWAY ST PORTLAND, OR</u>		Phone: <u>971-254-8085</u>		Email: <u>jglenn@maulfooster.com</u>	
Sampled by: <u>CHRIS CLOUGH</u>		Project #: <u>M1381.01.001.003</u>		PO #	
ANALYSIS REQUEST					
SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	TESTS
OUTFALL E	4/24/22	2005	W	4	TCRP Metals (8) TCRP DIS. Se, Ag, Na, TL, V, Zn Hg, Mg, Mn, Mo, Ni, K, Cd Al, Sb, As, Ba, Be, Bi, Br, Ca, Cr, Cu, Fe, Pb, P, Se, Ag, Na, TL, V, Zn
OUTFALL C/D	2034			4	TCRP Metals (8) TCRP DIS. Se, Ag, Na, TL, V, Zn Hg, Mg, Mn, Mo, Ni, K, Cd Al, Sb, As, Ba, Be, Bi, Br, Ca, Cr, Cu, Fe, Pb, P, Se, Ag, Na, TL, V, Zn
CB-16	2100			4	TCRP Metals (8) TCRP DIS. Se, Ag, Na, TL, V, Zn Hg, Mg, Mn, Mo, Ni, K, Cd Al, Sb, As, Ba, Be, Bi, Br, Ca, Cr, Cu, Fe, Pb, P, Se, Ag, Na, TL, V, Zn
DUP	-			4	TCRP Metals (8) TCRP DIS. Se, Ag, Na, TL, V, Zn Hg, Mg, Mn, Mo, Ni, K, Cd Al, Sb, As, Ba, Be, Bi, Br, Ca, Cr, Cu, Fe, Pb, P, Se, Ag, Na, TL, V, Zn
SPECIAL INSTRUCTIONS:					
Standard Turn Around Time (TAT) = 10 Business Days					
TAT Requested (circle) 1 Day 2 Day 3 Day 5 Day Other: _____					
SAMPLES ARE HELD FOR 30 DAYS					
RELINQUISHED BY:	Signature: <u>[Signature]</u>	Date: <u>5/2/2022</u>	Signature: <u>[Signature]</u>	Date: <u>5-2-22</u>	Signature: <u>[Signature]</u>
Printed Name: <u>CHRIS CLOUGH</u>	Printed Name: <u>Michael Kunkin</u>	Printed Name: <u>Michael Kunkin</u>	Printed Name: <u>Michael Kunkin</u>	Printed Name: <u>Michael Kunkin</u>	Printed Name: <u>Michael Kunkin</u>
Company: <u>MAUL FOSTER & ALONGI</u>	Company: <u>Apex Labs</u>	Company: <u>Apex Labs</u>	Company: <u>Apex Labs</u>	Company: <u>Apex Labs</u>	Company: <u>Apex Labs</u>

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCEProject Number: M1381.01.001.003Project Manager: Jessica GlennReport ID:A2E0026 - 06 10 22 0832APEX LABS COOLER RECEIPT FORMClient: MFA Element WO#: A2 E0026Project/Project #: Dolan stormwater / M1381.01.001.003Delivery Info:Date/time received: 5-2-22 @ 1244 By: MMDelivered by: Apex ☒ Client ☐ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐Cooler Inspection Date/time inspected: 5-2-22 @ 1355 By: MMChain of Custody included? Yes ☒ No ☐ Custody seals? Yes ☐ No ☒Signed/dated by client? Yes ☒ No ☐Signed/dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>0.9</u>						
Received on ice? (Y/N)	<u>Y</u>						
Temp. blanks? (Y/N)	<u>Y</u>						
Ice type: (Gel/Real/Other)	<u>Real</u>						
Condition:	<u>good</u>						

Cooler out of temp? (Y/N) N Possible reason why:Green dots applied to out of temperature samples? Yes ☒ No ☐Out of temperature samples form initiated? Yes ☒ No ☐Sample Inspection: Date/time inspected: 5-2-22 @ 1547 By: DSAll samples intact? Yes ☒ No ☐ Comments:Bottle labels/COCs agree? Yes ☒ No ☐ Comments:COC/container discrepancies form initiated? Yes ☐ No ☒Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments:Do VOA vials have visible headspace? Yes ☐ No ☐ NA ☒

Comments:

Water samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐

Comments:

Additional information:

Labeled by:

DS

Witness:

AKC

Cooler Inspected by:

DS

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Wednesday, November 16, 2022

Jessica Glenn

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

RE: A2J0749 - Dolan SCE - M1381.01.001

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

Enclosed are the results of analyses for work order A2J0749, which was received by the laboratory on 10/24/2022 at 10:40:00AM.

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

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1

0.8 degC

Cooler#2

1.1 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

Philip Nerenberg, Lab Director

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**ANALYTICAL REPORT****Apex Laboratories, LLC**

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502****ANALYTICAL REPORT FOR SAMPLES****SAMPLE INFORMATION**

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Outfall C/D	A2J0749-01	Water	10/21/22 12:35	10/24/22 10:40
Outfall E	A2J0749-02	Water	10/21/22 13:45	10/24/22 10:40
CB-16	A2J0749-03	Water	10/21/22 15:35	10/24/22 10:40
DUP	A2J0749-04	Water	10/21/22 00:00	10/24/22 10:40

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCEProject Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A2J0749-01)		Matrix: Water			Batch: 22J1132		R-04	
Acenaphthene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Acenaphthylene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Anthracene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Benz(a)anthracene	0.0959	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	J
Benzo(a)pyrene	ND	0.143	0.286	ug/L	10	10/28/22 21:41	EPA 8270E	
Benzo(b)fluoranthene	ND	0.143	0.286	ug/L	10	10/28/22 21:41	EPA 8270E	
Benzo(k)fluoranthene	ND	0.143	0.286	ug/L	10	10/28/22 21:41	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Chrysene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Fluoranthene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Fluorene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
1-Methylnaphthalene	ND	0.190	0.381	ug/L	10	10/28/22 21:41	EPA 8270E	
2-Methylnaphthalene	ND	0.190	0.381	ug/L	10	10/28/22 21:41	EPA 8270E	
Naphthalene	ND	0.190	0.381	ug/L	10	10/28/22 21:41	EPA 8270E	
Phenanthrene	ND	0.190	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Pyrene	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Carbazole	ND	0.143	0.286	ug/L	10	10/28/22 21:41	EPA 8270E	
Dibenzofuran	ND	0.0952	0.190	ug/L	10	10/28/22 21:41	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	1.90	3.81	ug/L	10	10/28/22 21:41	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	72 %	<i>Limits:</i>	44-120 %	10	10/28/22 21:41	EPA 8270E
<i>2-Fluorobiphenyl (Surr)</i>			71 %		44-120 %	10	10/28/22 21:41	EPA 8270E
<i>Phenol-d6 (Surr)</i>			24 %		10-133 %	10	10/28/22 21:41	EPA 8270E
<i>p-Terphenyl-d14 (Surr)</i>			53 %		50-134 %	10	10/28/22 21:41	EPA 8270E
<i>2-Fluorophenol (Surr)</i>			38 %		19-120 %	10	10/28/22 21:41	EPA 8270E
<i>2,4,6-Tribromophenol (Surr)</i>			113 %		43-140 %	10	10/28/22 21:41	EPA 8270E

Outfall E (A2J0749-02)**Matrix: Water****Batch: 22J1132****R-04**

Acenaphthene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Acenaphthylene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Anthracene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Benz(a)anthracene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Benzo(a)pyrene	0.163	0.153	0.306	ug/L	10	10/28/22 22:15	EPA 8270E	J

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062Maul Foster & Alongi, INC.3140 NE Broadway Street
Portland, OR 97232Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A2J0749 - 11 16 22 1502

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall E (A2J0749-02)		Matrix: Water			Batch: 22J1132		R-04	
Benzo(b)fluoranthene	ND	0.153	0.306	ug/L	10	10/28/22 22:15	EPA 8270E	
Benzo(k)fluoranthene	ND	0.153	0.306	ug/L	10	10/28/22 22:15	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Chrysene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Fluoranthene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Fluorene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
1-Methylnaphthalene	ND	0.204	0.408	ug/L	10	10/28/22 22:15	EPA 8270E	
2-Methylnaphthalene	ND	0.204	0.408	ug/L	10	10/28/22 22:15	EPA 8270E	
Naphthalene	ND	0.204	0.408	ug/L	10	10/28/22 22:15	EPA 8270E	
Phenanthrene	0.188	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	J
Pyrene	ND	0.102	0.204	ug/L	10	10/28/22 22:15	EPA 8270E	
Bis(2-ethylhexyl)phthalate	3.10	2.04	4.08	ug/L	10	10/28/22 22:15	EPA 8270E	J
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 51 %</i>		<i>Limits: 44-120 %</i>	<i>10</i>	<i>10/28/22 22:15</i>	<i>EPA 8270E</i>	
<i>2-Fluorobiphenyl (Surr)</i>		<i>45 %</i>		<i>44-120 %</i>	<i>10</i>	<i>10/28/22 22:15</i>	<i>EPA 8270E</i>	
<i>Phenol-d6 (Surr)</i>		<i>19 %</i>		<i>10-133 %</i>	<i>10</i>	<i>10/28/22 22:15</i>	<i>EPA 8270E</i>	
<i>p-Terphenyl-d14 (Surr)</i>		<i>53 %</i>		<i>50-134 %</i>	<i>10</i>	<i>10/28/22 22:15</i>	<i>EPA 8270E</i>	
<i>2-Fluorophenol (Surr)</i>		<i>30 %</i>		<i>19-120 %</i>	<i>10</i>	<i>10/28/22 22:15</i>	<i>EPA 8270E</i>	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>102 %</i>		<i>43-140 %</i>	<i>10</i>	<i>10/28/22 22:15</i>	<i>EPA 8270E</i>	
CB-16 (A2J0749-03)		Matrix: Water			Batch: 22J1132			
Acenaphthene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Acenaphthylene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Anthracene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Benz(a)anthracene	0.0535	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	J
Benzo(a)pyrene	0.128	0.0682	0.136	ug/L	4	10/28/22 22:49	EPA 8270E	J
Benzo(b)fluoranthene	0.118	0.0682	0.136	ug/L	4	10/28/22 22:49	EPA 8270E	J
Benzo(k)fluoranthene	0.0698	0.0682	0.136	ug/L	4	10/28/22 22:49	EPA 8270E	J
Benzo(g,h,i)perylene	0.0654	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	J
Chrysene	0.0491	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	J
Dibenz(a,h)anthracene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Fluoranthene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Fluorene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062Maul Foster & Alongi, INC.3140 NE Broadway Street
Portland, OR 97232Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A2J0749 - 11 16 22 1502

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
CB-16 (A2J0749-03)		Matrix: Water			Batch: 22J1132			
Indeno(1,2,3-cd)pyrene	0.0618	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	J
1-Methylnaphthalene	ND	0.0909	0.182	ug/L	4	10/28/22 22:49	EPA 8270E	
2-Methylnaphthalene	ND	0.0909	0.182	ug/L	4	10/28/22 22:49	EPA 8270E	
Naphthalene	ND	0.0909	0.182	ug/L	4	10/28/22 22:49	EPA 8270E	
Phenanthrene	0.0583	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	J
Pyrene	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Carbazole	ND	0.0682	0.136	ug/L	4	10/28/22 22:49	EPA 8270E	
Dibenzofuran	ND	0.0455	0.0909	ug/L	4	10/28/22 22:49	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.909	1.82	ug/L	4	10/28/22 22:49	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery:	95 %	Limits:	44-120 %	4	10/28/22 22:49	EPA 8270E
2-Fluorobiphenyl (Surr)			82 %		44-120 %	4	10/28/22 22:49	EPA 8270E
Phenol-d6 (Surr)			35 %		10-133 %	4	10/28/22 22:49	EPA 8270E
p-Terphenyl-d14 (Surr)			83 %		50-134 %	4	10/28/22 22:49	EPA 8270E
2-Fluorophenol (Surr)			56 %		19-120 %	4	10/28/22 22:49	EPA 8270E
2,4,6-Tribromophenol (Surr)			112 %		43-140 %	4	10/28/22 22:49	EPA 8270E
DUP (A2J0749-04)		Matrix: Water			Batch: 22J1132			R-04
Acenaphthene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Acenaphthylene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Anthracene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Benz(a)anthracene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Benzo(a)pyrene	ND	0.143	0.286	ug/L	10	10/28/22 23:23	EPA 8270E	
Benzo(b)fluoranthene	ND	0.143	0.286	ug/L	10	10/28/22 23:23	EPA 8270E	
Benzo(k)fluoranthene	ND	0.143	0.286	ug/L	10	10/28/22 23:23	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Chrysene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Fluoranthene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Fluorene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
1-Methylnaphthalene	ND	0.190	0.381	ug/L	10	10/28/22 23:23	EPA 8270E	
2-Methylnaphthalene	ND	0.190	0.381	ug/L	10	10/28/22 23:23	EPA 8270E	
Naphthalene	ND	0.190	0.381	ug/L	10	10/28/22 23:23	EPA 8270E	
Phenanthrene	ND	0.190	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
ORELAP ID: OR100062Maul Foster & Alongi, INC.3140 NE Broadway Street
Portland, OR 97232Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A2J0749 - 11 16 22 1502

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DUP (A2J0749-04)		Matrix: Water			Batch: 22J1132		R-04	
Pyrene	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Carbazole	ND	0.143	0.286	ug/L	10	10/28/22 23:23	EPA 8270E	
Dibenzofuran	ND	0.0952	0.190	ug/L	10	10/28/22 23:23	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	1.90	3.81	ug/L	10	10/28/22 23:23	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	72 %	<i>Limits:</i>	44-120 %	10	10/28/22 23:23	EPA 8270E
<i>2-Fluorobiphenyl (Surr)</i>			64 %		44-120 %	10	10/28/22 23:23	EPA 8270E
<i>Phenol-d6 (Surr)</i>			24 %		10-133 %	10	10/28/22 23:23	EPA 8270E
<i>p-Terphenyl-d14 (Surr)</i>			58 %		50-134 %	10	10/28/22 23:23	EPA 8270E
<i>2-Fluorophenol (Surr)</i>			40 %		19-120 %	10	10/28/22 23:23	EPA 8270E
<i>2,4,6-Tribromophenol (Surr)</i>			113 %		43-140 %	10	10/28/22 23:23	EPA 8270E

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A2J0749 - 11 16 22 1502

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A2J0749-01)				Matrix: Water				
Batch: 22J1222								
Arsenic	1.39	0.500	1.00	ug/L	1	11/01/22 12:49	EPA 200.8	
Copper	44.7	1.00	2.00	ug/L	1	11/01/22 12:49	EPA 200.8	
Outfall E (A2J0749-02)				Matrix: Water				
Batch: 22J1222								
Cadmium	1.11	0.100	0.200	ug/L	1	11/01/22 12:54	EPA 200.8	
Zinc	666	2.00	4.00	ug/L	1	11/01/22 12:54	EPA 200.8	
CB-16 (A2J0749-03)				Matrix: Water				
Batch: 22J1222								
Zinc	105	2.00	4.00	ug/L	1	11/01/22 12:59	EPA 200.8	
DUP (A2J0749-04)				Matrix: Water				
Batch: 22J1222								
Arsenic	1.49	0.500	1.00	ug/L	1	11/01/22 13:05	EPA 200.8	
Copper	45.3	1.00	2.00	ug/L	1	11/01/22 13:05	EPA 200.8	

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Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A2J0749 - 11 16 22 1502

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS) - Low Level

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
CB-16 (A2J0749-03)				Matrix: Water				
Batch: 22K0146								
Cadmium	0.173	0.0200	0.0400	ug/L	1	11/14/22 18:05	EPA 200.8-LL	

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Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A2J0749 - 11 16 22 1502

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A2J0749-01)		Matrix: Water						
Batch: 22J0984								
Total Suspended Solids	10.0	5.00	5.00	mg/L	1	10/25/22 18:09	SM 2540 D	
Outfall E (A2J0749-02)		Matrix: Water						
Batch: 22J0968								
Total Suspended Solids	35.0	5.00	5.00	mg/L	1	10/25/22 11:30	SM 2540 D	
CB-16 (A2J0749-03)		Matrix: Water						
Batch: 22J0968								
Total Suspended Solids	95.0	5.00	5.00	mg/L	1	10/25/22 11:30	SM 2540 D	
DUP (A2J0749-04)		Matrix: Water						
Batch: 22J0968								
Total Suspended Solids	11.0	5.00	5.00	mg/L	1	10/25/22 11:30	SM 2540 D	SL-1

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Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J1132 - EPA 3510C (Acid Extraction)						Water						
Blank (22J1132-BLK1)			Prepared: 10/28/22 06:48		Analyzed: 10/28/22 19:55							
EPA 8270E												
Acenaphthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0182	0.0364	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0136	0.0273	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.00909	0.0182	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Diethylphthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	0.182	0.364	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 87 %		Limits: 44-120 %		Dilution: 1x						
2-Fluorobiphenyl (Surr)		76 %		44-120 %		"						
Phenol-d6 (Surr)		31 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		95 %		50-134 %		"						
2-Fluorophenol (Surr)		50 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		85 %		43-140 %		"						

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ANALYTICAL REPORT

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Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J1132 - EPA 3510C (Acid Extraction)						Water						
LCS (22J1132-BS1)			Prepared: 10/28/22 06:48		Analyzed: 10/28/22 20:31							
EPA 8270E												
Acenaphthene	3.42	0.0200	0.0400	ug/L	2	4.00	---	85	47-122%	---	---	
Acenaphthylene	3.57	0.0200	0.0400	ug/L	2	4.00	---	89	41-130%	---	---	
Anthracene	3.94	0.0200	0.0400	ug/L	2	4.00	---	99	57-123%	---	---	
Benz(a)anthracene	4.12	0.0200	0.0400	ug/L	2	4.00	---	103	58-125%	---	---	
Benzo(a)pyrene	4.18	0.0300	0.0600	ug/L	2	4.00	---	104	54-128%	---	---	
Benzo(b)fluoranthene	4.32	0.0300	0.0600	ug/L	2	4.00	---	108	53-131%	---	---	
Benzo(k)fluoranthene	4.12	0.0300	0.0600	ug/L	2	4.00	---	103	57-129%	---	---	
Benzo(g,h,i)perylene	4.29	0.0200	0.0400	ug/L	2	4.00	---	107	50-134%	---	---	
Chrysene	4.03	0.0200	0.0400	ug/L	2	4.00	---	101	59-123%	---	---	
Dibenz(a,h)anthracene	4.23	0.0200	0.0400	ug/L	2	4.00	---	106	51-134%	---	---	
Fluoranthene	4.13	0.0200	0.0400	ug/L	2	4.00	---	103	57-128%	---	---	
Fluorene	3.65	0.0200	0.0400	ug/L	2	4.00	---	91	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	4.18	0.0200	0.0400	ug/L	2	4.00	---	105	52-134%	---	---	
1-Methylnaphthalene	3.16	0.0400	0.0800	ug/L	2	4.00	---	79	41-120%	---	---	
2-Methylnaphthalene	3.13	0.0400	0.0800	ug/L	2	4.00	---	78	40-121%	---	---	
Naphthalene	3.04	0.0400	0.0800	ug/L	2	4.00	---	76	40-121%	---	---	
Phenanthrene	3.64	0.0200	0.0400	ug/L	2	4.00	---	91	59-120%	---	---	
Pyrene	4.07	0.0200	0.0400	ug/L	2	4.00	---	102	57-126%	---	---	
Carbazole	4.42	0.0300	0.0600	ug/L	2	4.00	---	110	60-122%	---	---	
Dibenzofuran	3.45	0.0200	0.0400	ug/L	2	4.00	---	86	53-120%	---	---	
Bis(2-ethylhexyl)phthalate	4.61	0.400	0.800	ug/L	2	4.00	---	115	55-135%	---	---	
Butyl benzyl phthalate	4.77	0.400	0.800	ug/L	2	4.00	---	119	53-134%	---	---	
Diethylphthalate	4.08	0.400	0.800	ug/L	2	4.00	---	102	56-125%	---	---	
Dimethylphthalate	3.91	0.400	0.800	ug/L	2	4.00	---	98	45-127%	---	---	
Di-n-butylphthalate	4.70	0.400	0.800	ug/L	2	4.00	---	118	59-127%	---	---	
Di-n-octyl phthalate	5.01	0.400	0.800	ug/L	2	4.00	---	125	51-140%	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 91 %		Limits: 44-120 %		Dilution: 2x						
2-Fluorobiphenyl (Surr)		79 %		44-120 %		"						
Phenol-d6 (Surr)		30 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		94 %		50-134 %		"						
2-Fluorophenol (Surr)		47 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		95 %		43-140 %		"						

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J1132 - EPA 3510C (Acid Extraction)							Water					
LCS Dup (22J1132-BSD1)			Prepared: 10/28/22 06:48		Analyzed: 10/28/22 21:06		Q-19					
EPA 8270E												
Acenaphthene	3.39	0.0200	0.0400	ug/L	2	4.00	---	85	47-122%	0.8	30%	
Acenaphthylene	3.53	0.0200	0.0400	ug/L	2	4.00	---	88	41-130%	1	30%	
Anthracene	3.95	0.0200	0.0400	ug/L	2	4.00	---	99	57-123%	0.3	30%	
Benz(a)anthracene	4.08	0.0200	0.0400	ug/L	2	4.00	---	102	58-125%	1	30%	
Benzo(a)pyrene	4.14	0.0300	0.0600	ug/L	2	4.00	---	104	54-128%	0.9	30%	
Benzo(b)fluoranthene	4.18	0.0300	0.0600	ug/L	2	4.00	---	104	53-131%	3	30%	
Benzo(k)fluoranthene	4.16	0.0300	0.0600	ug/L	2	4.00	---	104	57-129%	1	30%	
Benzo(g,h,i)perylene	4.25	0.0200	0.0400	ug/L	2	4.00	---	106	50-134%	1	30%	
Chrysene	4.01	0.0200	0.0400	ug/L	2	4.00	---	100	59-123%	0.4	30%	
Dibenz(a,h)anthracene	4.17	0.0200	0.0400	ug/L	2	4.00	---	104	51-134%	1	30%	
Fluoranthene	4.18	0.0200	0.0400	ug/L	2	4.00	---	104	57-128%	1	30%	
Fluorene	3.60	0.0200	0.0400	ug/L	2	4.00	---	90	52-124%	1	30%	
Indeno(1,2,3-cd)pyrene	4.17	0.0200	0.0400	ug/L	2	4.00	---	104	52-134%	0.2	30%	
1-Methylnaphthalene	3.07	0.0400	0.0800	ug/L	2	4.00	---	77	41-120%	3	30%	
2-Methylnaphthalene	3.06	0.0400	0.0800	ug/L	2	4.00	---	77	40-121%	2	30%	
Naphthalene	2.97	0.0400	0.0800	ug/L	2	4.00	---	74	40-121%	2	30%	
Phenanthrene	3.71	0.0200	0.0400	ug/L	2	4.00	---	93	59-120%	2	30%	
Pyrene	4.10	0.0200	0.0400	ug/L	2	4.00	---	102	57-126%	0.6	30%	
Bis(2-ethylhexyl)phthalate	4.58	0.400	0.800	ug/L	2	4.00	---	114	55-135%	0.7	30%	
Butyl benzyl phthalate	4.67	0.400	0.800	ug/L	2	4.00	---	117	53-134%	2	30%	
Diethylphthalate	4.07	0.400	0.800	ug/L	2	4.00	---	102	56-125%	0.1	30%	
Dimethylphthalate	3.87	0.400	0.800	ug/L	2	4.00	---	97	45-127%	1	30%	
Di-n-butylphthalate	4.68	0.400	0.800	ug/L	2	4.00	---	117	59-127%	0.6	30%	
Di-n-octyl phthalate	4.99	0.400	0.800	ug/L	2	4.00	---	125	51-140%	0.5	30%	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 90 %		Limits: 44-120 %		Dilution: 2x						
2-Fluorobiphenyl (Surr)		80 %		44-120 %		"						
Phenol-d6 (Surr)		30 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		96 %		50-134 %		"						
2-Fluorophenol (Surr)		48 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		98 %		43-140 %		"						

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ANALYTICAL REPORT

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J1222 - EPA 3015A						Water						
Blank (22J1222-BLK1)			Prepared: 10/31/22 12:44 Analyzed: 11/01/22 11:09									
EPA 200.8												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Copper	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
LCS (22J1222-BS1)			Prepared: 10/31/22 12:44 Analyzed: 11/01/22 11:14									
EPA 200.8												
Arsenic	56.8	0.500	1.00	ug/L	1	55.6	---	102	85-115%	---	---	
Cadmium	55.4	0.100	0.200	ug/L	1	55.6	---	100	85-115%	---	---	
Copper	58.1	1.00	2.00	ug/L	1	55.6	---	105	85-115%	---	---	
Zinc	58.7	2.00	4.00	ug/L	1	55.6	---	106	85-115%	---	---	
Duplicate (22J1222-DUP1)			Prepared: 10/31/22 12:44 Analyzed: 11/01/22 11:35									
QC Source Sample: Non-SDG (A2J0743-01)												
Arsenic	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	20%	
Cadmium	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	20%	
Copper	11.6	1.00	2.00	ug/L	1	---	11.2	---	---	3	20%	
Zinc	57.1	2.00	4.00	ug/L	1	---	55.9	---	---	2	20%	
Matrix Spike (22J1222-MS1)			Prepared: 10/31/22 12:44 Analyzed: 11/01/22 11:40									
QC Source Sample: Non-SDG (A2J0743-01)												
EPA 200.8												
Arsenic	54.4	0.500	1.00	ug/L	1	55.6	ND	98	70-130%	---	---	
Cadmium	51.7	0.100	0.200	ug/L	1	55.6	ND	93	70-130%	---	---	
Copper	66.8	1.00	2.00	ug/L	1	55.6	11.2	100	70-130%	---	---	
Zinc	116	2.00	4.00	ug/L	1	55.6	55.9	109	70-130%	---	---	
Matrix Spike (22J1222-MS2)			Prepared: 10/31/22 12:44 Analyzed: 11/01/22 11:51									
QC Source Sample: Non-SDG (A2J0743-02)												
EPA 200.8												
Arsenic	53.8	0.500	1.00	ug/L	1	55.6	0.564	96	70-130%	---	---	
Cadmium	52.9	0.100	0.200	ug/L	1	55.6	0.404	94	70-130%	---	---	

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Philip Nerenberg, Lab Director



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Portland, OR 97232

Project: Dolan SCE

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A2J0749 - 11 16 22 1502

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J1222 - EPA 3015A							Water					
Matrix Spike (22J1222-MS2)			Prepared: 10/31/22 12:44 Analyzed: 11/01/22 11:51									
QC Source Sample: Non-SDG (A2J0743-02)												
Copper	75.1	1.00	2.00	ug/L	1	55.6	20.1	99	70-130%	---	---	
Zinc	261	2.00	4.00	ug/L	1	55.6	207	98	70-130%	---	---	

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Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS) - Low Level

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22K0146 - EPA 3015A						Water						
Blank (22K0146-BLK1)			Prepared: 11/03/22 16:17 Analyzed: 11/14/22 17:49									
EPA 200.8-LL												
Cadmium	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
LCS (22K0146-BS1)			Prepared: 11/03/22 16:17 Analyzed: 11/14/22 17:57									
EPA 200.8-LL												
Cadmium	5.37	0.0200	0.0400	ug/L	1	5.56	---	97	85-115%	---	---	
Duplicate (22K0146-DUP1)			Prepared: 11/03/22 16:17 Analyzed: 11/14/22 18:35									
QC Source Sample: Non-SDG (A2J1004-01)												
Cadmium	ND	0.0200	0.0400	ug/L	1	---	ND	---	---	---	20%	
Matrix Spike (22K0146-MS1)			Prepared: 11/03/22 16:17 Analyzed: 11/14/22 18:43									
QC Source Sample: Non-SDG (A2J1004-01)												
EPA 200.8-LL												
Cadmium	5.55	0.0200	0.0400	ug/L	1	5.56	ND	100	70-130%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J0968 - Total Suspended Solids						Water						
Blank (22J0968-BLK1)			Prepared: 10/25/22 11:30 Analyzed: 10/25/22 11:30									
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Duplicate (22J0968-DUP1)			Prepared: 10/25/22 11:30 Analyzed: 10/25/22 11:30									
QC Source Sample: Non-SDG (A2J0655-04)												
Total Suspended Solids	8.00	5.00	5.00	mg/L	1	---	9.00	---	---	11.8	10%	Q-05, SL-1
Duplicate (22J0968-DUP2)			Prepared: 10/25/22 11:30 Analyzed: 10/25/22 11:30									
QC Source Sample: Non-SDG (A2J0630-01)												
Total Suspended Solids	22.0	5.00	5.00	mg/L	1	---	27.0	---	---	20.4	10%	Q-01, SL-1
Reference (22J0968-SRM1)			Prepared: 10/25/22 11:30 Analyzed: 10/25/22 11:30									
SM 2540 D												
Total Suspended Solids	809			mg/L	1	828		97.7	85-115%	---	---	

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Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502**

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 22J0984 - Total Suspended Solids						Water						
Blank (22J0984-BLK1)			Prepared: 10/25/22 18:09 Analyzed: 10/25/22 18:09									
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Duplicate (22J0984-DUP1)			Prepared: 10/25/22 18:09 Analyzed: 10/25/22 18:09									
QC Source Sample: Non-SDG (A2J0689-01)												
Total Suspended Solids	280	25.0	25.0	mg/L	1	---	285	---	---	1.77	10%	
Duplicate (22J0984-DUP2)			Prepared: 10/25/22 18:09 Analyzed: 10/25/22 18:09									
QC Source Sample: Non-SDG (A2J0754-01)												
Total Suspended Solids	12.0	5.00	5.00	mg/L	1	---	10.0	---	---	18.2	10%	Q-05
Reference (22J0984-SRM1)			Prepared: 10/25/22 18:09 Analyzed: 10/25/22 18:09									
SM 2540 D												
Total Suspended Solids	821			mg/L	1	828		99.2	85-115%	---	---	

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Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A2J0749 - 11 16 22 1502****SAMPLE PREPARATION INFORMATION****Selected Semivolatile Organic Compounds by EPA 8270E****Prep: EPA 3510C (Acid Extraction)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22J1132							
A2J0749-01	Water	EPA 8270E	10/21/22 12:35	10/28/22 06:48	1050mL/1mL	1000mL/1mL	0.95
A2J0749-02	Water	EPA 8270E	10/21/22 13:45	10/28/22 06:48	980mL/1mL	1000mL/1mL	1.02
A2J0749-03	Water	EPA 8270E	10/21/22 15:35	10/28/22 06:48	880mL/1mL	1000mL/1mL	1.14
A2J0749-04	Water	EPA 8270E	10/21/22 00:00	10/28/22 06:48	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: 22J1232							
A2J0749-01	Water	EPA 200.8	10/21/22 12:35	10/31/22 12:44	45mL/50mL	45mL/50mL	1.00
A2J0749-02	Water	EPA 200.8	10/21/22 13:45	10/31/22 12:44	45mL/50mL	45mL/50mL	1.00
A2J0749-03	Water	EPA 200.8	10/21/22 15:35	10/31/22 12:44	45mL/50mL	45mL/50mL	1.00
A2J0749-04	Water	EPA 200.8	10/21/22 00:00	10/31/22 12:44	45mL/50mL	45mL/50mL	1.00

Total Metals by EPA 200.8 (ICPMS) - Low Level**Prep: EPA 3015A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22K0146							
A2J0749-03	Water	EPA 200.8-LL	10/21/22 15:35	11/03/22 16:17	45mL/50mL	45mL/50mL	1.00

Solid and Moisture Determinations**Prep: Total Suspended Solids**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 22J0968							
A2J0749-02	Water	SM 2540 D	10/21/22 13:45	10/25/22 11:30			NA
A2J0749-03	Water	SM 2540 D	10/21/22 15:35	10/25/22 11:30			NA
A2J0749-04	Water	SM 2540 D	10/21/22 00:00	10/25/22 11:30			NA
Batch: 22J0984							
A2J0749-01	Water	SM 2540 D	10/21/22 12:35	10/25/22 18:09			NA

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3140 NE Broadway Street
Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A2J0749 - 11 16 22 1502

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-01** Spike recovery and/or RPD is outside acceptance limits.
- Q-05** Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.
- SL-1** Result is considered an estimated value. Less than 1 liter of sample was used in analysis and the method minimum residue of 2.5 mg was not met. The reporting level has been adjusted accordingly to reflect the increased uncertainty of the result.

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Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).
If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.
The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")
See Percent Solids section for details of dry weight analysis.
"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.
" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " 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).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).
-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.
-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.
For further details, please request a copy of this document.

Apex Laboratories

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Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A2J0749 - 11 16 22 1502

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results 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.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street
Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A2J0749 - 11 16 22 1502

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -

EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCEProject Number: M1381.01.001Project Manager: Jessica GlennReport ID:A2J0749 - 11 16 22 1502

APEX LABS COOLER RECEIPT FORM

Client: Maul Foster + Alongi, Inc. Element WO#: A2 J0749Project/Project #: Dolan Steamwater M1381.01.001Delivery Info:Date/time received: 10/24/22 @ 1040 By: ESTDelivered by: Apex ☒ Client ☐ ESS ☐ FedEx ☐ UPS ☐ Swift ☐ Senvoy ☐ SDS ☐ Other ☐Cooler Inspection Date/time inspected: 10/24/22 @ 1121 By: ESTChain of Custody included? Yes ☒ No ☐ Custody seals? Yes ☐ No ☒Signed/dated by client? Yes ☒ No ☐Signed/dated by Apex? Yes ☒ No ☐

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>0.8</u>	<u>1.1</u>					
Received on ice? (Y/N)	<u>Y</u>	<u>Y</u>					
Temp. blanks? (Y/N)	<u>Y</u>	<u>Y</u>					
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>Real</u>					
Condition (In/Out):	<u>In</u>	<u>In</u>					

Cooler out of temp? (Y/N) Possible reason why: _____

Green dots applied to out of temperature samples? Yes/No YesOut of temperature samples form initiated? Yes/No NoSample Inspection: Date/time inspected: 10/24/22 @ 1430 By: JJAll samples intact? Yes ☒ No ☐ Comments: _____Bottle labels/COCs agree? Yes ☐ No ☒ Comments: Outfall E
reads 1345, Time on CB-16 containers reads 1535COC/container discrepancies form initiated? Yes ☐ No ☒Containers/volumes received appropriate for analysis? Yes ☒ No ☐ Comments: _____Do VOA vials have visible headspace? Yes ☐ No ☐ NA ☒

Comments: _____

Water samples: pH checked: Yes ☒ No ☐ NA ☐ pH appropriate? Yes ☒ No ☐ NA ☐

Comments: _____

Additional information: Date on CDC for all samples reads
11/21/22

Labeled by:

J

Witness:

DJJ

Cooler Inspected by:

JJ

Form Y-003 R-00

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062

Wednesday, May 3, 2023

Jessica Glenn

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

RE: A3D0715 - Dolan SCE - M1381.01.001

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

Enclosed are the results of analyses for work order A3D0715, which was received by the laboratory on 4/3/2023 at 7:38:00AM.

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

Please note: All samples will be disposed of within 30 days of sample receipt, unless prior arrangements have been made.

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1

1.8 degC

Cooler #2

0.8 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.

All other deliverables derived from this data, including Electronic Data Deliverables (EDDs), CLP-like forms, client requested summary sheets, and all other products are considered secondary to this report.



Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A3D0715 - 05 03 23 1713

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Outfall C/D	A3D0715-01	Water	03/31/23 17:15	04/03/23 07:38
Outfall E	A3D0715-02	Water	03/31/23 18:00	04/03/23 07:38
CB-16	A3D0715-03	Water	03/31/23 18:45	04/03/23 07:38
DUP	A3D0715-04	Water	03/31/23 00:00	04/03/23 07:38

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A3D0715 - 05 03 23 1713

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A3D0715-01RE1)		Matrix: Water			Batch: 23D0203		R-04	
Acenaphthene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Acenaphthylene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Anthracene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Benz(a)anthracene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Benzo(a)pyrene	ND	0.0566	0.113	ug/L	4	04/10/23 12:30	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0566	0.113	ug/L	4	04/10/23 12:30	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0566	0.113	ug/L	4	04/10/23 12:30	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Chrysene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Fluoranthene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Fluorene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
1-Methylnaphthalene	ND	0.0755	0.151	ug/L	4	04/10/23 12:30	EPA 8270E	
2-Methylnaphthalene	ND	0.0755	0.151	ug/L	4	04/10/23 12:30	EPA 8270E	
Naphthalene	ND	0.0755	0.151	ug/L	4	04/10/23 12:30	EPA 8270E	
Phenanthrene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Pyrene	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Carbazole	ND	0.0566	0.113	ug/L	4	04/10/23 12:30	EPA 8270E	
Dibenzofuran	ND	0.0377	0.0755	ug/L	4	04/10/23 12:30	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.755	1.51	ug/L	4	04/10/23 12:30	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery:	68 %	Limits:	44-120 %	4	04/10/23 12:30	EPA 8270E Q-41
2-Fluorobiphenyl (Surr)			67 %		44-120 %	4	04/10/23 12:30	EPA 8270E
Phenol-d6 (Surr)			20 %		10-133 %	4	04/10/23 12:30	EPA 8270E
p-Terphenyl-d14 (Surr)			67 %		50-134 %	4	04/10/23 12:30	EPA 8270E
2-Fluorophenol (Surr)			27 %		19-120 %	4	04/10/23 12:30	EPA 8270E
2,4,6-Tribromophenol (Surr)			112 %		43-140 %	4	04/10/23 12:30	EPA 8270E
Outfall E (A3D0715-02RE2)		Matrix: Water			Batch: 23D0237		R-04	
Acenaphthene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Acenaphthylene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Anthracene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Benz(a)anthracene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Benzo(a)pyrene	ND	0.0577	0.115	ug/L	4	04/11/23 13:13	EPA 8270E	

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A3D0715 - 05 03 23 1713

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall E (A3D0715-02RE2)		Matrix: Water			Batch: 23D0237		R-04	
Benzo(b)fluoranthene	ND	0.0577	0.115	ug/L	4	04/11/23 13:13	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0577	0.115	ug/L	4	04/11/23 13:13	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Chrysene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Fluoranthene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Fluorene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
1-Methylnaphthalene	ND	0.0769	0.154	ug/L	4	04/11/23 13:13	EPA 8270E	
2-Methylnaphthalene	ND	0.0769	0.154	ug/L	4	04/11/23 13:13	EPA 8270E	
Naphthalene	ND	0.0769	0.154	ug/L	4	04/11/23 13:13	EPA 8270E	
Phenanthrene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Pyrene	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Carbazole	ND	0.0577	0.115	ug/L	4	04/11/23 13:13	EPA 8270E	
Dibenzofuran	ND	0.0385	0.0769	ug/L	4	04/11/23 13:13	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.769	1.54	ug/L	4	04/11/23 13:13	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery: 66 %</i>		<i>Limits: 44-120 %</i>	4	04/11/23 13:13	EPA 8270E	<i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>		<i>66 %</i>		<i>44-120 %</i>	4	04/11/23 13:13	EPA 8270E	
<i>Phenol-d6 (Surr)</i>		<i>18 %</i>		<i>10-133 %</i>	4	04/11/23 13:13	EPA 8270E	<i>Q-41</i>
<i>p-Terphenyl-d14 (Surr)</i>		<i>77 %</i>		<i>50-134 %</i>	4	04/11/23 13:13	EPA 8270E	
<i>2-Fluorophenol (Surr)</i>		<i>26 %</i>		<i>19-120 %</i>	4	04/11/23 13:13	EPA 8270E	
<i>2,4,6-Tribromophenol (Surr)</i>		<i>113 %</i>		<i>43-140 %</i>	4	04/11/23 13:13	EPA 8270E	

CB-16 (A3D0715-03RE1)**Matrix: Water****Batch: 23D0203**

Acenaphthene	0.0113	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	J
Acenaphthylene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Anthracene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Benz(a)anthracene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Benzo(a)pyrene	ND	0.0153	0.0306	ug/L	1	04/10/23 11:56	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0153	0.0306	ug/L	1	04/10/23 11:56	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0153	0.0306	ug/L	1	04/10/23 11:56	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Chrysene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	

Apex Laboratories

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
ORELAP ID: OR100062Maul Foster & Alongi, INC.3140 NE Broadway Street
Portland, OR 97232Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A3D0715 - 05 03 23 1713

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
CB-16 (A3D0715-03RE1)		Matrix: Water			Batch: 23D0203			
Fluoranthene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Fluorene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
1-Methylnaphthalene	ND	0.0204	0.0408	ug/L	1	04/10/23 11:56	EPA 8270E	
2-Methylnaphthalene	ND	0.0204	0.0408	ug/L	1	04/10/23 11:56	EPA 8270E	
Naphthalene	ND	0.0204	0.0408	ug/L	1	04/10/23 11:56	EPA 8270E	
Phenanthrene	0.0137	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	J
Pyrene	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Carbazole	ND	0.0153	0.0306	ug/L	1	04/10/23 11:56	EPA 8270E	
Dibenzofuran	ND	0.0102	0.0204	ug/L	1	04/10/23 11:56	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.204	0.408	ug/L	1	04/10/23 11:56	EPA 8270E	
<i>Surrogate: Nitrobenzene-d5 (Surr)</i>		<i>Recovery:</i>	79 %	<i>Limits:</i>	44-120 %	1	04/10/23 11:56	EPA 8270E <i>Q-41</i>
<i>2-Fluorobiphenyl (Surr)</i>			58 %		44-120 %	1	04/10/23 11:56	EPA 8270E
<i>Phenol-d6 (Surr)</i>			23 %		10-133 %	1	04/10/23 11:56	EPA 8270E
<i>p-Terphenyl-d14 (Surr)</i>			54 %		50-134 %	1	04/10/23 11:56	EPA 8270E
<i>2-Fluorophenol (Surr)</i>			37 %		19-120 %	1	04/10/23 11:56	EPA 8270E
<i>2,4,6-Tribromophenol (Surr)</i>			93 %		43-140 %	1	04/10/23 11:56	EPA 8270E
DUP (A3D0715-04RE1)		Matrix: Water			Batch: 23D0203			R-04
Acenaphthene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Acenaphthylene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Anthracene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Benz(a)anthracene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Benzo(a)pyrene	ND	0.0577	0.115	ug/L	4	04/10/23 13:04	EPA 8270E	
Benzo(b)fluoranthene	ND	0.0577	0.115	ug/L	4	04/10/23 13:04	EPA 8270E	
Benzo(k)fluoranthene	ND	0.0577	0.115	ug/L	4	04/10/23 13:04	EPA 8270E	
Benzo(g,h,i)perylene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Chrysene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Dibenz(a,h)anthracene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Fluoranthene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Fluorene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Indeno(1,2,3-cd)pyrene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
1-Methylnaphthalene	ND	0.0769	0.154	ug/L	4	04/10/23 13:04	EPA 8270E	
2-Methylnaphthalene	ND	0.0769	0.154	ug/L	4	04/10/23 13:04	EPA 8270E	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

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6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCEProject Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

ANALYTICAL SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
DUP (A3D0715-04RE1)				Matrix: Water		Batch: 23D0203		R-04
Naphthalene	ND	0.0769	0.154	ug/L	4	04/10/23 13:04	EPA 8270E	
Phenanthrene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Pyrene	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Carbazole	ND	0.0577	0.115	ug/L	4	04/10/23 13:04	EPA 8270E	
Dibenzofuran	ND	0.0385	0.0769	ug/L	4	04/10/23 13:04	EPA 8270E	
Bis(2-ethylhexyl)phthalate	ND	0.769	1.54	ug/L	4	04/10/23 13:04	EPA 8270E	
Surrogate: Nitrobenzene-d5 (Surr)		Recovery: 67 %	Limits: 44-120 %	4	04/10/23 13:04	EPA 8270E		Q-41
2-Fluorobiphenyl (Surr)		64 %	44-120 %	4	04/10/23 13:04	EPA 8270E		
Phenol-d6 (Surr)		20 %	10-133 %	4	04/10/23 13:04	EPA 8270E		
p-Terphenyl-d14 (Surr)		60 %	50-134 %	4	04/10/23 13:04	EPA 8270E		
2-Fluorophenol (Surr)		28 %	19-120 %	4	04/10/23 13:04	EPA 8270E		
2,4,6-Tribromophenol (Surr)		102 %	43-140 %	4	04/10/23 13:04	EPA 8270E		

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A3D0715 - 05 03 23 1713

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A3D0715-01)		Matrix: Water						
Batch: 23D0362								
Copper	11.1	1.00	2.00	ug/L	1	04/11/23 13:45	EPA 200.8	
Outfall E (A3D0715-02)		Matrix: Water						
Batch: 23D0362								
Cadmium	0.498	0.100	0.200	ug/L	1	04/11/23 13:50	EPA 200.8	
Zinc	751	2.00	4.00	ug/L	1	04/11/23 13:50	EPA 200.8	B-02
CB-16 (A3D0715-03)		Matrix: Water						
Batch: 23D0362								
Cadmium	0.116	0.100	0.200	ug/L	1	04/11/23 13:55	EPA 200.8	J
Zinc	82.1	2.00	4.00	ug/L	1	04/11/23 13:55	EPA 200.8	B-02
DUP (A3D0715-04)		Matrix: Water						
Batch: 23D0362								
Copper	11.3	1.00	2.00	ug/L	1	04/11/23 14:10	EPA 200.8	

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3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713****ANALYTICAL SAMPLE RESULTS****Total Metals by EPA 200.8 (ICPMS) - Low Level**

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A3D0715-01)		Matrix: Water						
Batch: 23D0970								
Arsenic	0.297	0.0250	0.0500	ug/L	1	05/01/23 18:03	EPA 200.8-Low	
DUP (A3D0715-04)		Matrix: Water						
Batch: 23D0970								
Arsenic	0.300	0.0250	0.0500	ug/L	1	05/01/23 18:20	EPA 200.8-Low	

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Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A3D0715 - 05 03 23 1713

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
Outfall C/D (A3D0715-01)		Matrix: Water						
Batch: 23D0068								
Total Suspended Solids	ND	5.00	5.00	mg/L	1	04/03/23 17:22	SM 2540 D	EST_s
Outfall E (A3D0715-02)		Matrix: Water						
Batch: 23D0068								
Total Suspended Solids	5.00	5.00	5.00	mg/L	1	04/03/23 17:22	SM 2540 D	EST_s
CB-16 (A3D0715-03)		Matrix: Water						
Batch: 23D0068								
Total Suspended Solids	236	5.00	5.00	mg/L	1	04/03/23 17:22	SM 2540 D	
DUP (A3D0715-04)		Matrix: Water						
Batch: 23D0068								
Total Suspended Solids	ND	5.00	5.00	mg/L	1	04/03/23 17:22	SM 2540 D	EST_s

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Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0203 - EPA 3510C (Acid Extraction)							Water					
Blank (23D0203-BLK2)			Prepared: 04/06/23 11:09 Analyzed: 04/06/23 15:32									
EPA 8270E												
Acenaphthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)		Recovery: 86 %		Limits: 44-120 %		Dilution: 1x						
2-Fluorobiphenyl (Surr)		63 %		44-120 %		"						
Phenol-d6 (Surr)		27 %		10-133 %		"						
p-Terphenyl-d14 (Surr)		75 %		50-134 %		"						
2-Fluorophenol (Surr)		50 %		19-120 %		"						
2,4,6-Tribromophenol (Surr)		81 %		43-140 %		"						

Q-41

LCS (23D0203-BS2)

Prepared: 04/06/23 11:09 Analyzed: 04/06/23 16:02

EPA 8270E												
Acenaphthene	3.36	0.0400	0.0800	ug/L	4	4.00	---	84	47-122%	---	---	
Acenaphthylene	3.20	0.0400	0.0800	ug/L	4	4.00	---	80	41-130%	---	---	
Anthracene	3.68	0.0400	0.0800	ug/L	4	4.00	---	92	57-123%	---	---	
Benz(a)anthracene	3.74	0.0400	0.0800	ug/L	4	4.00	---	94	58-125%	---	---	

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3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0203 - EPA 3510C (Acid Extraction)						Water						
LCS (23D0203-BS2)						Prepared: 04/06/23 11:09 Analyzed: 04/06/23 16:02						
Benzo(a)pyrene	3.42	0.0600	0.120	ug/L	4	4.00	---	85	54-128%	---	---	
Benzo(b)fluoranthene	3.41	0.0600	0.120	ug/L	4	4.00	---	85	53-131%	---	---	
Benzo(k)fluoranthene	3.53	0.0600	0.120	ug/L	4	4.00	---	88	57-129%	---	---	
Benzo(g,h,i)perylene	4.01	0.0400	0.0800	ug/L	4	4.00	---	100	50-134%	---	---	
Chrysene	3.69	0.0400	0.0800	ug/L	4	4.00	---	92	59-123%	---	---	
Dibenz(a,h)anthracene	3.75	0.0400	0.0800	ug/L	4	4.00	---	94	51-134%	---	---	
Fluoranthene	3.87	0.0400	0.0800	ug/L	4	4.00	---	97	57-128%	---	---	
Fluorene	3.32	0.0400	0.0800	ug/L	4	4.00	---	83	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.60	0.0400	0.0800	ug/L	4	4.00	---	90	52-134%	---	---	
1-Methylnaphthalene	3.13	0.0800	0.160	ug/L	4	4.00	---	78	41-120%	---	---	
2-Methylnaphthalene	3.32	0.0800	0.160	ug/L	4	4.00	---	83	40-121%	---	---	
Naphthalene	3.07	0.0800	0.160	ug/L	4	4.00	---	77	40-121%	---	---	
Phenanthrene	3.49	0.0400	0.0800	ug/L	4	4.00	---	87	59-120%	---	---	
Pyrene	3.83	0.0400	0.0800	ug/L	4	4.00	---	96	57-126%	---	---	
Carbazole	4.00	0.0600	0.120	ug/L	4	4.00	---	100	60-122%	---	---	
Dibenzofuran	3.42	0.0400	0.0800	ug/L	4	4.00	---	86	53-120%	---	---	
Bis(2-ethylhexyl)phthalate	3.66	0.800	1.60	ug/L	4	4.00	---	92	55-135%	---	---	
Surr: Nitrobenzene-d5 (Surr) Recovery: 101 % Limits: 44-120 % Dilution: 4x												
2-Fluorobiphenyl (Surr) 80 % 44-120 % "												
Phenol-d6 (Surr) 31 % 10-133 % "												
p-Terphenyl-d14 (Surr) 95 % 50-134 % "												
2-Fluorophenol (Surr) 48 % 19-120 % "												
2,4,6-Tribromophenol (Surr) 89 % 43-140 % "												

Q-41

LCS Dup (23D0203-BSD2)

Prepared: 04/06/23 11:09 Analyzed: 04/06/23 16:36

Q-19

EPA 8270E

Acenaphthene	3.29	0.0400	0.0800	ug/L	4	4.00	---	82	47-122%	2	30%
Acenaphthylene	3.11	0.0400	0.0800	ug/L	4	4.00	---	78	41-130%	3	30%
Anthracene	3.62	0.0400	0.0800	ug/L	4	4.00	---	90	57-123%	2	30%
Benz(a)anthracene	3.68	0.0400	0.0800	ug/L	4	4.00	---	92	58-125%	2	30%
Benzo(a)pyrene	3.43	0.0600	0.120	ug/L	4	4.00	---	86	54-128%	0.4	30%
Benzo(b)fluoranthene	3.48	0.0600	0.120	ug/L	4	4.00	---	87	53-131%	2	30%
Benzo(k)fluoranthene	3.55	0.0600	0.120	ug/L	4	4.00	---	89	57-129%	0.5	30%
Benzo(g,h,i)perylene	4.06	0.0400	0.0800	ug/L	4	4.00	---	101	50-134%	1	30%

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0203 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (23D0203-BSD2)					Prepared: 04/06/23 11:09 Analyzed: 04/06/23 16:36						Q-19	
Chrysene	3.70	0.0400	0.0800	ug/L	4	4.00	---	93	59-123%	0.4	30%	
Dibenz(a,h)anthracene	3.75	0.0400	0.0800	ug/L	4	4.00	---	94	51-134%	0.03	30%	
Fluoranthene	3.80	0.0400	0.0800	ug/L	4	4.00	---	95	57-128%	2	30%	
Fluorene	3.23	0.0400	0.0800	ug/L	4	4.00	---	81	52-124%	3	30%	
Indeno(1,2,3-cd)pyrene	3.61	0.0400	0.0800	ug/L	4	4.00	---	90	52-134%	0.3	30%	
1-Methylnaphthalene	2.99	0.0800	0.160	ug/L	4	4.00	---	75	41-120%	4	30%	
2-Methylnaphthalene	3.15	0.0800	0.160	ug/L	4	4.00	---	79	40-121%	5	30%	
Naphthalene	2.94	0.0800	0.160	ug/L	4	4.00	---	74	40-121%	4	30%	
Phenanthrene	3.44	0.0400	0.0800	ug/L	4	4.00	---	86	59-120%	1	30%	
Pyrene	3.75	0.0400	0.0800	ug/L	4	4.00	---	94	57-126%	2	30%	
Carbazole	3.83	0.0600	0.120	ug/L	4	4.00	---	96	60-122%	4	30%	
Dibenzofuran	3.32	0.0400	0.0800	ug/L	4	4.00	---	83	53-120%	3	30%	
Bis(2-ethylhexyl)phthalate	3.65	0.800	1.60	ug/L	4	4.00	---	91	55-135%	0.4	30%	
<i>Surr: Nitrobenzene-d5 (Surr)</i>												
			Recovery:	91 %	Limits:	44-120 %	Dilution:	4x				
				76 %		44-120 %		"				
				27 %		10-133 %		"				
				91 %		50-134 %		"				
				41 %		19-120 %		"				
				84 %		43-140 %		"				

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0237 - EPA 3510C (Acid Extraction)						Water						
Blank (23D0237-BLK1)			Prepared: 04/07/23 06:19		Analyzed: 04/07/23 16:27							
EPA 8270E												
Acenaphthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0200	0.0400	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0150	0.0300	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Phenol	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0237 - EPA 3510C (Acid Extraction)						Water						
Blank (23D0237-BLK1)			Prepared: 04/07/23 06:19 Analyzed: 04/07/23 16:27									
2,3,5,6-Tetrachlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	0.0500	0.100	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Diethylphthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)												Q-41
			Recovery: 84 %	Limits: 44-120 %	Dilution: 1x							
2-Fluorobiphenyl (Surr)												
			63 %	44-120 %	"							
Phenol-d6 (Surr)												Q-41
			29 %	10-133 %	"							
p-Terphenyl-d14 (Surr)												
			75 %	50-134 %	"							
2-Fluorophenol (Surr)												
			44 %	19-120 %	"							
2,4,6-Tribromophenol (Surr)												
			87 %	43-140 %	"							
LCS (23D0237-BS1)			Prepared: 04/07/23 06:19 Analyzed: 04/07/23 17:01									
EPA 8270E												
Acenaphthene	3.05	0.0400	0.0800	ug/L	4	4.00	---	76	47-122%	---	---	
Acenaphthylene	2.90	0.0400	0.0800	ug/L	4	4.00	---	73	41-130%	---	---	
Anthracene	3.58	0.0400	0.0800	ug/L	4	4.00	---	89	57-123%	---	---	
Benz(a)anthracene	3.73	0.0400	0.0800	ug/L	4	4.00	---	93	58-125%	---	---	
Benzo(a)pyrene	3.47	0.0600	0.120	ug/L	4	4.00	---	87	54-128%	---	---	
Benzo(b)fluoranthene	3.48	0.0600	0.120	ug/L	4	4.00	---	87	53-131%	---	---	
Benzo(k)fluoranthene	3.50	0.0600	0.120	ug/L	4	4.00	---	88	57-129%	---	---	
Benzo(g,h,i)perylene	3.94	0.0400	0.0800	ug/L	4	4.00	---	99	50-134%	---	---	
Chrysene	3.74	0.0400	0.0800	ug/L	4	4.00	---	93	59-123%	---	---	
Dibenz(a,h)anthracene	3.75	0.0400	0.0800	ug/L	4	4.00	---	94	51-134%	---	---	
Fluoranthene	3.86	0.0400	0.0800	ug/L	4	4.00	---	96	57-128%	---	---	
Fluorene	3.12	0.0400	0.0800	ug/L	4	4.00	---	78	52-124%	---	---	
Indeno(1,2,3-cd)pyrene	3.53	0.0400	0.0800	ug/L	4	4.00	---	88	52-134%	---	---	
1-Methylnaphthalene	2.67	0.0800	0.160	ug/L	4	4.00	---	67	41-120%	---	---	
2-Methylnaphthalene	2.80	0.0800	0.160	ug/L	4	4.00	---	70	40-121%	---	---	
Naphthalene	2.48	0.0800	0.160	ug/L	4	4.00	---	62	40-121%	---	---	

Apex Laboratories

Philip Nerenberg, Lab Director

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ANALYTICAL REPORT

Apex Laboratories, LLC

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes	
Batch 23D0237 - EPA 3510C (Acid Extraction)						Water							
LCS (23D0237-BS1)			Prepared: 04/07/23 06:19		Analyzed: 04/07/23 17:01								
Phenanthrene	3.35	0.0400	0.0800	ug/L	4	4.00	---	84	59-120%	---	---		
Pyrene	3.84	0.0400	0.0800	ug/L	4	4.00	---	96	57-126%	---	---		
Carbazole	4.04	0.0600	0.120	ug/L	4	4.00	---	101	60-122%	---	---		
Dibenzofuran	3.16	0.0400	0.0800	ug/L	4	4.00	---	79	53-120%	---	---		
2-Chlorophenol	2.98	0.200	0.400	ug/L	4	4.00	---	75	38-120%	---	---		
4-Chloro-3-methylphenol	3.42	0.400	0.800	ug/L	4	4.00	---	85	52-120%	---	---	Q-41	
2,4-Dichlorophenol	3.40	0.200	0.400	ug/L	4	4.00	---	85	47-121%	---	---	Q-41	
2,4-Dimethylphenol	3.03	0.200	0.400	ug/L	4	4.00	---	76	31-124%	---	---		
2,4-Dinitrophenol	4.23	1.00	2.00	ug/L	4	4.00	---	106	23-143%	---	---	Q-41	
4,6-Dinitro-2-methylphenol	3.84	1.00	2.00	ug/L	4	4.00	---	96	44-137%	---	---		
2-Methylphenol	3.08	0.100	0.200	ug/L	4	4.00	---	77	30-120%	---	---	Q-41	
3+4-Methylphenol(s)	3.00	0.100	0.200	ug/L	4	4.00	---	75	29-120%	---	---	Q-41	
2-Nitrophenol	3.46	0.400	0.800	ug/L	4	4.00	---	86	47-123%	---	---	Q-41	
4-Nitrophenol	1.52	0.400	0.800	ug/L	4	4.00	---	38	10-120%	---	---		
Pentachlorophenol (PCP)	3.69	0.400	0.800	ug/L	4	4.00	---	92	35-138%	---	---		
Phenol	1.40	0.800	0.800	ug/L	4	4.00	---	35	10-120%	---	---	Q-41	
2,3,4,6-Tetrachlorophenol	3.44	0.200	0.400	ug/L	4	4.00	---	86	50-128%	---	---		
2,3,5,6-Tetrachlorophenol	3.61	0.200	0.400	ug/L	4	4.00	---	90	50-121%	---	---		
2,4,5-Trichlorophenol	3.56	0.200	0.400	ug/L	4	4.00	---	89	53-123%	---	---		
2,4,6-Trichlorophenol	3.34	0.200	0.400	ug/L	4	4.00	---	84	50-125%	---	---		
Bis(2-ethylhexyl)phthalate	3.81	0.800	1.60	ug/L	4	4.00	---	95	55-135%	---	---		
Butyl benzyl phthalate	4.12	0.800	1.60	ug/L	4	4.00	---	103	53-134%	---	---		
Diethylphthalate	3.46	0.800	1.60	ug/L	4	4.00	---	86	56-125%	---	---		
Dimethylphthalate	3.60	0.800	1.60	ug/L	4	4.00	---	90	45-127%	---	---		
Di-n-butylphthalate	4.27	0.800	1.60	ug/L	4	4.00	---	107	59-127%	---	---		
Di-n-octyl phthalate	3.53	0.800	1.60	ug/L	4	4.00	---	88	51-140%	---	---		
Surr: Nitrobenzene-d5 (Surr)		Recovery: 89 %		Limits: 44-120 %		Dilution: 4x							Q-41
2-Fluorobiphenyl (Surr)		79 %		44-120 %		"							
Phenol-d6 (Surr)		32 %		10-133 %		"							Q-41
p-Terphenyl-d14 (Surr)		98 %		50-134 %		"							
2-Fluorophenol (Surr)		43 %		19-120 %		"							
2,4,6-Tribromophenol (Surr)		93 %		43-140 %		"							

LCS Dup (23D0237-BS1)

Prepared: 04/07/23 06:19 Analyzed: 04/07/23 17:36

Q-19

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A3D0715 - 05 03 23 1713

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0237 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (23D0237-BSD1)			Prepared: 04/07/23 06:19		Analyzed: 04/07/23 17:36						Q-19	
EPA 8270E												
Acenaphthene	2.95	0.0400	0.0800	ug/L	4	4.00	---	74	47-122%	3	30%	
Acenaphthylene	2.86	0.0400	0.0800	ug/L	4	4.00	---	72	41-130%	1	30%	
Anthracene	3.57	0.0400	0.0800	ug/L	4	4.00	---	89	57-123%	0.3	30%	
Benz(a)anthracene	3.76	0.0400	0.0800	ug/L	4	4.00	---	94	58-125%	0.8	30%	
Benzo(a)pyrene	3.55	0.0600	0.120	ug/L	4	4.00	---	89	54-128%	2	30%	
Benzo(b)fluoranthene	3.45	0.0600	0.120	ug/L	4	4.00	---	86	53-131%	0.9	30%	
Benzo(k)fluoranthene	3.56	0.0600	0.120	ug/L	4	4.00	---	89	57-129%	2	30%	
Benzo(g,h,i)perylene	4.07	0.0400	0.0800	ug/L	4	4.00	---	102	50-134%	3	30%	
Chrysene	3.78	0.0400	0.0800	ug/L	4	4.00	---	95	59-123%	1	30%	
Dibenz(a,h)anthracene	3.87	0.0400	0.0800	ug/L	4	4.00	---	97	51-134%	3	30%	
Fluoranthene	3.85	0.0400	0.0800	ug/L	4	4.00	---	96	57-128%	0.09	30%	
Fluorene	3.09	0.0400	0.0800	ug/L	4	4.00	---	77	52-124%	1	30%	
Indeno(1,2,3-cd)pyrene	3.59	0.0400	0.0800	ug/L	4	4.00	---	90	52-134%	2	30%	
1-Methylnaphthalene	2.51	0.0800	0.160	ug/L	4	4.00	---	63	41-120%	6	30%	
2-Methylnaphthalene	2.64	0.0800	0.160	ug/L	4	4.00	---	66	40-121%	6	30%	
Naphthalene	2.34	0.0800	0.160	ug/L	4	4.00	---	59	40-121%	6	30%	
Phenanthrene	3.37	0.0400	0.0800	ug/L	4	4.00	---	84	59-120%	0.8	30%	
Pyrene	3.83	0.0400	0.0800	ug/L	4	4.00	---	96	57-126%	0.1	30%	
Carbazole	4.05	0.0600	0.120	ug/L	4	4.00	---	101	60-122%	0.1	30%	
Dibenzofuran	3.13	0.0400	0.0800	ug/L	4	4.00	---	78	53-120%	0.7	30%	
2-Chlorophenol	3.01	0.200	0.400	ug/L	4	4.00	---	75	38-120%	0.9	30%	
4-Chloro-3-methylphenol	3.42	0.400	0.800	ug/L	4	4.00	---	86	52-120%	0.09	30%	Q-41
2,4-Dichlorophenol	3.38	0.200	0.400	ug/L	4	4.00	---	85	47-121%	0.3	30%	Q-41
2,4-Dimethylphenol	3.06	0.200	0.400	ug/L	4	4.00	---	77	31-124%	1	30%	
2,4-Dinitrophenol	4.17	1.00	2.00	ug/L	4	4.00	---	104	23-143%	1	30%	Q-41
4,6-Dinitro-2-methylphenol	3.81	1.00	2.00	ug/L	4	4.00	---	95	44-137%	0.8	30%	
2-Methylphenol	3.08	0.100	0.200	ug/L	4	4.00	---	77	30-120%	0.1	30%	Q-41
3+4-Methylphenol(s)	2.99	0.100	0.200	ug/L	4	4.00	---	75	29-120%	0.6	30%	Q-41
2-Nitrophenol	3.46	0.400	0.800	ug/L	4	4.00	---	87	47-123%	0.2	30%	Q-41
4-Nitrophenol	1.58	0.400	0.800	ug/L	4	4.00	---	39	10-120%	4	30%	
Pentachlorophenol (PCP)	3.74	0.400	0.800	ug/L	4	4.00	---	93	35-138%	1	30%	
Phenol	1.41	0.800	0.800	ug/L	4	4.00	---	35	10-120%	0.6	30%	Q-41
2,3,4,6-Tetrachlorophenol	3.43	0.200	0.400	ug/L	4	4.00	---	86	50-128%	0.5	30%	

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Philip Nerenberg, Lab Director



ANALYTICAL REPORT

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503-718-2323

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Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Semivolatile Organic Compounds by EPA 8270E

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0237 - EPA 3510C (Acid Extraction)							Water					
LCS Dup (23D0237-BSD1)					Prepared: 04/07/23 06:19 Analyzed: 04/07/23 17:36						Q-19	
2,3,5,6-Tetrachlorophenol	3.66	0.200	0.400	ug/L	4	4.00	---	92	50-121%	2	30%	
2,4,5-Trichlorophenol	3.54	0.200	0.400	ug/L	4	4.00	---	89	53-123%	0.4	30%	
2,4,6-Trichlorophenol	3.36	0.200	0.400	ug/L	4	4.00	---	84	50-125%	0.6	30%	
Bis(2-ethylhexyl)phthalate	3.91	0.800	1.60	ug/L	4	4.00	---	98	55-135%	3	30%	
Butyl benzyl phthalate	4.17	0.800	1.60	ug/L	4	4.00	---	104	53-134%	1	30%	
Diethylphthalate	3.45	0.800	1.60	ug/L	4	4.00	---	86	56-125%	0.3	30%	
Dimethylphthalate	3.57	0.800	1.60	ug/L	4	4.00	---	89	45-127%	0.8	30%	
Di-n-butylphthalate	4.26	0.800	1.60	ug/L	4	4.00	---	107	59-127%	0.03	30%	
Di-n-octyl phthalate	3.55	0.800	1.60	ug/L	4	4.00	---	89	51-140%	0.4	30%	
Surr: Nitrobenzene-d5 (Surr)			Recovery: 84 %	Limits: 44-120 %		Dilution: 4x						Q-41
2-Fluorobiphenyl (Surr)			75 %	44-120 %		"						
Phenol-d6 (Surr)			32 %	10-133 %		"						Q-41
p-Terphenyl-d14 (Surr)			97 %	50-134 %		"						
2-Fluorophenol (Surr)			44 %	19-120 %		"						
2,4,6-Tribromophenol (Surr)			93 %	43-140 %		"						

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503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0362 - EPA 3015A						Water						
Blank (23D0362-BLK1)				Prepared: 04/11/23 06:49		Analyzed: 04/11/23 13:10						
EPA 200.8												
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Copper	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Zinc	2.35	2.00	4.00	ug/L	1	---	---	---	---	---	---	J, B-02
LCS (23D0362-BS1)				Prepared: 04/11/23 06:49		Analyzed: 04/11/23 13:15						
EPA 200.8												
Arsenic	54.5	0.500	1.00	ug/L	1	55.6	---	98	85-115%	---	---	
Cadmium	54.1	0.100	0.200	ug/L	1	55.6	---	97	85-115%	---	---	
Copper	58.1	1.00	2.00	ug/L	1	55.6	---	105	85-115%	---	---	
Zinc	62.0	2.00	4.00	ug/L	1	55.6	---	112	85-115%	---	---	B-02
Duplicate (23D0362-DUP1)				Prepared: 04/11/23 06:49		Analyzed: 04/11/23 13:25						
QC Source Sample: Non-SDG (A3D0714-01)												
Arsenic	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	20%	
Cadmium	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	20%	
Copper	ND	1.00	2.00	ug/L	1	---	ND	---	---	---	20%	
Zinc	137	2.00	4.00	ug/L	1	---	135	---	---	2	20%	B-02
Matrix Spike (23D0362-MS1)				Prepared: 04/11/23 06:49		Analyzed: 04/11/23 13:30						
QC Source Sample: Non-SDG (A3D0714-01)												
EPA 200.8												
Arsenic	55.0	0.500	1.00	ug/L	1	55.6	ND	99	70-130%	---	---	
Cadmium	54.7	0.100	0.200	ug/L	1	55.6	ND	98	70-130%	---	---	
Copper	58.6	1.00	2.00	ug/L	1	55.6	ND	106	70-130%	---	---	
Zinc	193	2.00	4.00	ug/L	1	55.6	135	105	70-130%	---	---	B-02
Matrix Spike (23D0362-MS2)				Prepared: 04/11/23 06:49		Analyzed: 04/11/23 13:40						
QC Source Sample: Non-SDG (A3D0714-02)												
EPA 200.8												
Arsenic	53.5	0.500	1.00	ug/L	1	55.6	0.762	95	70-130%	---	---	
Cadmium	54.3	0.100	0.200	ug/L	1	55.6	ND	98	70-130%	---	---	

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3140 NE Broadway Street
Portland, OR 97232

Project: **Dolan SCE**

Project Number: **M1381.01.001**

Project Manager: **Jessica Glenn**

Report ID:

A3D0715 - 05 03 23 1713

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0362 - EPA 3015A							Water					
Matrix Spike (23D0362-MS2)			Prepared: 04/11/23 06:49		Analyzed: 04/11/23 13:40							
QC Source Sample: Non-SDG (A3D0714-02)												
Copper	58.7	1.00	2.00	ug/L	1	55.6	2.74	101	70-130%	---	---	
Zinc	101	2.00	4.00	ug/L	1	55.6	40.3	109	70-130%	---	---	B-02

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Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 200.8 (ICPMS) - Low Level

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0970 - EPA 3015A						Water						
Blank (23D0970-BLK1)			Prepared: 04/25/23 07:13 Analyzed: 05/01/23 17:47									
EPA 200.8-Low												
Arsenic	ND	0.0250	0.0500	ug/L	1	---	---	---	---	---	---	
LCS (23D0970-BS1)			Prepared: 04/25/23 07:13 Analyzed: 05/01/23 17:55									
EPA 200.8-Low												
Arsenic	5.88	0.0250	0.0500	ug/L	1	5.56	---	106	85-115%	---	---	
Duplicate (23D0970-DUP1)			Prepared: 04/25/23 07:13 Analyzed: 05/01/23 18:12									
QC Source Sample: Outfall C/D (A3D0715-01)												
EPA 200.8-Low												
Arsenic	0.284	0.0250	0.0500	ug/L	1	---	0.297	---	---	4	20%	
Matrix Spike (23D0970-MS1)			Prepared: 04/25/23 07:13 Analyzed: 05/01/23 18:28									
QC Source Sample: DUP (A3D0715-04)												
Arsenic	6.20	0.0250	0.0500	ug/L	1	5.56	0.300	106	70-130%	---	---	

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3140 NE Broadway Street

Portland, OR 97232

Project: Dolan SCE

Project Number: M1381.01.001

Project Manager: Jessica Glenn

Report ID:

A3D0715 - 05 03 23 1713

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 23D0068 - Total Suspended Solids - 2022						Water						
Blank (23D0068-BLK1)			Prepared: 04/03/23 17:22 Analyzed: 04/03/23 17:22									
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	---	---	---	---	---	
Duplicate (23D0068-DUP1)			Prepared: 04/03/23 17:22 Analyzed: 04/03/23 17:22									
QC Source Sample: Outfall C/D (A3D0715-01)												
SM 2540 D												
Total Suspended Solids	ND	5.00	5.00	mg/L	1	---	ND	---	---	---	10%	EST_s
Duplicate (23D0068-DUP2)			Prepared: 04/03/23 17:22 Analyzed: 04/03/23 17:22									
QC Source Sample: CB-16 (A3D0715-03)												
SM 2540 D												
Total Suspended Solids	237	5.00	5.00	mg/L	1	---	236	---	---	0.423	10%	
Reference (23D0068-SRM1)			Prepared: 04/03/23 17:22 Analyzed: 04/03/23 17:22									
SM 2540 D												
Total Suspended Solids	963			mg/L	1	926		104	85-116%	---	---	

Apex Laboratories

Philip Nerenberg, Lab Director

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**ANALYTICAL REPORT****Apex Laboratories, LLC**

6700 S.W. Sandburg Street

Tigard, OR 97223

503-718-2323

ORELAP ID: OR100062

Maul Foster & Alongi, INC.

3140 NE Broadway Street

Portland, OR 97232

Project: **Dolan SCE**Project Number: **M1381.01.001**Project Manager: **Jessica Glenn****Report ID:****A3D0715 - 05 03 23 1713****SAMPLE PREPARATION INFORMATION****Selected Semivolatile Organic Compounds by EPA 8270E****Prep: EPA 3510C (Acid Extraction)**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23D0203							
A3D0715-01RE1	Water	EPA 8270E	03/31/23 17:15	04/06/23 11:12	1060mL/1mL	1000mL/1mL	0.94
A3D0715-03RE1	Water	EPA 8270E	03/31/23 18:45	04/06/23 11:12	980mL/1mL	1000mL/1mL	1.02
A3D0715-04RE1	Water	EPA 8270E	03/31/23 00:00	04/06/23 11:12	1040mL/1mL	1000mL/1mL	0.96
Batch: 23D0237							
A3D0715-02RE2	Water	EPA 8270E	03/31/23 18:00	04/07/23 13:41	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: 23D0362							
A3D0715-01	Water	EPA 200.8	03/31/23 17:15	04/11/23 06:49	45mL/50mL	45mL/50mL	1.00
A3D0715-02	Water	EPA 200.8	03/31/23 18:00	04/11/23 06:49	45mL/50mL	45mL/50mL	1.00
A3D0715-03	Water	EPA 200.8	03/31/23 18:45	04/11/23 06:49	45mL/50mL	45mL/50mL	1.00
A3D0715-04	Water	EPA 200.8	03/31/23 00:00	04/11/23 06:49	45mL/50mL	45mL/50mL	1.00

Total Metals by EPA 200.8 (ICPMS) - Low Level**Prep: EPA 3015A**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23D0970							
A3D0715-01	Water	EPA 200.8-Low	03/31/23 17:15	04/25/23 07:13	45mL/50mL	45mL/50mL	1.00
A3D0715-04	Water	EPA 200.8-Low	03/31/23 00:00	04/25/23 07:13	45mL/50mL	45mL/50mL	1.00

Solid and Moisture Determinations**Prep: Total Suspended Solids - 2022**

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 23D0068							
A3D0715-01	Water	SM 2540 D	03/31/23 17:15	04/03/23 17:22			NA
A3D0715-02	Water	SM 2540 D	03/31/23 18:00	04/03/23 17:22			NA
A3D0715-03	Water	SM 2540 D	03/31/23 18:45	04/03/23 17:22			NA
A3D0715-04	Water	SM 2540 D	03/31/23 00:00	04/03/23 17:22			NA

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Project Manager: **Jessica Glenn**

Report ID:

A3D0715 - 05 03 23 1713

QUALIFIER DEFINITIONS

Client Sample and Quality Control (QC) Sample Qualifier Definitions:

Apex Laboratories

- B-02** Analyte detected in an associated blank at a level between one-half the MRL and the MRL. (See Notes and Conventions below.)
- EST_s** Solids results are reported as estimates when less than 2.5 mg residue is recovered during analysis. All method QC requirements have been met for samples, and reporting levels are adjusted based on volume filtered. Results meet regulatory requirements.
- J** Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
- Q-19** Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-41** Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
- R-04** Reporting levels elevated due to preparation and/or analytical dilution necessary for analysis.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

DET Analyte DETECTED at or above the detection or reporting limit.
ND Analyte NOT DETECTED at or above the detection or reporting limit.
NR Result Not Reported
RPD Relative Percent Difference. RPDs for Matrix Spikes and Matrix Spike Duplicates are based on concentration, not recovery.

Detection Limits: Limit of Detection (LOD)

Limits of Detection (LODs) are normally set at a level of one half the validated Limit of Quantitation (LOQ).

If no value is listed ('-----'), then the data has not been evaluated below the Reporting Limit.

Reporting Limits: Limit of Quantitation (LOQ)

Validated Limits of Quantitation (LOQs) are reported as the Reporting Limits for all analyses where the LOQ, MRL, PQL or CRL are requested. The LOQ represents a level at or above the low point of the calibration curve, that has been validated according to Apex Laboratories' comprehensive LOQ policies and procedures.

Reporting Conventions:

Basis: Results for soil samples are generally reported on a 100% dry weight basis.

The Result Basis is listed following the units as "dry", "wet", or " " (blank) designation.

"dry" Sample results and Reporting Limits are reported on a dry weight basis. (i.e. "ug/kg dry")

See Percent Solids section for details of dry weight analysis.

"wet" Sample results and Reporting Limits for this analysis are normally dry weight corrected, but have not been modified in this case.

" " Results without 'wet' or 'dry' designation are not normally dry weight corrected. These results are considered 'As Received'.

QC Source:

In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) may be analyzed to demonstrate accuracy and precision of the extraction batch.

Non-Client Batch QC Samples (Duplicates and Matrix Spike/Duplicates) may not be included in this report. Please request a Full QC report if this data is required.

Miscellaneous Notes:

" --- " 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).

Blanks:

Standard practice is to evaluate the results from Blank QC Samples down to a level equal to ½ the Reporting Limit (RL).

-For Blank hits falling between ½ the RL and the RL (J flagged hits), the associated sample and QC data will receive a 'B-02' qualifier.

-For Blank hits above the RL, the associated sample and QC data will receive a 'B' qualifier, per Apex Laboratories' Blank Policy.

For further details, please request a copy of this document.

Apex Laboratories

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A3D0715 - 05 03 23 1713

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

Sample results flagged with a 'B' or 'B-02' qualifier are potentially biased high if the sample results 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.

'B' and 'B-02' qualifications are only applied to sample results detected above the Reporting Level.

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

Water samples containing significant amounts of sediment are decanted or separated prior to extraction, and only the water portion analyzed, unless otherwise directed by the client.

Soil and Sediment Samples:

Soil and Sediment samples containing significant amounts of water are decanted prior to extraction, and only the solid portion analyzed, unless otherwise directed by the client.

Sampling and Preservation Notes:

Certain regulatory programs, such as National Pollutant Discharge Elimination System (NPDES), require that activities such as sample filtration (for dissolved metals, orthophosphate, hexavalent chromium, etc.) and testing of short hold analytes (pH, Dissolved Oxygen, etc.) be performed in the field (on-site) within a short time window. In addition, sample matrix spikes are required for some analyses, and sufficient volume must be provided, and billable site specific QC requested, if this is required. All regulatory permits should be reviewed to ensure that these requirements are being met.

Data users should be aware of which regulations pertain to the samples they submit for testing. If related sample collection activities are not approved for a particular regulatory program, results should be considered estimates. Apex Laboratories will qualify these analytes according to the most stringent requirements, however results for samples that are for non-regulatory purposes may be acceptable.

Samples that have been filtered and preserved at Apex Laboratories per client request are listed in the preparation section of the report with the date and time of filtration listed.

Apex Laboratories maintains detailed records on sample receipt, including client label verification, cooler temperature, sample preservation, hold time compliance and field filtration. Data is qualified as necessary, and the lack of qualification indicates compliance with required parameters.

Apex Laboratories

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Project Manager: **Jessica Glenn**

Report ID:

A3D0715 - 05 03 23 1713

LABORATORY ACCREDITATION INFORMATION

ORELAP Certification ID: OR100062 (Primary Accreditation) -

EPA ID: OR01039

All methods and analytes reported from work performed at Apex Laboratories are included on Apex Laboratories' ORELAP Scope of Certification, with the exception of any analyte(s) listed below:

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation
<u>All reported analytes are included in Apex Laboratories' current ORELAP scope.</u>					

Secondary Accreditations

Apex Laboratories also maintains reciprocal accreditation with non-TNI states (Washington DOE), as well as other state specific accreditations not listed here.

Subcontract Laboratory Accreditations

Subcontracted data falls outside of Apex Laboratories' Scope of Accreditation.

Please see the Subcontract Laboratory report for full details, or contact your Project Manager for more information.

Field Testing Parameters

Results for Field Tested data are provided by the client or sampler, and fall outside of Apex Laboratories' Scope of Accreditation.

Apex Laboratories

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APEX LABS COOLER RECEIPT FORM

Client: Maul Foster + Alongi Element WO#: A3 D0715 ^{D0715} ~~60715~~ _{acc 4/3/23}Project/Project #: Dolan stormwater / M1381-01 001**Delivery Info:**Date/time received: 738 @ 4/3/23 By: MSDelivered by: Apex Client ~~ESS~~ FedEx UPS Radio Morgan SDS Evergreen Other**Cooler Inspection** Date/time inspected: 738 @ 4/3/23 By: MSChain of Custody included? Yes X No Signed/dated by client? Yes X No

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	<u>1.8</u>	<u>0.8</u>					
Custody seals? (Y/N)	<u>N</u>	<u>→</u>					
Received on ice? (Y/N)	<u>Y</u>	<u>→</u>					
Temp. blanks? (Y/N)	<u>Y</u>	<u>→</u>					
Ice type: (Gel/Real/Other)	<u>Real</u>	<u>→</u>					
Condition (In/Out):	<u>In</u>	<u>→</u>					

Cooler out of temp? (Y/N) Possible reason why: Green dots applied to out of temperature samples? Yes NoOut of temperature samples form initiated? Yes No**Sample Inspection:** Date/time inspected: 4/3/23 @ 1028 By: MSAll samples intact? Yes X No Comments: Bottle labels/COCs agree? Yes X No Comments: COC/container discrepancies form initiated? Yes No XContainers/volumes received appropriate for analysis? Yes X No Comments: Do VOA vials have visible headspace? Yes No NA XComments: Water samples: pH checked: Yes X No NA pH appropriate? Yes X No NA Comments: **Additional information:**Labeled by: MSWitness: DJSCooler Inspected by: MS

Form Y-003 R-00

Apex Laboratories

Philip Nerenberg

Philip Nerenberg, Lab Director

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Appendix E

Data Validation Memorandums



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Data Quality Assurance/Quality Control Review

Project No. M1381.01.001 | June 8, 2023 | Dolan and Company, LLC

Maul Foster & Alongi, Inc. (MFA), conducted an independent Stage 2A review of the quality of analytical results for stormwater samples collected on April 29, 2023, October 21, 2022, and March 31, 2023 at the 2700 NW Front Avenue, Portland, Oregon.

Apex Laboratories, LLC (Apex) performed the analyses. MFA reviewed Apex report numbers A2E0026, A2J0749, and A3D0715. The analyses performed and the samples analyzed are listed in the following tables.

Analysis	Reference
Total metals	EPA 200.8
Total arsenic (low level)	EPA 200.8-LL
Total suspended solids	SM 2540D
Semivolatile organic compounds	EPA 8270E

Notes

EPA = U.S. Environmental Protection Agency.

LL = low level.

SM = Standard Methods for the Examination of Water and Wastewater.

Samples Analyzed		
Report A2E0026	Report A3D0715	Report A3D0715
OUTFALL E	Outfall C/D	Outfall C/D
OUTFALL C/D	Outfall E	Outfall E
CB-16	CB-16	CB-16
DUP	DUP	DUP

Data Qualification

Analytical results were evaluated according to applicable sections of U.S. Environmental Protection Agency (EPA) guidelines for data review (EPA 2020a, 2020b) and appropriate laboratory- and method-specific guidelines (Apex 2021/2022, EPA 1986).

Data validation procedures were modified, as appropriate, to accommodate quality control requirements for methods that EPA data review procedures do not specifically address (e.g., Standard Methods for the Examination of Water and Wastewater [SM] 2540D).

Based on the results of the data quality review procedures described below, the data, with the appropriate final data qualifiers assigned, are considered acceptable for their intended use. Final data qualifiers represent qualifiers originating from the laboratory and accepted by the reviewer, and data qualifiers assigned by the reviewer during validation.

Final data qualifiers:

- J = result is estimated.
- U = result is non-detect at the laboratory detection limit (LDL).
- UJ = result is non-detect with an estimated LDL.

In report A2J0749, Apex noted that the SM 2540D total suspended solids result for sample DUP is considered an estimated value and that the method reporting limit (MRL) had been adjusted to reflect the uncertainty of the result. Apex noted that less than one liter of sample was used in analysis and the method minimum residue of 2.5 milligrams was not met. The reviewer qualified the associated sample result with J, as shown in the following table. The associated parent sample Outfall C/D did not have a flag from the laboratory and did not require qualification. In report A3D0715, Apex noted that the SM 2540D total suspended solids result for samples Outfall C/D, Outfall E and DUP are considered estimated values and that the method reporting limit (MRL) had been adjusted to reflect the uncertainty of the result. Apex noted that less than one liter of sample was used in analysis and the method minimum residue of 2.5 milligrams was not met. The reviewer qualified the associated detected sample result with J and non-detect sample results with UJ, as shown in the following table.

Report	Sample	Analyte	Original Result (mg/L)	Qualified Result (mg/L)
A2J0749	DUP	Total suspended solids	11.0	11.0 J
A3D0715	Outfall C/D		5.00 U	5.00 UJ
	Outfall E		5.00	5.00 J
	DUP		5.00 U	5.00 UJ

Sample Conditions

Sample Custody

Sample custody was appropriately documented on the chain-of-custody (COC) form accompanying the report.

Holding Times

Extractions and analyses were performed within the recommended holding times.

Preservation and Sample Storage

The samples were preserved and stored appropriately.

Reporting Limits

The laboratory evaluated results to LDLs. Samples that required dilutions because of high analyte concentrations, matrix interferences, and/or dilutions necessary for preparation and/or analysis were reported with raised LDLs.

The laboratory qualified results between the LDL and the MRL with J, as estimated.

Blanks

Method Blanks

Laboratory method blanks are used to assess whether laboratory contamination was introduced during sample preparation and analysis. Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the laboratory method blanks were associated with all samples prepared in the analytical batch.

According to report A3D0715, the EPA Method 200.8 batch 23D0362 laboratory method blank (23D0362-BLK1) had a total zinc detection between the LDL and MRL, at a concentration of 2.35 micrograms per liter. All associated sample results were greater than ten times the concentration detected in the method blank, thus no qualifications required.

All remaining laboratory method blank results were non-detect to LDLs.

Trip Blanks

Trip blanks are used to evaluate whether volatile organic compound contamination was introduced during sample storage and during shipment between the sampling location and the laboratory.

Trip blank samples were not required for this sampling event because samples were not analyzed for volatile organic compounds.

Laboratory Control Sample and Laboratory Control Sample Duplicate Results

A laboratory control sample (LCS) and a laboratory control sample duplicate (LCSD) are spiked with target analytes to provide information about laboratory precision and accuracy.

Apex did not report LCSD for any methods. Apex did not report LCS or LCSD for SM 2540; the reviewer evaluated laboratory precision and accuracy using laboratory duplicate and standard reference material (SRM) results for this method. The remaining LCS samples were extracted and analyzed at the required frequency.

All LCS results were within acceptance limits for percent recovery.

Laboratory Duplicate Results

Laboratory duplicate results are used to evaluate laboratory precision. All laboratory duplicate samples were prepared and analyzed at the required frequency.

Laboratory duplicate results greater than five times the MRL were evaluated using laboratory RPD control limits. Laboratory duplicate results less than five times the MRL, including non-detects, were evaluated using a control limit of the MRL of the parent sample; the absolute difference of the laboratory duplicate sample result and the parent sample result, or the MRL for non-detects, was compared to the MRL of the parent sample.

Apex did not report laboratory duplicate results for EPA Method 8270E from Report A2J0749; the reviewer evaluated laboratory precision using LCS and LCSD results for this method. All remaining laboratory duplicate samples were extracted and analyzed at the required frequency.

In cases where the laboratory had prepared laboratory duplicates with samples from unrelated projects, laboratory duplicate RPD control limit exceedances did not require qualification because

these sample matrices were not representative of project sample matrices. There were no project-related laboratory duplicates in report A2J0749.

All remaining laboratory duplicate results met the acceptance criteria.

Matrix Spike and Matrix Spike Duplicate Results

Matrix spike (MS) and matrix spike duplicate (MSD) results are used to evaluate laboratory precision, accuracy, and the effect of the sample matrix on sample preparation and analysis. All MS and MSD samples were prepared and analyzed at the required frequency.

Apex did not report MSD for EPA Method 200.8 or 200.8-LL from report A2E0026. The reviewer evaluated laboratory precision and accuracy using LCS and laboratory duplicate results for this method.

Apex did not report MS or MSD for SM 2540D from report A2E0026. The reviewer evaluated laboratory precision and accuracy using laboratory duplicate and SRM results for this method. All remaining MS and MSD samples were prepared and analyzed at the required frequency.

MS and/or MSD percent recovery and RPD control limit exceedances did not require qualification in cases where the laboratory had prepared the MS and MSD with samples from unrelated projects because these sample matrices were not representative of project sample matrices.

Apex only reported MS for EPA Methods 200.8 and 200.8 (low level) from report A2J0749, which were prepared and analyzed at the required frequency. Apex did not report MSD for any methods; laboratory precision was evaluated using LCS and LCSD or laboratory duplicate results for all methods.

All remaining MS and MSD results were within acceptance limits for percent recovery and RPD.

Surrogate Recovery Results

The samples were spiked with surrogate compounds to evaluate laboratory performance for individual samples for organic analyses.

The laboratory appropriately documented and qualified surrogate outliers. When surrogate percent recoveries were outside of acceptance limits because of dilutions necessary to quantify high concentrations of target analytes, qualification by the reviewer was not required. The reviewer confirmed that batch quality control results for samples with surrogate outliers were within acceptance limits.

All surrogate results were within percent recovery acceptance limits.

Continuing Calibration Verification Results

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. CCV results were not required for validation but were reviewed when provided. Surrogate or batch quality control results flagged by the laboratory based on CCV exceedances but meeting percent recovery and/or RPD acceptance criteria required no action from the reviewer.

Field Duplicate Results

Field duplicate samples measure both field and laboratory precision. The following field duplicate and parent sample pair were submitted for analysis:

Report	Parent Sample	Field Duplicate Sample
A2E0026	OUTFALL C/D	DUP
A2J0749	Outfall C/D	DUP
A3D0715	Outfall C/D	DUP

MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the MRL or 50 percent RPD for results that are greater than five times the MRL. RPD was not evaluated when both results in the sample pair were non-detect.

All field duplicate results met the RPD acceptance criteria.

Data Package

According to report Apex, the samples DUP were submitted as a blind field duplicate. There is no sample collection time listed on the chain of custody form for these sample, and Apex reported a default time of 00:00. The reviewer confirmed with the sampler that the field duplicate was collected at the same time as the parent samples, OUTFALL C/D. The reviewer evaluated holding times based on the true sample collection time and found no exceedances.

No other issues were found.

References

Apex. 2021. Quality Systems Manual. Rev. 9. Apex Laboratories, LLC: Tigard, OR. January 1.

Apex. 2022. Quality Systems Manual. Rev. 10. Apex Laboratories, LLC: Tigard, OR. June 20.

EPA. 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. EPA publication SW-846. 3rd ed. U.S. Environmental Protection Agency. Final updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), V (2015), VI phase I (2017), VI phase II (2018), VI phase III (2019), VII phase I (2019), and VII phase II (2020).

EPA. 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA 542-R-20-006. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

EPA. 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA 540-R-20-005. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation: Washington, DC. November.

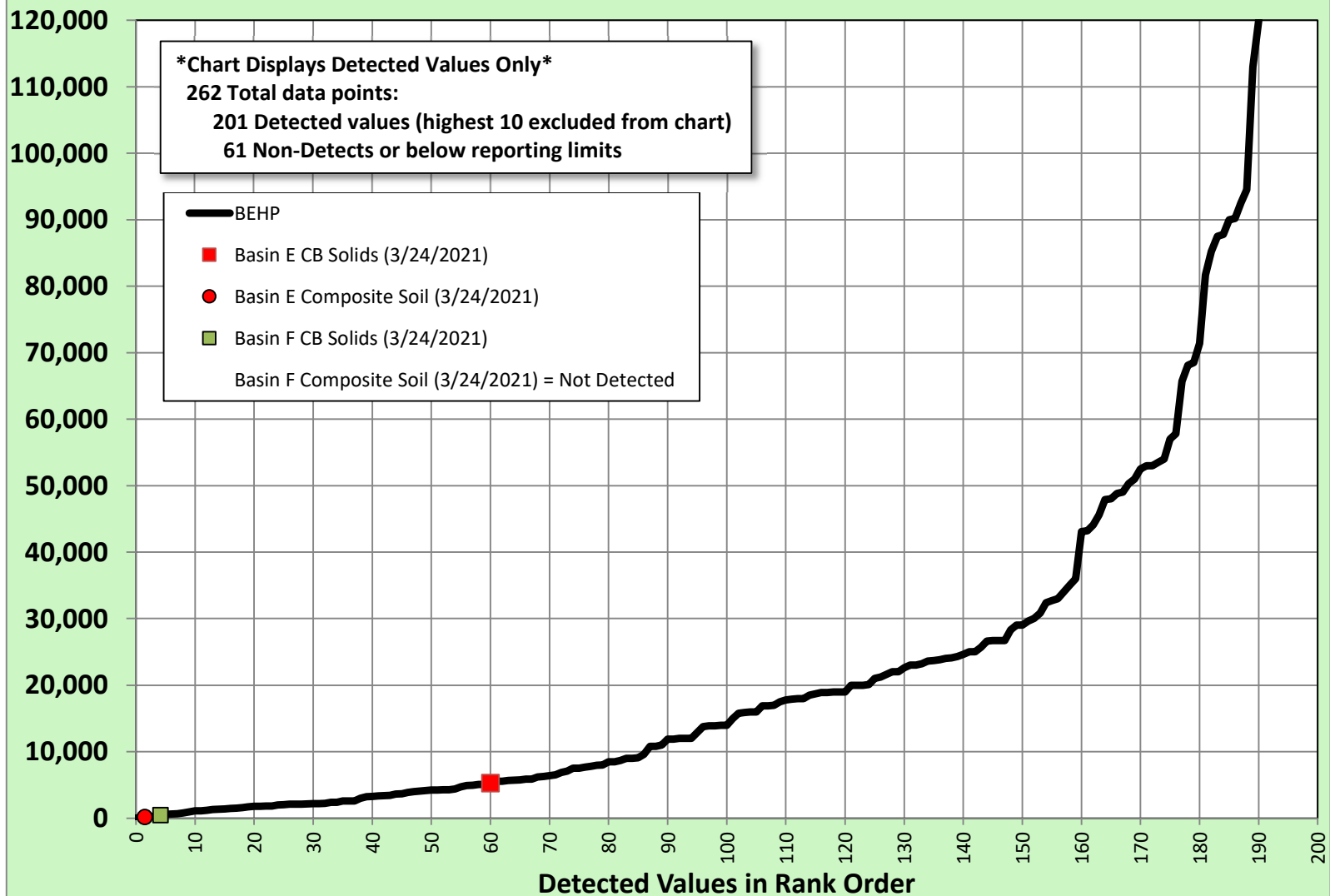
Appendix F

Rank-Order Charts

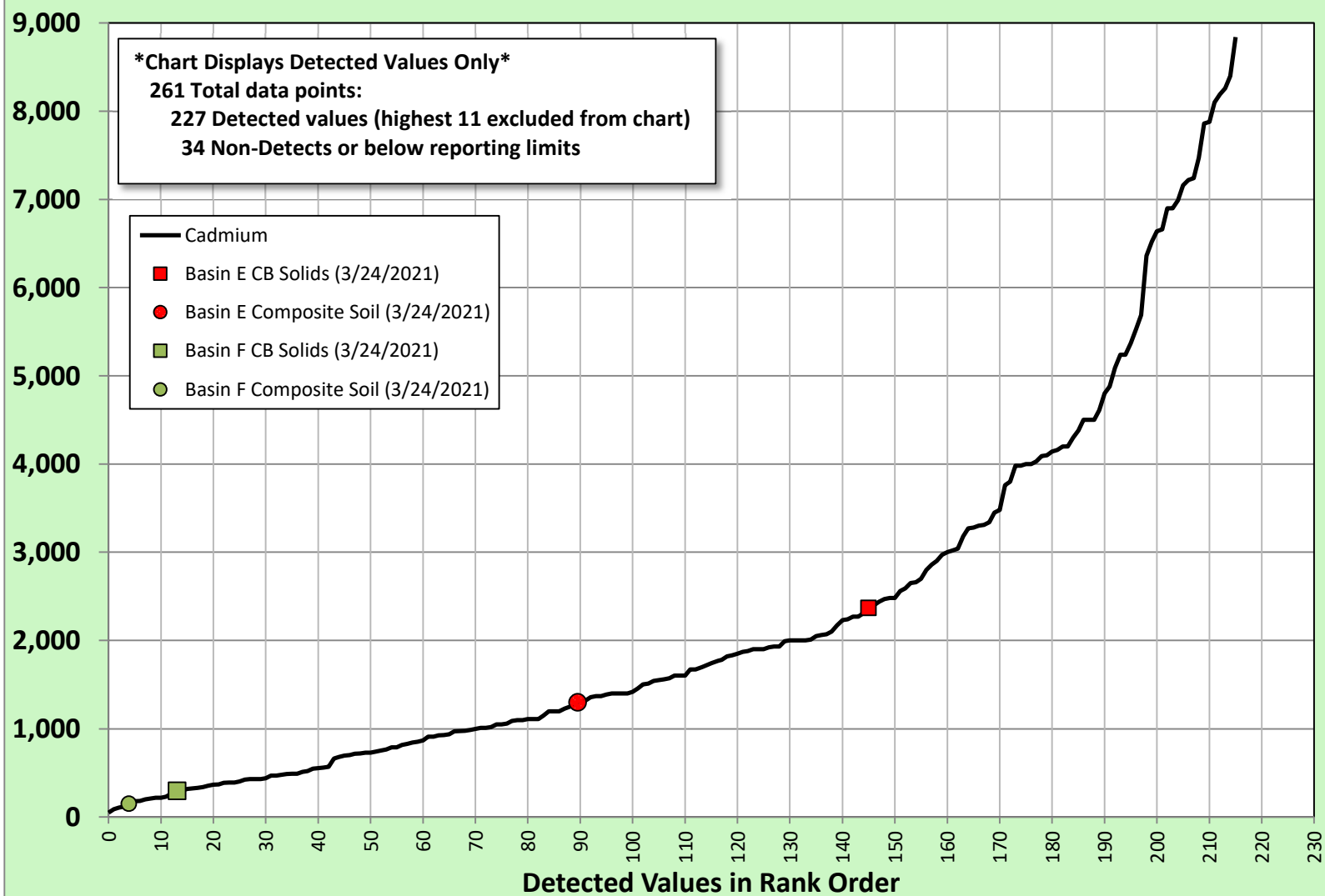


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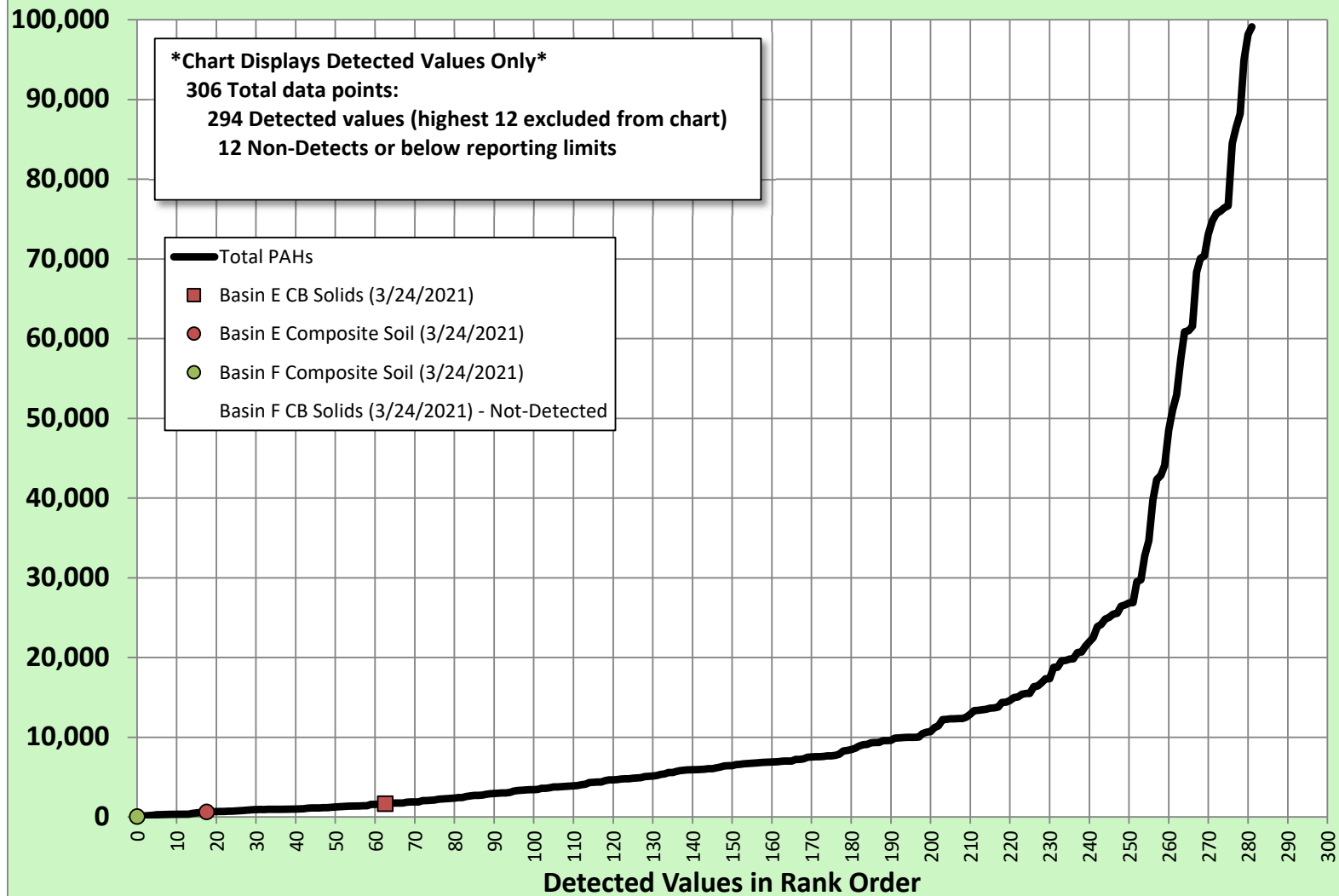
Bis(2-Ethylhexyl)phthalate in Stormwater Solids at Portland Harbor Heavy Industrial Sites



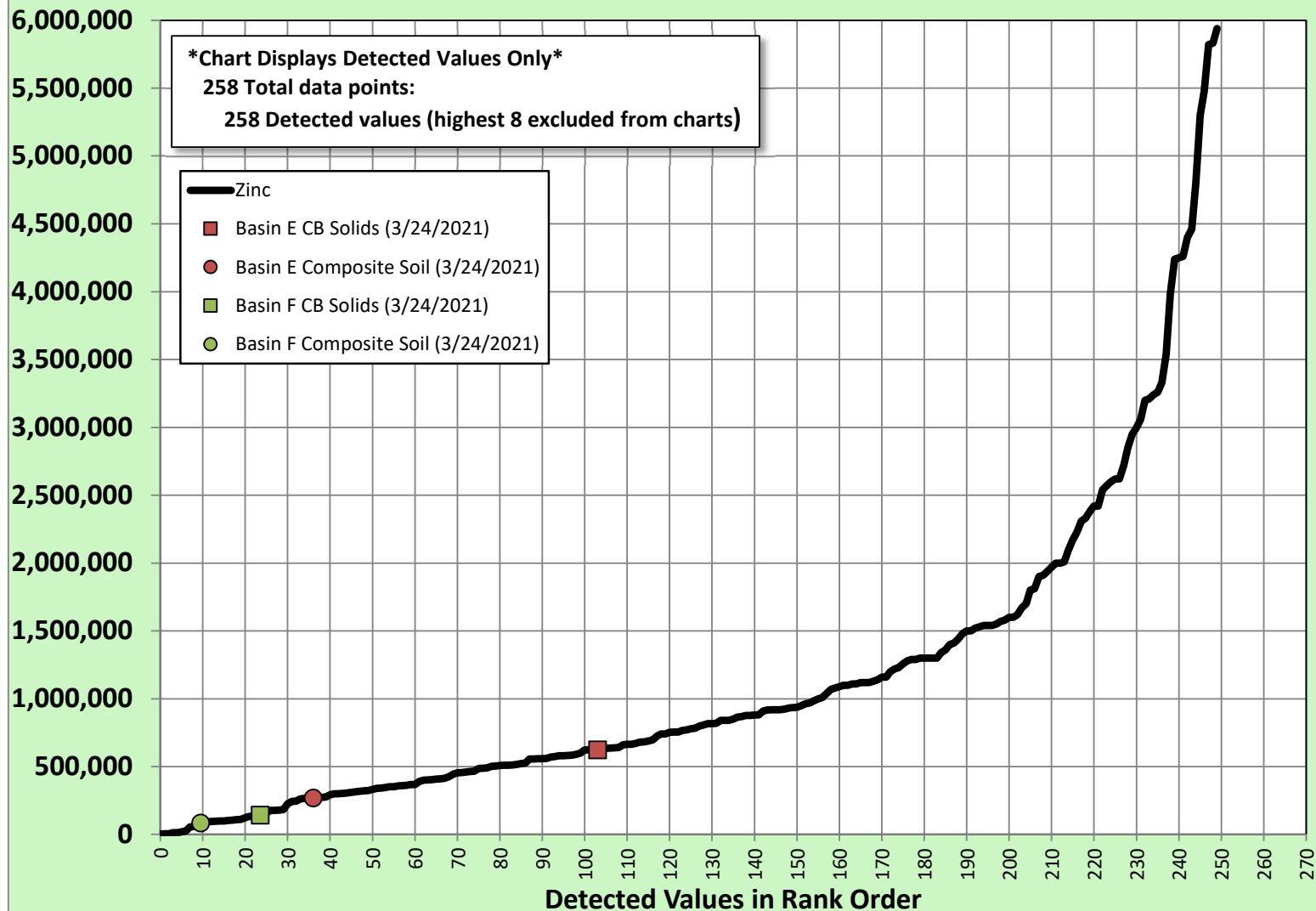
Cadmium (ug/kg) in Stormwater Solids at Portland Harbor Heavy Industrial Sites



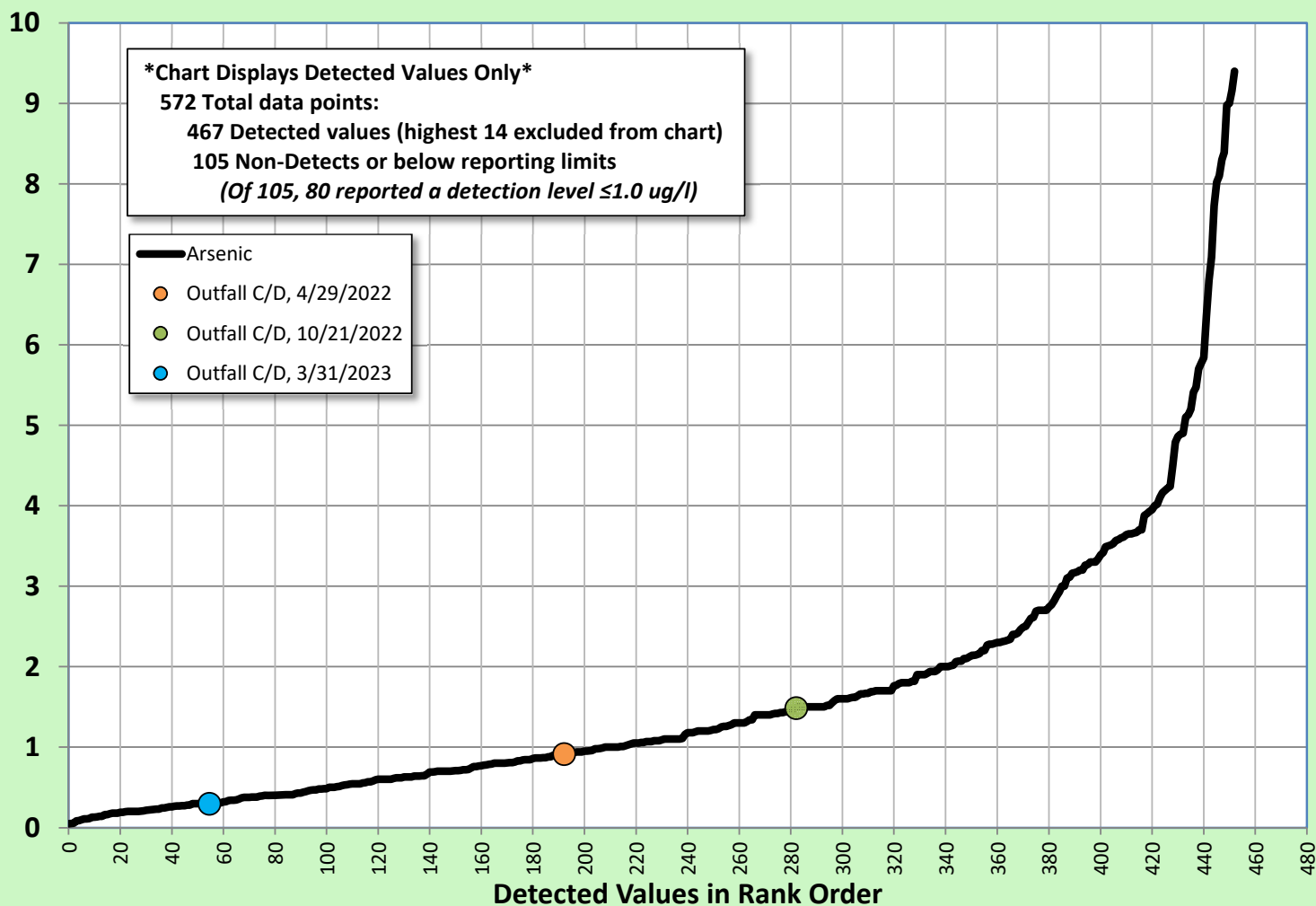
Total PAHs (ug/kg) in Stormwater Solids at Portland Harbor Heavy Industrial Sites



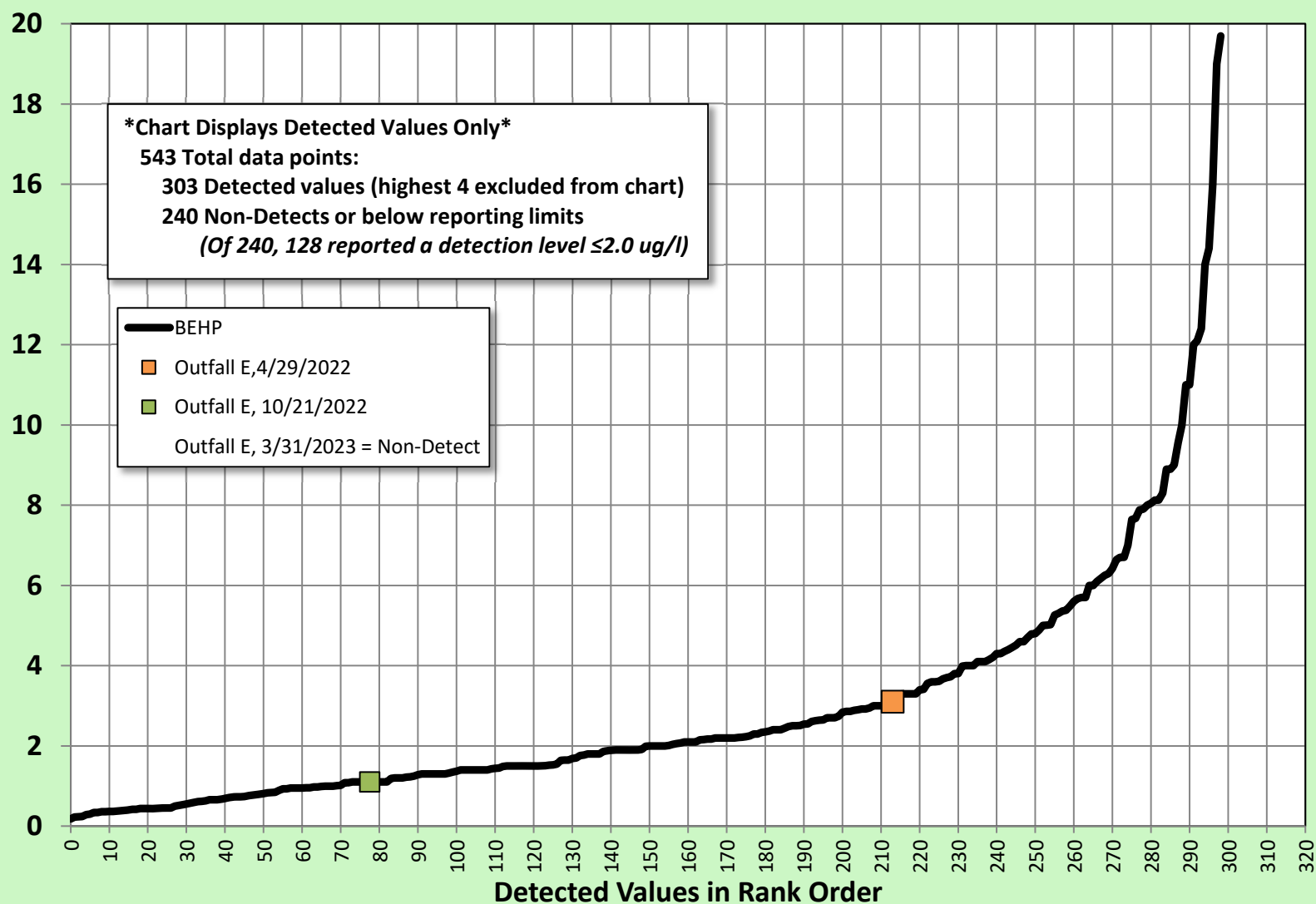
Zinc (ug/kg) in Stormwater Solids at Portland Harbor Heavy Industrial Sites



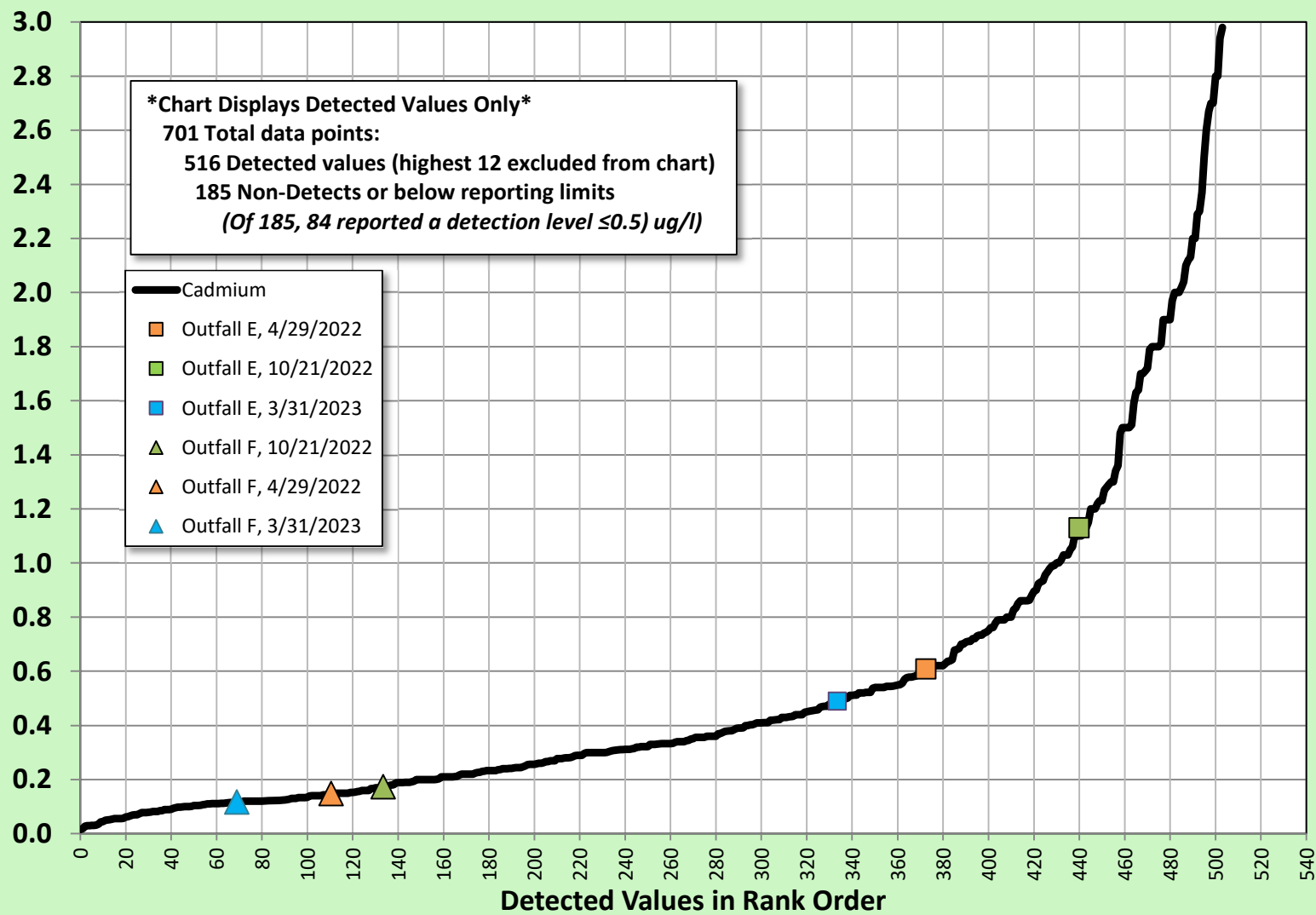
Arsenic (ug/L) in Stormwater at Portland Harbor Heavy Industrial Sites



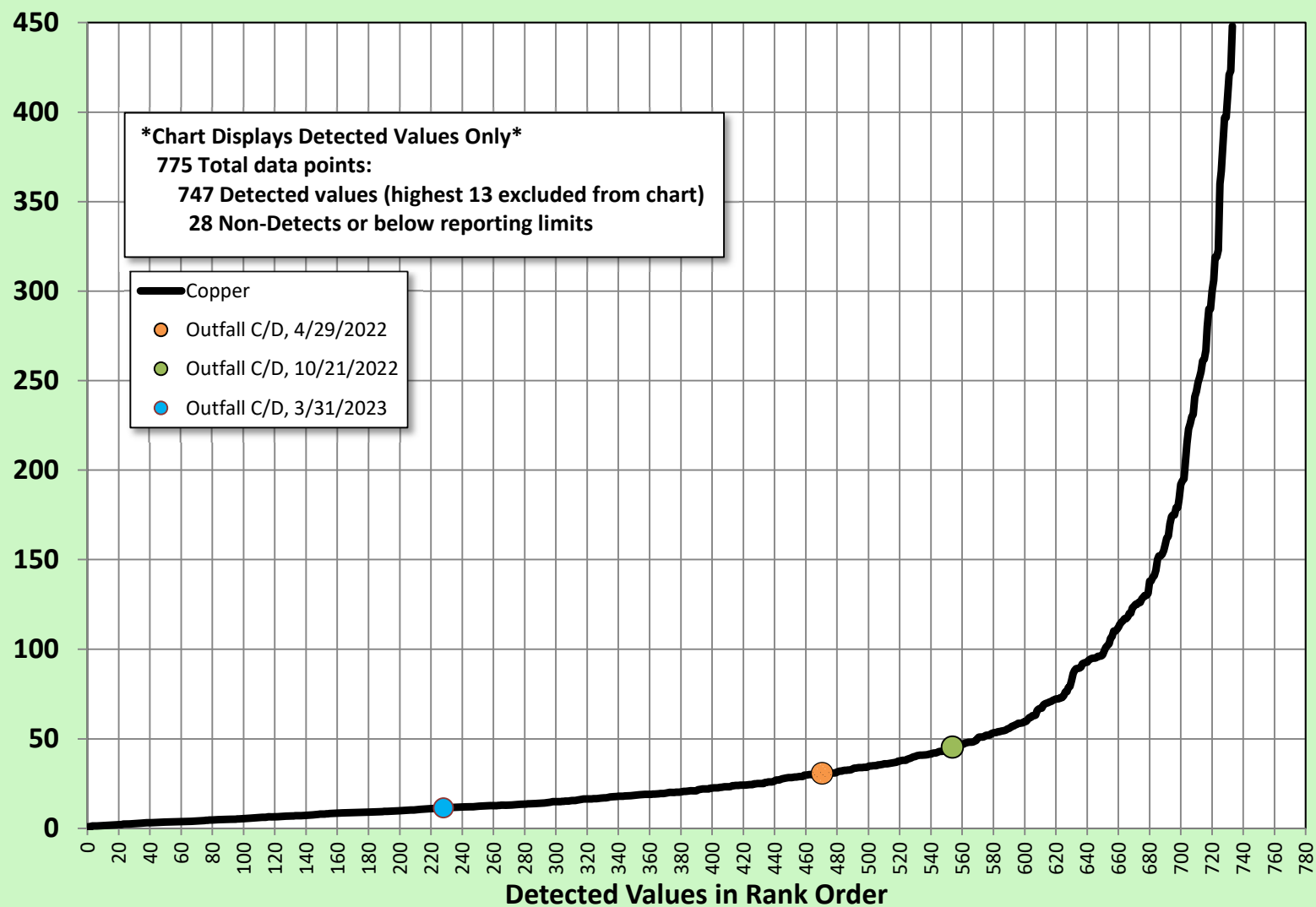
Bis(2-Ethylhexyl)phthalate in Stormwater at Portland Harbor Heavy Industrial Sites (ug/L)



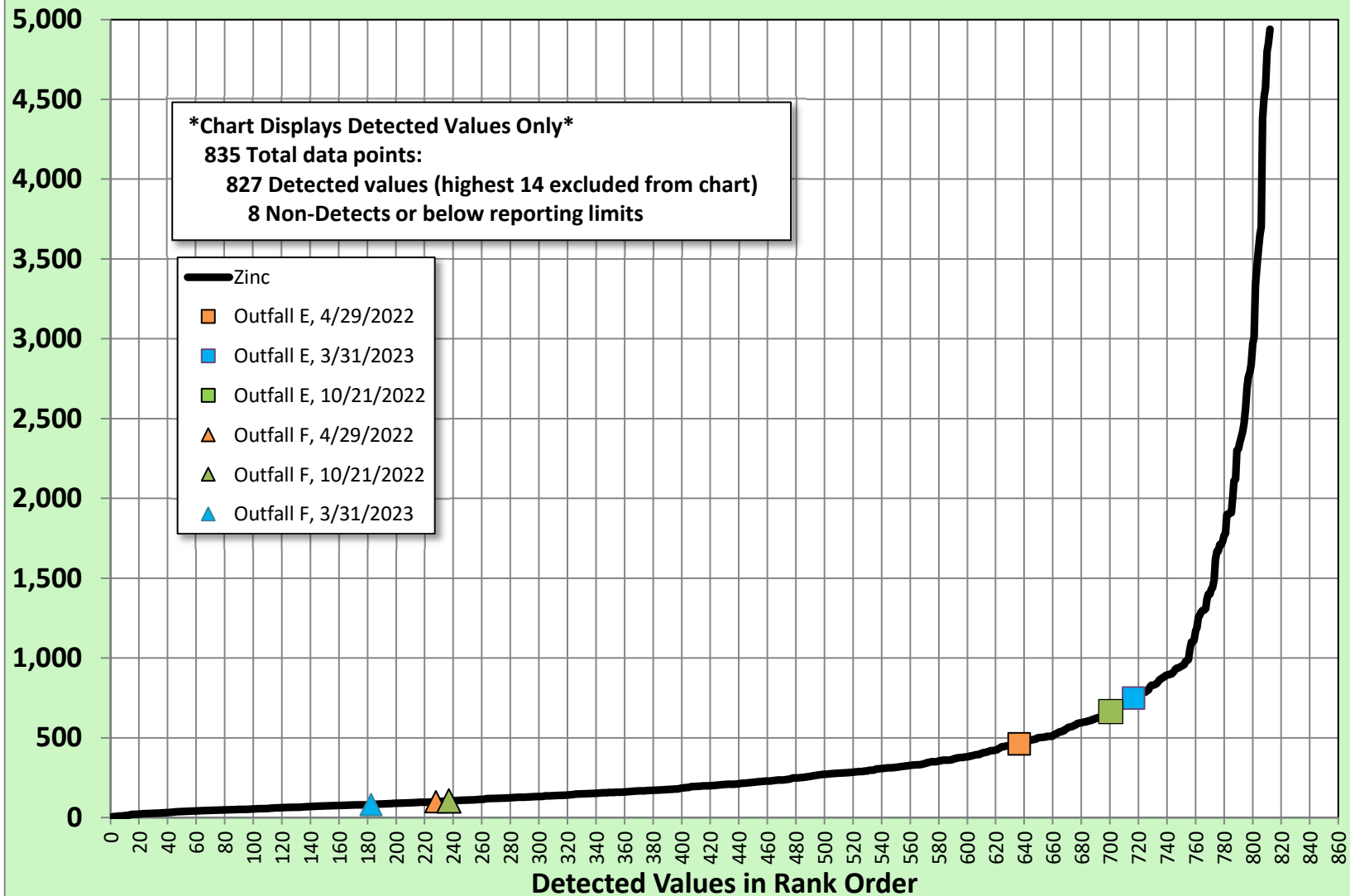
Cadmium (ug/L) in Stormwater at Portland Harbor Heavy Industrial Sites



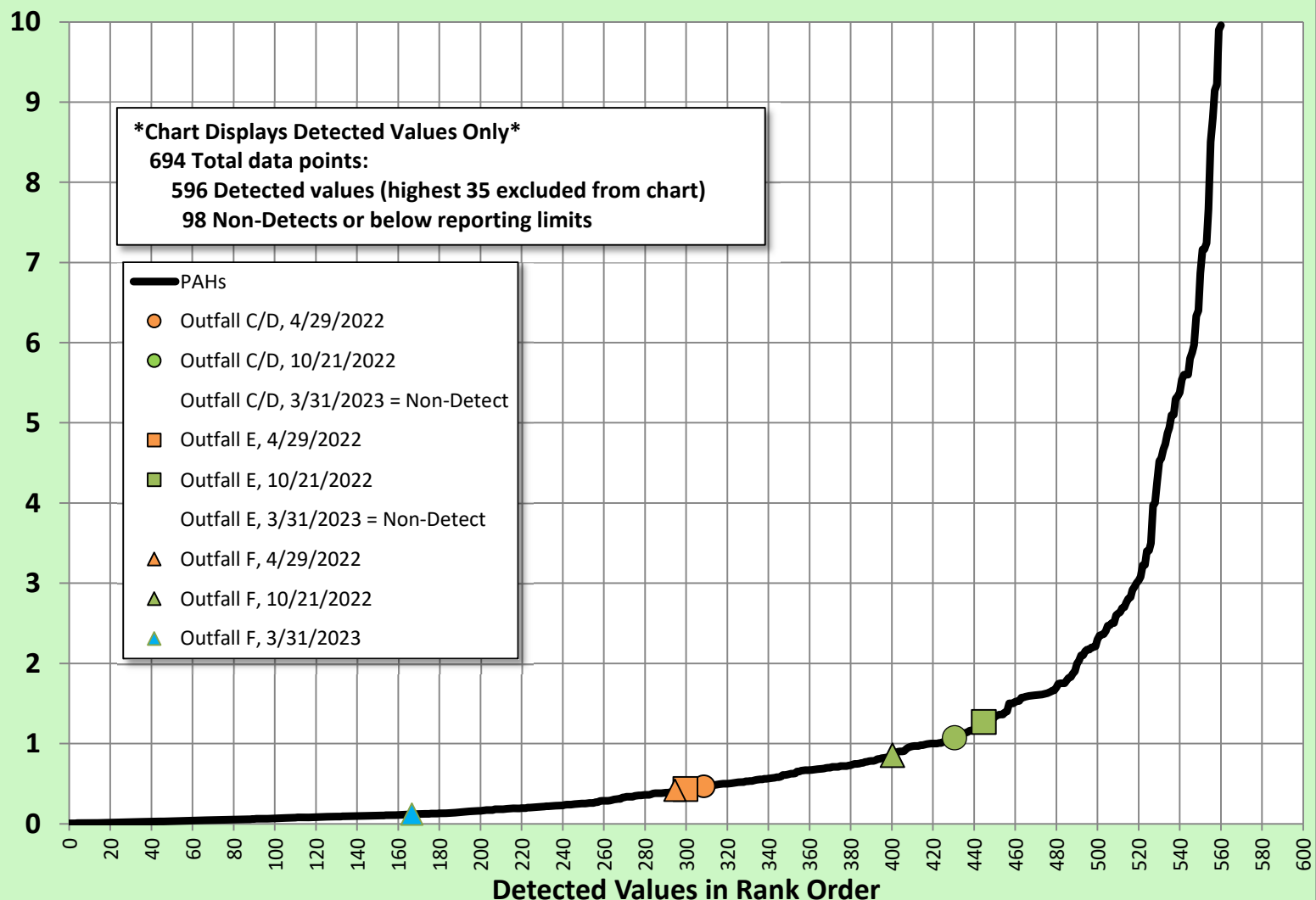
Copper (ug/L) in Stormwater at Portland Harbor Heavy Industrial Sites



Zinc (ug/L) in Stormwater at Portland Harbor Heavy Industrial Sites



Total PAHs (ug/L) in Stormwater at Portland Harbor Heavy Industrial Sites



TSS (mg/L) in Stormwater at Portland Harbor Heavy Industrial Sites

