

THREE RIVERS REGIONAL WASTEWATER PLANT

467 Fibre Way, Longview, WA 98632

TEL (360) 577-2040 / 577-2020

FAX (360) 577-2041

Serving & Operated By:
Beacon Hill Water & Sewer District
City of Kelso
City of Longview
Cowlitz County

RECEIVED

AUG 21 2018

WA State Department
of Ecology (57770)

August 2, 2018

TO: Washington State Department of Ecology (DOE)

FROM: Duane Leaf, Three Rivers Regional Wastewater (TRRWA) Authority General Manager



SUBJECT: Port of Longview Discharge Permit ST 6081

The purpose of this memorandum is to comment on the Port of Longview NPDES Permit Application.

The Port of Longview outlined the following items in the Kennedy/Jenks Supporting Document dated July, 2018:

1. Changing the BOD limit to 350 mg/l to meet the Longview Pretreatment Ordinance.
2. Changing the pH range to 6.0 - 9.0 to meet the Longview Pretreatment Ordinance.
3. Requiring a Slug Discharge Plan be developed as a requirement.
4. Installing a composite sampler that will run as flows occur.

TRRWA requested those items and appreciates the Port of Longview's efforts to accomplish that.

TRRWA continues to support the mass based limit for ammonia until such time as DOE issues the TRRWA's NPDES Permit. My expectation is that DOE will re-open the Port of Longview's NPDES Permit to address whatever issues might arise out of ammonia limits for TRRWA at that time.

If you have any questions about this memorandum, please contact me.



Application for a State Waste Discharge Permit to Discharge Industrial Wastewater to a Publicly-Owned Treatment Works (POTW)

This application is for a state waste discharge permit for a discharge of industrial wastewater to a publicly-owned treatment works (POTW) as required by Chapter 90.48 RCW and Chapter 173-216 WAC. It is designed to provide Ecology with information on pollutants in the waste stream, materials that may enter the waste stream, and the flow characteristics of the discharge.

Ecology may request additional information to clarify the conditions of this discharge. The applicant should reference information previously submitted to Ecology that applies to this application in the appropriate section.

SECTION A. GENERAL INFORMATION

1. Applicant Name: Port of Longview
2. Facility Name: _____
(if different from Applicant)
3. Applicant Mail Address: PO Box 1258
Street
Longview 98632-7739
City/State Zip
4. Facility Location Address: 10 Port Way
(if different from 3 above) Street
Longview 98632-1019
City/State Zip
5. UBI No. 0840000
15
Sometimes called a registration, tax, "C," or resale number, the Unified Business Identifier (UBI) number is a nine-digit number used to identify persons engaging in business activities. The number is assigned when a person completes a Master Business Application to register with or obtain a license from state agencies. The Departments of Revenue, Licensing, Employment Security, Labor and Industries, and the Corporations Division of the Secretary of State are among the state agencies participating in the UBI program.
6. Latitude/longitude of the facility as decimal degrees (NAD83/WGS84):
46.10845 / -122.95723

FOR OFFICE USE ONLY		Check One: New/Renewal <input type="checkbox"/> Modification <input type="checkbox"/>	
Date Application Received _____	Date Fee Paid _____	Application/ Permit No. _____	Date Application Accepted _____

SECTION B. PRODUCT INFORMATION

1. Briefly describe all manufacturing processes and products, and/or commercial activities, at this facility. Provide the applicable Standard Industrial Category (SIC) and the North American Industry Classification System (NAICS) Code(s) for each activity (see *North American Industrial Classification System*, 2007 ed.). You can find the 1997 NAICS codes and the corresponding 1987 Standard Industry Category (SIC) codes at (<http://www.census.gov/epcd/naics/frames3.htm>).

Description: The Port of Longview (Port) is a public port district located in Cowlitz County, Washington, adjacent to and partially within the limits of the City of Longview. The Port boundary encompasses 597 acres including approximately 345 acres of Port-owned and -operated property, approximately 123 acres of Port-owned parcels that are leased to tenants, and approximately 129 acres of privately owned land.

The Port does not use raw materials, or manufacture or produce finished products. Various commodities are imported, exported, and staged at the Port, including breakbulk, project and direct transfer cargos, containers, automobiles, forest products, steel and aluminum products, and a number of dry bulk commodities such as mineral ores, concentrates, fertilizers, clays, grains, and bulk agricultural commodities. The Port is categorized as a Water Transportation facility under SIC Code 4491, Marine Cargo Handling, and under NAICS Code 488310, Port and Harbor Operations.

Additional information for question C.1. and C.2. is provided in the attached Supporting Information.

2. List raw materials and products used at his facility:

Type	RAW MATERIALS	Quantity
<i>Grapes (Example)</i>		<i>1,000 tons per year</i>
not applicable - no raw materials or products used	not applicable	
Type	PRODUCTS	Quantity
<i>Grape Juice(Example)</i>		<i>300,000 gallons per year</i>
not applicable- no raw materials or products used	not applicable	

5. If production processes are subject to seasonal variations, provide the following information. The combined value for each month should equal the estimated total monthly flow. Please indicate the proper flow unit by checking one of the following boxes:

☐ gallons per day

☐ gallons per month

☐ million gallons per month

Waste Stream ID#	MONTHS											
	J	F	M	A	M	J	J	A	S	O	N	D
Estimated Total Monthly Flow (GPD)												

6. How many hours a day does this facility typically operate? 8

How many days a week does this facility typically operate? 5

How many weeks per year does this facility typically operate? 52

7. List all incidental materials, such as oil, paint, grease, solvents, and cleaners, that are used or stored on site (*list only those with quantities greater than 10 gallons for liquids and 50 pounds for solids*). For solvents and solvent-based cleaners, include a copy of the material safety data sheet and estimate the quantity used. (*Use additional sheets, if necessary, and label as attachment C.7.*)

Materials/Quantity Stored: Oil, paint, grease, solvents and cleaners are not stored in quantities greater than 10 gallons or 50 pounds at the wastewater treatment plants.

SECTION D. WATER CONSUMPTION AND WATER LOSS

1. Potable water source(s):

☒ ☐ Public System (Specify) City of Longview

☐ ☐ Private Well ☐ Surface Water

a. Water Right Permit Number: _____

b. Legal Description of Water Source

_____ $\frac{1}{4}$ S, _____ $\frac{1}{4}$ E, _____, Section, _____ TWN, _____ R

2. Potable water use

a. Indicate total water use _____

Gallons per day (average) See Supporting Information

Gallons per day (maximum) See Supporting Information

b. Is water metered?

☐ YES ☒ NO

X	Parameter	Measurement Values			Number of Analyses	Analytical Method Std. Methods 19 th , 20 th edition or EPA	Detection Limit/Quantitation Level
		Minimum	Maximum	Average			
	Sulfate					SM 4500-SO ₄ C/D	/200 µg/l
	Arsenic(total)					EPA 200.8	0.1/0.5 µg/l
	Barium (total)					EPA 200.8	0.5/2 µg/l
	Cadmium (total)					EPA 200.8	.05/.25 µg/l
	Chromium (total)					EPA 200.8	0.2/1 µg/l
X	Copper (total)					EPA 200.8	0.4/2 µg/l
	Lead (total)					EPA 200.8	0.1/.5 µg/l
	Mercury (total) pg/L					EPA 1631E	0.2/0.5 pg/l
	Molybdenum(total)					EPA 200.8	0.1/0.5 µg/l
	Nickel(total)					EPA 200.8	0.1/0.5 µg/l
	Selenium (total)					EPA 200.8	1/1 µg/l
	Silver (total)					EPA 200.8	.04/.2 µg/l
X	Zinc (total)					EPA 200.8	0.5/2.5 µg/l

6. Does this facility use any of the following chemicals as raw materials or produce them as part of the manufacturing process, or are they present in the wastewater? ☐ YES ☒ NO

(The number in the column next to the chemical name is the Chemical Abstract Service (CAS) reference number to aid in identifying the compound.)

If yes, specify how the chemical is used and the quantity used or produced:

METALS, CYANIDE & TOTAL PHENOLS			
Antimony, Total	7440-36-0	Nickel, Total	7440-02-0
Arsenic, Total	7440-38-2	Selenium, Total	7782-49-2
Beryllium, Total	7440-41-7	Silver, Total	7440-22-4
Cadmium, Total	7440-43-9	Thallium, Total	7440-28-0
Chromium (hex) dissolved	18540-29-9	Zinc, Total	7440-66-6
Chromium, Total	7440-47-3		
Copper, Total	7440-50-8	Cyanide, Total	57-12-5
Lead, Total	7439-92-1	Cyanide, Weak Acid Dissociable	
Mercury, Total	7439-97-6	Phenols, Total	

PESTICIDES			
Aldrin	309-00-2	Endrin	72-20-8
alpha-BHC	319-84-6	Endrin Aldehyde	7421-93-4
beta-BHC	319-85-7	Heptachlor	76-44-8
gamma-BHC	58-89-9	Heptachlor Epoxide	1024-57-3
delta-BHC	319-86-8	PCB-1242	53469-21-9
Chlordane	57-74-9	PCB-1254	11097-69-1
4,4'-DDT	50-29-3	PCB-1221	11104-28-2
4,4'-DDE	72-55-9	PCB-1232	11141-16-5
4,4' DDD	72-54-8	PCB-1248	12672-29-6
Dieldrin	60-57-1	PCB-1260	11096-82-5
alpha-Endosulfan	959-98-8	PCB-1016	12674-11-2
beta-Endosulfan	33213-65-9	Toxaphene	8001-35-2
Endosulfan Sulfate	1031-07-8		

VOLATILE COMPOUNDS			
Acrolein	107-02-8		
Acrylonitrile	107-13-1	1,1-Dichloroethylene	75-35-4
Benzene	71-43-2	1,2-Dichloropropane	78-87-5
Bromoform	75-25-2	1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene)	542-75-6
Carbon tetrachloride	56-23-5	Ethylbenzene	100-41-4
Chlorobenzene	108-90-7	Methyl bromide (Bromomethane)	74-83-9
Chloroethane	75-00-3	Methyl chloride (Chloromethane)	74-87-3
2-Chloroethylvinyl Ether	110-75-8	Methylene chloride	75-09-2
Chloroform	67-66-3	1,1,2,2-Tetrachloroethane	79-34-5
Dibromochloromethane	124-48-1	Tetrachloroethylene	127-18-4
1,2-Dichlorobenzene	95-50-1	Toluene (108-88-3)	
1,3-Dichlorobenzene	(541-73-1)	1,2-Trans-Dichloroethylene (Ethylene dichloride)	156-60-5
1,4-Dichlorobenzene	106-46-7	1,1,1-Trichloroethane	71-55-6
Dichlorobromomethane	75-27-4	1,1,2-Trichloroethane	79-00-5
1,1-Dichloroethane	75-34-3	Trichloroethylene	79-01-6
1,2-Dichloroethane	107-06-2	Vinyl chloride	75-01-4

7. Are any other pesticides, herbicides or fungicides used at this facility? ☐ YES ☒ NO

If yes, specify the material and quantity used:

Pesticides, herbicides and fungicides are not used in the wastewater containment areas or at the treatment plants.

8. Are there other pollutants that you know of or believe to be present? ☐ YES ☒ NO

If yes, specify the pollutants and their concentration if known
(attach laboratory analyses if available as Attachment E8):

Results of the Total Toxic Organics analysis are presented in the Supporting Information

9. Is the wastewater being discharged, or proposed for discharge, to the POTW designated as a dangerous waste according to the procedures in Chapter 173-303 WAC?

☐ YES ☒ NO ☐ DON'T KNOW

10. If the answer to question 9 above is yes, how did the waste designate as a dangerous waste (check appropriate box)?

For Listed and TCLP Characteristic Wastes only, also provide the Dangerous Waste Number(s).

Listed Waste ☐ Dangerous Waste Number(s) _____

Characteristic Wastes Dangerous Waste Number(s) _____

Ignitable ☐

Reactive ☐

Corrosive ☐

TCLP ☐

State Only Dangerous Wastes Dangerous Waste Number(s) _____

Toxicity ☐

Persistent ☐

For questions about waste designation under the *Dangerous Waste Regulations*, Chapter 173-303 WAC, contact Ecology's Hazardous Waste and Toxics Program at:

Northwest Regional Office - Bellevue (425) 649-7000

Southwest Regional Office - Lacey (360) 407-6300

Central Regional Office - Yakima (509) 575-2490

Eastern Regional Office - Spokane (509) 329-3400

SECTION G. OTHER PERMITS

1. List all environmental control permits or approvals needed for this facility; for example, air emission permits.

Industrial Stormwater General Permit Number WAR001242

Southwest Clean Air Agency Order of Approval SWCAA 99-2178R2



Other (please specify): _____

4. Material handling/management practices

a. Types of materials handled and/or stored outdoors: *(check all that apply)*☐

Solvents

☐

Hazardous Wastes

☐

Scrap Metal

☐

Acids or Alkalies

☐

Petroleum or Petrochemical Products

☐

Paints/Coatings

☐

Plating Products

☐

Woodtreating Products

☐

Pesticides

☐Other *(please list)*: _____b. Identify existing management practices employed to reduce pollutants in industrial stormwater discharges: *(check all that apply)*☐

Oil/Water Separator

☐

Detention Facilities

☐

Containment

☐

Infiltration Basins

☐

Spill Prevention

☐

Operational BMPs

☐

Surface Leachate Collection

☐

Vegetation Management

☐

Overhead Coverage

☐Other *(please list)*: _____5. Attach a facility site map showing stormwater drainage/collection areas, disposal areas and discharge points. This may be a hand-drawn map if no other site map is available *(See example on page 16 of this application)*. Label this as attachment H.5.

SECTION J. CERTIFICATIONS

1. Approval by Publicly-Owned Treatment Works [required by WAC 173-216-070(4)(b)]

I approve of the discharge as described in this application. The applicant is:

(Please check the appropriate box below.)

☒ ☐ ☐ A Significant Industrial User (see Definitions at the end of this Section)

☐ ☐ ☐ A Categorical Industrial User

☐ ☐ ☐ Neither of the above

Name and location of sewer system to which this project will be tributary:

Cowlitz County and City of Longview

Treatment Works Owner: Three Rivers Regional Wastewater Authority

Street: 467 Fibre Way

City/State: Longview, WA

Zip: 98632

Plant Superintendent

Signature of Treatment Works Authority

Date

Title

THIS IS COPY 2 OF 2 OF THE
CERTIFICATION FORM

Printed Name

2. Application review by Intermediate Sewer Owner at point of discharge (if applicable)

I hereby acknowledge that I have reviewed the application for discharge to this sewer system.

Name and location of sewer system to which this project will be tributary:

Cowlitz County and City of Longview

Sewer System Owner: City of Longview

Street: PO Box 128

City/State: Longview, WA

Zip: 98632

Public Works Director

Signature of Sewer System Authority

Date

Title

Jeff D. Cameron

Printed Name

SECTION J. CERTIFICATIONS

1. Approval by Publicly-Owned Treatment Works [required by WAC 173-216-070(4)(b)]

I approve of the discharge as described in this application. The applicant is:

(Please check the appropriate box below.)

☒ ☐ ☐ A Significant Industrial User (see Definitions at the end of this Section)

☐ ☐ ☐ A Categorical Industrial User

☐ ☐ ☐ Neither of the above

Name and location of sewer system to which this project will be tributary:

Cowlitz County and City of Longview

Treatment Works Owner:	Three Rivers Regional Wastewater Authority		
Street:	467 Fibre Way		
City/State:	Longview, WA	Zip:	98632
			Plant Superintendant
Signature of Treatment Works Authority	Date	Title	

THIS IS COPY 2 OF 2 OF THE
CERTIFICATION FORM

Printed Name

2. Application review by Intermediate Sewer Owner at point of discharge (if applicable)

I hereby acknowledge that I have reviewed the application for discharge to this sewer system.

Name and location of sewer system to which this project will be tributary:

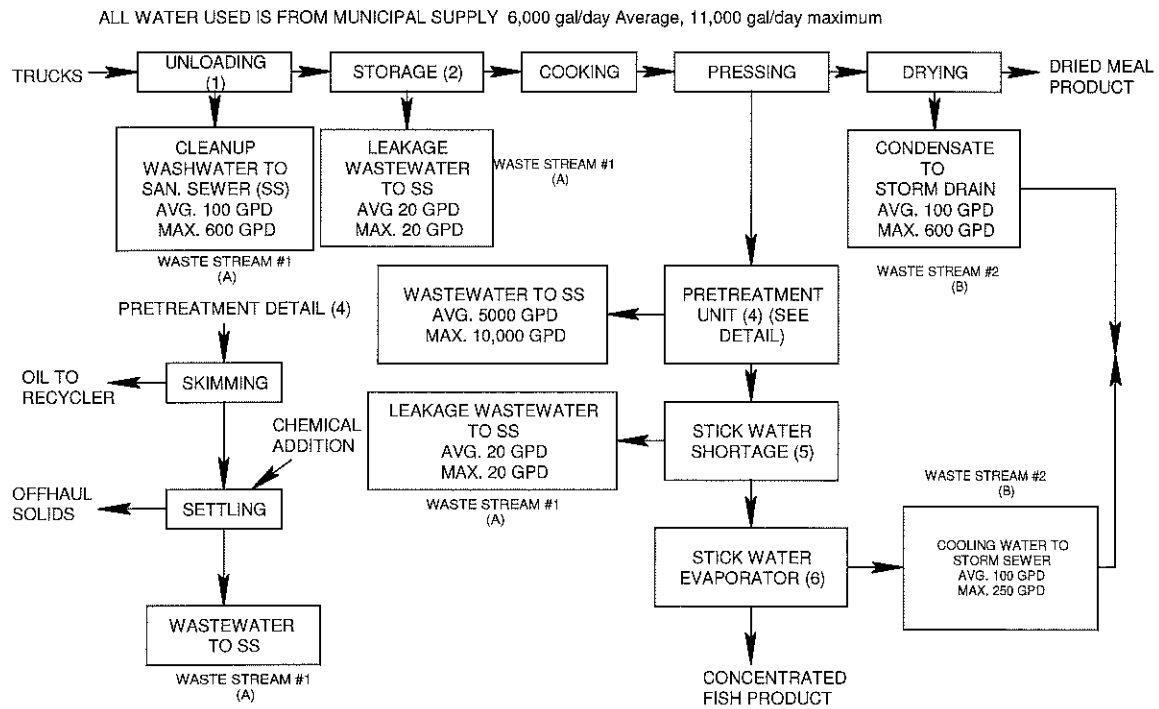
Cowlitz County and City of Longview

Sewer System Owner:	City of Longview		
Street:	PO Box 128		
City/State:	Longview, WA	Zip:	98632
			Public Works Director
Signature of Sewer System Authority	Date	Title	

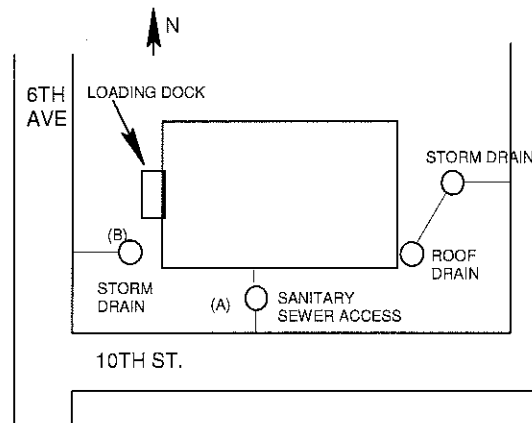
Jeff D. Cameron

Printed Name

Example 1 for application section C.2. (SCHEMATIC DIAGRAM)



Example 2 for application section F1 or H8 (FACILITY SITE MAP)



If you need this document in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

3 May 2016

Technical Memorandum

To: Melinda Wilson, Southwest Regional Office Wastewater Permit Coordinator,
Washington State Department of Ecology

Cc: Don Reif, Washington State Department of Ecology; Duane Leaf, Three Rivers
Regional Wastewater Authority Plant Superintendent; Lisa Hendriksen, Lisa Willis,
and Sean Kelly, Port of Longview

From: Alan Flemming, Kennedy/Jenks Consultants

Subject: Port of Longview State Waste Discharge Permit ST 6081
Supplemental Permit Application Information regarding Ammonia Limitations
K/J Project Number 1296002*09

This memorandum has been prepared to provide supplemental information for the renewal application for State Waste Discharge Permit No. ST6081 (Port Permit), dated 28 May 2015, and submitted to Washington State Department of Ecology (Ecology) on 29 May 2015. The current Port Permit expires on 30 November 2016. This memorandum serves as documentation of discussions between the Port of Longview (Port), Three Rivers Regional Wastewater Authority (TRRWA) and Ecology, regarding potential ammonia limitations in the Port's permit. Ecology has stated that they intend to issue the Port's renewed Permit with effluent limitations set equal to or more stringent than the limits listed in the TRRWA pretreatment policy. However, Ecology also indicated that TRRWA's opinion and input would be heavily weighted in setting new limits in the Port Permit.

Kennedy/Jenks Consultants (Kennedy/Jenks) evaluated the potential impact to the Three Rivers Wastewater Treatment Plant (TRRWP) of the anticipated levels of ammonia in the Port's wastewater discharges. Due to the relatively small volume and intermittent nature of the Port's discharges, they are not expected to contribute to an exceedance of water quality criteria or a violation of TRRWA's current permit effluent limitations for ammonia. The Port's wastewater treatment plants do not currently include a treatment process capable of removing ammonia, thus the Port would incur significant additional cost to meet the more stringent limits for ammonia in the current TRRWA pretreatment policy. Based on information collected subsequent to issuance of the current TRRWA Permit and pretreatment policy, it is likely that the ammonia limitations will be reduced or eliminated when the TRRWA Permit is renewed. Supporting information is summarized herein.

With TRRWA's support, the Port requests that Ecology retain the mass-based daily effluent limitations for ammonia of 125 pounds per day (lbs/day) from each of Outfalls 002 and 004 as interim limits in the renewed Port Permit. These interim limits would remain in effect until TRRWA's National Pollutant Discharge Elimination System (NPDES) Waste Discharge Permit No. WA00337788 (TRRWA Permit) is renewed, and the ammonia limitations in the TRRWA discharge pretreatment policy are revised, if needed, to reflect updated ammonia limitations in

Technical Memorandum

Melinda Wilson

3 May 2016

1296002*09

Page 3

The current TRRWA Permit also required TRRWA to complete a receiving water study (RWS) that would be used to conduct a reasonable potential analysis to determine if water quality based effluent limits for ammonia are needed in subsequent permits. The RWS will also provide the background data to calculate and set the limits, if they are determined to be needed. The required RWS was completed in 2014 by Windward Environmental LLC, and the results were presented in a report dated 28 August 2014 (attached). The report concluded that there was no reasonable potential for TRRWP's ammonia discharge to cause or contribute to exceedance of water quality in the Columbia River, and recommended deletion of the ammonia effluent limits in the TRRWA Permit. Ecology and TRRWA have agreed that this new information will be reviewed during the TRRWA Permit renewal process.

Anticipated Port Effluent Flows and Ammonia Concentrations

The Port's wastewater contains significant ammonia concentrations only when the Port handles ammonia or nitrogen bearing cargos such as ammonium sulfate, urea, calcium ammonium nitrate (CAN), or agricultural products. Ammonium sulfate, CAN and urea are all highly soluble. The Port has valves in several locations in the stormwater drainage system to contain equipment wash down water and incidental contact stormwater during periods of industrial activity. The Port has historically collected, processed and discharged the collected wastewater in batches over several days during and after material handling activities.

A summary of the Port's daily discharge monitoring data for Outfalls 002 and 004 for the period from 1 January 2012 through 31 May 2015 is presented in Table 1. Relatively more ammonia-containing material was handled in 2014 and 2015, which is reflected in the average ammonia concentrations and total pounds discharged. Discharges from the TRRWP have not exceeded ammonia limits in the TRRWA Permit during this time period. Future ammonia concentrations in the Port's discharges are expected to continue to be similar to these past levels, and to be intermittent and variable, depending on market demands and shipping activity.

Technical Memorandum

Melinda Wilson

3 May 2016

1296002*09

Page 5

A potential solution that has been previously considered and discussed is use of the recently constructed storage pond at the Port's Berth 7 industrial wastewater treatment plant (IWTP) to equalize the ammonia load to the IWTPs by blending ammonia-containing wastewater with other wastewater and incidental contact stormwater in the pond prior to treatment. Wastewater from Berths 1 and 2 can be collected in rail tank cars and hauled to the B7 IWTP for processing. However, mixing ammonia-containing wastewater in the storage pond is not likely to reduce the ammonia concentration in the Port's effluent to below 44 mg/L. The effluent quality resulting from mixing wastewater in the pond was estimated using the Port's daily discharge monitoring data for 2014 through May 2015, and the anticipated future discharge rate from Outfall 004. The analysis showed the concentration of ammonia in the storage pond would gradually increase as batches of ammonia-containing wastewater are added to the pond, and a concentration of 44 mg/L would be exceeded after a few months of operation. A graph of the modeled pond volume and effluent ammonia concentration is attached.

Based on Kennedy/Jenks' evaluation, ammonia concentrations in the Port's future wastewater discharges are not anticipated to contribute to an exceedance of water quality criteria or a violation of TRRWA's current permit effluent limitations. However, the Port will not be able to meet the concentration limit in TRRWA's current pretreatment policy while handling cargoes that contribute ammonia to wastewater, without incurring significant additional cost for treatment. The TRRWP RWS report suggests that the concentration limit in the current TRRWA pretreatment policy is likely to change when this new information is reviewed by Ecology during the TRRWA permit renewal process, which will begin later this year.

Therefore, with TRRWA's support and concurrence, the Port requests that Ecology retain the mass-based daily effluent limitations for ammonia of 125 lbs/day in the Port's reissued permit until the TRRWA Permit is renewed and the pretreatment policy is updated.

Enclosures:

- Berth 7 IWTP Graph of Modeled Storage Pond Volume and Ammonia Concentration
- Three Rivers Regional Wastewater Authority, Memorandum of Support
- Three Rivers Regional Wastewater Treatment Plant Ammonia Water Quality Standards Compliance Receiving Water Study Data Report, Windward Environmental, 28 August 2014

Kennedy/Jenks Consultants

421 SW 6th Avenue, Suite 1000
Portland, OR 97204
503-423-4000
FAX: 503-295-4901

Supporting Information for State Waste Discharge Permit ST 6081 Renewal Application

July 2018

Prepared for

Port of Longview, USA
10 Port Way
Longview, Washington 98632

K/J Project No. 1796023*02

Table of Contents

<i>List of Tables</i>	<i>iv</i>
<i>List of Figures</i>	<i>iv</i>
<i>List of Attachments</i>	<i>iv</i>
SECTION A. GENERAL INFORMATION	1
Facility Location and Description	1
Facility History	2
Permitting and Outfall History	3
SECTION B. PRODUCT INFORMATION	4
B.1. Activities at the Facility	4
B.2. Raw Materials and Products	5
SECTION C. PLANT OPERATIONAL CHARACTERISTICS	5
C.1. Wastewater Streams	5
C.2. Treatment Process Descriptions	5
C.3. Estimated Wastewater Flows	6
C.4. Planned Wastewater Treatment Improvements	7
C.5. Seasonal Variation in Production Process	7
C.6. System Operating Times	7
C.8. Spill and Waste Control Plans	8
SECTION D. WATER CONSUMPTION AND WATER LOSS	8
D.2. Potable Water Use	8
SECTION E. WASTEWATER INFORMATION	8
E.3. Analysis of Wastewater Stream for Other Parameters	8
E.4. Wastewater Effluent Characterization	8
Proposed Effluent Limitations for the Permit Renewal	9
E.7. Pesticides Herbicides and Fungicides	10
E.9. Designation as Dangerous Waste According to Chapter 173-303 WAC	10
SECTION F. SEWER INFORMATION	10
F.1. Inspection and Sampling Manhole	10
SECTION I. OTHER INFORMATION	10
I.1. Liquid Waste or Sludge Generation and Disposal	10
I.3. Dangerous Waste Designation	11

PORT OF LONGVIEW

SUPPORTING INFORMATION FOR STATE WASTE DISCHARGE PERMIT ST 6081 RENEWAL APPLICATION

This document has been prepared to support the Port of Longview's (Port) application for renewal of Washington State Department of Ecology (Ecology) State Waste Discharge Permit ST 6081 (Permit). The Permit was first issued on 6 December 1990. The Permit was renewed 14 June 1996, 28 November 2001, and 1 December 2011. The current permit, issued in 2011, expires on 30 November 2016. The Permit requires the Port to apply for renewal no later than 31 May 2015. The Port submitted the renewal application prior to the required deadline date. The renewal application from 2015 is pending Department of Ecology approval.

This new modification application is due to the Port leasing Berth 1 and 2 to a third party, which is applying for a new wastewater permit for Outfall 002. The Port's application removes outfall 002. Further, it is seeking removal of outfall 001 and 003 due to changes in operations at the Port.

Information in this document has been organized to correspond to the order of questions on the "Application for a State Waste Discharge Permit to Discharge Industrial Wastewater to a Publicly-Owned Treatment Works (POTW)," provided by Ecology for the renewal application. Questions that are fully answered on the permit application form are not included in this document.

SECTION A. GENERAL INFORMATION

Facility Location and Description

The Port is a public port district located in Cowlitz County (County), Washington, partially within and adjacent to the City of Longview (City), Washington. The Port is the first deep-water port upstream from the Columbia River mouth at Astoria and is located on the northern bank of the river, 66 river miles from the Pacific Ocean. The Port property is accessed and divided by various paved and unpaved roads and two rail access points. The primary roads are Port Way, Terminal Way, Panel Way, North Tie Road, Paper Way, International Way, and East Mill Road. The Port location and site map are shown in Figure 1.

By 1973, the Port was handling close to six million tons of cargo annually, including timber, pump, grain, logs, paper, aluminum, and foodstuffs. The Port also established a reputation for handling heavy project cargo, and several massive nuclear containment tanks used in the Trojan Nuclear Power Plant were handled there. The Port is currently considered a major seaport. There are seven self-operated marine terminals, including multi-use cranes and facilities designed to handle a variety of bulk and breakbulk cargos. In the 1990s, the Port doubled its land holdings by purchasing 300 acres of industrial property.

The Port expects that demand will remain strong for some of the cargos it currently handles, including agricultural products, fertilizers and chemicals, and wood products. However, the type and quantity of cargo handled by the Port changes from year to year based on economic factors such as supply, demand, existing markets, and emerging markets. The Port continually investigates opportunities to handle new cargos in order to diversify its cargo portfolio, protect itself in case the demand for a cargo diminishes, and to stay competitive with other port facilities.

Permitting and Outfall History

The Port has infrastructure to collect and treat wastewater and incidental contact stormwater generated at several of its berths during ship loading and unloading and associated activities, including washdown of conveyors and other equipment. Permanent collection and conveyance systems are currently installed at portions of Berth 1, Berth 2, Berth 5, Berth 6, and Berth 7. These systems are controlled by valves that can be set to direct wastewater to pretreatment plants, or to discharge stormwater between cargo-handling activities. Stormwater that is commingled with industrial wastewater is considered industrial wastewater. Collection system improvements have been designed to expand the contained area to include all of Berth 7 and portions of the docks at Berth 6. The Port is completing this construction with its own workforce; therefore, the schedule will be coordinated with the Port's other needs and priorities.

Wastewater is generally pretreated to remove solids, then discharged to the Three Rivers Regional Wastewater Plant (TRRWP), which is operated by the Three Rivers Regional Wastewater Authority (TRRWA). Industrial wastewater and incidental contact stormwater has historically been discharged through four outfalls: 001, 002, 003, and 004. Wastewater from Outfalls 001, 002, and 003 was conveyed via the City's sanitary sewer system to the TRRWP. Wastewater from Outfall 004 is conveyed through Cowlitz County's sanitary sewer in a line constructed in 2001 parallel to International Way. The locations of these four outfalls are shown in Figure 2 (attached) and they are discussed in more detail in the following paragraphs.

Historically, Outfall 001 was used to discharge coal tar pitch (CTP) processing wastewater generated at Berth 1, as well as washwater and contaminated stormwater. There has been no discharge from Outfall 001 since before 2002. Portions of the infrastructure to discharge wastewater and incidental contact stormwater collected at Berth 1 remain; however, the system is no longer directly connected to the sanitary sewer. The Port no longer handles CTP. The collection system at Berth 1 can be used to collect wastewater and incidental contact stormwater, which can be pumped to tanks or rail cars for processing at one of the Port's two treatment plants. Outfall 001 is to be removed from the Port's permit.

Outfall 002 receives discharges from the Berth 2 Industrial Wastewater Plant (IWTP), which is currently operated by the Port. These discharges are currently covered under the Port's Permit; however, IRM is applying for new permit coverage for discharges to Outfall 002, concurrently with the Port's reapplication. IRM signed a lease with the Port on 18 October 2017 to begin

B.2. Raw Materials and Products

The Port does not use raw materials, or manufacture or produce finished products.

SECTION C. PLANT OPERATIONAL CHARACTERISTICS

C.1. Wastewater Streams

The Port has infrastructure to collect and treat wastewater and incidental contact stormwater generated at portions of Berth 5, Berth 6, and Berth 7 during ship loading and unloading and associated activities, including washdown of conveyors and other equipment. Wastewater treatment systems are controlled by valves that can be set to direct wastewater to pretreatment tanks or to discharge stormwater between cargo-handling activities. Stormwater that is not industrial wastewater is considered industrial wastewater. Collection systems have been designed to expand the contained area to include all of Berth 7 and portions of Berth 6 at Berth 6. The Port is completing this construction with its own workforce; the construction schedule will be coordinated with the Port's other needs and priorities.

WILL Q TO
TANT POND ↑ ?
PWW METAL
METAL SCRAP
WATER

Wastewater is generally pretreated to remove solids, then discharged to the Cowlitz River, operated by the TRRW. Wastewater from Outfall 004 is conveyed through Cowlitz County's sanitary sewer in a line constructed in 2001 parallel to International Way. The locations of Berths 5, 6, and 7, the Berth 7 IWTP, and Outfall 004 are shown in Figure 2 (attached) and are discussed in more detail in the following paragraphs.

C.2. Treatment Process Descriptions

Process flow diagrams of the collection and treatment systems are provided in Attachment C2. Because the treatment systems collect wastewater intermittently and the volume of incidental contact stormwater varies, the average flows are not shown on the process flow diagrams. Instead, they are discussed in more detail in Section C.3. The source of intake water is the City's potable water system, and incidental contact stormwater. Treatment processes are focused on the removal of solids and adjustment of wastewater pH to acceptable levels.

Outfall 004 – Berth 7 IWTP

Outfall 004 discharges treated wastewater from the Berth 7 IWTP, which receives wastewater and incidental contact stormwater from Berths 5, 6, and 7 and areas near Warehouse 8. Currently, most of the volume of wastewater treated at the Berth 7 IWTP consists of incidental contact stormwater collected at Berth 5 and washwater from the washdown of equipment at Berth 7. It also includes wastewater from a dewater box in Gear Locker B at Warehouse 8. The Berth 7 IWTP was designed to handle wastewater from the processing of multiple bulk commodities, including CTP. However, CTP is no longer handled at the Port.

A high-density polyethylene (HDPE) -lined industrial wastewater storage pond is located adjacent to the Berth 7 IWTP. Wastewater is pumped to storage tanks or directly to the storage pond depending on wastewater characteristics and operational needs. The additional storage capacity provided by the pond allows the Port to increase the total amount of industrial wastewater that can be collected and processed through the treatment plant without significantly increasing the plant throughput rate. The storage pond also provides treatment through settling of solids and allows the Port flexibility in how the Berth 7 IWTP is operated.

Month	Outfall 004 Average Total Gallons ^(a)	Outfall 004 Average Days with Discharge ^(b)
December	271,300	12

Notes:

(a) Average total gallons discharged per month for 2012, 2013 and 2014.

(b) Average daily discharge and number of days with discharges per month for 2012 and 2013.

The Port's Berth 7 IWTP storage pond, described in Section C.2, allows discharges to Outfall 004 on more days and at a more constant rate. With the addition of the storage pond, it is assumed the Port will discharge wastewater to Outfall 004 five days per week at approximately 20,000 gallons per day. Addition of the storage pond will increase the total volume treated and discharged over the year but will reduce the seasonal variation in treated effluent flows. The anticipated maximum average monthly wastewater discharge flow (daily flows averaged over a month) to Outfall 004 given the preceding assumptions is estimated to be approximately 20,000 gallons per day. The average monthly discharge to Outfall 004 is estimated to be approximately 400,000 gallons. However, during sustained periods of high rainfall and activity on the berths, discharges are expected to be higher.

C.4. Planned Wastewater Treatment Improvements

The Port has designed and intends to construct significant improvements to conveyance systems for the Berth 7 IWTP. These improvements are described in the Port of Longview Berth 7 Industrial Wastewater Treatment Plant Engineering Report dated 12 February 2015, and approved by Ecology in a letter dated 10 April 2015. The improvements will allow the Berth 6 & 7 collection and conveyance systems to contain industrial wastewater from additional areas and provide greater operational flexibility for the Port's commercial activities. The system upgrades have been designed to allow the Port to manage both industrial wastewater and stormwater runoff from its berths.

UPDATE ON
Berth 7 C&C
Systems

The Port plans to replace the current batch sampling procedure at the Berth 7 IWTP with a procedure using a flow-proportional sampler for discharges to Outfall 004 and will submit details of the proposed sampling procedure for Ecology review prior to implementation.

C.5. Seasonal Variation in Production Process

The amount of incidental contact stormwater collected, treated, and discharged to Outfall 004 varies seasonally, as described in Section C.3.

AUTO WW
SAMPLER STATUS
checked last year for
7/2.

C.6. System Operating Times

As described in Section C.3., operation of the wastewater treatment systems is intermittent and may occur any week during the year, depending on cargo handling activity, ship's schedules, and available wastewater storage capacity. The treatment plant is typically operated during Port staff's regular work hours, 8 hours per day, from Monday to Friday.

SO DISCHARGE
IS TYPICALLY
8-5 M-F?

Parameter	Minimum	Average	Maximum	Number of Analyses
Copper (mg/L) ^(d)	< 0.01	0.012	0.059	28
pH ^(e) (SU)	5.2	7.3	9.0	122

Notes:

- (a) 53 of 59 oil and grease samples were reported as non-detect.
- (b) Ammonia concentrations are reported from December 2011 to January 2015 at Outfall 004.
- (c) The data for the parameter zinc contains two values reported as <10 mg/L in 2008, which are assumed to be ½ the typical detection limit of 0.010 mg/L for this calculation.
- (d) Values for the parameter copper prior to 2012 are not included in the characterization because of a probable issue with the detection limits in the PARIS database for older data.
- (e) Both minimum and maximum pH is reported to Ecology each month; therefore, the total number of analyses reported is higher for pH than for other parameters.

Abbreviations:

TSS total suspended solids
gpd gallons per day
lbs/day pounds per day
mg/L milligrams per liter
SU standard units

Proposed Effluent Limitations for the Permit Renewal

The Port has met with TRRWA to discuss renewal of the Permit, and requests the effluent limitations presented in Table 3. The treatment processes used in the IWTP represents all known, available, and reasonable treatment and the proposed limits will not interfere with operation of the TRRWP. TRRWA supports the proposed effluent limitations. The Port proposes an increase to the daily maximum flow limits and to the allowable zinc concentration, removal of the effluent limitation for oil and grease due to the high number of non-detects, and retention of existing limits for other parameters.

Table 3: Proposed Effluent Limits (Maximum Daily)

Parameter	Outfall 004
Flow (gpd, daily maximum)	100,000
TSS (mg/L)	200
Ammonia (lbs/day)	125
Zinc (mg/L)	4.6
pH (SU)	6.0-9.0
BOD ₅ (mg/L) ^(a)	350

Notes:

- (a) BOD₅ samples will be collected only when agricultural products such as soymilk, corn, and/or gluten are being shipped or received.

Abbreviations:

TSS total suspended solids
lbs/day pounds per day
gpd gallons per day
mg/L milligrams per liter
SU standard units

Non-Dangerous Waste Sludge Disposal

Non-dangerous waste sludge is thickened in the dewatering box or dewatering bags, then hauled off-site for disposal. Transport is currently performed by one of two transporters:

Tribeca
PO Box 630
Woodland, WA 98674
(360) 225-9094

OR

CCS, a division of PNE Corp
55 International Way
Longview, WA 98632
(360) 423-6316

Dangerous Waste Sludge Disposal

There is no dangerous waste sludge generated at the Berth 7 IWTP.

Bag Filter Disposal

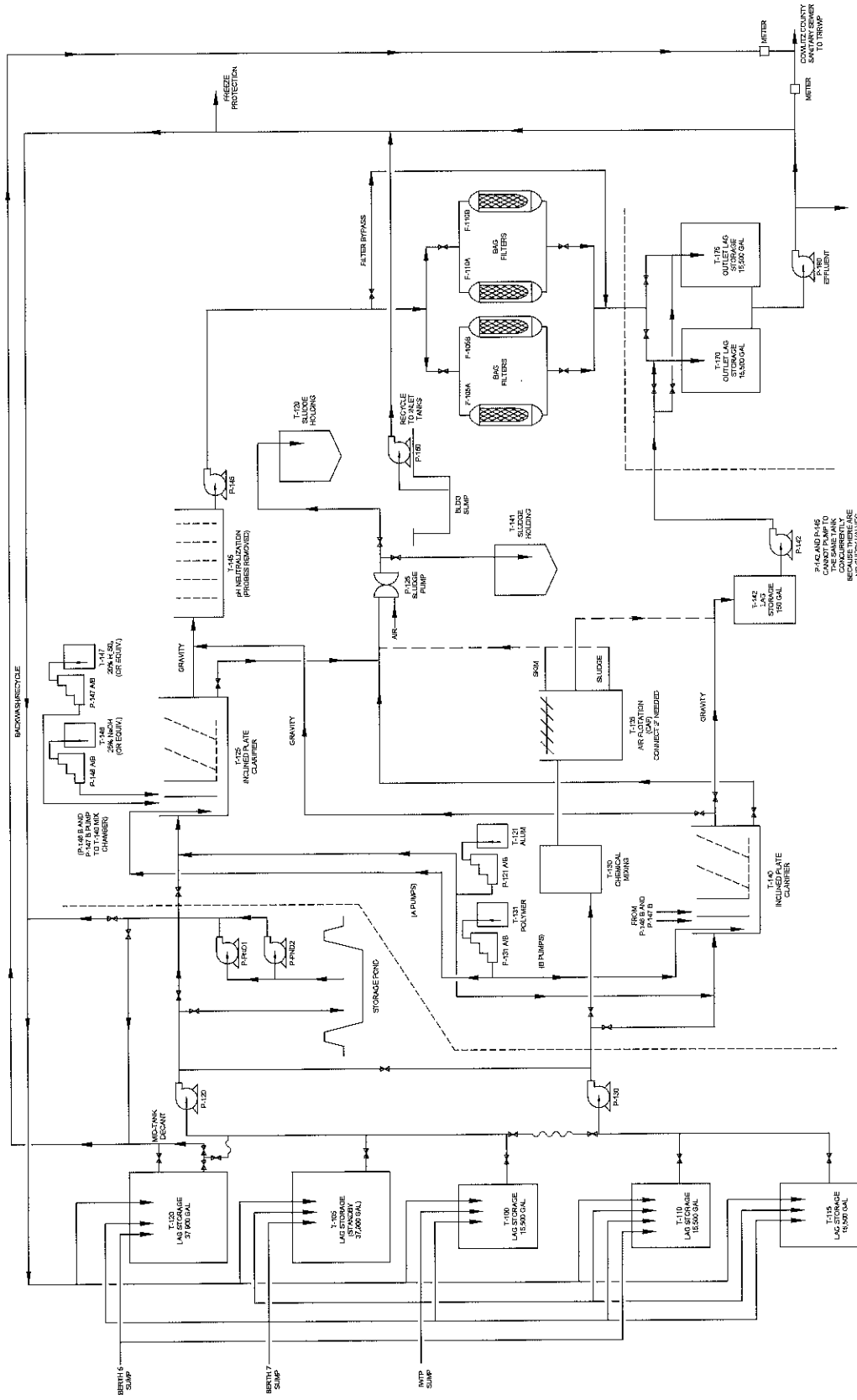
Spent filters from the bag filtration system at the Berth 7 IWTP are considered non-hazardous waste and are disposed of as municipal solid waste.

I.3. Dangerous Waste Designation

The Berth 7 IWTP thickened sludge has been designated non-hazardous per the DW acute static fish bioassay, WAC 173-303-100(5)(c).

Attachment C2

Treatment System Diagrams and Drawings





ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

May 27, 2015

Analytical Report for Service Request No: K1504648

Sean Kelly
Longview, Port of
10 Port Way
Longview, WA 98632

RE:

Dear Sean,

Enclosed are the results of the sample(s) submitted to our laboratory May 04, 2015
For your reference, these analyses have been assigned our service request number **K1504648**.

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 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

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.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

Semivolatile Organic Compounds by EPA Method 625

Surrogate Exceptions:

The control criteria were exceeded for Terphenyl-d14 in sample 004-TTO due to matrix interference. The presence of non-target background components prevented adequate resolution of the surrogate. Accurate quantitation was not possible. No further corrective action was appropriate.

Matrix Spike Recovery Exceptions:

The matrix spike recovery of Phenol for sample 004-TTO was outside control criteria. Recovery in the replicate Laboratory Control Samples (LCS/DLCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential high bias in this matrix. No further corrective action was appropriate.

Lab Control Sample Exceptions:

The advisory criterion was exceeded for 3,3'-Dichlorobenzidine in the Laboratory Control Sample (LCS/DLCS) KWG1504018-3. As per the ALS/Kelso Standard Operating Procedure (SOP) for this method, this compound is not included in the subset of analytes used to control the analysis. The recovery information reported for this analyte is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Relative Percent Difference Exceptions:

The Relative Percent Difference (RPD) for Hexachlorocyclopentadiene in the replicate Laboratory Control Sample (LCS/DLCS) analyses KWG1504018-3 and KWG1504018-4 was outside control criteria. All spike recoveries for the analyte in question were within acceptance limits in the LCS/DLCS, indicating the analytical batch was in control. No further corrective action was appropriate.

Sample Notes and Discussion:

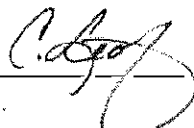
The target analyte list for EPA Method 625 does not include Perylene, 3-Methylcholanthrene, Dibenzo(a,i)pyrene, Dibenzo(a,e)pyrene, Dibenz(a,h)acridine, Dibenz(a,h)pyrene, Dibenz(a,h)acridine. The analytes were searched for and quantitated as a Tentatively Identified Compound (TIC). Quantitative standards were not analyzed for the listed analytes.

No other anomalies associated with the analysis of this sample were observed.

Dioxins and Furans by EPA Method 1613B

This analysis was performed at ALS Environmental in Houston, TX. Please see the subcontracted laboratory report for narrative and results.

Approved by _____





001

59508

1317 South 13th Ave, Kelso, WA 98626 Phone (360) 577-7222 / 800-695-7222 / FAX (360) 636-1068

www.alsglobal.com

Page 1 of 1

Project Name						Project Number.										
Company						Project Manager										
Address						Sampler Printed Name										
Phone #						email										
Sampler Signature						Matrix										
CLIENT SAMPLE ID						LABID				SAMPLING Date Time				Remarks		
1. 004-TTO										5/1/15 16:00 lig						
2.																
3.																
4.																
5.																
6.																
7.																
8.																
9.																
10.																

Report Requirements		Invoice Information		Special Instructions/Comments:	
<input type="checkbox"/> I. Routine Report: Method	P.O.#	Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg		Circle which metals are to be analyzed	
<input type="checkbox"/> Blank, Surrogate, as required	Bill To:	Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg			
<input type="checkbox"/> II. Report Dup., MS, MSD as required		Special Instructions/Comments:		*Indicate State Hydrocarbon Procedure: AK CA WI Northwest Other _____ (Circle One)	
<input type="checkbox"/> III. CLP Like Summary (no raw data)	Turnaround Requirements	Customer Rep Chris Leaf		TB = 3.3	
<input type="checkbox"/> IV. Data Validation Report	<input type="checkbox"/> 24 hr. <input type="checkbox"/> 48 hr.				
<input type="checkbox"/> V. EDO	<input type="checkbox"/> 5 Day <input type="checkbox"/> Standard	5/22/15			
Requested Report Date					
Relinquished By:		Received By:		Relinquished By:	
Signature		Signature		Signature	
Printed Name		Printed Name		Printed Name	
Firm		Firm		Firm	
Date/Time		Date/Time		Date/Time	



Organochlorine Pesticides and Polychlorinated Biphenyls

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: NA
Date Received: NA

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name: Method Blank
Lab Code: KWG1504105-4
Extraction Method: EPA 3520C
Analysis Method: 608

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.0095	0.00065	1	05/08/15	05/20/15	KWG1504105	
beta-BHC	ND	U	0.0095	0.00079	1	05/08/15	05/20/15	KWG1504105	
gamma-BHC (Lindane)	ND	U	0.0095	0.0020	1	05/08/15	05/20/15	KWG1504105	
delta-BHC	ND	U	0.0095	0.0035	1	05/08/15	05/20/15	KWG1504105	
Heptachlor	ND	U	0.0095	0.0010	1	05/08/15	05/20/15	KWG1504105	
Aldrin	ND	U	0.0095	0.0017	1	05/08/15	05/20/15	KWG1504105	
Heptachlor Epoxide	ND	U	0.0095	0.0010	1	05/08/15	05/20/15	KWG1504105	
Endosulfan I	ND	U	0.0095	0.0013	1	05/08/15	05/20/15	KWG1504105	
Dieldrin	ND	U	0.0095	0.00085	1	05/08/15	05/20/15	KWG1504105	
4,4'-DDE	ND	U	0.0095	0.0011	1	05/08/15	05/20/15	KWG1504105	
Endrin	ND	U	0.0095	0.0013	1	05/08/15	05/20/15	KWG1504105	
Endosulfan II	ND	U	0.0095	0.0010	1	05/08/15	05/20/15	KWG1504105	
4,4'-DDD	ND	U	0.0095	0.0015	1	05/08/15	05/20/15	KWG1504105	
Endrin Aldehyde	ND	U	0.0095	0.0017	1	05/08/15	05/20/15	KWG1504105	
Endosulfan Sulfate	ND	U	0.0095	0.0012	1	05/08/15	05/20/15	KWG1504105	
4,4'-DDT	ND	U	0.0095	0.0018	1	05/08/15	05/20/15	KWG1504105	
Toxaphene	ND	U	0.48	0.083	1	05/08/15	05/20/15	KWG1504105	
Chlordane	ND	U	0.19	0.021	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1016	ND	U	0.048	0.043	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1221	ND	U	0.095	0.058	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1232	ND	U	0.095	0.049	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1242	ND	U	0.095	0.018	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1248	ND	U	0.095	0.035	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1254	ND	U	0.095	0.029	1	05/08/15	05/20/15	KWG1504105	
Aroclor 1260	ND	U	0.095	0.053	1	05/08/15	05/20/15	KWG1504105	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	58	10-134	05/20/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Extracted: 05/08/2015
Date Analyzed: 05/20/2015

Matrix Spike/Duplicate Matrix Spike Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name: Batch QC
Lab Code: K1504784-001
Extraction Method: EPA 3520C
Analysis Method: 608

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1504105

Analyte Name	Sample Result	Batch QCMS KWG1504105-1 Matrix Spike			Batch QCDMS KWG1504105-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
alpha-BHC	ND	0.0629	0.0962	65	0.0680	0.0980	69	37-134	8	30
beta-BHC	ND	0.0676	0.0962	70	0.0717	0.0980	73	17-147	6	30
gamma-BHC (Lindane)	ND	0.0684	0.0962	71	0.0716	0.0980	73	32-127	5	30
delta-BHC	ND	0.0607	0.0962	63	0.0654	0.0980	67	19-140	7	30
Heptachlor	ND	0.0310	0.0962	32 *	0.0358	0.0980	37	34-111	14	30
Aldrin	ND	0.0337	0.0962	35 *	0.0422	0.0980	43	42-122	22	30
Heptachlor Epoxide	ND	0.0609	0.0962	63	0.0721	0.0980	74	37-142	17	30
Endosulfan I	ND	0.0485	0.0962	50	0.0578	0.0980	59	45-153	17	30
Dieldrin	ND	0.0638	0.0962	66	0.0744	0.0980	76	36-146	15	30
4,4'-DDE	ND	0.0338	0.0962	35	0.0419	0.0980	43	30-145	22	30
Endrin	ND	0.0662	0.0962	69	0.0761	0.0980	78	30-147	14	30
Endosulfan II	ND	0.0625	0.0962	65	0.0694	0.0980	71	10-202	10	30
4,4'-DDD	ND	0.0481	0.0962	50	0.0618	0.0980	63	31-141	25	30
Endrin Aldehyde	ND	0.0450	0.0962	47	0.0500	0.0980	51	43-125	10	30
Endosulfan Sulfate	ND	0.0848	0.0962	88	0.0941	0.0980	96	26-144	10	30
4,4'-DDT	ND	0.0385	0.0962	40	0.0491	0.0980	50	25-160	24	30

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.



Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: 05/01/2015
Date Received: 05/04/2015

Volatile Organic Compounds

Sample Name: 004-TTO
Lab Code: K1504648-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	89	80-120	05/12/15	Acceptable
4-Bromofluorobenzene	88	68-120	05/12/15	Acceptable
Dibromofluoromethane	94	76-132	05/12/15	Acceptable

† Analyte Comments

Acrolein This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
 Acrylonitrile This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1504206-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Toluene-d8	90	80-120	05/12/15	Acceptable
4-Bromofluorobenzene	92	68-120	05/12/15	Acceptable
Dibromofluoromethane	91	76-132	05/12/15	Acceptable

† Analyte Comments

Acrolein	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.
Acrylonitrile	This compound is unstable under normal conditions. As per EPA Method 624 guidelines, the reported value was an estimate.

Comments:

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Extracted: 05/12/2015
Date Analyzed: 05/12/2015

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: Batch QC
Lab Code: K1504576-060
Extraction Method: METHOD
Analysis Method: 624

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1504206

Analyte Name	Sample Result	Batch QCMS KWG1504206-1 Matrix Spike			Batch QCDS KWG1504206-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
1,1-Dichloroethene	0.070	13.7	10.0	137	13.6	10.0	136	10-234	1	30
Benzene	ND	11.9	10.0	119	12.1	10.0	121	37-151	2	30
Trichloroethene (TCE)	ND	11.4	10.0	114	11.4	10.0	114	71-157	1	30
Toluene	0.050	11.5	10.0	115	11.9	10.0	118	47-150	3	30
Chlorobenzene	ND	12.5	10.0	125	12.8	10.0	128	37-160	3	30
1,2-Dichlorobenzene	ND	10.9	10.0	109	11.6	10.0	116	18-190	7	30

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.



Semi-Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: 05/01/2015
Date Received: 05/04/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name: 004-TTO
Lab Code: K1504648-001
Extraction Method: EPA 3520C
Analysis Method: 625

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Hexachlorobenzene	ND	U	0.19	0.022	1	05/07/15	05/24/15	KWG1504018	
Pentachlorophenol	0.74	J	0.95	0.34	1	05/07/15	05/24/15	KWG1504018	
Phenanthrene	0.032	J	0.19	0.022	1	05/07/15	05/24/15	KWG1504018	
Anthracene	ND	U	0.19	0.024	1	05/07/15	05/24/15	KWG1504018	
Benzidine	ND	U	48	29	1	05/07/15	05/14/15	KWG1504018	
Di-n-butyl Phthalate	0.044	J	0.19	0.023	1	05/07/15	05/24/15	KWG1504018	
Fluoranthene	0.095	J	0.19	0.020	1	05/07/15	05/24/15	KWG1504018	
Pyrene	0.074	J	0.19	0.019	1	05/07/15	05/24/15	KWG1504018	
Butyl Benzyl Phthalate	0.062	J	0.19	0.018	1	05/07/15	05/24/15	KWG1504018	
3,3'-Dichlorobenzidine	ND	U	1.9	0.43	1	05/07/15	05/24/15	KWG1504018	
Benz(a)anthracene	0.023	J	0.19	0.018	1	05/07/15	05/24/15	KWG1504018	
Chrysene	0.037	J	0.19	0.028	1	05/07/15	05/24/15	KWG1504018	
Bis(2-ethylhexyl) Phthalate	0.15	J	0.95	0.13	1	05/07/15	05/24/15	KWG1504018	
Di-n-octyl Phthalate	ND	U	0.19	0.018	1	05/07/15	05/24/15	KWG1504018	
Benzo(b)fluoranthene	ND	U	0.19	0.017	1	05/07/15	05/24/15	KWG1504018	
Benzo(k)fluoranthene	ND	U	0.19	0.024	1	05/07/15	05/24/15	KWG1504018	
Benzo(a)pyrene	ND	U	0.19	0.031	1	05/07/15	05/24/15	KWG1504018	
Perylene†	ND	U	0.19	0.19	1	05/07/15	05/24/15	KWG1504018	
3-Methylcholanthrene†	ND	U	0.48	0.48	1	05/07/15	05/24/15	KWG1504018	
Indeno(1,2,3-cd)pyrene	ND	U	0.19	0.021	1	05/07/15	05/24/15	KWG1504018	
Dibenz(a,h)anthracene	ND	U	0.19	0.017	1	05/07/15	05/24/15	KWG1504018	
Benzo(g,h,i)perylene	ND	U	0.19	0.019	1	05/07/15	05/24/15	KWG1504018	
Dibenzo(a,i)pyrene†	ND	U	0.48	0.48	1	05/07/15	05/24/15	KWG1504018	
Dibenzo(a,e)pyrene†	ND	U	0.48	0.48	1	05/07/15	05/24/15	KWG1504018	
Dibenz(a,h)acridine†	ND	U	0.48	0.48	1	05/07/15	05/24/15	KWG1504018	
Dibenzo(a,h)pyrene†	ND	U	0.48	0.48	1	05/07/15	05/24/15	KWG1504018	
Dibenz(a,j)acridine†	ND	U	0.48	0.48	1	05/07/15	05/24/15	KWG1504018	

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1504018-5
Extraction Method: EPA 3520C
Analysis Method: 625

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	1.9	0.42	1	05/07/15	05/23/15	KWG1504018	
Bis(2-chloroethyl) Ether	ND	U	0.19	0.035	1	05/07/15	05/23/15	KWG1504018	
Phenol	ND	U	0.48	0.063	1	05/07/15	05/23/15	KWG1504018	
2-Chlorophenol	ND	U	0.48	0.054	1	05/07/15	05/23/15	KWG1504018	
Bis(2-chloroisopropyl) Ether	ND	U	0.19	0.026	1	05/07/15	05/23/15	KWG1504018	
Hexachloroethane	ND	U	0.19	0.024	1	05/07/15	05/23/15	KWG1504018	
N-Nitrosodi-n-propylamine	ND	U	0.19	0.037	1	05/07/15	05/23/15	KWG1504018	
Nitrobenzene	ND	U	0.19	0.028	1	05/07/15	05/23/15	KWG1504018	
Isophorone	ND	U	0.19	0.016	1	05/07/15	05/23/15	KWG1504018	
2-Nitrophenol	ND	U	0.48	0.063	1	05/07/15	05/23/15	KWG1504018	
2,4-Dimethylphenol	ND	U	3.8	2.2	1	05/07/15	05/23/15	KWG1504018	
Bis(2-chloroethoxy)methane	ND	U	0.19	0.024	1	05/07/15	05/23/15	KWG1504018	
2,4-Dichlorophenol	ND	U	0.48	0.047	1	05/07/15	05/23/15	KWG1504018	
1,2,4-Trichlorobenzene	ND	U	0.19	0.016	1	05/07/15	05/23/15	KWG1504018	
Naphthalene	ND	U	0.19	0.022	1	05/07/15	05/23/15	KWG1504018	
Hexachlorobutadiene	ND	U	0.19	0.027	1	05/07/15	05/23/15	KWG1504018	
4-Chloro-3-methylphenol	ND	U	0.48	0.037	1	05/07/15	05/23/15	KWG1504018	
Hexachlorocyclopentadiene	ND	U	0.95	0.19	1	05/07/15	05/23/15	KWG1504018	
2,4,6-Trichlorophenol	ND	U	0.48	0.058	1	05/07/15	05/23/15	KWG1504018	
2-Chloronaphthalene	ND	U	0.19	0.041	1	05/07/15	05/23/15	KWG1504018	
Acenaphthylene	ND	U	0.19	0.015	1	05/07/15	05/23/15	KWG1504018	
Dimethyl Phthalate	ND	U	0.19	0.021	1	05/07/15	05/23/15	KWG1504018	
2,6-Dinitrotoluene	ND	U	0.19	0.033	1	05/07/15	05/23/15	KWG1504018	
Acenaphthene	ND	U	0.19	0.026	1	05/07/15	05/23/15	KWG1504018	
2,4-Dinitrophenol	ND	U	3.8	0.17	1	05/07/15	05/23/15	KWG1504018	
4-Nitrophenol	ND	U	1.9	0.28	1	05/07/15	05/23/15	KWG1504018	
2,4-Dinitrotoluene	ND	U	0.19	0.018	1	05/07/15	05/23/15	KWG1504018	
Fluorene	ND	U	0.19	0.027	1	05/07/15	05/23/15	KWG1504018	
4-Chlorophenyl Phenyl Ether	ND	U	0.19	0.027	1	05/07/15	05/23/15	KWG1504018	
Diethyl Phthalate	0.015	J	0.19	0.012	1	05/07/15	05/23/15	KWG1504018	
2-Methyl-4,6-dinitrophenol	ND	U	1.9	0.025	1	05/07/15	05/23/15	KWG1504018	
N-Nitrosodiphenylamine	ND	U	0.19	0.048	1	05/07/15	05/23/15	KWG1504018	
Azobenzene†	ND	U	0.19	0.021	1	05/07/15	05/23/15	KWG1504018	
4-Bromophenyl Phenyl Ether	ND	U	0.19	0.026	1	05/07/15	05/23/15	KWG1504018	

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: NA
Date Received: NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name: Method Blank
Lab Code: KWG1504018-5

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2-Fluorophenol	82	23-121	05/23/15	Acceptable
Phenol-d6	83	31-122	05/23/15	Acceptable
Nitrobenzene-d5	79	38-124	05/23/15	Acceptable
2-Fluorobiphenyl	80	38-102	05/23/15	Acceptable
2,4,6-Tribromophenol	87	27-128	05/23/15	Acceptable
Terphenyl-d14	67	56-138	05/23/15	Acceptable

† Analyte Comments

Azobenzene	1,2-Diphenylhydrazine is reported as Azobenzene.
Perylene	This compound is searched for as a tentatively identified compound.
3-Methylcholanthrene	This compound is searched for as a tentatively identified compound.
Dibenzo(a,i)pyrene	This compound is searched for as a tentatively identified compound.
Dibenzo(a,e)pyrene	This compound is searched for as a tentatively identified compound.
Dibenz(a,h)acridine	This compound is searched for as a tentatively identified compound.
Dibenzo(a,h)pyrene	This compound is searched for as a tentatively identified compound.
Dibenz(a,j)acridine	This compound is searched for as a tentatively identified compound.

Comments:

QA/QC Report

Client: Longview, Port of
 Project:
 Sample Matrix: Water

Service Request: K1504648
 Date Extracted: 05/07/2015
 Date Analyzed: 05/24/2015

Matrix Spike/Duplicate Matrix Spike Summary
 Semi-Volatile Organic Compounds by GC/MS

Sample Name: 004-TTO
 Lab Code: K1504648-001
 Extraction Method: EPA 3520C
 Analysis Method: 625

Units: ug/L
 Basis: NA
 Level: Low
 Extraction Lot: KWG1504018

Analyte Name	Sample Result	004-TTOMS KWG1504018-1 Matrix Spike			004-TTODMS KWG1504018-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Phenol	0.28	7.04	4.72	143 *	6.57	4.72	133 *	5-112	7	30
2-Chlorophenol	ND	3.78	4.72	80	3.53	4.72	75	23-134	7	30
N-Nitrosodi-n-propylamine	ND	3.75	4.72	80	3.56	4.72	75	0.01-230	5	30
1,2,4-Trichlorobenzene	ND	3.43	4.72	73	3.21	4.72	68	44-142	7	30
4-Chloro-3-methylphenol	ND	4.22	4.72	89	3.29	4.72	70	22-147	25	30
Acenaphthene	ND	3.53	4.72	75	3.40	4.72	72	47-145	4	30
4-Nitrophenol	ND	5.60	4.72	119	6.07	4.72	129	0.01-132	8	30
2,4-Dinitrotoluene	ND	4.17	4.72	88	4.13	4.72	87	39-139	1	30
Pentachlorophenol	0.74	4.92	4.72	89	4.82	4.72	87	14-176	2	30
Pyrene	0.074	3.52	4.72	73	3.63	4.72	75	52-115	3	30

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: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Extracted: 05/07/2015
Date Analyzed: 05/14/2015 -
05/23/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 625

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1504018

Analyte Name	Lab Control Sample KWG1504018-3 Lab Control Spike			Duplicate Lab Control Sample KWG1504018-4 Duplicate Lab Control Spike			%Rec Limits	RPD	RPD Limit
	Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Pentachlorophenol	4.27	5.00	85	4.57	5.00	91	14-176	7	30
Phenanthrene	3.83	5.00	77	3.90	5.00	78	54-120	2	30
Anthracene	3.66	5.00	73	3.84	5.00	77	27-133	5	30
Benzidine	101	105	96	115	105	110	70-130	13	30
Di-n-butyl Phthalate	4.02	5.00	80	4.20	5.00	84	1-118	5	30
Fluoranthene	4.03	5.00	81	4.11	5.00	82	26-137	2	30
Pyrene	4.06	5.00	81	4.10	5.00	82	52-115	1	30
Butyl Benzyl Phthalate	4.29	5.00	86	4.40	5.00	88	0.01-152	2	30
3,3'-Dichlorobenzidine	ND	5.00	0 *	4.25	5.00	85	0.01-262	NC	30
Benz(a)anthracene	4.22	5.00	84	4.38	5.00	88	33-143	4	30
Chrysene	4.11	5.00	82	4.24	5.00	85	17-168	3	30
Bis(2-ethylhexyl) Phthalate	3.93	5.00	79	4.32	5.00	86	8-158	10	30
Di-n-octyl Phthalate	4.16	5.00	83	4.20	5.00	84	4-146	1	30
Benzo(b)fluoranthene	4.20	5.00	84	4.21	5.00	84	24-159	0	30
Benzo(k)fluoranthene	4.06	5.00	81	4.25	5.00	85	11-162	4	30
Benzo(a)pyrene	4.09	5.00	82	4.13	5.00	83	17-163	1	30
Indeno(1,2,3-cd)pyrene	3.92	5.00	78	4.46	5.00	89	0.01-171	13	30
Dibenz(a,h)anthracene	3.92	5.00	78	4.42	5.00	88	0.01-227	12	30
Benzo(g,h,i)perylene	3.94	5.00	79	4.37	5.00	87	0.01-219	10	30

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

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



10450 Standcliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

May 15, 2015.

Service Request No: K1504648

Chris Leaf.

ALS Environmental
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Result for: Longview, Port of.

Dear Chris:

Enclosed are the results of the sample(s) submitted to our laboratory on May 08, 2015. For Your reference, these analyses have been assigned our service request number: **K1504648**.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2279. You may also contact me via email at Arthi.Kodur@alsglobal.com

Respectfully submitted,

ALS Group USA Corp., dba ALS Environmental

Arthi Kodur
Project Manager

Page 1 of _____

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com.

ALS Environmental

Client: Port of Longview
Project: TCDD Analysis
Sample Matrix: Water

Service Request No.: K1504648
Date Received: 05/08/15

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

One water sample was received for analysis at ALS Environmental in Houston on 05/08/15.

Please note the reporting forms are currently referencing the date ALS-Kelso received the samples (05/04/15) and not the date ALS-Houston received the samples (05/08/15).

The sample was received at 1.7 °C in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1500349: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch. The batch quality control criteria were met.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Client: Longview, Port of
Project:

Service Request:K1504648

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K1504648-001	004-TTO	5/1/2015	1600

Service Request Summary

Folder #: K1504648
Client Name: Longview, Port of
Project Name:
Project Number:
Report To: Sean Kelly
Longview, Port of
10 Port Way
Longview, WA 98632
USA
Phone Number: 360-425-3305
Cell Number: 360-430-3484
Fax Number:
E-mail: skelly@portoflongview.com

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	Dioxins Furans/1613B	1	2,3,7,8-TCDD
VOA GCMS	VOC_FP/624	1	rush 10 business days (ak 5/8/15) LJ 14066

Project Chemist: Chris Leaf
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 05/04/15
Internal Due Date: 5/22/2015
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number:
EDD: BASIC_WOQC

5 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved
3 40 ml-Glass Vial VOA CLEAR Tef/Silicone Septa HCL
Location: K-Disposed, K-PETUNIA-11, In Lab, E-Disposed

Pressure Gas:

RUSH NPDESRushNPDES

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID

K1504648

DB-5MSUI

SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 05/14/15 Analyst: Jc

Samples: 001

Second Level - Data Review – to be filled by person doing peer review

Date:

Analyst:

Samples:

05/14/15

LKL

001

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Chris Leaf

Project Name:
Project Number:
Project Manager: Sean Kelly
Company: Longview, Port of

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Time	Date Received	Send To	Dioxins Furans 1613B
K1504648-001	004-TTO	1	Water	5/1/15	1600	5/4/15	HOUSTON	V

Test Comments
Dioxins Furans - 1613B

K1504648-001

2,3,7,8-TCDD

K1504648

Longview, Port of

5



Special Instructions/Comments Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com. <i>See II</i> <i>C. L. G. 5/7/15</i>	Turnaround Requirements <input checked="" type="checkbox"/> RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 <input type="checkbox"/> STANDARD Requested FAX Date: <u>5/22/15</u> Requested Report Date: <u>05/22/15</u>	Report Requirements I. Results Only <input type="checkbox"/> II. Results + QC Summaries <input checked="" type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data <input type="checkbox"/> PQL/MDL/1 <u>Y</u> EDD <u>Y</u>	Invoice Information PO# 51K1504648 ✓ Bill to
	pH Checked _____		

Relinquished By: *Kulladomine 5/7/15* Received By: *Chris Leaf 5/15* Airbill Number: _____

Page 49 of 65

Pa



10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sample. The COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C.
- ✓ Air samples are shipped and stored cold, at 0 to 6°C
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheet

Prep Run#: 235568 **Prep WorkFlow:** OrgExtAq(365) **Status:** Prepped
Team: Semivoa GCMS/LMCCRINK **Prep Method:** Method Sep Funnel/Jar **Prep Date/Time:** 5/12/15 10:30 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	E1500492-001	Chip Composite 2015-05-06-I	.01	1613B/Dioxins Furans	5	Water	1005mL	cloudy dark yellow liquid
2	E1500492-002	Sawdust Composite 2015-05-06-K	.01	1613B/Dioxins Furans	2	Water	996mL	cloudy yellow liquid
3	E1500499-001	#2 Bleach Plant	.01	1613B/Dioxins Furans	6	Water	992mL	cloudy brown liquid
4	E1500499-002	#3 Bleach Plant	.01	1613B/Dioxins Furans	7	Water	993mL	cloudy dark brown liquid
5	E1500500-001	65604-OS001-MS1	.01	1613B/Dioxins Furans	7	Water	1090mL	clear colorless liquid
6	E1500500-002	65604-OS001-MS3	.01	1613B/Dioxins Furans	7	Water	1092mL	clear colorless liquid
7	EQ1500349-01	MB		1613B/Dioxins Furans	5	Liquid	1000mL	
8	EQ1500349-02	LCS		1613B/Dioxins Furans	5	Liquid	1000mL	
9	EQ1500349-03	DLCS		1613B/Dioxins Furans	5	Liquid	1000mL	
10	K1504648-001	004-TTO	.04	1613B/Dioxins Furans	7	Water	1032mL	clear colorless liquid
11	K1504830-001	TTO-002	.04	1613B/Dioxins Furans	7	Water	1048mL	clear colorless liquid

Spiking Solutions

Name: 1613B Matrix Working Standard **Inventory ID:** 80458 **Logbook Ref:** 2-20ng/mL 80458 LM 4/21/15 **Expires On:** 04/21/2016
 EQ1500349-02 100.00µL EQ1500349-03 100.00µL

Name: 1613B Labeled Working Standard **Inventory ID:** 80684 **Logbook Ref:** 80684 LM 2-4ng/mL 4/29/15 **Expires On:** 10/24/2015
 E1500492-001 1,000.00µL EQ1500349-01 1,000.00µL EQ1500349-03 1,000.00µL

Name: 1613B Labeled Working Standard **Inventory ID:** 80842 **Logbook Ref:** 80842 LM 2-4ng/mL 5/6/15 **Expires On:** 10/24/2015
 E1500492-002 1,000.00µL E1500499-001 1,000.00µL E1500500-001 1,000.00µL E1500500-002 1,000.00µL

Name: 1613B Labeled Working Standard **Inventory ID:** 80874 **Logbook Ref:** 80874 LM 2-4ng/mL 5/6/15 **Expires On:** 10/24/2015
 K1504648-001 1,000.00µL K1504830-001 1,000.00µL

Name: 8290/1613B Cleanup Working Standard **Inventory ID:** 80976 **Logbook Ref:** 80976 CID 05/12/2015 **Expires On:** 11/08/2015
 E1500492-001 100.00µL E1500499-001 100.00µL E1500500-001 100.00µL E1500500-002 100.00µL
 EQ1500349-01 100.00µL EQ1500349-02 100.00µL EQ1500349-03 100.00µL K1504648-001 100.00µL K1504830-001 100.00µL



Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Longview, Port of
Project:
Sample Matrix: Water
Sample Name: 004-TTO
Lab Code: K1504648-001

Service Request: K1504648
Date Collected: 05/01/15 16:00
Date Received: 05/04/15 09:25
Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1032mL
Data File Name: P178010
ICAL Date: 10/18/14

Date Analyzed: 05/13/15 20:47
Date Extracted: 5/12/15
Instrument Name: E-HRMS-03
GC Column: DB-5MSUI
Blank File Name: P178026
Cal Ver. File Name: P178001

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1451.584	73		25-164	0.78	1.021
37Cl-2,3,7,8-TCDD	800	709.291	89		35-197	NA	1.022

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: EQ1500349-01

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000mL

Date Analyzed: 05/14/15 11:55
Date Extracted: 5/12/15
Instrument Name: E-HRMS-03
GC Column: DB-5MSUI
Blank File Name: P178026
Cal Ver. File Name: P178023

Data File Name: P178026
ICAL Date: 10/18/14

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1743.913	87		25-164	0.77	1.022
37Cl-2,3,7,8-TCDD	800	777.717	97		35-197	NA	1.022

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Analyzed: 05/14/15
Date Extracted: 05/12/15

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar

Units: pg/L
Basis: NA
Analysis Lot: 444992

Lab Control Sample
EQ1500349-02

Duplicate Lab Control Sample
EQ1500349-03

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
2,3,7,8-TCDD	209	200	104	209	200	104	67-158	<1	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Longview, Port of
Project:
Sample Matrix: Water

Service Request: K1504648
Date Collected: NA
Date Received: NA

Sample Name: Lab Control Sample
Lab Code: EQ1500349-02

Units: Percent
Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B
Prep Method: Method Sep Funnel/Jar
Sample Amount: 1000mL

Date Analyzed: 05/14/15 15:08
Date Extracted: 5/12/15
Instrument Name: E-HRMS-03
GC Column: DB-5MSUI
Blank File Name: P178026
Cal Ver. File Name: P178023

Data File Name: P178030
ICAL Date: 10/18/14

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1605.766	80		25-164	0.79	1.021
37Cl-2,3,7,8-TCDD	800	683.833	85		35-197	NA	1.022

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Longview, Port of

Project:

Sample Matrix: Water

Service Request: K1504648

Date Collected: NA

Date Received: NA

Sample Name: Duplicate Lab Control Sample

Units: Percent

Lab Code: EQ1500349-03

Basis: NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Date Analyzed: 05/14/15 15:56

Prep Method: Method Sep Funnel/Jar

Date Extracted: 5/12/15

Sample Amount: 1000mL

Instrument Name: E-HRMS-03

GC Column: DB-5MSUI

Data File Name: P178031

Blank File Name: P178026

ICAL Date: 10/18/14

Cal Ver. File Name: P178023

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1627.545	81		25-164	0.78	1.022
37Cl-2,3,7,8-TCDD	800	693.344	87		35-197	NA	1.022