ENVIRONMENTAL TROUBLESHOOTERS, INC.

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February 5, 2015

Ms. Erin Endsley, Hydrogeologist
Wisconsin Department of Natural Resources
Northern Region
Remediation and Redevelopment
1701 N 4th St, Superior, WI 54880

RE: Site Investigation Work Plan
Fraser Shipyards Inc.
1 Clough Ave, Superior, WI 54880
Punch Shed Building Addition Spill
BRRTs 02-16-562599
ET Project No. 14-1004

Dear Ms. Endsley,

Pursuant to your letter dated December 8, 2014, Environmental Troubleshooters (ET) has prepared this site investigation work plan (SIWP) for the above-referenced site. The SIWP has been prepared in accordance with NR716.09 for the investigation of a release of petroleum including diesel and used oil from historic operations in the vicinity of the Punch Shed Building Addition at the subject site.

The site address is 1 Clough Ave, Superior, Wisconsin. The Fraser Shipyard is a large facility that includes portions of the south half of Section 11 and north half of Section 14, T49N, R14W, in Douglas County, Wisconsin. The specific spill area is located in the SE ¼ of the SW ¼ of Section 11, T49N, R14W. Figure 1 depicts the site location on a topographic map. Figure 2 depicts the entire shipyard on a recent aerial photograph, including the new building development area (i.e. the Punch Shed Building Addition).

The purpose of the site investigation is to define and characterize the contaminants, hydrogeology and receptors at the site. This site investigation is being conducted on behalf of:

Fraser Shipyards Inc.
1 Clough Ave.
Superior, WI 54880
Attn: Mr. Tom Curelli
Phone:(715) 394-7787

The Punch Shed Building Addition spill is being addressed as a legacy release as there are no known active releases or sources of potential releases to the area. As discussed in the background section below, contaminants were encountered during building footing test pits and geotechnical borings conducted during the design phase of the Punch Shed Addition. Subsequent research and test pit sampling by ET better identified the apparent historic sources for the release.

Background

The shipyard currently operated by Fraser Shipyards, Inc. (FSI) has operated at the subject location since 1889, although formerly under different names and ownership. The site was acquired by Rueben Johnson & Son in 1977 and continues as a wholly owned company of Capstan Corporation Holding Company which was formed to manage Ruben Johnson & Son (RJS) Construction, Viant Crane, Fraser Shipyards and other companies. Attachment 1 includes aerial photographs of the site. Also included are low angle, proximal aerial photographs taken in 1962, 1979 and 1982. These photos depict apparent diesel tanks used for power generation in the Punch Shed Building during the era covered by the photos.

In 2014, FSI designed and planned for a 5,500 square foot addition to the Punch Shed Building. FSI excavated test pits in the planned footing locations and observed degraded petroleum contamination in the southwest corner of the planned addition and diesel odor in the northeast corner of the planned addition. EPC was hired to drill one geotechnical soil boring in the northeast corner to provide design engineers with data for structural building design. Attachment 2 includes the boring log from EPC's boring (SP-14-1) which documents 4 feet of sand, underlain by 3.5 feet of clay, then 1.5 feet of peat, then by 19 feet of clay, followed interbedded sands and clays to a depth of 61 feet. "Petroleum-like" odors were observed by EPC at a depth of 2 – 4 feet in the boring. Groundwater stabilized in the peat lens at 8.5 feet below grade surface (bgs) during drilling, but wet conditions were also noted on top of the clay lens at a depth of 4 feet bgs. The upper saturated conditions are likely to be perched meteoric water that is in communication with the saturated peat lens from multiple historic excavations and construction projects. Figure 3 depicts the Punch Shed Addition footprint and locations of the EPC geotechnical boring and ET test pits (discussed below).

Based on the petroleum odors observed during FSI's test pits and EPC's boring, FSI contracted ET to open discussions with the Wisconsin Department of Natural Resources (WDNR) as to whether the contamination was related to formerly identified areas of concern (AOCs) or represented a new release. John McCarthy from ET contacted Erin Endsley of the WDNR and it was agreed that additional test pits under oversight by an experienced environmental professional would be performed to document conditions and perform sampling to assess the nature of the observed contamination. The results of the test pits are described below.

On October 27, 2014, ET oversaw the excavation of four test pits (TP-1 through TP-4) to depths of 5 to 8 feet bgs. Figure 3 depicts the test pit locations relative to the footprint of the new building addition. Test pits TP-1 through TP-3 encountered mixtures of sand and gravel to approximately four feet bgs, underlain by clay. Dimensional lumber was observed in the test pits at a depth of approximately 3 feet bgs. Perched water flowed into the excavations at the granular fill / clay interface at a depth of approximately 4 feet. The exception was TP-4, where the clay was not encountered at the 4 foot depth, but coarser fill materials were present. This test pit had approximately 1/8-inch thickness of degraded, non-aqueous phase liquid (NAPL) and much higher water yield. Attachment 3 includes copies of lithologic logs from the test pits.

Soil samples were collected from the two-foot interval of each test pit that yielded the highest photoionization detector (PID) reading. Samples were analyzed for gasoline range organics (GRO), volatile organic compounds (VOCs), Resource Conservation and Recovery Act (RCRA) metals and polynuclear aromatic hydrocarbons (PAHs). Attachment 4 includes a copy of the laboratory analytical report. The following is a summary of the results:

- GRO concentrations ranged from 72.1 to 837 milligrams per kilogram (mg/kg). There is not an established industrial residual contaminant level (I-RCL) for GRO and no additional assessment is recommended.
- RCRA metals concentrations were all below I-RCLs, except arsenic in test pits TP-1 and TP-3 which yielded 8.5 and 10.6 mg/kg when analyzed via EPA method 6020. All arsenic EPA 6010 concentrations and test pits TP-2 and TP-4 were below the I-RCL of 8 mg/kg. Based on the limited I-RCL exceedances, no additional RCRA metals assessment is recommended.
- VOC concentrations were all below I-RCLs, except 1,2,3-trichloropropane (TCP) which is a solvent for paint and varnish removal and a cleaning and degreasing agent. The 1,2,3-TCP was only detected in test pit TP-1 and the source is unknown. Although below the I-RCLs in the footprint of the Punch Shed Addition, petroleum-related VOCs (i.e. benzene, toluene, ethylbenzene, xylenes, 1,2,4- and 1,3,5-trimethylbenzene) and chlorinated solvent related VOCs (i.e. tetrachloroethylene [PCE], trichloroethylene [TCE], and cis-1,2-dichloroethylene [DCE]) were also detected suggesting a proximal but unidentified source for these compounds. Additional assessment to determine the apparent up-gradient source for these VOCs includes additional borings around the periphery of the Punch Shed Addition footprint. The additional assessment may identify a source, but these compounds may be from a small historic release that has already reached attenuation.
- PAH concentrations exceeded the I-RCLs in test pits TP-1, TP-2 and TP-4. Test pit TP-4, where degraded NAPL was observed during excavation, yielded exceedances for benzo(a)anthracene, benzo(a)pyrene [B(a)P], benzo(b)fluoranthene, and dibenzo(a,h)anthracene. Test pits TP-1 and TP-2 also yielded B(a)P I-RCL exceedances and TP-1 yielded dibenzo(a,h)anthracene above the I-RCL. As with the VOCs noted above, there is not a known source for the PAHs, but additional assessment is recommended to attempt to identify the source, as well as delineate the down-gradient extent.

In addition, two composite samples SP-1 (composited from TP-3 and TP-4) and SP-2 (composited from TP-1 and TP-2) were also analyzed for VOCs, toxicity characteristic leaching procedure (TCLP) metals, diesel range organics (DRO) and polychlorinated biphenyls (PCBs) for characterization profiling of the soil for disposal at a landfill during building footing construction. Samples documented that soils planned for excavation and permitted landfill disposal did not exceed characteristically hazardous criteria. Approximately 800 tons of contaminated soils were excavated and hauled under manifest to VONCO V in Duluth, MN. Copies of manifests and disposal tickets will be submitted with the site investigation report. Attachment 4 includes a copy of the laboratory analytical report.

Receptors

The nearest surface water body is Howards Bay of St. Louis Bay of the St. Louis River, located 125 feet NNE of test pit TP-3. No other sensitive ecosystems or habitats, and no federally listed endangered species have been identified in proximity to the spill site.

According to FSI, there are no known potable or industrial extraction wells located on site. According to the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) well constructors database there are no wells within 1,200 feet of the spill area.

Utility trenches located on and adjacent to the site are potential pathways for contaminant migration. These will be evaluated during the site investigation for presence of contamination. Vapor monitoring will be conducted using a PID and lower explosive limit (LEL) meter.

The Punch Shed Building Addition spill site lies near the center of the Fraser Shipyard which lies within an industrial district of Superior, Wisconsin. The nearest residence is approximately 1000 feet from the spill area and is up-gradient. Based on the distance from the source area, ET does not anticipate conducting a vapor intrusion investigation with soil gas probes. During the investigation, ET will further evaluate the vapor intrusion risk based on PID readings from soil borings and investigation data.

Soil Contaminant Investigation

The purpose of the soil contaminant investigation is to delineate the source, nature, degree, distribution, and extent of contamination associated with the Punch Shed Building Addition spill. Moreover, information obtained from the soil investigation will be used in the development of an appropriate response, if contamination is found at the site at levels warranting clean up.

In the absence of a known source, ET proposes to advance seven push-probe borings around the periphery of the Punch Shed Building Addition to attempt to identify the source and delineate the extent of the VOCs and PAHs in soil and groundwater. Push probe samples will be collected continuously and field screened at two-foot intervals,

with a PID with borings terminated at approximately 12 feet bgs (i.e. three feet below the saturated peat lens present from 7.5 to 9 feet bgs and to confirm the presence of the underlying clay lens). ET staff will characterize soil samples and boring logs will be kept indicating sample intervals and depths, visual and olfactory observations, and geologic classifications.

Soil samples exhibiting the highest PID reading or at the water table will be collected and submitted to a state certified laboratory for analysis. Soil samples will be analyzed for VOCs and PAHs using EPA Methods 8260 and 8270 SIM, respectively. Quality assurance will include one MeOH trip blank and one duplicate soil sample.

Groundwater Contaminant Investigation

The purpose of the groundwater contaminant investigation is to identify the source and delineate the extent of groundwater contamination at the site. The groundwater contaminant investigation will occur concurrently with the soil contaminant investigation. Upon completion of the push-probe soil sampling, a one-inch diameter, schedule 40 PVC temporary well will be installed in each boring with the screen transecting the vadose, capillary and saturated zones. If sufficient water accumulates within the temporary wells, groundwater samples will be collected from all seven push-probe sampling points and preserved for analysis by a state certified laboratory. Samples will be analyzed for VOCs and PAHs using EPA Methods 8260 and 8270, respectively.

All proper quality assurance/quality control (QA/QC) procedures will be followed as per NR 716.13, including collection of trip blanks and duplicate samples, as appropriate.

Schedule

If the initial seven push probe borings are not sufficient to delineate the extent of contamination, ET will advance additional push probes and collect additional samples for laboratory analysis as documented above. When investigation activities are complete, ET will submit a site investigation report to the WDNR. It is anticipated that work will begin within 90 days and a Site Investigation Report will be submitted within 150 days of the date of this work plan. However, if the objectives of source identification or delineation are not achieved within the timeframe, the WDNR will be provided with an update of the data and planned additional investigation.

Limitations

This work plan has been prepared in accordance with generally accepted engineering and hydrogeologic principles and practices of this time and location. Interpretations and recommendations in this report are based on available data, and additional data may result in revised interpretations and recommendations. This report is intended for use by the client and ET for its intended purpose only at the time of preparation. The report may be unsuitable for other uses, and reliance on its contents by anyone other than the client is done at the sole risk of the user. ET accepts no responsibility for application or

interpretation of the results by anyone other than the client. This site investigation work plan was prepared by Environmental Troubleshooters, Inc.

Certification

I, Thomas G. Muhich, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03(1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR700 to 726, Wis. Adm. Code.

Thomas G. Muhich, PG, CHMM
Report Reviewer

If you have any questions in the interim, please contact John McCarthy at (218) 722-6013 or by email at jmccarthy@etsmn.com.

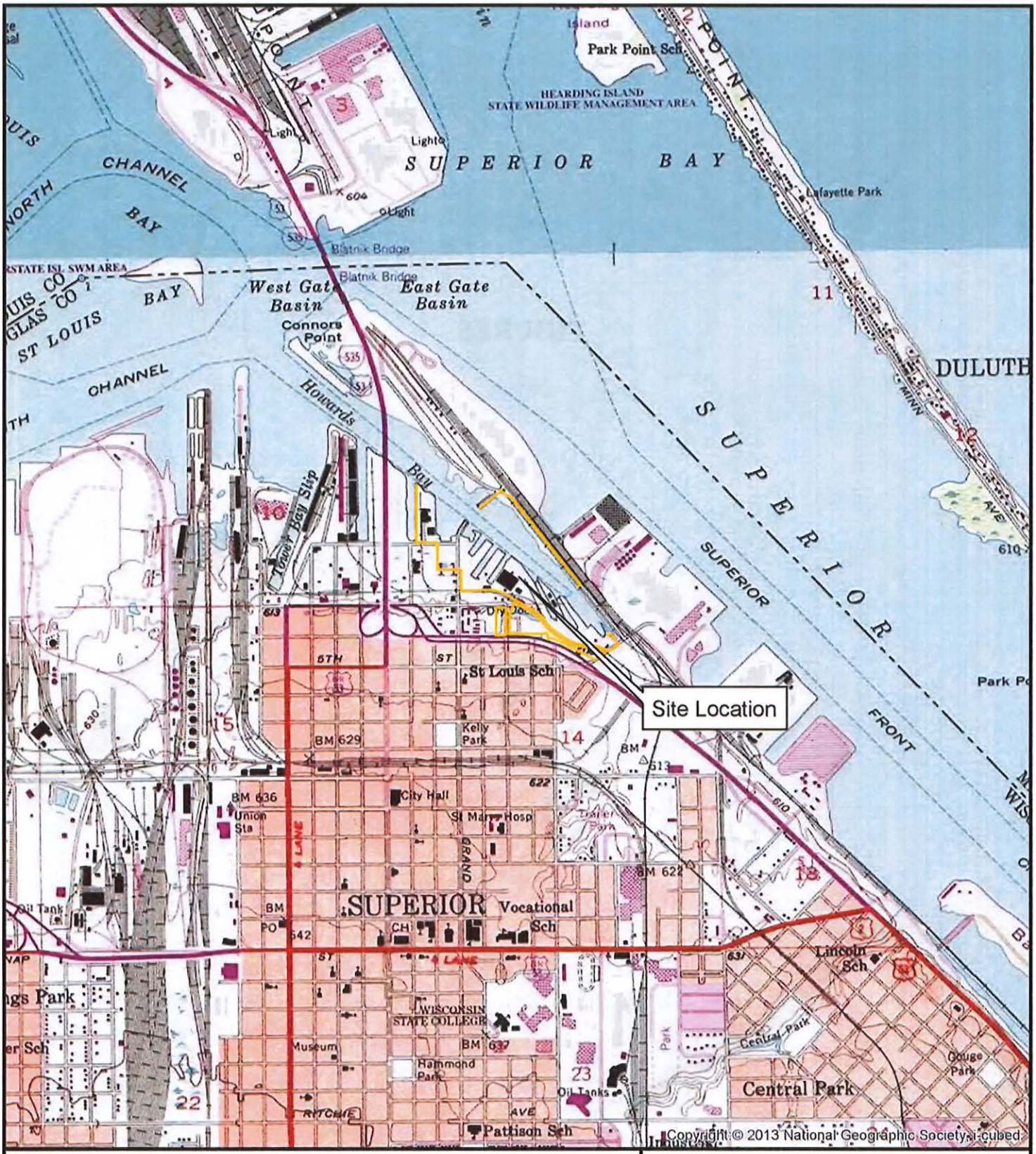
Sincerely,

Environmental Troubleshooters, Inc.

John McCarthy, CHMM
Project Manager

Cc: RJS Construction Group, 1 Clough Ave., Superior, WI 54880, Attn: Mr. Todd Koneczny

FIGURES



Legend

Approximate Property Line

2,000 1,000 0 2,000 4,000 Feet

SCALE: 1/24000

1 inch = 2,000 feet

Source: USGS Duluth & Superior 7 1/2" Quadrangle Map

N

FIGURE 1

Site Location

RJS Fraser Shipyard
Superior, Wisconsin

PROJECT #: 14-1004	
DATE: 11/20/2014	CREATED BY: CGIS
FILE NAME:	//GIS/2014 Projects/14-1004 /Projects/Figure1

Legend

Approximate Property Line

Railroads

500 250 0 500 1,000 Feet

SCALE: 1/6000

1 inch = 500 feet

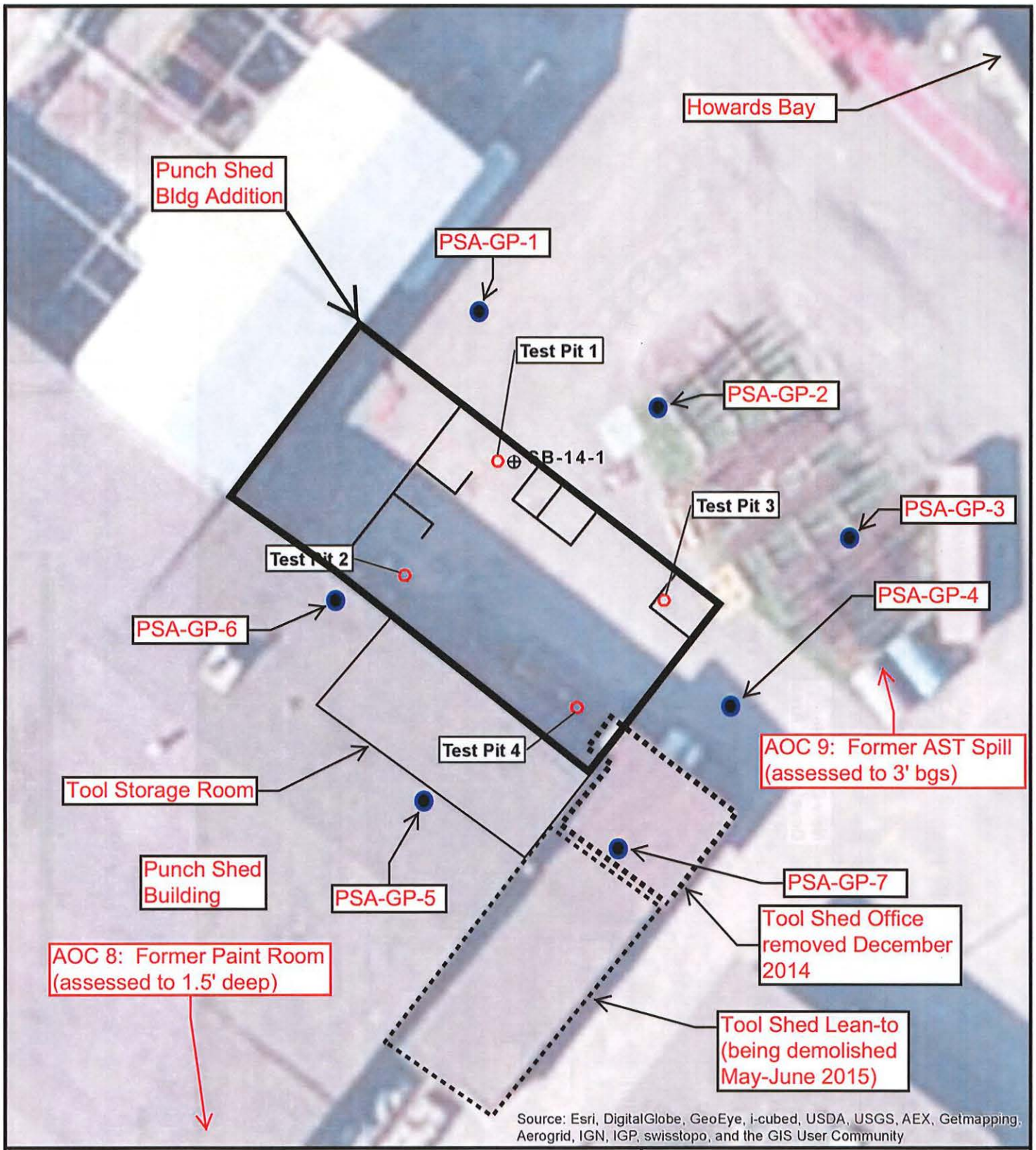
N

FIGURE 2

Property Site Map

RJS Fraser Shipyard
Superior, Wisconsin

PROJECT #: 14-1004	
DATE: 11/20/2014	CGIS
FILE NAME: //GIS/2014 Projects/14-1004 /Projects/Figure2	



Legend

- Building Footprint
- EPC Soil Boring
- ET Test Pits

PSA-GP-6
Punch Shed Addition Investigation
Proposed Boring Location

0 15 30 60 Feet

SCALE: 1:360
1 inch = 30 feet

N

FIGURE 3
New Construction Site Map

RJS Fraser Shipyard
Superior, Wisconsin

PROJECT #: 14-1004
DATE: 11/21/2014 CREATED BY: CGIS
FILE NAME: //GIS/2014 Projects/14-1004 /Projects/Figure3

TABLES

Fraser Shipyard Punch Shed Addition
Soil Analytical Summary

All results in mg/kg (ppm)

	Boring / Test Pit	TP-1	TP-2	TP-3	TP-4
	Sample ID	TP1 0-2'	TP2 2-4'	TP3 0-2'	TP4 0-2'
	Sample Depth (ft)	0-2	2-4	0-2	0-2
	Total Depth	8	6	6	5
	Refusal?	N	N	N	N
	Date	10/27/14	10/27/14	10/27/14	10/27/14
	Ind. - RCL				
Gasoline Range Organics	NE	837	572	72.1	156
RCRA Metals (total)					
Arsenic via 6010	8	7.7	1.2	7.7	3.9
Arsenic via 6020	8	**8.5**	2.6	**10.6**	5.1
Barium	220000	87.3	18.4	49.9	109
Cadmium	980	0.58	0.13	0.36	1.4
Chromium	1800000	12	5.5	10.1	42.4
Lead	800	296	41.5	118	212
Mercury	3.13	0.061	0.022	0.036	0.11
Selenium	5800	2.4	0.53	2.0	3.5
Silver	5800	0.065	<0.045	<0.055	24.5
VOCs					
Acetone	670000	<0.594	<1.120	<0.604	<0.575
Allyl Chloride	3.2	<0.0078	<0.147	<0.0079	<0.0075
Benzene	5.1	0.0525	<0.0224	0.0605	<0.0115
Bromobenzene	1800	<0.0103	<0.0194	<0.0105	<0.010
Bromochloromethane	630	<0.0081	<0.0152	<0.0082	<0.0078
Bromodichloromethane	1.3	<0.0106	<0.0199	<0.0107	<0.0102
Bromoform	290	<0.119	<0.224	<0.121	<0.115
Bromomethane	30	<0.297	<0.560	<0.302	<0.288
2-Butanone (MEK)	190000	<0.148	<0.280	<0.151	<0.144
n-Butylbenzene	58000	0.426	0.795	<0.0073	<0.0070
sec-Butylbenzene	120000	0.298	0.261	0.0285	<0.0068
tert-Butylbenzene	120000	<0.0297	<0.0560	<0.0302	<0.0288
Carbon Tetrachloride	2.9	0.0753	<0.0181	<0.0098	<0.0093
Chlorobenzene	1300	<0.0091	<0.0172	<0.0093	<0.0088
Chloroethane	460	3.140	<0.0282	0.753	<0.0145
Chloroform	1.4	<0.0090	<0.0171	<0.0092	<0.0088
Chloromethane (methyl chloride)	460	<0.0108	<0.0204	<0.0110	<0.0105
2-Chlorotoluene	23000	0.423	<0.0560	<0.0302	<0.0288
4-Chlorotoluene	23000	<0.0297	<0.0560	<0.0302	<0.0288
1,2-Dibromo-3-chloropropane	0.06	<0.0315	<0.0593	<0.0320	<0.0305
Dibromochloromethane	3.2	<0.0128	<0.0242	<0.0130	<0.0124
1,2-Dibromoethane (EDB)	0.16	<0.0073	<0.0138	<0.0074	<0.0071
Dibromomethane	98	<0.0166	<0.0314	<0.0169	<0.0161
1,2-Dichlorobenzene	9300	<0.0297	<0.0560	<0.0302	<0.0288
1,3-Dichlorobenzene	NE	<0.0297	<0.0560	<0.0302	<0.0288
1,4-Dichlorobenzene	11	<0.0297	<0.0560	<0.0302	<0.0288
Dichlorodifluoromethane	370	<0.0274	<0.0517	<0.0279	<0.0266

NE - Not Established
-- Not Analyzed
Bold - Reported above detection limit.
Bold Shaded - Exceeds regulatory limit.

Fraser Shipyard Punch Shed Addition
Soil Analytical Summary

All results in mg/kg (ppm)	Boring / Test Pit	TP-1	TP-2	TP-3	TP-4
	Sample ID	TP1 0-2'	TP2 2-4'	TP3 0-2'	TP4 0-2'
	Sample Depth (ft)	0-2	2-4	0-2	0-2
	Total Depth	8	6	6	5
	Refusal?	N	N	N	N
	Date	10/27/14	10/27/14	10/27/14	10/27/14
1,1-Dichloroethane (DCA)	16	2.660	0.0766	0.0885	0.0702
1,2-Dichloroethane	2	<0.0140	<0.264	<0.0142	<0.0136
1,1-Dichloroethene	1000	0.0516	<0.0224	<0.0121	<0.0115
cis-1,2-Dichloroethene (DCE)	2300	<0.0121	<0.0228	<0.0123	0.137
trans-1,2-Dichloroethene	23000	<0.0118	<0.0222	<0.0120	0.0402
Dichlorofluoromethane	NE	<0.297	<0.560	<0.302	<0.288
1,2-Dichloropropane	23000	<0.0095	<0.0180	<0.0097	<0.0092
1,3-Dichloropropane	2500	<0.0297	<0.0560	<0.0302	<0.0288
2,2-Dichloropropane	NE	<0.0079	<0.0150	<0.0081	<0.0077
1,1-Dichloropropene	NE	<0.0097	<0.0183	<0.0099	<0.0094
cis-1,3-Dichloropropene	8.2	<0.0075	<0.0141	<0.0076	<0.0072
trans-1,3-Dichloropropene	8.2	<0.0084	<0.0158	<0.0085	<0.0081
Diethyl Ether (Ethyl Ether)	230000	<0.0126	<0.0237	<0.0128	<0.0122
Ethylbenzene	25	0.163	0.0901	0.130	0.0407
Hexachloro-1,3-butadiene	30	<0.148	<0.280	<0.151	<0.144
Isopropylbenzene (cumene)	9900	0.0933	0.0845	0.0560	<0.0288
p-Isopropyltoluene	NE	0.976	1.57	0.0373	0.126
Methylene Chloride (dichloromethane)	1000	<0.0119	<0.224	<0.121	<0.115
4-Methyl-2-pentanone (MIBK)	56000	0.318	<0.280	<0.151	<0.144
Methyl-tert-butyl-ether (MTBE)	210	<0.0297	<0.0560	<0.0302	<0.0288
Naphthalene	17	2.27	4.39	0.473	0.641
n-Propylbenzene	22000	0.181	0.242	0.0753	<0.0070
Styrene	35000	<0.0089	<0.0167	<0.0090	<0.0086
1,1,1,2-Tetrachloroethane (PCA)	8.8	<0.0297	<0.0560	<0.0302	<0.0288
1,1,2,2-Tetrachloroethane (PCA)	2.7	<0.0081	<0.0154	<0.0083	<0.0079
Tetrachloroethene (PCE)	100	<0.0214	<0.0404	<0.0218	0.331
Tetrahydrofuran (THF)	NE	<0.0759	<0.143	<0.0771	<0.0735
Toluene	47000	0.27	0.0235	0.306	0.0962
1,2,3-Trichlorobenzene	660	<0.0141	<0.0266	<0.0144	<0.0137
1,2,4-Trichlorobenzene	110	<0.0108	<0.0204	<0.0110	<0.0105
1,1,1-Trichloroethane (TCA)	36000	0.472	0.535	<0.0302	0.0757
1,1,2-Trichloroethane (TCA)	5	<0.0100	<0.0189	<0.0102	<0.0097
Trichloroethene (TCE)	6	<0.0074	<0.0139	<0.0075	0.421
Trichlorofluoromethane	3100	<0.0106	<0.0199	<0.0107	<0.0102
1,2,3-Trichloropropane*	0.11	**0.369**	<0.0149	<0.0080	<0.0076
1,1,2-Trichlorofluoroethane	NE	<0.0248	<0.0468	<0.0252	<0.0240
1,2,4-Trimethylbenzene	240	3.25	3.67	0.305	0.138
1,3,5-Trimethylbenzene	12000	3.88	1.53	0.124	0.096
Vinyl Chloride	1.7	<0.0088	<0.0166	<0.0090	<0.0085
Xylene (total)	2500	0.937	0.692	0.814	0.209

NE - Not Established
-- Not Analyzed
Bold - Reported above detection limit.
Bold Shaded - Exceeds regulatory limit.

Fraser Shipyard Punch Shed Addition
Soil Analytical Summary

All results in mg/kg (ppm)	Boring / Test Pit	TP-1	TP-2	TP-3	TP-4
	Sample ID	TP1 0-2'	TP2 2-4'	TP3 0-2'	TP4 0-2'
	Sample Depth (ft)	0-2	2-4	0-2	0-2
	Total Depth	8	6	6	5
	Refusal?	N	N	N	N
	Date	10/27/14	10/27/14	10/27/14	10/27/14
PAHs					
Acenaphthene	45000	0.589	0.342	<0.0597	0.748
Acenaphthylene		0.566	0.210	0.105	<0.282
Anthracene	230000	0.409	0.468	0.061	1.490
Benzo(a)anthracene	2.9	1.000	1.090	0.108	**3.350**
Benzo(a)pyrene [B(a)P]	0.29	**1.150**	**1.010**	0.126	**3.530**
Benzo(b)fluoranthene	2.9	2.000	1.250	0.280	**4.400**
Benzo(g,h,i)perylene		1.170	0.723	0.176	2.480
Benzo(k)fluoranthene	29	0.935	0.636	0.128	2.200
Chrysene	290	1.340	1.230	0.189	3.950
Dibenzo(a,h)anthracene	0.29	**0.333**	0.193	<0.0597	**0.666**
Fluoranthene	30000	2.190	2.400	0.207	7.550
Fluorene	30000	1.200	0.389	<0.0597	0.968
Indeno(1,2,3-cd)pyrene	2.9	0.990	0.566	0.146	2.010
Naphthalene	17	1.450	1.490	0.402	0.297
Phenanthrene		1.450	2.390	0.254	5.620
Pyrene	23000	2.020	2.410	0.213	6.180
B(a)P Equivalents	0.29	**1.893**	**1.501**	0.181	**5.198**

*1,2,3-Trichloropropane (TCP) was historically used as a solvent for paint and varnish removal, as a cleaning and degreasing agent, and as a cleaning and maintenance solvent

NE - Not Established
-- Not Analyzed
Bold - Reported above detection limit.
Bold Shaded - Exceeds regulatory limit.

Fraser Shipyard Punch Shed Addition
Stockpile Soil Analytical Summary

All results in mg/kg (ppm)	Boring / Test Pit	SP-1	SP-2
	Sample Depth (ft)	0-2	0-2
	Date	10/27/14	10/27/14
	Ind. - RCL	TP-3 & TP-4	TP-1 & TP-2
Diesel Range Organics	NE	6200	4590
PCBs		All non-detect	All non-detect
Total RCRA Metals			
Arsenic via 6010	8	7.9	8.3
Arsenic via 6020	8	7.3	7.3
Barium	220000	83.6	74.7
Cadmium	980	0.61	0.7
Chromium	1800000	14.9	12.7
Lead	800	203	249
Mercury	3.13	0.11	0.053
Selenium	5800	2	2.6
Silver	5800	1.7	0.11
TCLP RCRA Metals			
Arsenic		<0.0158	<0.0158
Barium		0.8	0.987
Cadmium		0.0015	0.0034
Chromium		<0.0250	<0.0250
Lead		0.11	0.24
Mercury		<0.000078	<0.000078
Selenium		<0.0359	<0.0332
Silver		<0.0032	<0.0032
VOCs			
Acetone	670000	<0.543	<0.548
Allyl Chloride	3.2	<0.0071	<0.0072
Benzene	5.1	0.0335	0.0355
Bromobenzene	1800	<0.0094	<0.0095
Bromochloromethane	630	<0.0074	<0.0075
Bromodichloromethane	1.3	<0.0097	<0.0097
Bromoform	290	<0.109	<0.110
Bromomethane	30	<0.272	<0.274
2-Butanone (MEK)	190000	<0.136	<0.137
n-Butylbenzene	58000	0.0922	0.327
sec-Butylbenzene	120000	<0.0064	0.168
tert-Butylbenzene	120000	<0.0272	<0.0274
Carbon Tetrachloride	2.9	<0.0088	<0.0088
Chlorobenzene	1300	<0.0084	<0.0084
Chloroethane	460	0.168	1.3
Chloroform	1.4	<0.0083	<0.0083
Chloromethane (methyl chloride)	460	<0.0099	<0.010
2-Chlorotoluene	23000	<0.0272	0.214
4-Chlorotoluene	23000	<0.0272	<0.0274
1,2-Dibromo-3-chloropropane	0.06	<0.0288	<0.0290
Dibromochloromethane	3.2	<0.0117	<0.0118
1,2-Dibromoethane (EDB)	0.16	<0.0067	<0.0067
Dibromomethane	98	<0.0152	<0.0153
1,2-Dichlorobenzene	9300	<0.0272	<0.0274
1,3-Dichlorobenzene		<0.0272	<0.0274

Fraser Shipyard Punch Shed Addition
Stockpile Soil Analytical Summary

	Boring / Test Pit	SP-1	SP-2
1,4-Dichlorobenzene	11	<0.0272	<0.0274
Dichlorodifluoromethane	370	<0.0251	<0.0253
1,1-Dichloroethane (DCA)	16	0.445	5.79
1,2-Dichloroethane	2	<0.0128	0.278
1,1-Dichloroethene	1000	<0.0109	0.637
cis-1,2-Dichloroethene (DCE)	2300	0.0295	<0.0112
trans-1,2-Dichloroethene	23000	<0.0108	<0.0109
Dichlorofluoromethane		<0.272	<0.274
1,2-Dichloropropane	23000	<0.0087	<0.0088
1,3-Dichloropropane	2500	<0.0272	<0.0274
2,2-Dichloropropane		<0.0073	<0.0073
1,1-Dichloropropene		<0.0089	<0.0089
cis-1,3-Dichloropropene	8.2	<0.0068	<0.0069
trans-1,3-Dichloropropene	8.2	<0.0077	<0.0077
Diethyl Ether (Ethyl Ether)	230000	<0.0115	<0.0116
Ethylbenzene	25	0.0862	0.133
Hexachloro-1,3-butadiene	30	<0.136	<0.137
Isopropylbenzene (cumene)	9900	0.039	0.057
p-Isopropyltoluene		0.214	0.59
Methylene Chloride (dichloromethane)	1000	<0.109	<0.110
4-Methyl-2-pentanone (MIBK)	56000	<0.136	0.276
Methyl-tert-butyl-ether (MTBE)	210	<0.0272	<0.0274
Naphthalene	17	1.88	1.86
n-Propylbenzene	22000	0.0449	0.107
Styrene	35000	<0.0081	<0.0082
1,1,1,2-Tetrachloroethane (PCA)	8.8	<0.0272	<0.0274
1,1,2,2-Tetrachloroethane (PCA)	2.7	<0.0075	<0.0075
Tetrachloroethene (PCE)	100	<0.0196	0.169
Tetrahydrofuran (THF)		<0.0695	<0.0700
Toluene	47000	0.204	0.353
1,2,3-Trichlorobenzene	660	<0.0129	<0.0130
1,2,4-Trichlorobenzene	110	<0.0099	<0.0100
1,1,1-Trichloroethane (TCA)	36000	<0.0272	35
1,1,2-Trichloroethane (TCA)	5	<0.0092	<0.0093
Trichloroethene (TCE)	6	0.0185	0.0204
Trichlorofluoromethane	3100	<0.0097	<0.0097
1,2,3-Trichloropropane*	0.11	<0.0072	**0.247**
1,1,2-Trichlorofluoroethane		<0.0227	<0.0229
1,2,4-Trimethylbenzene	240	0.546	1.64
1,3,5-Trimethylbenzene	12000	0.477	1.85
Vinyl Chloride	1.7	<0.0081	0.0136
Xylene (total)	2500	0.603	0.914

*1,2,3-Trichloropropane (TCP) was historically used as a solvent for paint and varnish removal, as a cleaning and degreasing agent, and as a cleaning and maintenance solvent.

ATTACHMENT 1

Aerial Photographs

RJS Fraser Shipyard
North 3rd St / Clough Ave
Superior, WI 54880

Inquiry Number: 2475611.5
April 24, 2009

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography April 24, 2009

Target Property:

North 3rd St / Clough Ave
Superior, WI 54880

Year	*Scale*	*Details*	*Source*
1970	Aerial Photograph. Scale: 1"=750'	Panel #: 2446092-F1/Flight Date: August 24, 1970	EDR
1973	Aerial Photograph. Scale: 1"=1000'	Panel #: 2446092-F1/Flight Date: April 25, 1973	EDR
1980	Aerial Photograph. Scale: 1"=750'	Panel #: 2446092-F1/Flight Date: June 10, 1980	EDR
1981	Aerial Photograph. Scale: 1"=1000'	Panel #: 2446092-F1/Flight Date: May 05, 1981	EDR
1986	Aerial Photograph. Scale: 1"=1000'	Panel #: 2446092-F1/Flight Date: July 03, 1986	EDR
1992	Aerial Photograph. Scale: 1"=750'	Panel #: 2446092-F1/Flight Date: May 07, 1992	EDR
2006	Aerial Photograph. Scale: 1"=540'	Flight Year: 2006	EDR

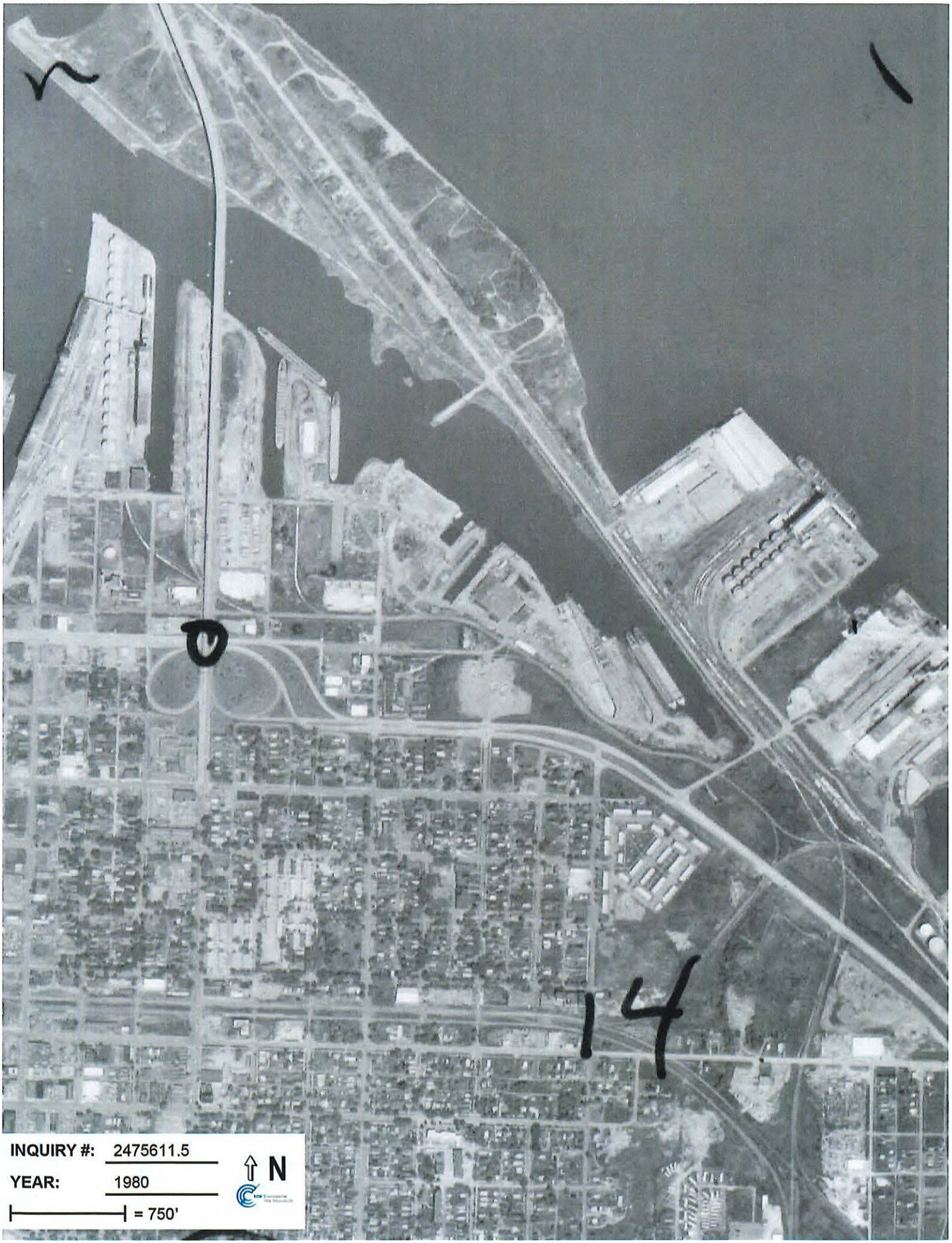
INQUIRY #: 2475611.5

YEAR: 1970

= 750'

N


INQUIRY #: 2475611.5
YEAR: 1973
= 1000'
N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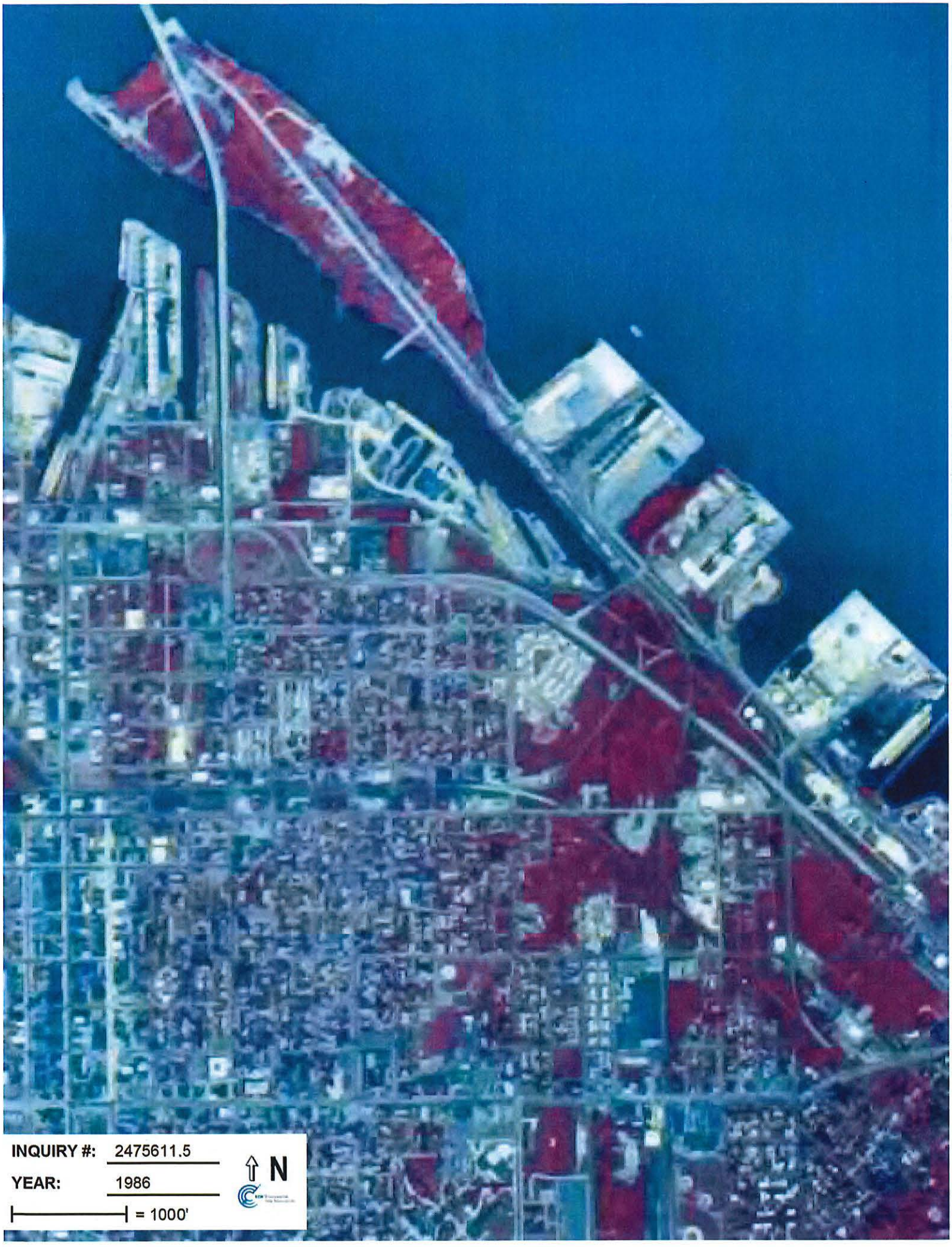
= 750'
N


INQUIRY #: 2475611.5
YEAR: 1981
= 1000'
N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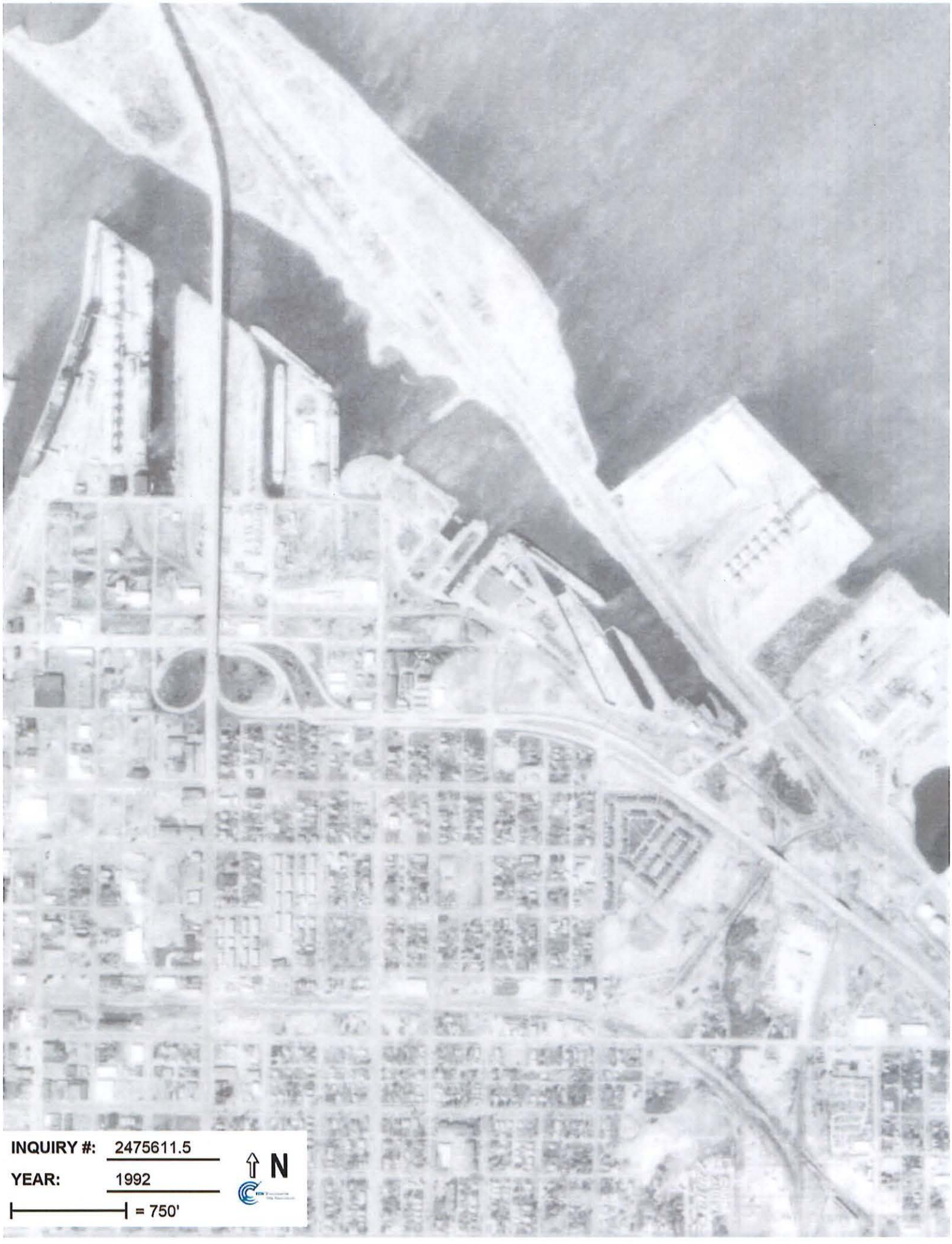
YEAR: 1986
= 1000'
N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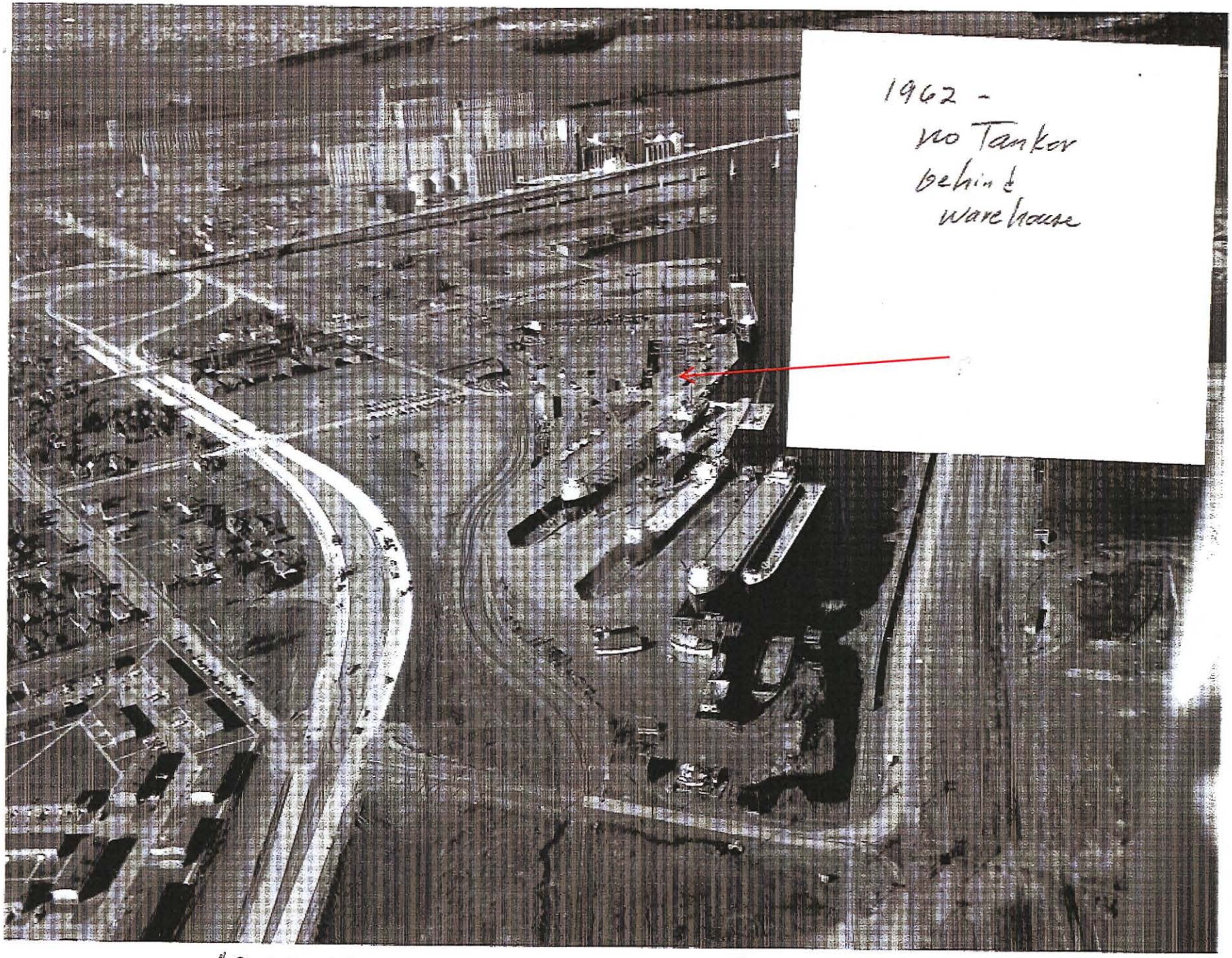
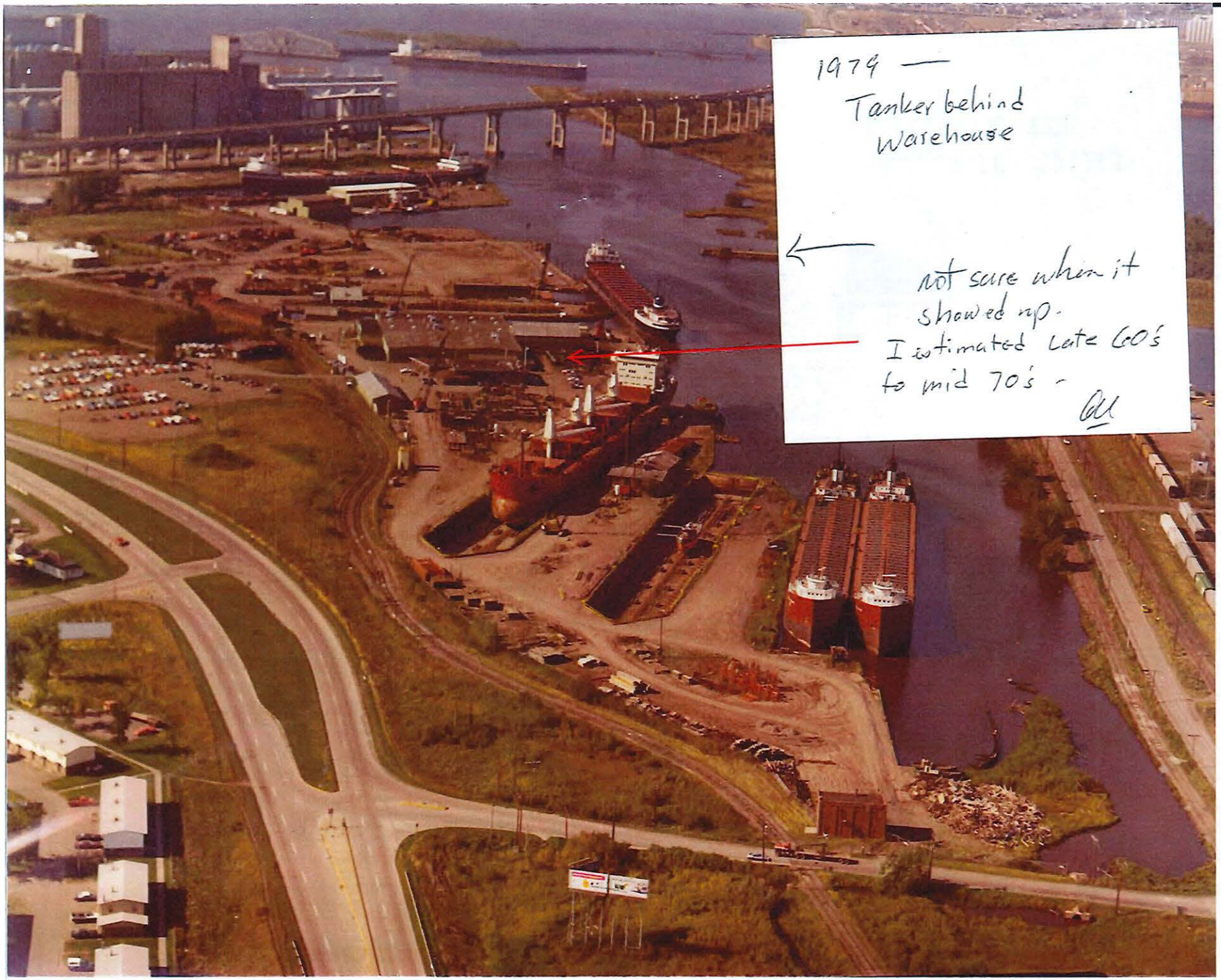
YEAR: 1992
= 750'
N


INQUIRY #: 2475611.5
YEAR: 2006
= 540'
N



10-23-62


1979 —
Tanker behind
Warehouse
not sure when it
showed up.
I estimated late 60's
to mid 70's -

4/7/82

ATTACHMENT 2

EPC Geotechnical Boring Log

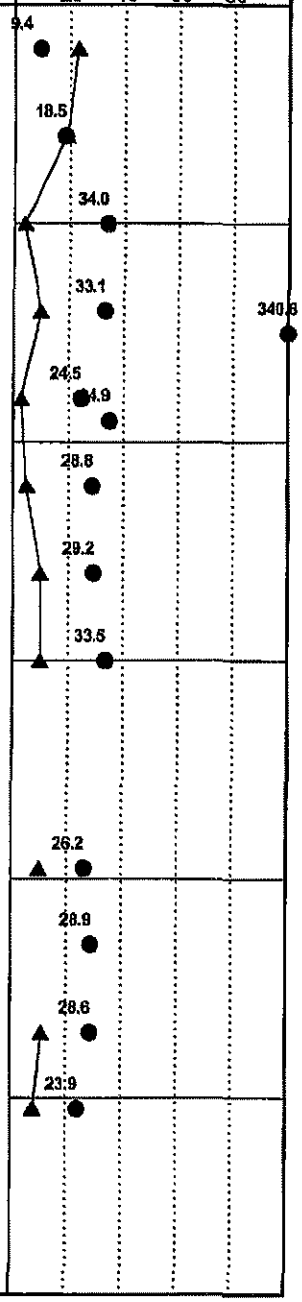
EPC Engineering & Testing
Geotechnical • Environmental • Materials Engineering
539 Garfield Avenue
Duluth, Minnesota 55802

BORING NUMBER SB-14-1

CLIENT RJS
PROJECT NAME Fraser Shipyard Office Building Addition
PROJECT NUMBER 14G0930
PROJECT LOCATION Superior, WI
DATE STARTED 10/7/14 COMPLETED 10/7/14
GROUND ELEVATION ____ HOLE SIZE ____
DRILLING CONTRACTOR EPC Engineering & Testing
GROUND WATER LEVELS:
DRILLING METHOD CME 55 Truck Rig with HSA Cal. to N68
▽ AT TIME OF DRILLING 8.5 ft
LOGGED BY NEW CHECKED BY GH
AT END OF DRILLING N/A due to drilling fluid in auger
NOTES
AFTER DRILLING ---

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)
	0		SILTY SAND (SM) (FILL) Brown and black, moist, little gravel, trace organics, ORGANIC ODOR, medium dense relative density.	SPT 1	67	29-14-9-10 (23)		
			Little wood in sample from 2 to 4-feet.	SPT 2	54	6-8-11-6 (19)		
	5		FAT CLAY (CH) (FILL) Reddish brown, wet, trace to little PEAT, medium to stiff consistency.	SPT 3	54	2-1-3-4 (4)	1.75	
				SPT 4	88	4-5-5-5 (10)		
			PEAT (PT) Brown to black, moist to wet, fibrous, very loose relative density. With silty sand and clay in sample from 8 to 9-feet.	SPT 5	54	1-1-2-3 (3)	1.0	
	10		FAT CLAY (CH) (Could Be FILL) Brown, wet, trace to no black roots, medium consistency.	SPT 6	58	1-2-3-4 (5)		
			FAT CLAY (CH) Reddish brown, moist to wet, trace silt mottling, stiff consistency.	SPT 7	100	2-4-6-8 (10)		
	15			SPT 8	100	2-4-6-7 (10)		
				AR	0			
	20			SPT 9	133	3-4-6 (10)		
			Unconfined Compressive Strength at 21-feet = 3610 psf.	ST 10	75		1.4	96
				SPT 11	83	4-5-8-9 (11)		
	25			SPT 12	111	3-3-5 (8)		
				AR	0			
			SILTY CLAYEY SAND (SC-SM) Brown, wet to water bearing, dense relative density.					

▲ SPT N VALUE ▲ 20 40 60 80
PL MC LL 20 40 60 80
☐ FINES CONTENT (%) ☐ 20 40 60 80



(Continued Next Page)

EPC Engineering & Testing
Geotechnical • Environmental • Materials Engineering
539 Garfield Avenue
Duluth, Minnesota 55802

BORING NUMBER SB-14-1

CLIENT RJS **PROJECT NAME** Fraser Shipyard Office Building Addition

PROJECT NUMBER 14G0930 **PROJECT LOCATION** Superior, WI

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	Pocket Penetrometer (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ 20 40 60 80 / PL MC LL 20 40 60 80 / ☐ FINES CONTENT (%) ☐ 20 40 60 80
	30		SILTY CLAYEY SAND (SC-SM) Brown, wet to water bearing, dense relative density. *(continued)*	SPT 13	89	16-21-10 (31)			21.2
				AR	0				
			SILTY SAND (SM) Brown, wet, dense relative density.						
	35			SPT 14	133	4-15-34 (49)			20.5
				AR	0				
			SILTY CLAYEY SAND (SC-SM) and SANDY SILTY CLAY (CL-ML) Gray, wet, very dense relative density / hard consistency.						
	40			SPT 15	133	18-32-28 (60)			20.9
				AR	0				
			SILTY SAND (SM) Grayish brown, wet, very dense relative density.						
	45			SPT 16	94	20-46-50 (96)			22.8
			Substantial sampler refusal at 45.9-feet.	AR	0				
			SILTY CLAYEY SAND (SC-SM) to SANDY SILTY CLAY (CL-ML) Grayish brown, wet, very dense relative density / hard consistency.						
	50			SPT 17	78	15-27-50 (77)			23.1
			Substantial sampler refusal at 50.9-feet.						
	55			AR	0				
	60			SPT 18	89	11-25-33 (58)			20.9
			Bottom of hole at 61.0 feet.						

ATTACHMENT 3

ET Test Pit Lithologic Logs

SOIL BORING LOG INFORMATION

Facility/Project Name: Fraser Shipyard Punch Shed Bldg Addition
Project Number: 14-1004

Boring Drilled By (Firm Name and Crew Chief):
RJS Excavator and Operator
Chief Driller: NA
Environmental Scientist: John McCarthy

Boring Number: TP-1
Well Number (If Applicable):
Drilling Method Used: Excavator

Date of Drilling: 10/27/2014

Boring Location:
Northwest portion of new building footprint

Depth of Boring (ft): 8
Screen Interval (ft): NA
Water Sample Depth (ft): NA
Soil Sample Interval (ft): 0-2
Water Table Depth (ft): 4
Boring Elevation:

Interval	*Length Attempted and Recovered*	*Depth in Feet*	*Soil/Rock Description*	*USCS*	*Moisture*	*PID (ppm)*
		0'	6": Clean Class V compacted cover.	GP		
		-	6": Red fine sand.	SP		
0'-2'	24"/24"	1'	12": Brown fine - medium sand with gravel. Stained with petroleum odor.	SW	Low	452
		-				
		2'	Same as above, but with dimensional lumber present at 36" depth.	SW		
2'-4'	24"/24"	- 3			Low	397
		-				
		4'	6": Same as above.	SW	Moderate - Saturated above clay, low in clay	
		-	18": Red silty clay. Low odor. No staining.	CH		
4'-6'	24"/24"	5'				90
		-				
		6'	Interbedded red silty clay and peat with gray reduction spots.	CH/PT		
		-				
6'-8'	24"/24"	7'			Low	3.1
		-				
		8'				

End of Boring - 8 feet

SOIL BORING LOG INFORMATION

Facility/Project Name: Fraser Shipyard Punch Shed Bldg Addition
Project Number: 14-1004

Boring Drilled By (Firm Name and Crew Chief):
RJS Excavator and Operator
Chief Driller: NA
Environmental Scientist: John McCarthy

Boring Number: TP-2
Well Number (If Applicable):

Drilling Method Used: Excavator

Date of Drilling: 10/27/2014

Boring Location:
Southwest portion of new building footprint

Depth of Boring (ft): 6
Screen Interval (ft): NA
Water Sample Depth (ft): NA
Soil Sample Interval (ft): 2-4
Water Table Depth (ft): 4
Boring Elevation:

Interval	*Length Attempted and Recovered*	*Depth in Feet*	*Soil/Rock Description*	*USCS*	*Moisture*	*PID (ppm)*
		0'	6": Clean Class V compacted cover.	GP		
		-	6": Red fine sand.	SP		
0'-2'	24"/24"	1'	12": Brown fine - medium sand with gravel. Stained with petroleum odor.	SW	Low	13
		-				
		2'	Same as above, but with dimensional lumber present at 36" depth. Strong gasoline-type odor.	SW		
		-				
2'-4'	24"/24"	3			Low	233
		-				
		4'	6": Same as above.	SW	Moderate - Saturated above clay, low in clay	
		-	18": Red silty clay. Low odor. No staining.	CH		
4'-6'	24"/24"	5'				112
		-				
		6'				

End of Boring - 6 feet

SOIL BORING LOG INFORMATION

Facility/Project Name: Fraser Shipyard Punch Shed Bldg Addition
Project Number: 14-1004

Boring Drilled By (Firm Name and Crew Chief):
RJS Excavator and Operator
Chief Driller: NA
Environmental Scientist: John McCarthy

Boring Number: TP-3
Well Number (If Applicable):
Drilling Method Used: Excavator

Date of Drilling: 10/27/2014

Boring Location:
Northeast corner of new building footprint

Depth of Boring (ft): 6
Screen Interval (ft): NA
Water Sample Depth (ft): NA
Soil Sample Interval (ft): 0-2
Water Table Depth (ft): 4
Boring Elevation:

Interval	*Length Attempted and Recovered*	*Depth in Feet*	*Soil/Rock Description*	*USCS*	*Moisture*	*PID (ppm)*
		0'	6": Clean Class V compacted cover.	GP		
0'-2'	24"/24"	- 1' -	6": Red fine sand. 12": Brown fine - medium sand with gravel. Stained with minor petroleum odor.	SP SW	Low	22
2'-4'	24"/24"	2' - 3' -	Same as above, but with dimensional lumber present at 36" depth.	SW	Low	16.8
4'-6'	24"/24"	4' - 5' - 6'	6": Same as above. 18": Red silty clay. No odor or staining.	SW CH	Moderate - Saturated above clay, low in clay	8.5

End of Boring - 6 feet

SOIL BORING LOG INFORMATION

Facility/Project Name: Fraser Shipyard Punch Shed Bldg Addition
Project Number: 14-1004

Boring Drilled By (Firm Name and Crew Chief):
RJS Excavator and Operator
Chief Driller: NA
Environmental Scientist: John McCarthy

Boring Number: TP-4
Well Number (If Applicable):

Drilling Method Used: Excavator

Date of Drilling: 10/27/2014

Boring Location:
Southeast corner of new building footprint

Depth of Boring (ft): 5
Screen Interval (ft): NA
Water Sample Depth (ft): NA
Soil Sample Interval (ft): 0-2
Water Table Depth (ft): 4
Boring Elevation:

Interval	*Length Attempted and Recovered*	*Depth in Feet*	*Soil/Rock Description*	*USCS*	*Moisture*	*PID (ppm)*
0'-2'	24"/24"	0' - 1' - 2'	Coarse sandy gravel. Heavy staining and degraded fuel oil type petroleum odor.	GW	Low	538
2'-4'	24"/24"	2' - 3' - 4'	Same as above, but with dimensional lumber present at 36" depth.	GW	Low	537
4'-5'	12"/12"	4' - 5' - 6'	Same as above, but with ~1/8" degraded free product. Low PID reading due to water saturation and degraded condition.	GW	High	310

End of Boring - 5 feet

ATTACHMENT 4

Laboratory Analytical Report

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 20, 2014

Mr. John McCarthy
Environmental Troubleshooters
3825 Grand Avenue
Duluth, MN 55807

RE: Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Dear Mr. McCarthy:
Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised to add TCLP Pb for Pace samples 001 and 002 at the client's request. The report was further revised November 20, 2014 to include TCLP results for all RCRA metals and PCBs for samples 001 and 002.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lori Castille
lori.castille@pacelabs.com
Project Manager

Enclosures

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Minnesota Certification IDs
1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10286797001	**SP-1**	Solid	10/27/14 10:30	10/28/14 09:30
10286797002	**SP-2**	Solid	10/27/14 11:00	10/28/14 09:30
10286797003	**TP1 0-2**	Solid	10/27/14 09:20	10/28/14 09:30
10286797004	**TP2 2-4**	Solid	10/27/14 10:00	10/28/14 09:30
10286797005	**TP3 0-2**	Solid	10/27/14 10:15	10/28/14 09:30
10286797006	**TP4 0-2**	Solid	10/27/14 10:30	10/28/14 09:30
10286797007	**TRIP BLANK**	Solid	10/27/14 00:00	10/28/14 09:30

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10286797001	SP-1	EPA 8082	KL1	11
		WI MOD DRO	JRH	2
		EPA 6010	IP	7
		EPA 6010	IP	7
		EPA 6020A	TT3	1
		EPA 7470A	DM	1
		EPA 7471	DM	1
		ASTM D2974	JDL	1
		EPA 8260	AAN1	70
10286797002	SP-2	EPA 8082	KL1	11
		WI MOD DRO	MT	2
		EPA 6010	IP	7
		EPA 6010	IP	7
		EPA 6020A	TT3	1
		EPA 7470A	DM	1
		EPA 7471	DM	1
		ASTM D2974	JDL	1
		EPA 8260	EB2, MJH	70
10286797003	TP1 0-2	WI MOD GRO	MS2	2
		EPA 6010	IP	7
		EPA 6020A	TT3	1
		EPA 7471	DM	1
		ASTM D2974	JDL	1
		EPA 8270 by SIM	AS1	18
		EPA 8260	EB2, MJH	70
10286797004	TP2 2-4	WI MOD GRO	MS2	2
		EPA 6010	IP	7
		EPA 6020A	TT3	1
		EPA 7471	DM	1
		ASTM D2974	JDL	1
		EPA 8270 by SIM	AS1	18
		EPA 8260	MJH	70
10286797005	TP3 0-2	WI MOD GRO	MS2	2
		EPA 6010	IP	7
		EPA 6020A	TT3	1
		EPA 7471	DM	1
		ASTM D2974	JDL	1

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SAMPLE ANALYTE COUNT

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8270 by SIM	AS1	18
		EPA 8260	EB2	70
10286797006	**TP4 0-2**	WI MOD GRO	MS2	2
		EPA 6010	IP	7
		EPA 6020A	TT3	1
		EPA 7471	DM	1
		ASTM D2974	JDL	1
		EPA 8270 by SIM	AS1	18
		EPA 8260	MJH	70
10286797007	**TRIP BLANK**	EPA 8260	MJH	70

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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: SP-1 **Lab ID: 10286797001** Collected: 10/27/14 10:30 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3550								
PCB-1016 (Aroclor 1016)	**<170**	ug/kg	374	170	10	11/17/14 14:40	11/18/14 17:06	12674-11-2	
PCB-1221 (Aroclor 1221)	**<56.7**	ug/kg	374	56.7	10	11/17/14 14:40	11/18/14 17:06	11104-28-2	
PCB-1232 (Aroclor 1232)	**<90.7**	ug/kg	374	90.7	10	11/17/14 14:40	11/18/14 17:06	11141-16-5	
PCB-1242 (Aroclor 1242)	**<68.1**	ug/kg	374	68.1	10	11/17/14 14:40	11/18/14 17:06	53469-21-9	
PCB-1248 (Aroclor 1248)	**<79.4**	ug/kg	374	79.4	10	11/17/14 14:40	11/18/14 17:06	12672-29-6	
PCB-1254 (Aroclor 1254)	**<79.4**	ug/kg	374	79.4	10	11/17/14 14:40	11/18/14 17:06	11097-69-1	
PCB-1260 (Aroclor 1260)	**<170**	ug/kg	374	170	10	11/17/14 14:40	11/18/14 17:06	11096-82-5	
PCB-1262 (Aroclor 1262)	**<68.1**	ug/kg	374	68.1	10	11/17/14 14:40	11/18/14 17:06	37324-23-5	
PCB-1268 (Aroclor 1268)	**<56.7**	ug/kg	374	56.7	10	11/17/14 14:40	11/18/14 17:06	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	0	%.	50-128		10	11/17/14 14:40	11/18/14 17:06	877-09-8	D3,S4
Decachlorobiphenyl (S)	0	%.	55-130		10	11/17/14 14:40	11/18/14 17:06	2051-24-3	S4
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**6200**	mg/kg	964	145	20	10/29/14 00:00	11/01/14 15:16		
Surrogates									
n-Triacontane (S)	0	%.	50-150		20	10/29/14 00:00	11/01/14 15:16	638-68-6	S4
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**7.9**	mg/kg	0.98	0.29	1	10/30/14 12:25	10/31/14 13:49	7440-38-2	
Barium	**83.6**	mg/kg	0.49	0.054	1	10/30/14 12:25	10/31/14 13:49	7440-39-3	M1
Cadmium	**0.61**	mg/kg	0.15	0.017	1	10/30/14 12:25	10/31/14 13:49	7440-43-9	
Chromium	**14.9**	mg/kg	0.49	0.064	1	10/30/14 12:25	10/31/14 13:49	7440-47-3	
Lead	**203**	mg/kg	0.98	0.073	1	10/30/14 12:25	10/31/14 13:49	7439-92-1	M1
Selenium	**2.0**	mg/kg	0.74	0.33	1	10/30/14 12:25	10/31/14 13:49	7782-49-2	
Silver	**1.7**	mg/kg	0.49	0.049	1	10/30/14 12:25	10/31/14 13:49	7440-22-4	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Leachate Method/Date: EPA 1311; 11/12/14 11:08 Initial pH: 8.68; Final pH: 1.58								
Arsenic	**<15.8**	ug/L	100	15.8	1	11/12/14 16:47	11/14/14 12:29	7440-38-2	
Barium	**800**	ug/L	500	250	1	11/12/14 16:47	11/14/14 12:29	7440-39-3	
Cadmium	**1.5J**	ug/L	15.0	1.2	1	11/12/14 16:47	11/14/14 12:29	7440-43-9	
Chromium	**<25.0**	ug/L	50.0	25.0	1	11/12/14 16:47	11/14/14 12:29	7440-47-3	
Lead	**0.11**	mg/L	0.050	0.0089	1	11/12/14 16:47	11/14/14 12:29	7439-92-1	
Selenium	**35.9J**	ug/L	100	33.2	1	11/12/14 16:47	11/14/14 12:29	7782-49-2	
Silver	**<3.2**	ug/L	50.0	3.2	1	11/12/14 16:47	11/14/14 12:29	7440-22-4	
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050								
Arsenic	**7.3**	mg/kg	0.53	0.13	20	11/04/14 11:10	11/05/14 11:45	7440-38-2	
7470 Mercury, TCLP	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Leachate Method/Date: EPA 1311; 11/18/14 17:04 Initial pH: 8.68; Final pH: 1.58								
Mercury	**<0.078**	ug/L	0.60	0.078	1	11/18/14 20:40	11/19/14 10:22	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: SP-1 **Lab ID: 10286797001** Collected: 10/27/14 10:30 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.11**	mg/kg	0.020	0.0059	1	10/30/14 17:08	10/31/14 10:31	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**12.1**	%	0.10	0.10	1		10/30/14 15:42		
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<543**	ug/kg	1090	543	1	10/30/14 18:24	11/03/14 13:32	67-64-1	
Allyl chloride	**<7.1**	ug/kg	217	7.1	1	10/30/14 18:24	11/03/14 13:32	107-05-1	
Benzene	**33.5**	ug/kg	21.7	10.9	1	10/30/14 18:24	11/03/14 13:32	71-43-2	
Bromobenzene	**<9.4**	ug/kg	54.3	9.4	1	10/30/14 18:24	11/03/14 13:32	108-86-1	
Bromochloromethane	**<7.4**	ug/kg	54.3	7.4	1	10/30/14 18:24	11/03/14 13:32	74-97-5	
Bromodichloromethane	**<9.7**	ug/kg	54.3	9.7	1	10/30/14 18:24	11/03/14 13:32	75-27-4	
Bromoform	**<109**	ug/kg	217	109	1	10/30/14 18:24	11/03/14 13:32	75-25-2	
Bromomethane	**<272**	ug/kg	543	272	1	10/30/14 18:24	11/03/14 13:32	74-83-9	
2-Butanone (MEK)	**<136**	ug/kg	272	136	1	10/30/14 18:24	11/03/14 13:32	78-93-3	
n-Butylbenzene	**92.2**	ug/kg	54.3	6.6	1	10/30/14 18:24	11/03/14 13:32	104-51-8	B
sec-Butylbenzene	**<6.4**	ug/kg	54.3	6.4	1	10/30/14 18:24	11/03/14 13:32	135-98-8	
tert-Butylbenzene	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	98-06-6	
Carbon tetrachloride	**<8.8**	ug/kg	54.3	8.8	1	10/30/14 18:24	11/03/14 13:32	56-23-5	
Chlorobenzene	**<8.4**	ug/kg	54.3	8.4	1	10/30/14 18:24	11/03/14 13:32	108-90-7	
Chloroethane	**168J**	ug/kg	543	13.7	1	10/30/14 18:24	11/03/14 13:32	75-00-3	
Chloroform	**<8.3**	ug/kg	54.3	8.3	1	10/30/14 18:24	11/03/14 13:32	67-66-3	
Chloromethane	**<9.9**	ug/kg	217	9.9	1	10/30/14 18:24	11/03/14 13:32	74-87-3	
2-Chlorotoluene	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	95-49-8	
4-Chlorotoluene	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	106-43-4	
1,2-Dibromo-3-chloropropane	**<28.8**	ug/kg	543	28.8	1	10/30/14 18:24	11/03/14 13:32	96-12-8	
Dibromochloromethane	**<11.7**	ug/kg	54.3	11.7	1	10/30/14 18:24	11/03/14 13:32	124-48-1	
1,2-Dibromoethane (EDB)	**<6.7**	ug/kg	54.3	6.7	1	10/30/14 18:24	11/03/14 13:32	106-93-4	
Dibromomethane	**<15.2**	ug/kg	54.3	15.2	1	10/30/14 18:24	11/03/14 13:32	74-95-3	
1,2-Dichlorobenzene	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	95-50-1	
1,3-Dichlorobenzene	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	541-73-1	
1,4-Dichlorobenzene	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	106-46-7	
Dichlorodifluoromethane	**<25.1**	ug/kg	217	25.1	1	10/30/14 18:24	11/03/14 13:32	75-71-8	
1,1-Dichloroethane	**445**	ug/kg	54.3	7.6	1	10/30/14 18:24	11/03/14 13:32	75-34-3	
1,2-Dichloroethane	**<12.8**	ug/kg	54.3	12.8	1	10/30/14 18:24	11/03/14 13:32	107-06-2	
1,1-Dichloroethene	**<10.9**	ug/kg	54.3	10.9	1	10/30/14 18:24	11/03/14 13:32	75-35-4	
cis-1,2-Dichloroethene	**29.5J**	ug/kg	54.3	11.1	1	10/30/14 18:24	11/03/14 13:32	156-59-2	
trans-1,2-Dichloroethene	**<10.8**	ug/kg	54.3	10.8	1	10/30/14 18:24	11/03/14 13:32	156-60-5	
Dichlorofluoromethane	**<272**	ug/kg	543	272	1	10/30/14 18:24	11/03/14 13:32	75-43-4	
1,2-Dichloropropane	**<8.7**	ug/kg	54.3	8.7	1	10/30/14 18:24	11/03/14 13:32	78-87-5	
1,3-Dichloropropane	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	142-28-9	
2,2-Dichloropropane	**<7.3**	ug/kg	217	7.3	1	10/30/14 18:24	11/03/14 13:32	594-20-7	
1,1-Dichloropropene	**<8.9**	ug/kg	54.3	8.9	1	10/30/14 18:24	11/03/14 13:32	563-58-6	
cis-1,3-Dichloropropene	**<6.8**	ug/kg	54.3	6.8	1	10/30/14 18:24	11/03/14 13:32	10061-01-5	
trans-1,3-Dichloropropene	**<7.7**	ug/kg	54.3	7.7	1	10/30/14 18:24	11/03/14 13:32	10061-02-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: SP-1 **Lab ID: 10286797001** Collected: 10/27/14 10:30 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Diethyl ether (Ethyl ether)	**<11.5**	ug/kg	217	11.5	1	10/30/14 18:24	11/03/14 13:32	60-29-7	
Ethylbenzene	**86.2**	ug/kg	54.3	6.8	1	10/30/14 18:24	11/03/14 13:32	100-41-4	
Hexachloro-1,3-butadiene	**<136**	ug/kg	272	136	1	10/30/14 18:24	11/03/14 13:32	87-68-3	
Isopropylbenzene (Cumene)	**39.0J**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	98-82-8	
p-Isopropyltoluene	**214**	ug/kg	54.3	7.9	1	10/30/14 18:24	11/03/14 13:32	99-87-6	
Methylene Chloride	**<109**	ug/kg	217	109	1	10/30/14 18:24	11/03/14 13:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<136**	ug/kg	272	136	1	10/30/14 18:24	11/03/14 13:32	108-10-1	
Methyl-tert-butyl ether	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	1634-04-4	
Naphthalene	**1880**	ug/kg	217	109	1	10/30/14 18:24	11/03/14 13:32	91-20-3	
n-Propylbenzene	**44.9J**	ug/kg	54.3	6.6	1	10/30/14 18:24	11/03/14 13:32	103-65-1	
Styrene	**<8.1**	ug/kg	54.3	8.1	1	10/30/14 18:24	11/03/14 13:32	100-42-5	
1,1,1,2-Tetrachloroethane	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	630-20-6	
1,1,2,2-Tetrachloroethane	**<7.5**	ug/kg	54.3	7.5	1	10/30/14 18:24	11/03/14 13:32	79-34-5	
Tetrachloroethene	**<19.6**	ug/kg	54.3	19.6	1	10/30/14 18:24	11/03/14 13:32	127-18-4	
Tetrahydrofuran	**<69.5**	ug/kg	2170	69.5	1	10/30/14 18:24	11/03/14 13:32	109-99-9	
Toluene	**204**	ug/kg	54.3	7.4	1	10/30/14 18:24	11/03/14 13:32	108-88-3	
1,2,3-Trichlorobenzene	**<12.9**	ug/kg	54.3	12.9	1	10/30/14 18:24	11/03/14 13:32	87-61-6	
1,2,4-Trichlorobenzene	**<9.9**	ug/kg	54.3	9.9	1	10/30/14 18:24	11/03/14 13:32	120-82-1	
1,1,1-Trichloroethane	**<27.2**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	71-55-6	
1,1,2-Trichloroethane	**<9.2**	ug/kg	54.3	9.2	1	10/30/14 18:24	11/03/14 13:32	79-00-5	
Trichloroethene	**18.5J**	ug/kg	54.3	6.8	1	10/30/14 18:24	11/03/14 13:32	79-01-6	
Trichlorofluoromethane	**<9.7**	ug/kg	217	9.7	1	10/30/14 18:24	11/03/14 13:32	75-69-4	CL
1,2,3-Trichloropropane	**<7.2**	ug/kg	217	7.2	1	10/30/14 18:24	11/03/14 13:32	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<22.7**	ug/kg	217	22.7	1	10/30/14 18:24	11/03/14 13:32	76-13-1	
1,2,4-Trimethylbenzene	**546**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	95-63-6	
1,3,5-Trimethylbenzene	**477**	ug/kg	54.3	27.2	1	10/30/14 18:24	11/03/14 13:32	108-67-8	
Vinyl chloride	**<8.1**	ug/kg	21.7	8.1	1	10/30/14 18:24	11/03/14 13:32	75-01-4	
Xylene (Total)	**603**	ug/kg	163	21.3	1	10/30/14 18:24	11/03/14 13:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	74-125		1	10/30/14 18:24	11/03/14 13:32	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1	10/30/14 18:24	11/03/14 13:32	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125		1	10/30/14 18:24	11/03/14 13:32	460-00-4	

Sample: SP-2 **Lab ID: 10286797002** Collected: 10/27/14 11:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3550								
PCB-1016 (Aroclor 1016)	**<85.2**	ug/kg	187	85.2	5	11/17/14 14:40	11/18/14 16:50	12674-11-2	
PCB-1221 (Aroclor 1221)	**<28.4**	ug/kg	187	28.4	5	11/17/14 14:40	11/18/14 16:50	11104-28-2	
PCB-1232 (Aroclor 1232)	**<45.4**	ug/kg	187	45.4	5	11/17/14 14:40	11/18/14 16:50	11141-16-5	
PCB-1242 (Aroclor 1242)	**<34.1**	ug/kg	187	34.1	5	11/17/14 14:40	11/18/14 16:50	53469-21-9	
PCB-1248 (Aroclor 1248)	**<39.7**	ug/kg	187	39.7	5	11/17/14 14:40	11/18/14 16:50	12672-29-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: SP-2 **Lab ID: 10286797002** Collected: 10/27/14 11:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3550								
PCB-1254 (Aroclor 1254)	**<39.7**	ug/kg	187	39.7	5	11/17/14 14:40	11/18/14 16:50	11097-69-1	
PCB-1260 (Aroclor 1260)	**<85.2**	ug/kg	187	85.2	5	11/17/14 14:40	11/18/14 16:50	11096-82-5	
PCB-1262 (Aroclor 1262)	**<34.1**	ug/kg	187	34.1	5	11/17/14 14:40	11/18/14 16:50	37324-23-5	
PCB-1268 (Aroclor 1268)	**<28.4**	ug/kg	187	28.4	5	11/17/14 14:40	11/18/14 16:50	11100-14-4	
Surrogates									
Tetrachloro-m-xylene (S)	74	%.	50-128		5	11/17/14 14:40	11/18/14 16:50	877-09-8	D3
Decachlorobiphenyl (S)	102	%.	55-130		5	11/17/14 14:40	11/18/14 16:50	2051-24-3	
WIDRO GCS	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
Diesel Range Organics	**4590**	mg/kg	853	128	100	10/31/14 00:00	11/04/14 13:50		
Surrogates									
n-Triacontane (S)	0	%.	50-150		100	10/31/14 00:00	11/04/14 13:50	638-68-6	S4
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**8.3**	mg/kg	1.0	0.30	1	10/30/14 12:25	10/31/14 14:53	7440-38-2	
Barium	**74.7**	mg/kg	0.52	0.057	1	10/30/14 12:25	10/31/14 14:53	7440-39-3	
Cadmium	**0.70**	mg/kg	0.16	0.018	1	10/30/14 12:25	10/31/14 14:53	7440-43-9	
Chromium	**12.7**	mg/kg	0.52	0.068	1	10/30/14 12:25	10/31/14 14:53	7440-47-3	
Lead	**249**	mg/kg	1.0	0.077	1	10/30/14 12:25	10/31/14 14:53	7439-92-1	
Selenium	**2.6**	mg/kg	0.78	0.35	1	10/30/14 12:25	10/31/14 14:53	7782-49-2	
Silver	**0.11J**	mg/kg	0.52	0.052	1	10/30/14 12:25	10/31/14 14:53	7440-22-4	B
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Leachate Method/Date: EPA 1311; 11/12/14 11:08 Initial pH: 8.58; Final pH: 2.42								
Arsenic	**<15.8**	ug/L	100	15.8	1	11/12/14 16:47	11/14/14 12:36	7440-38-2	
Barium	**987**	ug/L	500	250	1	11/12/14 16:47	11/14/14 12:36	7440-39-3	
Cadmium	**3.4J**	ug/L	15.0	1.2	1	11/12/14 16:47	11/14/14 12:36	7440-43-9	
Chromium	**<25.0**	ug/L	50.0	25.0	1	11/12/14 16:47	11/14/14 12:36	7440-47-3	
Lead	**0.24**	mg/L	0.050	0.0089	1	11/12/14 16:47	11/14/14 12:36	7439-92-1	
Selenium	**<33.2**	ug/L	100	33.2	1	11/12/14 16:47	11/14/14 12:36	7782-49-2	
Silver	**<3.2**	ug/L	50.0	3.2	1	11/12/14 16:47	11/14/14 12:36	7440-22-4	
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050								
Arsenic	**7.3**	mg/kg	0.43	0.10	20	11/04/14 11:10	11/05/14 11:31	7440-38-2	
7470 Mercury, TCLP	Analytical Method: EPA 7470A Preparation Method: EPA 7470A Leachate Method/Date: EPA 1311; 11/18/14 17:04 Initial pH: 8.58; Final pH: 2.42								
Mercury	**<0.078**	ug/L	0.60	0.078	1	11/18/14 20:40	11/19/14 10:29	7439-97-6	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.053**	mg/kg	0.020	0.0060	1	10/30/14 17:08	10/31/14 10:37	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**11.9**	%	0.10	0.10	1		10/30/14 16:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: SP-2 **Lab ID: 10286797002** Collected: 10/27/14 11:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<548**	ug/kg	1100	548	1	11/03/14 18:04	11/07/14 02:30	67-64-1	
Allyl chloride	**<7.2**	ug/kg	219	7.2	1	11/03/14 18:04	11/07/14 02:30	107-05-1	
Benzene	**35.5**	ug/kg	21.9	11.0	1	11/03/14 18:04	11/07/14 02:30	71-43-2	
Bromobenzene	**<9.5**	ug/kg	54.8	9.5	1	11/03/14 18:04	11/07/14 02:30	108-86-1	
Bromochloromethane	**<7.5**	ug/kg	54.8	7.5	1	11/03/14 18:04	11/07/14 02:30	74-97-5	
Bromodichloromethane	**<9.7**	ug/kg	54.8	9.7	1	11/03/14 18:04	11/07/14 02:30	75-27-4	
Bromoform	**<110**	ug/kg	219	110	1	11/03/14 18:04	11/07/14 02:30	75-25-2	L3
Bromomethane	**<274**	ug/kg	548	274	1	11/03/14 18:04	11/07/14 02:30	74-83-9	
2-Butanone (MEK)	**<137**	ug/kg	274	137	1	11/03/14 18:04	11/07/14 02:30	78-93-3	
n-Butylbenzene	**327**	ug/kg	54.8	6.6	1	11/03/14 18:04	11/07/14 02:30	104-51-8	B
sec-Butylbenzene	**168**	ug/kg	54.8	6.5	1	11/03/14 18:04	11/07/14 02:30	135-98-8	B
tert-Butylbenzene	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	98-06-6	
Carbon tetrachloride	**<8.8**	ug/kg	54.8	8.8	1	11/03/14 18:04	11/07/14 02:30	56-23-5	L3
Chlorobenzene	**<8.4**	ug/kg	54.8	8.4	1	11/03/14 18:04	11/07/14 02:30	108-90-7	
Chloroethane	**1300**	ug/kg	548	13.8	1	11/03/14 18:04	11/07/14 02:30	75-00-3	
Chloroform	**<8.3**	ug/kg	54.8	8.3	1	11/03/14 18:04	11/07/14 02:30	67-66-3	
Chloromethane	**<10**	ug/kg	219	10	1	11/03/14 18:04	11/07/14 02:30	74-87-3	
2-Chlorotoluene	**214**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	95-49-8	
4-Chlorotoluene	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	106-43-4	
1,2-Dibromo-3-chloropropane	**<29.0**	ug/kg	548	29.0	1	11/03/14 18:04	11/07/14 02:30	96-12-8	
Dibromochloromethane	**<11.8**	ug/kg	54.8	11.8	1	11/03/14 18:04	11/07/14 02:30	124-48-1	L3
1,2-Dibromoethane (EDB)	**<6.7**	ug/kg	54.8	6.7	1	11/03/14 18:04	11/07/14 02:30	106-93-4	
Dibromomethane	**<15.3**	ug/kg	54.8	15.3	1	11/03/14 18:04	11/07/14 02:30	74-95-3	
1,2-Dichlorobenzene	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	95-50-1	
1,3-Dichlorobenzene	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	541-73-1	
1,4-Dichlorobenzene	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	106-46-7	
Dichlorodifluoromethane	**<25.3**	ug/kg	219	25.3	1	11/03/14 18:04	11/07/14 02:30	75-71-8	
1,1-Dichloroethane	**5790**	ug/kg	54.8	7.7	1	11/03/14 18:04	11/07/14 02:30	75-34-3	
1,2-Dichloroethane	**278**	ug/kg	54.8	12.9	1	11/03/14 18:04	11/07/14 02:30	107-06-2	
1,1-Dichloroethene	**637**	ug/kg	54.8	10.9	1	11/03/14 18:04	11/07/14 02:30	75-35-4	
cis-1,2-Dichloroethene	**<11.2**	ug/kg	54.8	11.2	1	11/03/14 18:04	11/07/14 02:30	156-59-2	
trans-1,2-Dichloroethene	**<10.9**	ug/kg	54.8	10.9	1	11/03/14 18:04	11/07/14 02:30	156-60-5	
Dichlorofluoromethane	**<274**	ug/kg	548	274	1	11/03/14 18:04	11/07/14 02:30	75-43-4	
1,2-Dichloropropane	**<8.8**	ug/kg	54.8	8.8	1	11/03/14 18:04	11/07/14 02:30	78-87-5	
1,3-Dichloropropane	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	142-28-9	
2,2-Dichloropropane	**<7.3**	ug/kg	219	7.3	1	11/03/14 18:04	11/07/14 02:30	594-20-7	
1,1-Dichloropropene	**<8.9**	ug/kg	54.8	8.9	1	11/03/14 18:04	11/07/14 02:30	563-58-6	
cis-1,3-Dichloropropene	**<6.9**	ug/kg	54.8	6.9	1	11/03/14 18:04	11/07/14 02:30	10061-01-5	
trans-1,3-Dichloropropene	**<7.7**	ug/kg	54.8	7.7	1	11/03/14 18:04	11/07/14 02:30	10061-02-6	
Diethyl ether (Ethyl ether)	**<11.6**	ug/kg	219	11.6	1	11/03/14 18:04	11/07/14 02:30	60-29-7	
Ethylbenzene	**133**	ug/kg	54.8	6.9	1	11/03/14 18:04	11/07/14 02:30	100-41-4	
Hexachloro-1,3-butadiene	**<137**	ug/kg	274	137	1	11/03/14 18:04	11/07/14 02:30	87-68-3	
Isopropylbenzene (Cumene)	**57.0**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	98-82-8	
p-Isopropyltoluene	**590**	ug/kg	54.8	7.9	1	11/03/14 18:04	11/07/14 02:30	99-87-6	
Methylene Chloride	**<110**	ug/kg	219	110	1	11/03/14 18:04	11/07/14 02:30	75-09-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: SP-2 **Lab ID: 10286797002** Collected: 10/27/14 11:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
4-Methyl-2-pentanone (MIBK)	**276**	ug/kg	274	137	1	11/03/14 18:04	11/07/14 02:30	108-10-1	
Methyl-tert-butyl ether	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	1634-04-4	
Naphthalene	**1860**	ug/kg	219	110	1	11/03/14 18:04	11/07/14 02:30	91-20-3	
n-Propylbenzene	**107**	ug/kg	54.8	6.6	1	11/03/14 18:04	11/07/14 02:30	103-65-1	
Styrene	**<8.2**	ug/kg	54.8	8.2	1	11/03/14 18:04	11/07/14 02:30	100-42-5	
1,1,1,2-Tetrachloroethane	**<27.4**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	630-20-6	
1,1,2,2-Tetrachloroethane	**<7.5**	ug/kg	54.8	7.5	1	11/03/14 18:04	11/07/14 02:30	79-34-5	
Tetrachloroethene	**169**	ug/kg	54.8	19.8	1	11/03/14 18:04	11/07/14 02:30	127-18-4	
Tetrahydrofuran	**<70.0**	ug/kg	2190	70.0	1	11/03/14 18:04	11/07/14 02:30	109-99-9	
Toluene	**353**	ug/kg	54.8	7.4	1	11/03/14 18:04	11/07/14 02:30	108-88-3	
1,2,3-Trichlorobenzene	**<13.0**	ug/kg	54.8	13.0	1	11/03/14 18:04	11/07/14 02:30	87-61-6	
1,2,4-Trichlorobenzene	**<10**	ug/kg	54.8	10	1	11/03/14 18:04	11/07/14 02:30	120-82-1	
1,1,1-Trichloroethane	**35000**	ug/kg	274	137	5	11/03/14 18:04	11/07/14 00:13	71-55-6	
1,1,2-Trichloroethane	**<9.3**	ug/kg	54.8	9.3	1	11/03/14 18:04	11/07/14 02:30	79-00-5	
Trichloroethene	**20.4J**	ug/kg	54.8	6.8	1	11/03/14 18:04	11/07/14 02:30	79-01-6	
Trichlorofluoromethane	**<9.7**	ug/kg	219	9.7	1	11/03/14 18:04	11/07/14 02:30	75-69-4	CH,SS
1,2,3-Trichloropropane	**247**	ug/kg	219	7.3	1	11/03/14 18:04	11/07/14 02:30	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<22.9**	ug/kg	219	22.9	1	11/03/14 18:04	11/07/14 02:30	76-13-1	
1,2,4-Trimethylbenzene	**1640**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	95-63-6	
1,3,5-Trimethylbenzene	**1850**	ug/kg	54.8	27.4	1	11/03/14 18:04	11/07/14 02:30	108-67-8	
Vinyl chloride	**13.6J**	ug/kg	21.9	8.1	1	11/03/14 18:04	11/07/14 02:30	75-01-4	
Xylene (Total)	**914**	ug/kg	164	21.5	1	11/03/14 18:04	11/07/14 02:30	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%.	74-125		1	11/03/14 18:04	11/07/14 02:30	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1	11/03/14 18:04	11/07/14 02:30	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1	11/03/14 18:04	11/07/14 02:30	460-00-4	

Sample: TP1 0-2 **Lab ID: 10286797003** Collected: 10/27/14 09:20 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Gasoline Range Organics	**837**	mg/kg	121	60.4	10	11/05/14 09:19	11/06/14 14:51		
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%.	80-125		10	11/05/14 09:19	11/06/14 14:51	98-08-8	CH
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**7.7**	mg/kg	0.91	0.27	1	10/30/14 12:25	10/31/14 14:59	7440-38-2	
Barium	**87.3**	mg/kg	0.46	0.050	1	10/30/14 12:25	10/31/14 14:59	7440-39-3	
Cadmium	**0.58**	mg/kg	0.14	0.016	1	10/30/14 12:25	10/31/14 14:59	7440-43-9	
Chromium	**12.0**	mg/kg	0.46	0.059	1	10/30/14 12:25	10/31/14 14:59	7440-47-3	
Lead	**296**	mg/kg	0.91	0.068	1	10/30/14 12:25	10/31/14 14:59	7439-92-1	
Selenium	**2.4**	mg/kg	0.69	0.31	1	10/30/14 12:25	10/31/14 14:59	7782-49-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP1 0-2 **Lab ID: 10286797003** Collected: 10/27/14 09:20 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Silver	**0.065J**	mg/kg	0.46	0.046	1	10/30/14 12:25	10/31/14 14:59	7440-22-4	B
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050								
Arsenic	**8.5**	mg/kg	0.55	0.13	20	11/04/14 11:10	11/05/14 11:34	7440-38-2	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.061**	mg/kg	0.021	0.0064	1	10/30/14 17:08	10/31/14 10:43	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**14.5**	%	0.10	0.10	1		10/30/14 16:48		
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3550								
Acenaphthene	**589**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	83-32-9	
Acenaphthylene	**566J**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	208-96-8	
Anthracene	**409J**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	120-12-7	
Benzo(a)anthracene	**1000**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	56-55-3	
Benzo(a)pyrene	**1150**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	50-32-8	
Benzo(b)fluoranthene	**2000**	ug/kg	585	16.4	10	10/29/14 10:34	11/03/14 16:32	205-99-2	
Benzo(g,h,i)perylene	**1170**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	191-24-2	
Benzo(k)fluoranthene	**935**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	207-08-9	
Chrysene	**1340**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	218-01-9	
Dibenz(a,h)anthracene	**333J**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	53-70-3	
Fluoranthene	**2190**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	206-44-0	
Fluorene	**1200**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	86-73-7	
Indeno(1,2,3-cd)pyrene	**990**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	193-39-5	
Naphthalene	**1450**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	91-20-3	
Phenanthrene	**1450**	ug/kg	585	292	10	10/29/14 10:34	11/03/14 16:32	85-01-8	
Pyrene	**2020**	ug/kg	585	13.4	10	10/29/14 10:34	11/03/14 16:32	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%.	30-150		10	10/29/14 10:34	11/03/14 16:32	321-60-8	D4,P3, S4
Terphenyl-d14 (S)	0	%.	30-150		10	10/29/14 10:34	11/03/14 16:32	1718-51-0	S4
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<594**	ug/kg	1190	594	1	11/04/14 15:13	11/07/14 02:47	67-64-1	
Allyl chloride	**<7.8**	ug/kg	237	7.8	1	11/04/14 15:13	11/07/14 02:47	107-05-1	
Benzene	**52.5**	ug/kg	23.7	11.9	1	11/04/14 15:13	11/07/14 02:47	71-43-2	
Bromobenzene	**<10.3**	ug/kg	59.4	10.3	1	11/04/14 15:13	11/07/14 02:47	108-86-1	
Bromochloromethane	**<8.1**	ug/kg	59.4	8.1	1	11/04/14 15:13	11/07/14 02:47	74-97-5	
Bromodichloromethane	**<10.6**	ug/kg	59.4	10.6	1	11/04/14 15:13	11/07/14 02:47	75-27-4	
Bromoform	**<119**	ug/kg	237	119	1	11/04/14 15:13	11/07/14 02:47	75-25-2	
Bromomethane	**<297**	ug/kg	594	297	1	11/04/14 15:13	11/07/14 02:47	74-83-9	
2-Butanone (MEK)	**<148**	ug/kg	297	148	1	11/04/14 15:13	11/07/14 02:47	78-93-3	
n-Butylbenzene	**426**	ug/kg	59.4	7.2	1	11/04/14 15:13	11/07/14 02:47	104-51-8	
sec-Butylbenzene	**298**	ug/kg	59.4	7.0	1	11/04/14 15:13	11/07/14 02:47	135-98-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP1 0-2 **Lab ID: 10286797003** Collected: 10/27/14 09:20 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
tert-Butylbenzene	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	98-06-6	
Carbon tetrachloride	**75.3**	ug/kg	59.4	9.6	1	11/04/14 15:13	11/07/14 02:47	56-23-5	
Chlorobenzene	**<9.1**	ug/kg	59.4	9.1	1	11/04/14 15:13	11/07/14 02:47	108-90-7	
Chloroethane	**3140J**	ug/kg	5940	150	10	11/04/14 15:13	11/05/14 09:33	75-00-3	CL
Chloroform	**<9.0**	ug/kg	59.4	9.0	1	11/04/14 15:13	11/07/14 02:47	67-66-3	
Chloromethane	**<10.8**	ug/kg	237	10.8	1	11/04/14 15:13	11/07/14 02:47	74-87-3	
2-Chlorotoluene	**423**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	95-49-8	
4-Chlorotoluene	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	106-43-4	
1,2-Dibromo-3-chloropropane	**<31.5**	ug/kg	594	31.5	1	11/04/14 15:13	11/07/14 02:47	96-12-8	
Dibromochloromethane	**<12.8**	ug/kg	59.4	12.8	1	11/04/14 15:13	11/07/14 02:47	124-48-1	
1,2-Dibromoethane (EDB)	**<7.3**	ug/kg	59.4	7.3	1	11/04/14 15:13	11/07/14 02:47	106-93-4	
Dibromomethane	**<16.6**	ug/kg	59.4	16.6	1	11/04/14 15:13	11/07/14 02:47	74-95-3	
1,2-Dichlorobenzene	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	95-50-1	
1,3-Dichlorobenzene	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	541-73-1	
1,4-Dichlorobenzene	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	106-46-7	
Dichlorodifluoromethane	**<27.4**	ug/kg	237	27.4	1	11/04/14 15:13	11/07/14 02:47	75-71-8	
1,1-Dichloroethane	**2660**	ug/kg	59.4	8.3	1	11/04/14 15:13	11/07/14 02:47	75-34-3	
1,2-Dichloroethane	**<14.0**	ug/kg	59.4	14.0	1	11/04/14 15:13	11/07/14 02:47	107-06-2	
1,1-Dichloroethene	**51.6J**	ug/kg	59.4	11.9	1	11/04/14 15:13	11/07/14 02:47	75-35-4	
cis-1,2-Dichloroethene	**<12.1**	ug/kg	59.4	12.1	1	11/04/14 15:13	11/07/14 02:47	156-59-2	
trans-1,2-Dichloroethene	**<11.8**	ug/kg	59.4	11.8	1	11/04/14 15:13	11/07/14 02:47	156-60-5	
Dichlorofluoromethane	**<297**	ug/kg	594	297	1	11/04/14 15:13	11/07/14 02:47	75-43-4	
1,2-Dichloropropane	**<9.5**	ug/kg	59.4	9.5	1	11/04/14 15:13	11/07/14 02:47	78-87-5	
1,3-Dichloropropane	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	142-28-9	
2,2-Dichloropropane	**<7.9**	ug/kg	237	7.9	1	11/04/14 15:13	11/07/14 02:47	594-20-7	
1,1-Dichloropropene	**<9.7**	ug/kg	59.4	9.7	1	11/04/14 15:13	11/07/14 02:47	563-58-6	
cis-1,3-Dichloropropene	**<7.5**	ug/kg	59.4	7.5	1	11/04/14 15:13	11/07/14 02:47	10061-01-5	
trans-1,3-Dichloropropene	**<8.4**	ug/kg	59.4	8.4	1	11/04/14 15:13	11/07/14 02:47	10061-02-6	
Diethyl ether (Ethyl ether)	**<12.6**	ug/kg	237	12.6	1	11/04/14 15:13	11/07/14 02:47	60-29-7	
Ethylbenzene	**163**	ug/kg	59.4	7.5	1	11/04/14 15:13	11/07/14 02:47	100-41-4	
Hexachloro-1,3-butadiene	**<148**	ug/kg	297	148	1	11/04/14 15:13	11/07/14 02:47	87-68-3	
Isopropylbenzene (Cumene)	**93.3**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	98-82-8	
p-Isopropyltoluene	**976**	ug/kg	59.4	8.6	1	11/04/14 15:13	11/07/14 02:47	99-87-6	
Methylene Chloride	**<119**	ug/kg	237	119	1	11/04/14 15:13	11/07/14 02:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	**318**	ug/kg	297	148	1	11/04/14 15:13	11/07/14 02:47	108-10-1	
Methyl-tert-butyl ether	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	1634-04-4	
Naphthalene	**2270**	ug/kg	237	119	1	11/04/14 15:13	11/07/14 02:47	91-20-3	
n-Propylbenzene	**181**	ug/kg	59.4	7.2	1	11/04/14 15:13	11/07/14 02:47	103-65-1	
Styrene	**<8.9**	ug/kg	59.4	8.9	1	11/04/14 15:13	11/07/14 02:47	100-42-5	
1,1,1,2-Tetrachloroethane	**<29.7**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	630-20-6	
1,1,2,2-Tetrachloroethane	**<8.1**	ug/kg	59.4	8.1	1	11/04/14 15:13	11/07/14 02:47	79-34-5	
Tetrachloroethene	**<21.4**	ug/kg	59.4	21.4	1	11/04/14 15:13	11/07/14 02:47	127-18-4	
Tetrahydrofuran	**<75.9**	ug/kg	2370	75.9	1	11/04/14 15:13	11/07/14 02:47	109-99-9	
Toluene	**270**	ug/kg	59.4	8.1	1	11/04/14 15:13	11/07/14 02:47	108-88-3	
1,2,3-Trichlorobenzene	**<14.1**	ug/kg	59.4	14.1	1	11/04/14 15:13	11/07/14 02:47	87-61-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP1 0-2 **Lab ID: 10286797003** Collected: 10/27/14 09:20 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,2,4-Trichlorobenzene	**<10.8**	ug/kg	59.4	10.8	1	11/04/14 15:13	11/07/14 02:47	120-82-1	
1,1,1-Trichloroethane	**472**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	71-55-6	
1,1,2-Trichloroethane	**<10.0**	ug/kg	59.4	10.0	1	11/04/14 15:13	11/07/14 02:47	79-00-5	
Trichloroethene	**<7.4**	ug/kg	59.4	7.4	1	11/04/14 15:13	11/07/14 02:47	79-01-6	
Trichlorofluoromethane	**<10.6**	ug/kg	237	10.6	1	11/04/14 15:13	11/07/14 02:47	75-69-4	CH,SS
1,2,3-Trichloropropane	**369**	ug/kg	237	7.9	1	11/04/14 15:13	11/07/14 02:47	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<24.8**	ug/kg	237	24.8	1	11/04/14 15:13	11/07/14 02:47	76-13-1	
1,2,4-Trimethylbenzene	**3250**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	95-63-6	
1,3,5-Trimethylbenzene	**3880**	ug/kg	59.4	29.7	1	11/04/14 15:13	11/07/14 02:47	108-67-8	
Vinyl chloride	**<8.8**	ug/kg	23.7	8.8	1	11/04/14 15:13	11/07/14 02:47	75-01-4	
Xylene (Total)	**937**	ug/kg	178	23.3	1	11/04/14 15:13	11/07/14 02:47	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%.	74-125		1	11/04/14 15:13	11/07/14 02:47	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1	11/04/14 15:13	11/07/14 02:47	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125		1	11/04/14 15:13	11/07/14 02:47	460-00-4	

Sample: TP2 2-4 **Lab ID: 10286797004** Collected: 10/27/14 10:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Gasoline Range Organics	**572**	mg/kg	109	54.4	10	11/05/14 09:19	11/06/14 15:11		
Surrogates									
a,a,a-Trifluorotoluene (S)	107	%.	80-125		10	11/05/14 09:19	11/06/14 15:11	98-08-8	CH
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**1.2**	mg/kg	0.89	0.26	1	10/30/14 12:25	10/31/14 15:05	7440-38-2	
Barium	**18.4**	mg/kg	0.45	0.049	1	10/30/14 12:25	10/31/14 15:05	7440-39-3	
Cadmium	**0.13J**	mg/kg	0.13	0.015	1	10/30/14 12:25	10/31/14 15:05	7440-43-9	
Chromium	**5.5**	mg/kg	0.45	0.058	1	10/30/14 12:25	10/31/14 15:05	7440-47-3	
Lead	**41.5**	mg/kg	0.89	0.066	1	10/30/14 12:25	10/31/14 15:05	7439-92-1	
Selenium	**0.53J**	mg/kg	0.67	0.30	1	10/30/14 12:25	10/31/14 15:05	7782-49-2	
Silver	**<0.045**	mg/kg	0.45	0.045	1	10/30/14 12:25	10/31/14 15:05	7440-22-4	
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050								
Arsenic	**2.6**	mg/kg	0.52	0.12	20	11/04/14 11:10	11/05/14 11:36	7440-38-2	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.022**	mg/kg	0.021	0.0064	1	10/30/14 17:08	10/31/14 10:45	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**12.0**	%	0.10	0.10	1		10/30/14 16:48		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP2 2-4 **Lab ID: 10286797004** Collected: 10/27/14 10:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3550								
Acenaphthene	**342**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	83-32-9	
Acenaphthylene	**210**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	208-96-8	
Anthracene	**468**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	120-12-7	
Benzo(a)anthracene	**1090**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	56-55-3	
Benzo(a)pyrene	**1010**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	50-32-8	
Benzo(b)fluoranthene	**1250**	ug/kg	114	3.2	10	10/29/14 10:34	11/03/14 16:53	205-99-2	
Benzo(g,h,i)perylene	**723**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	191-24-2	
Benzo(k)fluoranthene	**636**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	207-08-9	
Chrysene	**1230**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	218-01-9	
Dibenz(a,h)anthracene	**193**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	53-70-3	
Fluoranthene	**2400**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	206-44-0	
Fluorene	**389**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	86-73-7	
Indeno(1,2,3-cd)pyrene	**566**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	193-39-5	
Naphthalene	**1490**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	91-20-3	
Phenanthrene	**2390**	ug/kg	114	56.8	10	10/29/14 10:34	11/03/14 16:53	85-01-8	
Pyrene	**2410**	ug/kg	114	2.6	10	10/29/14 10:34	11/03/14 16:53	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	141	%.	30-150		10	10/29/14 10:34	11/03/14 16:53	321-60-8	D4
Terphenyl-d14 (S)	96	%.	30-150		10	10/29/14 10:34	11/03/14 16:53	1718-51-0	
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<1120**	ug/kg	2240	1120	2	11/04/14 15:13	11/07/14 00:47	67-64-1	
Allyl chloride	**<14.7**	ug/kg	448	14.7	2	11/04/14 15:13	11/07/14 00:47	107-05-1	
Benzene	**<22.4**	ug/kg	44.8	22.4	2	11/04/14 15:13	11/07/14 00:47	71-43-2	
Bromobenzene	**<19.4**	ug/kg	112	19.4	2	11/04/14 15:13	11/07/14 00:47	108-86-1	
Bromochloromethane	**<15.2**	ug/kg	112	15.2	2	11/04/14 15:13	11/07/14 00:47	74-97-5	
Bromodichloromethane	**<19.9**	ug/kg	112	19.9	2	11/04/14 15:13	11/07/14 00:47	75-27-4	
Bromoform	**<224**	ug/kg	448	224	2	11/04/14 15:13	11/07/14 00:47	75-25-2	
Bromomethane	**<560**	ug/kg	1120	560	2	11/04/14 15:13	11/07/14 00:47	74-83-9	
2-Butanone (MEK)	**<280**	ug/kg	560	280	2	11/04/14 15:13	11/07/14 00:47	78-93-3	
n-Butylbenzene	**795**	ug/kg	112	13.6	2	11/04/14 15:13	11/07/14 00:47	104-51-8	
sec-Butylbenzene	**261**	ug/kg	112	13.2	2	11/04/14 15:13	11/07/14 00:47	135-98-8	B
tert-Butylbenzene	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	98-06-6	
Carbon tetrachloride	**<18.1**	ug/kg	112	18.1	2	11/04/14 15:13	11/07/14 00:47	56-23-5	
Chlorobenzene	**<17.2**	ug/kg	112	17.2	2	11/04/14 15:13	11/07/14 00:47	108-90-7	
Chloroethane	**<28.2**	ug/kg	1120	28.2	2	11/04/14 15:13	11/07/14 00:47	75-00-3	
Chloroform	**<17.1**	ug/kg	112	17.1	2	11/04/14 15:13	11/07/14 00:47	67-66-3	
Chloromethane	**<20.4**	ug/kg	448	20.4	2	11/04/14 15:13	11/07/14 00:47	74-87-3	
2-Chlorotoluene	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	95-49-8	
4-Chlorotoluene	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	106-43-4	
1,2-Dibromo-3-chloropropane	**<59.3**	ug/kg	1120	59.3	2	11/04/14 15:13	11/07/14 00:47	96-12-8	
Dibromochloromethane	**<24.2**	ug/kg	112	24.2	2	11/04/14 15:13	11/07/14 00:47	124-48-1	
1,2-Dibromoethane (EDB)	**<13.8**	ug/kg	112	13.8	2	11/04/14 15:13	11/07/14 00:47	106-93-4	
Dibromomethane	**<31.4**	ug/kg	112	31.4	2	11/04/14 15:13	11/07/14 00:47	74-95-3	
1,2-Dichlorobenzene	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	95-50-1	

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP2 2-4 **Lab ID: 10286797004** Collected: 10/27/14 10:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,3-Dichlorobenzene	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	541-73-1	
1,4-Dichlorobenzene	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	106-46-7	
Dichlorodifluoromethane	**<51.7**	ug/kg	448	51.7	2	11/04/14 15:13	11/07/14 00:47	75-71-8	
1,1-Dichloroethane	**76.6J**	ug/kg	112	15.7	2	11/04/14 15:13	11/07/14 00:47	75-34-3	
1,2-Dichloroethane	**<26.4**	ug/kg	112	26.4	2	11/04/14 15:13	11/07/14 00:47	107-06-2	
1,1-Dichloroethene	**<22.4**	ug/kg	112	22.4	2	11/04/14 15:13	11/07/14 00:47	75-35-4	
cis-1,2-Dichloroethene	**<22.8**	ug/kg	112	22.8	2	11/04/14 15:13	11/07/14 00:47	156-59-2	
trans-1,2-Dichloroethene	**<22.2**	ug/kg	112	22.2	2	11/04/14 15:13	11/07/14 00:47	156-60-5	
Dichlorofluoromethane	**<560**	ug/kg	1120	560	2	11/04/14 15:13	11/07/14 00:47	75-43-4	
1,2-Dichloropropane	**<18.0**	ug/kg	112	18.0	2	11/04/14 15:13	11/07/14 00:47	78-87-5	
1,3-Dichloropropane	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	142-28-9	
2,2-Dichloropropane	**<15.0**	ug/kg	448	15.0	2	11/04/14 15:13	11/07/14 00:47	594-20-7	
1,1-Dichloropropene	**<18.3**	ug/kg	112	18.3	2	11/04/14 15:13	11/07/14 00:47	563-58-6	
cis-1,3-Dichloropropene	**<14.1**	ug/kg	112	14.1	2	11/04/14 15:13	11/07/14 00:47	10061-01-5	
trans-1,3-Dichloropropene	**<15.8**	ug/kg	112	15.8	2	11/04/14 15:13	11/07/14 00:47	10061-02-6	
Diethyl ether (Ethyl ether)	**<23.7**	ug/kg	448	23.7	2	11/04/14 15:13	11/07/14 00:47	60-29-7	
Ethylbenzene	**90.1J**	ug/kg	112	14.1	2	11/04/14 15:13	11/07/14 00:47	100-41-4	
Hexachloro-1,3-butadiene	**<280**	ug/kg	560	280	2	11/04/14 15:13	11/07/14 00:47	87-68-3	
Isopropylbenzene (Cumene)	**84.5J**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	98-82-8	
p-Isopropyltoluene	**1570**	ug/kg	112	16.2	2	11/04/14 15:13	11/07/14 00:47	99-87-6	
Methylene Chloride	**<224**	ug/kg	448	224	2	11/04/14 15:13	11/07/14 00:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<280**	ug/kg	560	280	2	11/04/14 15:13	11/07/14 00:47	108-10-1	
Methyl-tert-butyl ether	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	1634-04-4	
Naphthalene	**4390**	ug/kg	448	224	2	11/04/14 15:13	11/07/14 00:47	91-20-3	
n-Propylbenzene	**242**	ug/kg	112	13.6	2	11/04/14 15:13	11/07/14 00:47	103-65-1	
Styrene	**<16.7**	ug/kg	112	16.7	2	11/04/14 15:13	11/07/14 00:47	100-42-5	
1,1,1,2-Tetrachloroethane	**<56.0**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	630-20-6	
1,1,2,2-Tetrachloroethane	**<15.4**	ug/kg	112	15.4	2	11/04/14 15:13	11/07/14 00:47	79-34-5	
Tetrachloroethene	**<40.4**	ug/kg	112	40.4	2	11/04/14 15:13	11/07/14 00:47	127-18-4	
Tetrahydrofuran	**<143**	ug/kg	4480	143	2	11/04/14 15:13	11/07/14 00:47	109-99-9	
Toluene	**23.5J**	ug/kg	112	15.2	2	11/04/14 15:13	11/07/14 00:47	108-88-3	
1,2,3-Trichlorobenzene	**<26.6**	ug/kg	112	26.6	2	11/04/14 15:13	11/07/14 00:47	87-61-6	
1,2,4-Trichlorobenzene	**<20.4**	ug/kg	112	20.4	2	11/04/14 15:13	11/07/14 00:47	120-82-1	
1,1,1-Trichloroethane	**535**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	71-55-6	
1,1,2-Trichloroethane	**<18.9**	ug/kg	112	18.9	2	11/04/14 15:13	11/07/14 00:47	79-00-5	
Trichloroethene	**<13.9**	ug/kg	112	13.9	2	11/04/14 15:13	11/07/14 00:47	79-01-6	
Trichlorofluoromethane	**<19.9**	ug/kg	448	19.9	2	11/04/14 15:13	11/07/14 00:47	75-69-4	CH,SS
1,2,3-Trichloropropane	**<14.9**	ug/kg	448	14.9	2	11/04/14 15:13	11/07/14 00:47	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<46.8**	ug/kg	448	46.8	2	11/04/14 15:13	11/07/14 00:47	76-13-1	
1,2,4-Trimethylbenzene	**3670**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	95-63-6	
1,3,5-Trimethylbenzene	**1530**	ug/kg	112	56.0	2	11/04/14 15:13	11/07/14 00:47	108-67-8	
Vinyl chloride	**<16.6**	ug/kg	44.8	16.6	2	11/04/14 15:13	11/07/14 00:47	75-01-4	
Xylene (Total)	**692**	ug/kg	336	44.0	2	11/04/14 15:13	11/07/14 00:47	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	86	%.	74-125		2	11/04/14 15:13	11/07/14 00:47	17060-07-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP2 2-4 **Lab ID: 10286797004** Collected: 10/27/14 10:00 Received: 10/28/14 09:30 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Surrogates									
Toluene-d8 (S)	101	%.	75-125		2	11/04/14 15:13	11/07/14 00:47	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		2	11/04/14 15:13	11/07/14 00:47	460-00-4	

Sample: TP3 0-2 **Lab ID: 10286797005** Collected: 10/27/14 10:15 Received: 10/28/14 09:30 Matrix: Solid
Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Gasoline Range Organics	**72.1**	mg/kg	11.8	5.9	1	11/05/14 09:19	11/06/14 15:30		
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%.	80-125		1	11/05/14 09:19	11/06/14 15:30	98-08-8	CH
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**7.7**	mg/kg	1.1	0.32	1	10/30/14 12:25	10/31/14 15:11	7440-38-2	
Barium	**49.9**	mg/kg	0.55	0.060	1	10/30/14 12:25	10/31/14 15:11	7440-39-3	
Cadmium	**0.36**	mg/kg	0.16	0.019	1	10/30/14 12:25	10/31/14 15:11	7440-43-9	
Chromium	**10.1**	mg/kg	0.55	0.071	1	10/30/14 12:25	10/31/14 15:11	7440-47-3	
Lead	**118**	mg/kg	1.1	0.081	1	10/30/14 12:25	10/31/14 15:11	7439-92-1	
Selenium	**2.0**	mg/kg	0.82	0.37	1	10/30/14 12:25	10/31/14 15:11	7782-49-2	
Silver	**<0.055**	mg/kg	0.55	0.055	1	10/30/14 12:25	10/31/14 15:11	7440-22-4	
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050								
Arsenic	**10.6**	mg/kg	0.56	0.13	20	11/04/14 11:10	11/05/14 11:39	7440-38-2	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.036**	mg/kg	0.024	0.0072	1	10/30/14 17:08	10/31/14 10:47	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**16.2**	%	0.10	0.10	1		10/30/14 16:49		
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3550								
Acenaphthene	**<59.7**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	83-32-9	
Acenaphthylene	**105J**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	208-96-8	
Anthracene	**61.1J**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	120-12-7	
Benzo(a)anthracene	**108J**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	56-55-3	
Benzo(a)pyrene	**126**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	50-32-8	
Benzo(b)fluoranthene	**280**	ug/kg	119	3.3	10	10/29/14 10:34	11/03/14 17:14	205-99-2	
Benzo(g,h,i)perylene	**176**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	191-24-2	
Benzo(k)fluoranthene	**128**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	207-08-9	
Chrysene	**189**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	218-01-9	
Dibenz(a,h)anthracene	**<59.7**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	53-70-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP3 0-2 **Lab ID: 10286797005** Collected: 10/27/14 10:15 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3550								
Fluoranthene	**207**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	206-44-0	
Fluorene	**<59.7**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	86-73-7	
Indeno(1,2,3-cd)pyrene	**146**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	193-39-5	
Naphthalene	**402**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	91-20-3	
Phenanthrene	**254**	ug/kg	119	59.7	10	10/29/14 10:34	11/03/14 17:14	85-01-8	
Pyrene	**213**	ug/kg	119	2.7	10	10/29/14 10:34	11/03/14 17:14	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	79	%.	30-150		10	10/29/14 10:34	11/03/14 17:14	321-60-8	D4
Terphenyl-d14 (S)	89	%.	30-150		10	10/29/14 10:34	11/03/14 17:14	1718-51-0	
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<604**	ug/kg	1210	604	1	11/04/14 15:13	11/07/14 01:24	67-64-1	
Allyl chloride	**<7.9**	ug/kg	241	7.9	1	11/04/14 15:13	11/07/14 01:24	107-05-1	
Benzene	**60.5**	ug/kg	24.1	12.1	1	11/04/14 15:13	11/07/14 01:24	71-43-2	
Bromobenzene	**<10.5**	ug/kg	60.4	10.5	1	11/04/14 15:13	11/07/14 01:24	108-86-1	
Bromochloromethane	**<8.2**	ug/kg	60.4	8.2	1	11/04/14 15:13	11/07/14 01:24	74-97-5	
Bromodichloromethane	**<10.7**	ug/kg	60.4	10.7	1	11/04/14 15:13	11/07/14 01:24	75-27-4	
Bromoform	**<121**	ug/kg	241	121	1	11/04/14 15:13	11/07/14 01:24	75-25-2	
Bromomethane	**<302**	ug/kg	604	302	1	11/04/14 15:13	11/07/14 01:24	74-83-9	
2-Butanone (MEK)	**<151**	ug/kg	302	151	1	11/04/14 15:13	11/07/14 01:24	78-93-3	
n-Butylbenzene	**<7.3**	ug/kg	60.4	7.3	1	11/04/14 15:13	11/07/14 01:24	104-51-8	
sec-Butylbenzene	**28.5J**	ug/kg	60.4	7.1	1	11/04/14 15:13	11/07/14 01:24	135-98-8	B
tert-Butylbenzene	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	98-06-6	
Carbon tetrachloride	**<9.8**	ug/kg	60.4	9.8	1	11/04/14 15:13	11/07/14 01:24	56-23-5	
Chlorobenzene	**<9.3**	ug/kg	60.4	9.3	1	11/04/14 15:13	11/07/14 01:24	108-90-7	
Chloroethane	**753**	ug/kg	604	15.2	1	11/04/14 15:13	11/07/14 01:24	75-00-3	
Chloroform	**<9.2**	ug/kg	60.4	9.2	1	11/04/14 15:13	11/07/14 01:24	67-66-3	
Chloromethane	**<11.0**	ug/kg	241	11.0	1	11/04/14 15:13	11/07/14 01:24	74-87-3	
2-Chlorotoluene	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	95-49-8	
4-Chlorotoluene	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	106-43-4	
1,2-Dibromo-3-chloropropane	**<32.0**	ug/kg	604	32.0	1	11/04/14 15:13	11/07/14 01:24	96-12-8	
Dibromochloromethane	**<13.0**	ug/kg	60.4	13.0	1	11/04/14 15:13	11/07/14 01:24	124-48-1	
1,2-Dibromoethane (EDB)	**<7.4**	ug/kg	60.4	7.4	1	11/04/14 15:13	11/07/14 01:24	106-93-4	
Dibromomethane	**<16.9**	ug/kg	60.4	16.9	1	11/04/14 15:13	11/07/14 01:24	74-95-3	
1,2-Dichlorobenzene	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	95-50-1	
1,3-Dichlorobenzene	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	541-73-1	
1,4-Dichlorobenzene	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	106-46-7	
Dichlorodifluoromethane	**<27.9**	ug/kg	241	27.9	1	11/04/14 15:13	11/07/14 01:24	75-71-8	
1,1-Dichloroethane	**88.5**	ug/kg	60.4	8.4	1	11/04/14 15:13	11/07/14 01:24	75-34-3	
1,2-Dichloroethane	**<14.2**	ug/kg	60.4	14.2	1	11/04/14 15:13	11/07/14 01:24	107-06-2	
1,1-Dichloroethene	**<12.1**	ug/kg	60.4	12.1	1	11/04/14 15:13	11/07/14 01:24	75-35-4	
cis-1,2-Dichloroethene	**<12.3**	ug/kg	60.4	12.3	1	11/04/14 15:13	11/07/14 01:24	156-59-2	
trans-1,2-Dichloroethene	**<12.0**	ug/kg	60.4	12.0	1	11/04/14 15:13	11/07/14 01:24	156-60-5	
Dichlorofluoromethane	**<302**	ug/kg	604	302	1	11/04/14 15:13	11/07/14 01:24	75-43-4	
1,2-Dichloropropane	**<9.7**	ug/kg	60.4	9.7	1	11/04/14 15:13	11/07/14 01:24	78-87-5	

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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP3 0-2 **Lab ID: 10286797005** Collected: 10/27/14 10:15 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,3-Dichloropropane	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	142-28-9	
2,2-Dichloropropane	**<8.1**	ug/kg	241	8.1	1	11/04/14 15:13	11/07/14 01:24	594-20-7	
1,1-Dichloropropene	**<9.9**	ug/kg	60.4	9.9	1	11/04/14 15:13	11/07/14 01:24	563-58-6	
cis-1,3-Dichloropropene	**<7.6**	ug/kg	60.4	7.6	1	11/04/14 15:13	11/07/14 01:24	10061-01-5	
trans-1,3-Dichloropropene	**<8.5**	ug/kg	60.4	8.5	1	11/04/14 15:13	11/07/14 01:24	10061-02-6	
Diethyl ether (Ethyl ether)	**<12.8**	ug/kg	241	12.8	1	11/04/14 15:13	11/07/14 01:24	60-29-7	
Ethylbenzene	**130**	ug/kg	60.4	7.6	1	11/04/14 15:13	11/07/14 01:24	100-41-4	
Hexachloro-1,3-butadiene	**<151**	ug/kg	302	151	1	11/04/14 15:13	11/07/14 01:24	87-68-3	
Isopropylbenzene (Cumene)	**56.0J**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	98-82-8	
p-Isopropyltoluene	**37.3J**	ug/kg	60.4	8.8	1	11/04/14 15:13	11/07/14 01:24	99-87-6	B
Methylene Chloride	**<121**	ug/kg	241	121	1	11/04/14 15:13	11/07/14 01:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<151**	ug/kg	302	151	1	11/04/14 15:13	11/07/14 01:24	108-10-1	
Methyl-tert-butyl ether	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	1634-04-4	
Naphthalene	**473**	ug/kg	241	121	1	11/04/14 15:13	11/07/14 01:24	91-20-3	
n-Propylbenzene	**75.3**	ug/kg	60.4	7.3	1	11/04/14 15:13	11/07/14 01:24	103-65-1	
Styrene	**<9.0**	ug/kg	60.4	9.0	1	11/04/14 15:13	11/07/14 01:24	100-42-5	
1,1,1,2-Tetrachloroethane	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	630-20-6	
1,1,2,2-Tetrachloroethane	**<8.3**	ug/kg	60.4	8.3	1	11/04/14 15:13	11/07/14 01:24	79-34-5	
Tetrachloroethene	**<21.8**	ug/kg	60.4	21.8	1	11/04/14 15:13	11/07/14 01:24	127-18-4	
Tetrahydrofuran	**<77.1**	ug/kg	2410	77.1	1	11/04/14 15:13	11/07/14 01:24	109-99-9	
Toluene	**306**	ug/kg	60.4	8.2	1	11/04/14 15:13	11/07/14 01:24	108-88-3	
1,2,3-Trichlorobenzene	**<14.4**	ug/kg	60.4	14.4	1	11/04/14 15:13	11/07/14 01:24	87-61-6	
1,2,4-Trichlorobenzene	**<11.0**	ug/kg	60.4	11.0	1	11/04/14 15:13	11/07/14 01:24	120-82-1	
1,1,1-Trichloroethane	**<30.2**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	71-55-6	
1,1,2-Trichloroethane	**<10.2**	ug/kg	60.4	10.2	1	11/04/14 15:13	11/07/14 01:24	79-00-5	
Trichloroethene	**<7.5**	ug/kg	60.4	7.5	1	11/04/14 15:13	11/07/14 01:24	79-01-6	
Trichlorofluoromethane	**<10.7**	ug/kg	241	10.7	1	11/04/14 15:13	11/07/14 01:24	75-69-4	CH,SS
1,2,3-Trichloropropane	**<8.0**	ug/kg	241	8.0	1	11/04/14 15:13	11/07/14 01:24	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<25.2**	ug/kg	241	25.2	1	11/04/14 15:13	11/07/14 01:24	76-13-1	
1,2,4-Trimethylbenzene	**305**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	95-63-6	
1,3,5-Trimethylbenzene	**124**	ug/kg	60.4	30.2	1	11/04/14 15:13	11/07/14 01:24	108-67-8	
Vinyl chloride	**<9.0**	ug/kg	24.1	9.0	1	11/04/14 15:13	11/07/14 01:24	75-01-4	
Xylene (Total)	**814**	ug/kg	181	23.7	1	11/04/14 15:13	11/07/14 01:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%.	74-125		1	11/04/14 15:13	11/07/14 01:24	17060-07-0	
Toluene-d8 (S)	105	%.	75-125		1	11/04/14 15:13	11/07/14 01:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1	11/04/14 15:13	11/07/14 01:24	460-00-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP4 0-2 **Lab ID: 10286797006** Collected: 10/27/14 10:30 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO Preparation Method: TPH GRO/PVOC WI ext.								
Gasoline Range Organics	**156**	mg/kg	121	60.7	10	11/05/14 09:19	11/06/14 14:31		
Surrogates									
a,a,a-Trifluorotoluene (S)	113	%.	80-125		10	11/05/14 09:19	11/06/14 14:31	98-08-8	CH
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3050								
Arsenic	**3.9**	mg/kg	0.87	0.25	1	10/30/14 12:25	10/31/14 15:16	7440-38-2	
Barium	**109**	mg/kg	0.44	0.048	1	10/30/14 12:25	10/31/14 15:16	7440-39-3	
Cadmium	**1.4**	mg/kg	0.13	0.015	1	10/30/14 12:25	10/31/14 15:16	7440-43-9	
Chromium	**42.4**	mg/kg	0.44	0.057	1	10/30/14 12:25	10/31/14 15:16	7440-47-3	
Lead	**212**	mg/kg	0.87	0.065	1	10/30/14 12:25	10/31/14 15:16	7439-92-1	
Selenium	**3.5**	mg/kg	0.66	0.30	1	10/30/14 12:25	10/31/14 15:16	7782-49-2	
Silver	**24.5**	mg/kg	0.44	0.044	1	10/30/14 12:25	10/31/14 15:16	7440-22-4	
6020A MET ICPMS	Analytical Method: EPA 6020A Preparation Method: EPA 3050								
Arsenic	**5.1**	mg/kg	0.49	0.12	20	11/04/14 11:10	11/05/14 11:42	7440-38-2	
7471 Mercury	Analytical Method: EPA 7471 Preparation Method: EPA 7471								
Mercury	**0.11**	mg/kg	0.021	0.0063	1	10/30/14 17:08	10/31/14 10:49	7439-97-6	
Dry Weight	Analytical Method: ASTM D2974								
Percent Moisture	**11.3**	%	0.10	0.10	1		10/30/14 16:49		
8270 MSSV PAH by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3550								
Acenaphthene	**748**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	83-32-9	
Acenaphthylene	**<282**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	208-96-8	
Anthracene	**1490**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	120-12-7	
Benzo(a)anthracene	**3350**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	56-55-3	
Benzo(a)pyrene	**3530**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	50-32-8	
Benzo(b)fluoranthene	**4400**	ug/kg	564	15.8	5	10/29/14 10:34	11/03/14 16:10	205-99-2	
Benzo(g,h,i)perylene	**2480**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	191-24-2	
Benzo(k)fluoranthene	**2200**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	207-08-9	
Chrysene	**3950**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	218-01-9	
Dibenz(a,h)anthracene	**666**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	53-70-3	
Fluoranthene	**7550**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	206-44-0	
Fluorene	**968**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	86-73-7	
Indeno(1,2,3-cd)pyrene	**2010**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	193-39-5	
Naphthalene	**297J**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	91-20-3	
Phenanthrene	**5620**	ug/kg	564	282	5	10/29/14 10:34	11/03/14 16:10	85-01-8	
Pyrene	**6180**	ug/kg	564	13.0	5	10/29/14 10:34	11/03/14 16:10	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	0	%.	30-150		5	10/29/14 10:34	11/03/14 16:10	321-60-8	D4,P3, S4
Terphenyl-d14 (S)	0	%.	30-150		5	10/29/14 10:34	11/03/14 16:10	1718-51-0	S4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP4 0-2 **Lab ID: 10286797006** Collected: 10/27/14 10:30 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<575**	ug/kg	1150	575	1	11/04/14 15:13	11/05/14 09:16	67-64-1	
Allyl chloride	**<7.5**	ug/kg	230	7.5	1	11/04/14 15:13	11/05/14 09:16	107-05-1	
Benzene	**<11.5**	ug/kg	23.0	11.5	1	11/04/14 15:13	11/05/14 09:16	71-43-2	
Bromobenzene	**<10**	ug/kg	57.5	10	1	11/04/14 15:13	11/05/14 09:16	108-86-1	
Bromochloromethane	**<7.8**	ug/kg	57.5	7.8	1	11/04/14 15:13	11/05/14 09:16	74-97-5	
Bromodichloromethane	**<10.2**	ug/kg	57.5	10.2	1	11/04/14 15:13	11/05/14 09:16	75-27-4	
Bromoform	**<115**	ug/kg	230	115	1	11/04/14 15:13	11/05/14 09:16	75-25-2	
Bromomethane	**<288**	ug/kg	575	288	1	11/04/14 15:13	11/05/14 09:16	74-83-9	
2-Butanone (MEK)	**<144**	ug/kg	288	144	1	11/04/14 15:13	11/05/14 09:16	78-93-3	
n-Butylbenzene	**<7.0**	ug/kg	57.5	7.0	1	11/04/14 15:13	11/05/14 09:16	104-51-8	
sec-Butylbenzene	**<6.8**	ug/kg	57.5	6.8	1	11/04/14 15:13	11/05/14 09:16	135-98-8	
tert-Butylbenzene	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	98-06-6	
Carbon tetrachloride	**<9.3**	ug/kg	57.5	9.3	1	11/04/14 15:13	11/05/14 09:16	56-23-5	
Chlorobenzene	**<8.8**	ug/kg	57.5	8.8	1	11/04/14 15:13	11/05/14 09:16	108-90-7	
Chloroethane	**<14.5**	ug/kg	575	14.5	1	11/04/14 15:13	11/05/14 09:16	75-00-3	CL
Chloroform	**<8.8**	ug/kg	57.5	8.8	1	11/04/14 15:13	11/05/14 09:16	67-66-3	
Chloromethane	**<10.5**	ug/kg	230	10.5	1	11/04/14 15:13	11/05/14 09:16	74-87-3	
2-Chlorotoluene	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	95-49-8	
4-Chlorotoluene	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	106-43-4	
1,2-Dibromo-3-chloropropane	**<30.5**	ug/kg	575	30.5	1	11/04/14 15:13	11/05/14 09:16	96-12-8	
Dibromochloromethane	**<12.4**	ug/kg	57.5	12.4	1	11/04/14 15:13	11/05/14 09:16	124-48-1	
1,2-Dibromoethane (EDB)	**<7.1**	ug/kg	57.5	7.1	1	11/04/14 15:13	11/05/14 09:16	106-93-4	
Dibromomethane	**<16.1**	ug/kg	57.5	16.1	1	11/04/14 15:13	11/05/14 09:16	74-95-3	
1,2-Dichlorobenzene	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	95-50-1	
1,3-Dichlorobenzene	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	541-73-1	
1,4-Dichlorobenzene	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	106-46-7	
Dichlorodifluoromethane	**<26.6**	ug/kg	230	26.6	1	11/04/14 15:13	11/05/14 09:16	75-71-8	
1,1-Dichloroethane	**70.2**	ug/kg	57.5	8.0	1	11/04/14 15:13	11/05/14 09:16	75-34-3	
1,2-Dichloroethane	**<13.6**	ug/kg	57.5	13.6	1	11/04/14 15:13	11/05/14 09:16	107-06-2	
1,1-Dichloroethene	**<11.5**	ug/kg	57.5	11.5	1	11/04/14 15:13	11/05/14 09:16	75-35-4	
cis-1,2-Dichloroethene	**137**	ug/kg	57.5	11.7	1	11/04/14 15:13	11/05/14 09:16	156-59-2	
trans-1,2-Dichloroethene	**40.2J**	ug/kg	57.5	11.4	1	11/04/14 15:13	11/05/14 09:16	156-60-5	
Dichlorofluoromethane	**<288**	ug/kg	575	288	1	11/04/14 15:13	11/05/14 09:16	75-43-4	
1,2-Dichloropropane	**<9.2**	ug/kg	57.5	9.2	1	11/04/14 15:13	11/05/14 09:16	78-87-5	
1,3-Dichloropropane	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	142-28-9	
2,2-Dichloropropane	**<7.7**	ug/kg	230	7.7	1	11/04/14 15:13	11/05/14 09:16	594-20-7	
1,1-Dichloropropene	**<9.4**	ug/kg	57.5	9.4	1	11/04/14 15:13	11/05/14 09:16	563-58-6	
cis-1,3-Dichloropropene	**<7.2**	ug/kg	57.5	7.2	1	11/04/14 15:13	11/05/14 09:16	10061-01-5	
trans-1,3-Dichloropropene	**<8.1**	ug/kg	57.5	8.1	1	11/04/14 15:13	11/05/14 09:16	10061-02-6	
Diethyl ether (Ethyl ether)	**<12.2**	ug/kg	230	12.2	1	11/04/14 15:13	11/05/14 09:16	60-29-7	
Ethylbenzene	**40.7J**	ug/kg	57.5	7.2	1	11/04/14 15:13	11/05/14 09:16	100-41-4	
Hexachloro-1,3-butadiene	**<144**	ug/kg	288	144	1	11/04/14 15:13	11/05/14 09:16	87-68-3	
Isopropylbenzene (Cumene)	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	98-82-8	
p-Isopropyltoluene	**126**	ug/kg	57.5	8.3	1	11/04/14 15:13	11/05/14 09:16	99-87-6	B
Methylene Chloride	**<115**	ug/kg	230	115	1	11/04/14 15:13	11/05/14 09:16	75-09-2	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TP4 0-2 **Lab ID: 10286797006** Collected: 10/27/14 10:30 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
4-Methyl-2-pentanone (MIBK)	**<144**	ug/kg	288	144	1	11/04/14 15:13	11/05/14 09:16	108-10-1	
Methyl-tert-butyl ether	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	1634-04-4	
Naphthalene	**641**	ug/kg	230	115	1	11/04/14 15:13	11/05/14 09:16	91-20-3	
n-Propylbenzene	**<7.0**	ug/kg	57.5	7.0	1	11/04/14 15:13	11/05/14 09:16	103-65-1	
Styrene	**<8.6**	ug/kg	57.5	8.6	1	11/04/14 15:13	11/05/14 09:16	100-42-5	
1,1,1,2-Tetrachloroethane	**<28.8**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	630-20-6	
1,1,2,2-Tetrachloroethane	**<7.9**	ug/kg	57.5	7.9	1	11/04/14 15:13	11/05/14 09:16	79-34-5	
Tetrachloroethene	**331**	ug/kg	57.5	20.8	1	11/04/14 15:13	11/05/14 09:16	127-18-4	
Tetrahydrofuran	**<73.5**	ug/kg	2300	73.5	1	11/04/14 15:13	11/05/14 09:16	109-99-9	
Toluene	**96.2**	ug/kg	57.5	7.8	1	11/04/14 15:13	11/05/14 09:16	108-88-3	
1,2,3-Trichlorobenzene	**<13.7**	ug/kg	57.5	13.7	1	11/04/14 15:13	11/05/14 09:16	87-61-6	
1,2,4-Trichlorobenzene	**<10.5**	ug/kg	57.5	10.5	1	11/04/14 15:13	11/05/14 09:16	120-82-1	
1,1,1-Trichloroethane	**75.7**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	71-55-6	
1,1,2-Trichloroethane	**<9.7**	ug/kg	57.5	9.7	1	11/04/14 15:13	11/05/14 09:16	79-00-5	
Trichloroethene	**421**	ug/kg	57.5	7.2	1	11/04/14 15:13	11/05/14 09:16	79-01-6	
Trichlorofluoromethane	**<10.2**	ug/kg	230	10.2	1	11/04/14 15:13	11/05/14 09:16	75-69-4	CL
1,2,3-Trichloropropane	**<7.6**	ug/kg	230	7.6	1	11/04/14 15:13	11/05/14 09:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<24.0**	ug/kg	230	24.0	1	11/04/14 15:13	11/05/14 09:16	76-13-1	
1,2,4-Trimethylbenzene	**138**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	95-63-6	
1,3,5-Trimethylbenzene	**96.0**	ug/kg	57.5	28.8	1	11/04/14 15:13	11/05/14 09:16	108-67-8	
Vinyl chloride	**<8.5**	ug/kg	23.0	8.5	1	11/04/14 15:13	11/05/14 09:16	75-01-4	
Xylene (Total)	**209**	ug/kg	173	22.6	1	11/04/14 15:13	11/05/14 09:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%.	74-125		1	11/04/14 15:13	11/05/14 09:16	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1	11/04/14 15:13	11/05/14 09:16	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125		1	11/04/14 15:13	11/05/14 09:16	460-00-4	

Sample: TRIP BLANK **Lab ID: 10286797007** Collected: 10/27/14 00:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
Acetone	**<500**	ug/kg	1000	500	1	11/04/14 15:13	11/05/14 04:21	67-64-1	
Allyl chloride	**<6.6**	ug/kg	200	6.6	1	11/04/14 15:13	11/05/14 04:21	107-05-1	
Benzene	**<10.0**	ug/kg	20.0	10.0	1	11/04/14 15:13	11/05/14 04:21	71-43-2	
Bromobenzene	**<8.7**	ug/kg	50.0	8.7	1	11/04/14 15:13	11/05/14 04:21	108-86-1	
Bromochloromethane	**<6.8**	ug/kg	50.0	6.8	1	11/04/14 15:13	11/05/14 04:21	74-97-5	
Bromodichloromethane	**<8.9**	ug/kg	50.0	8.9	1	11/04/14 15:13	11/05/14 04:21	75-27-4	
Bromoform	**<100**	ug/kg	200	100	1	11/04/14 15:13	11/05/14 04:21	75-25-2	
Bromomethane	**<250**	ug/kg	500	250	1	11/04/14 15:13	11/05/14 04:21	74-83-9	
2-Butanone (MEK)	**<125**	ug/kg	250	125	1	11/04/14 15:13	11/05/14 04:21	78-93-3	
n-Butylbenzene	**23.3J**	ug/kg	50.0	6.1	1	11/04/14 15:13	11/05/14 04:21	104-51-8	B
sec-Butylbenzene	**10.1J**	ug/kg	50.0	5.9	1	11/04/14 15:13	11/05/14 04:21	135-98-8	B

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TRIP BLANK **Lab ID: 10286797007** Collected: 10/27/14 00:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
tert-Butylbenzene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	98-06-6	
Carbon tetrachloride	**<8.1**	ug/kg	50.0	8.1	1	11/04/14 15:13	11/05/14 04:21	56-23-5	
Chlorobenzene	**<7.7**	ug/kg	50.0	7.7	1	11/04/14 15:13	11/05/14 04:21	108-90-7	
Chloroethane	**<12.6**	ug/kg	500	12.6	1	11/04/14 15:13	11/05/14 04:21	75-00-3	CL
Chloroform	**<7.6**	ug/kg	50.0	7.6	1	11/04/14 15:13	11/05/14 04:21	67-66-3	
Chloromethane	**<9.1**	ug/kg	200	9.1	1	11/04/14 15:13	11/05/14 04:21	74-87-3	
2-Chlorotoluene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	95-49-8	
4-Chlorotoluene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	106-43-4	
1,2-Dibromo-3-chloropropane	**<26.5**	ug/kg	500	26.5	1	11/04/14 15:13	11/05/14 04:21	96-12-8	
Dibromochloromethane	**<10.8**	ug/kg	50.0	10.8	1	11/04/14 15:13	11/05/14 04:21	124-48-1	
1,2-Dibromoethane (EDB)	**<6.2**	ug/kg	50.0	6.2	1	11/04/14 15:13	11/05/14 04:21	106-93-4	
Dibromomethane	**<14.0**	ug/kg	50.0	14.0	1	11/04/14 15:13	11/05/14 04:21	74-95-3	
1,2-Dichlorobenzene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	95-50-1	
1,3-Dichlorobenzene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	541-73-1	
1,4-Dichlorobenzene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	106-46-7	
Dichlorodifluoromethane	**<23.1**	ug/kg	200	23.1	1	11/04/14 15:13	11/05/14 04:21	75-71-8	
1,1-Dichloroethane	**<7.0**	ug/kg	50.0	7.0	1	11/04/14 15:13	11/05/14 04:21	75-34-3	
1,2-Dichloroethane	**<11.8**	ug/kg	50.0	11.8	1	11/04/14 15:13	11/05/14 04:21	107-06-2	
1,1-Dichloroethene	**<10**	ug/kg	50.0	10	1	11/04/14 15:13	11/05/14 04:21	75-35-4	
cis-1,2-Dichloroethene	**<10.2**	ug/kg	50.0	10.2	1	11/04/14 15:13	11/05/14 04:21	156-59-2	
trans-1,2-Dichloroethene	**<9.9**	ug/kg	50.0	9.9	1	11/04/14 15:13	11/05/14 04:21	156-60-5	
Dichlorofluoromethane	**<250**	ug/kg	500	250	1	11/04/14 15:13	11/05/14 04:21	75-43-4	
1,2-Dichloropropane	**<8.0**	ug/kg	50.0	8.0	1	11/04/14 15:13	11/05/14 04:21	78-87-5	
1,3-Dichloropropane	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	142-28-9	
2,2-Dichloropropane	**<6.7**	ug/kg	200	6.7	1	11/04/14 15:13	11/05/14 04:21	594-20-7	
1,1-Dichloropropene	**<8.2**	ug/kg	50.0	8.2	1	11/04/14 15:13	11/05/14 04:21	563-58-6	
cis-1,3-Dichloropropene	**<6.3**	ug/kg	50.0	6.3	1	11/04/14 15:13	11/05/14 04:21	10061-01-5	
trans-1,3-Dichloropropene	**<7.0**	ug/kg	50.0	7.0	1	11/04/14 15:13	11/05/14 04:21	10061-02-6	
Diethyl ether (Ethyl ether)	**<10.6**	ug/kg	200	10.6	1	11/04/14 15:13	11/05/14 04:21	60-29-7	
Ethylbenzene	**<6.3**	ug/kg	50.0	6.3	1	11/04/14 15:13	11/05/14 04:21	100-41-4	
Hexachloro-1,3-butadiene	**<125**	ug/kg	250	125	1	11/04/14 15:13	11/05/14 04:21	87-68-3	
Isopropylbenzene (Cumene)	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	98-82-8	
p-Isopropyltoluene	**10.8J**	ug/kg	50.0	7.2	1	11/04/14 15:13	11/05/14 04:21	99-87-6	B
Methylene Chloride	**<100**	ug/kg	200	100	1	11/04/14 15:13	11/05/14 04:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<125**	ug/kg	250	125	1	11/04/14 15:13	11/05/14 04:21	108-10-1	
Methyl-tert-butyl ether	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	1634-04-4	
Naphthalene	**<100**	ug/kg	200	100	1	11/04/14 15:13	11/05/14 04:21	91-20-3	
n-Propylbenzene	**<6.1**	ug/kg	50.0	6.1	1	11/04/14 15:13	11/05/14 04:21	103-65-1	
Styrene	**<7.5**	ug/kg	50.0	7.5	1	11/04/14 15:13	11/05/14 04:21	100-42-5	
1,1,1,2-Tetrachloroethane	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	630-20-6	
1,1,2,2-Tetrachloroethane	**<6.9**	ug/kg	50.0	6.9	1	11/04/14 15:13	11/05/14 04:21	79-34-5	
Tetrachloroethene	**<18.0**	ug/kg	50.0	18.0	1	11/04/14 15:13	11/05/14 04:21	127-18-4	
Tetrahydrofuran	**<63.9**	ug/kg	2000	63.9	1	11/04/14 15:13	11/05/14 04:21	109-99-9	
Toluene	**<6.8**	ug/kg	50.0	6.8	1	11/04/14 15:13	11/05/14 04:21	108-88-3	
1,2,3-Trichlorobenzene	**<11.9**	ug/kg	50.0	11.9	1	11/04/14 15:13	11/05/14 04:21	87-61-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Sample: TRIP BLANK **Lab ID: 10286797007** Collected: 10/27/14 00:00 Received: 10/28/14 09:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV 5030 Med Level	Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B								
1,2,4-Trichlorobenzene	**<9.1**	ug/kg	50.0	9.1	1	11/04/14 15:13	11/05/14 04:21	120-82-1	
1,1,1-Trichloroethane	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	71-55-6	
1,1,2-Trichloroethane	**<8.5**	ug/kg	50.0	8.5	1	11/04/14 15:13	11/05/14 04:21	79-00-5	
Trichloroethene	**<6.2**	ug/kg	50.0	6.2	1	11/04/14 15:13	11/05/14 04:21	79-01-6	
Trichlorofluoromethane	**<8.9**	ug/kg	200	8.9	1	11/04/14 15:13	11/05/14 04:21	75-69-4	CL
1,2,3-Trichloropropane	**<6.6**	ug/kg	200	6.6	1	11/04/14 15:13	11/05/14 04:21	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<20.9**	ug/kg	200	20.9	1	11/04/14 15:13	11/05/14 04:21	76-13-1	
1,2,4-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	95-63-6	
1,3,5-Trimethylbenzene	**<25.0**	ug/kg	50.0	25.0	1	11/04/14 15:13	11/05/14 04:21	108-67-8	
Vinyl chloride	**<7.4**	ug/kg	20.0	7.4	1	11/04/14 15:13	11/05/14 04:21	75-01-4	
Xylene (Total)	**<19.6**	ug/kg	150	19.6	1	11/04/14 15:13	11/05/14 04:21	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%.	74-125		1	11/04/14 15:13	11/05/14 04:21	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1	11/04/14 15:13	11/05/14 04:21	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1	11/04/14 15:13	11/05/14 04:21	460-00-4	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: GCV/12886 Analysis Method: WI MOD GRO
QC Batch Method: TPH GRO/PVOC WI ext. Analysis Description: WIGRO Solid GCV
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006

METHOD BLANK: 1836328 Matrix: Solid
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Gasoline Range Organics	mg/kg	<5.0	10.0	11/06/14 14:12	
a,a,a-Trifluorotoluene (S)	%.	117	80-125	11/06/14 14:12	CH

LABORATORY CONTROL SAMPLE & LCSD: 1836329 1836330

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Gasoline Range Organics	mg/kg	50	41.6	44.2	83	88	80-120	6	20	
a,a,a-Trifluorotoluene (S)	%.				115	113	80-125			CH

MATRIX SPIKE SAMPLE: 1836331

Parameter	Units	10287056006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Gasoline Range Organics	mg/kg	ND	50.9	54.4	105	80-120	
a,a,a-Trifluorotoluene (S)	%.				116	80-125	CH

SAMPLE DUPLICATE: 1836332

Parameter	Units	10287056007 Result	Dup Result	RPD	Max RPD	Qualifiers
Gasoline Range Organics	mg/kg	ND	<5.3		20	
a,a,a-Trifluorotoluene (S)	%.	117	115	1		CH

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MERP/12172 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 10286797001, 10286797002

METHOD BLANK: 1846979 Matrix: Water
Associated Lab Samples: 10286797001, 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.078	0.60	11/19/14 10:17	

METHOD BLANK: 1845743 Matrix: Water
Associated Lab Samples: 10286797001, 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.078	0.60	11/19/14 10:32	

LABORATORY CONTROL SAMPLE: 1846980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	15	16.0	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1846981 1846982

Parameter	Units	10286797001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.078	15	15	15.9	15.7	106	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MERP/12008 Analysis Method: EPA 7471
QC Batch Method: EPA 7471 Analysis Description: 7471 Mercury
Associated Lab Samples: 10286797001, 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

METHOD BLANK: 1830021 Matrix: Solid
Associated Lab Samples: 10286797001, 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.0060	0.020	10/31/14 10:26	

LABORATORY CONTROL SAMPLE: 1830022

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.45	0.44	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1830023 1830024

Parameter	Units	10286797001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.11	.53	.53	0.59	0.57	89	85	75-125	4	20	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MPRP/50209 Analysis Method: EPA 6010
QC Batch Method: EPA 3050 Analysis Description: 6010 MET
Associated Lab Samples: 10286797001, 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

METHOD BLANK: 1830027 Matrix: Solid
Associated Lab Samples: 10286797001, 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.26	0.91	10/31/14 13:41	
Barium	mg/kg	<0.050	0.45	10/31/14 13:41	
Cadmium	mg/kg	<0.015	0.14	10/31/14 13:41	
Chromium	mg/kg	<0.059	0.45	10/31/14 13:41	
Lead	mg/kg	<0.067	0.91	10/31/14 13:41	
Selenium	mg/kg	<0.31	0.68	10/31/14 13:41	
Silver	mg/kg	0.052J	0.45	10/31/14 13:41	

LABORATORY CONTROL SAMPLE: 1830028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	47.2	42.2	90	80-120	
Barium	mg/kg	47.2	44.4	94	80-120	
Cadmium	mg/kg	47.2	42.8	91	80-120	
Chromium	mg/kg	47.2	44.0	93	80-120	
Lead	mg/kg	47.2	42.8	91	80-120	
Selenium	mg/kg	47.2	39.4	84	80-120	
Silver	mg/kg	23.6	23.0	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1830029 1830030

Parameter	Units	10286797001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	7.9	52.2	47.5	53.4	52.5	87	94	75-125	2	30	
Barium	mg/kg	83.6	52.2	47.5	116	120	62	78	75-125	4	30	M1
Cadmium	mg/kg	0.61	52.2	47.5	46.2	44.8	87	93	75-125	3	30	
Chromium	mg/kg	14.9	52.2	47.5	60.4	60.9	87	97	75-125	1	30	
Lead	mg/kg	203	52.2	47.5	228	235	48	67	75-125	3	30	M1
Selenium	mg/kg	2.0	52.2	47.5	45.2	44.3	83	89	75-125	2	30	
Silver	mg/kg	1.7	26.1	23.7	27.3	25.8	98	102	75-125	6	30	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MPRP/50561 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET TCLP
Associated Lab Samples: 10286797001, 10286797002

METHOD BLANK: 1842214 Matrix: Water
Associated Lab Samples: 10286797001, 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<15.8	100	11/14/14 11:24	
Barium	ug/L	<250	500	11/14/14 11:24	
Cadmium	ug/L	<1.2	15.0	11/14/14 11:24	
Chromium	ug/L	<25.0	50.0	11/14/14 11:24	
Lead	mg/L	<0.0089	0.050	11/14/14 11:24	
Selenium	ug/L	<33.2	100	11/14/14 11:24	
Silver	ug/L	4.9J	50.0	11/14/14 11:24	

METHOD BLANK: 1840902 Matrix: Water
Associated Lab Samples: 10286797001, 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<15.8	100	11/14/14 11:36	
Barium	ug/L	<250	500	11/14/14 11:36	
Cadmium	ug/L	<1.2	15.0	11/14/14 11:36	
Chromium	ug/L	<25.0	50.0	11/14/14 11:36	
Lead	mg/L	<0.0089	0.050	11/14/14 11:36	
Selenium	ug/L	<33.2	100	11/14/14 11:36	
Silver	ug/L	<3.2	50.0	11/14/14 11:36	

METHOD BLANK: 1840903 Matrix: Water
Associated Lab Samples: 10286797001, 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	<15.8	100	11/14/14 11:43	
Barium	ug/L	<250	500	11/14/14 11:43	
Cadmium	ug/L	<1.2	15.0	11/14/14 11:43	
Chromium	ug/L	<25.0	50.0	11/14/14 11:43	
Lead	mg/L	<0.0089	0.050	11/14/14 11:43	
Selenium	ug/L	<33.2	100	11/14/14 11:43	
Silver	ug/L	7.1J	50.0	11/14/14 11:43	

LABORATORY CONTROL SAMPLE: 1842215

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	5000	5160	103	80-120	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1842215

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	5000	5000	100	80-120	
Cadmium	ug/L	5000	4980	100	80-120	
Chromium	ug/L	5000	4910	98	80-120	
Lead	mg/L	5	4.9	99	80-120	
Selenium	ug/L	5000	5190	104	80-120	
Silver	ug/L	2500	2400	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1842216 1842217

Parameter	Units	10287326001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	ND	5000	5000	5300	5200	106	104	75-125	2	30	
Barium	ug/L	ND	5000	5000	5260	5160	102	100	75-125	2	30	
Cadmium	ug/L	ND	5000	5000	5070	4970	101	99	75-125	2	30	
Chromium	ug/L	ND	5000	5000	5010	4910	100	98	75-125	2	30	
Lead	mg/L	ND	5	5	5.0	4.9	100	97	75-125	3	30	
Selenium	ug/L	ND	5000	5000	5360	5180	107	104	75-125	3	30	
Silver	ug/L	ND	2500	2500	2450	2390	98	95	75-125	2	30	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MPRP/50368 Analysis Method: EPA 6020A
QC Batch Method: EPA 3050 Analysis Description: 6020A Solids UPD4
Associated Lab Samples: 10286797001, 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

METHOD BLANK: 1834955 Matrix: Solid
Associated Lab Samples: 10286797001, 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.093	0.39	11/05/14 10:57	

LABORATORY CONTROL SAMPLE: 1834956

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	16.7	14.9	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1834957 1834958

Parameter	Units	10286797001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	7.3	19.8	15.9	25.5	25.1	92	112	75-125	1	20	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MPRP/50257
QC Batch Method: ASTM D2974
Associated Lab Samples: 10286797001

Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture

SAMPLE DUPLICATE: 1831574

Parameter	Units	10286792005 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.5	12.2	2	30	

SAMPLE DUPLICATE: 1831575

Parameter	Units	10286795012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	9.9	12.7	25	30	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MPRP/50258 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 10286797002, 10286797003, 10286797004, 10286797005, 10286797006

SAMPLE DUPLICATE: 1831691

Parameter	Units	10286792004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.3	12.1	2	30	

SAMPLE DUPLICATE: 1831692

Parameter	Units	10286797004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.0	12.0	0	30	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MSV/29130
QC Batch Method: EPA 5035/5030B
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5030 Med Level
Associated Lab Samples: 10286797001

METHOD BLANK: 1830597
Matrix: Solid
Associated Lab Samples: 10286797001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<25.0	50.0	10/31/14 02:11	
1,1,1-Trichloroethane	ug/kg	<25.0	50.0	10/31/14 02:11	
1,1,2,2-Tetrachloroethane	ug/kg	<6.9	50.0	10/31/14 02:11	
1,1,2-Trichloroethane	ug/kg	<8.5	50.0	10/31/14 02:11	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.9	200	10/31/14 02:11	
1,1-Dichloroethane	ug/kg	<7.0	50.0	10/31/14 02:11	
1,1-Dichloroethene	ug/kg	<10	50.0	10/31/14 02:11	
1,1-Dichloropropene	ug/kg	<8.2	50.0	10/31/14 02:11	
1,2,3-Trichlorobenzene	ug/kg	<11.9	50.0	10/31/14 02:11	
1,2,3-Trichloropropane	ug/kg	<6.6	200	10/31/14 02:11	
1,2,4-Trichlorobenzene	ug/kg	29.5J	50.0	10/31/14 02:11	
1,2,4-Trimethylbenzene	ug/kg	<25.0	50.0	10/31/14 02:11	
1,2-Dibromo-3-chloropropane	ug/kg	<26.5	500	10/31/14 02:11	
1,2-Dibromoethane (EDB)	ug/kg	<6.2	50.0	10/31/14 02:11	
1,2-Dichlorobenzene	ug/kg	<25.0	50.0	10/31/14 02:11	
1,2-Dichloroethane	ug/kg	<11.8	50.0	10/31/14 02:11	
1,2-Dichloropropane	ug/kg	<8.0	50.0	10/31/14 02:11	
1,3,5-Trimethylbenzene	ug/kg	<25.0	50.0	10/31/14 02:11	
1,3-Dichlorobenzene	ug/kg	<25.0	50.0	10/31/14 02:11	
1,3-Dichloropropane	ug/kg	<25.0	50.0	10/31/14 02:11	
1,4-Dichlorobenzene	ug/kg	<25.0	50.0	10/31/14 02:11	
2,2-Dichloropropane	ug/kg	<6.7	200	10/31/14 02:11	
2-Butanone (MEK)	ug/kg	<125	250	10/31/14 02:11	
2-Chlorotoluene	ug/kg	<25.0	50.0	10/31/14 02:11	
4-Chlorotoluene	ug/kg	<25.0	50.0	10/31/14 02:11	
4-Methyl-2-pentanone (MIBK)	ug/kg	<125	250	10/31/14 02:11	
Acetone	ug/kg	<500	1000	10/31/14 02:11	
Allyl chloride	ug/kg	<6.6	200	10/31/14 02:11	
Benzene	ug/kg	<10.0	20.0	10/31/14 02:11	
Bromobenzene	ug/kg	<8.7	50.0	10/31/14 02:11	
Bromochloromethane	ug/kg	<6.8	50.0	10/31/14 02:11	
Bromodichloromethane	ug/kg	<8.9	50.0	10/31/14 02:11	
Bromoform	ug/kg	<100	200	10/31/14 02:11	
Bromomethane	ug/kg	<250	500	10/31/14 02:11	
Carbon tetrachloride	ug/kg	<8.1	50.0	10/31/14 02:11	
Chlorobenzene	ug/kg	<7.7	50.0	10/31/14 02:11	
Chloroethane	ug/kg	<12.6	500	10/31/14 02:11	
Chloroform	ug/kg	<7.6	50.0	10/31/14 02:11	
Chloromethane	ug/kg	<9.1	200	10/31/14 02:11	
cis-1,2-Dichloroethene	ug/kg	<10.2	50.0	10/31/14 02:11	
cis-1,3-Dichloropropene	ug/kg	<6.3	50.0	10/31/14 02:11	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

METHOD BLANK: 1830597 Matrix: Solid
Associated Lab Samples: 10286797001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/kg	<10.8	50.0	10/31/14 02:11	
Dibromomethane	ug/kg	<14.0	50.0	10/31/14 02:11	
Dichlorodifluoromethane	ug/kg	<23.1	200	10/31/14 02:11	
Dichlorofluoromethane	ug/kg	<250	500	10/31/14 02:11	
Diethyl ether (Ethyl ether)	ug/kg	<10.6	200	10/31/14 02:11	
Ethylbenzene	ug/kg	<6.3	50.0	10/31/14 02:11	
Hexachloro-1,3-butadiene	ug/kg	<125	250	10/31/14 02:11	
Isopropylbenzene (Cumene)	ug/kg	<25.0	50.0	10/31/14 02:11	
Methyl-tert-butyl ether	ug/kg	<25.0	50.0	10/31/14 02:11	
Methylene Chloride	ug/kg	<100	200	10/31/14 02:11	
n-Butylbenzene	ug/kg	31.6J	50.0	10/31/14 02:11	
n-Propylbenzene	ug/kg	<6.1	50.0	10/31/14 02:11	
Naphthalene	ug/kg	<100	200	10/31/14 02:11	
p-Isopropyltoluene	ug/kg	14.2J	50.0	10/31/14 02:11	
sec-Butylbenzene	ug/kg	17.2J	50.0	10/31/14 02:11	
Styrene	ug/kg	<7.5	50.0	10/31/14 02:11	
tert-Butylbenzene	ug/kg	<25.0	50.0	10/31/14 02:11	
Tetrachloroethene	ug/kg	<18.0	50.0	10/31/14 02:11	
Tetrahydrofuran	ug/kg	<63.9	2000	10/31/14 02:11	
Toluene	ug/kg	<6.8	50.0	10/31/14 02:11	
trans-1,2-Dichloroethene	ug/kg	<9.9	50.0	10/31/14 02:11	
trans-1,3-Dichloropropene	ug/kg	<7.0	50.0	10/31/14 02:11	
Trichloroethene	ug/kg	<6.2	50.0	10/31/14 02:11	
Trichlorofluoromethane	ug/kg	<8.9	200	10/31/14 02:11	
Vinyl chloride	ug/kg	<7.4	20.0	10/31/14 02:11	
Xylene (Total)	ug/kg	<19.6	150	10/31/14 02:11	
1,2-Dichloroethane-d4 (S)	%.	101	74-125	10/31/14 02:11	
4-Bromofluorobenzene (S)	%.	104	75-125	10/31/14 02:11	
Toluene-d8 (S)	%.	104	75-125	10/31/14 02:11	

LABORATORY CONTROL SAMPLE: 1830598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	1210	121	68-125	
1,1,1-Trichloroethane	ug/kg	1000	1070	107	62-125	
1,1,2,2-Tetrachloroethane	ug/kg	1000	1010	101	61-127	
1,1,2-Trichloroethane	ug/kg	1000	1110	111	70-125	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	1060	106	56-149	
1,1-Dichloroethane	ug/kg	1000	1080	108	60-127	
1,1-Dichloroethene	ug/kg	1000	1020	102	63-125	
1,1-Dichloropropene	ug/kg	1000	1080	108	67-125	
1,2,3-Trichlorobenzene	ug/kg	1000	1080	108	63-132	
1,2,3-Trichloropropane	ug/kg	1000	1070	107	67-125	
1,2,4-Trichlorobenzene	ug/kg	1000	936	94	64-132	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1830598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	1070	107	64-125	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2460	98	56-132	
1,2-Dibromoethane (EDB)	ug/kg	1000	1080	108	72-125	
1,2-Dichlorobenzene	ug/kg	1000	1060	106	68-125	
1,2-Dichloroethane	ug/kg	1000	1030	103	69-125	
1,2-Dichloropropane	ug/kg	1000	1030	103	73-125	
1,3,5-Trimethylbenzene	ug/kg	1000	1090	109	64-125	
1,3-Dichlorobenzene	ug/kg	1000	1070	107	67-125	
1,3-Dichloropropane	ug/kg	1000	1130	113	71-125	
1,4-Dichlorobenzene	ug/kg	1000	1050	105	69-125	
2,2-Dichloropropane	ug/kg	1000	1150	115	53-131	
2-Butanone (MEK)	ug/kg	5000	4580	92	52-131	
2-Chlorotoluene	ug/kg	1000	1130	113	66-125	
4-Chlorotoluene	ug/kg	1000	1130	113	52-131	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5400	108	64-125	
Acetone	ug/kg	5000	4470	89	42-150	
Allyl chloride	ug/kg	1000	1070	107	58-128	
Benzene	ug/kg	1000	1110	111	71-125	
Bromobenzene	ug/kg	1000	1040	104	69-125	
Bromochloromethane	ug/kg	1000	1030	103	75-125	
Bromodichloromethane	ug/kg	1000	1070	107	69-125	
Bromoform	ug/kg	1000	1210	121	62-125	
Bromomethane	ug/kg	1000	1130	113	62-125	
Carbon tetrachloride	ug/kg	1000	1190	119	66-125	
Chlorobenzene	ug/kg	1000	1100	110	75-125	
Chloroethane	ug/kg	1000	1010	101	61-125	
Chloroform	ug/kg	1000	1040	104	72-125	
Chloromethane	ug/kg	1000	1020	102	59-125	
cis-1,2-Dichloroethene	ug/kg	1000	1100	110	74-125	
cis-1,3-Dichloropropene	ug/kg	1000	1100	110	68-125	
Dibromochloromethane	ug/kg	1000	1190	119	65-125	
Dibromomethane	ug/kg	1000	1030	103	72-125	
Dichlorodifluoromethane	ug/kg	1000	856	86	39-125	
Dichlorofluoromethane	ug/kg	1000	977	98	64-127	
Diethyl ether (Ethyl ether)	ug/kg	1000	1050	105	66-125	
Ethylbenzene	ug/kg	1000	1090	109	69-125	
Hexachloro-1,3-butadiene	ug/kg	1000	1010	101	53-150	
Isopropylbenzene (Cumene)	ug/kg	1000	1120	112	70-125	
Methyl-tert-butyl ether	ug/kg	1000	1070	107	69-125	
Methylene Chloride	ug/kg	1000	1050	105	71-125	
n-Butylbenzene	ug/kg	1000	1160	116	59-133	
n-Propylbenzene	ug/kg	1000	1090	109	64-125	
Naphthalene	ug/kg	1000	948	95	61-131	
p-Isopropyltoluene	ug/kg	1000	1100	110	63-127	
sec-Butylbenzene	ug/kg	1000	1100	110	64-125	
Styrene	ug/kg	1000	1080	108	74-125	
tert-Butylbenzene	ug/kg	1000	1070	107	66-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1830598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	1000	1060	106	68-125	
Tetrahydrofuran	ug/kg	10000	9350	94	68-125	
Toluene	ug/kg	1000	1090	109	70-125	
trans-1,2-Dichloroethene	ug/kg	1000	1080	108	68-125	
trans-1,3-Dichloropropene	ug/kg	1000	1080	108	70-125	
Trichloroethene	ug/kg	1000	1010	101	71-125	
Trichlorofluoromethane	ug/kg	1000	934	93	62-132	
Vinyl chloride	ug/kg	1000	1060	106	55-125	
Xylene (Total)	ug/kg	3000	3170	106	74-125	
1,2-Dichloroethane-d4 (S)	%.			103	74-125	
4-Bromofluorobenzene (S)	%.			102	75-125	
Toluene-d8 (S)	%.			103	75-125	

MATRIX SPIKE SAMPLE: 1830599

Parameter	Units	10286119001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	1270	1210	96	63-140	
1,1,1-Trichloroethane	ug/kg	ND	1270	1080	85	54-149	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1270	2540	201	46-150	M1
1,1,2-Trichloroethane	ug/kg	ND	1270	3130	247	62-141	M1
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1270	910	72	65-150	
1,1-Dichloroethane	ug/kg	ND	1270	1060	84	57-145	
1,1-Dichloroethene	ug/kg	ND	1270	953	75	58-137	
1,1-Dichloropropene	ug/kg	ND	1270	1080	85	61-141	
1,2,3-Trichlorobenzene	ug/kg	ND	1270	1690	133	62-147	
1,2,3-Trichloropropane	ug/kg	ND	1270	1620	128	65-141	
1,2,4-Trichlorobenzene	ug/kg	ND	1270	1370	108	64-147	
1,2,4-Trimethylbenzene	ug/kg	548	1270	1260	56	59-144	M1
1,2-Dibromo-3-chloropropane	ug/kg	ND	3170	2940	93	56-147	
1,2-Dibromoethane (EDB)	ug/kg	ND	1270	1130	89	66-135	
1,2-Dichlorobenzene	ug/kg	ND	1270	1210	95	63-143	
1,2-Dichloroethane	ug/kg	ND	1270	1030	81	57-145	
1,2-Dichloropropane	ug/kg	ND	1270	982	77	62-139	
1,3,5-Trimethylbenzene	ug/kg	529	1270	1280	59	60-144	M1
1,3-Dichlorobenzene	ug/kg	ND	1270	1200	95	61-146	
1,3-Dichloropropane	ug/kg	ND	1270	1100	86	63-138	
1,4-Dichlorobenzene	ug/kg	ND	1270	1150	90	60-145	
2,2-Dichloropropane	ug/kg	ND	1270	1070	84	54-143	
2-Butanone (MEK)	ug/kg	ND	6340	28900	456	45-150	M1
2-Chlorotoluene	ug/kg	ND	1270	1260	99	62-140	
4-Chlorotoluene	ug/kg	ND	1270	1270	100	60-143	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	6340	36100	569	58-146	M1
Acetone	ug/kg	ND	6340	4610	73	30-150	
Allyl chloride	ug/kg	ND	1270	958	75	55-142	
Benzene	ug/kg	ND	1270	1130	88	61-134	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

MATRIX SPIKE SAMPLE: 1830599

Parameter	Units	10286119001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromobenzene	ug/kg	ND	1270	1130	89	64-143	
Bromochloromethane	ug/kg	ND	1270	982	77	62-141	
Bromodichloromethane	ug/kg	ND	1270	1090	86	57-146	
Bromoform	ug/kg	ND	1270	1240	98	60-136	
Bromomethane	ug/kg	ND	1270	1250	99	54-141	
Carbon tetrachloride	ug/kg	ND	1270	1140	89	50-150	
Chlorobenzene	ug/kg	ND	1270	1200	95	67-135	
Chloroethane	ug/kg	ND	1270	915	72	46-150	
Chloroform	ug/kg	ND	1270	1050	80	60-141	
Chloromethane	ug/kg	ND	1270	957	75	46-133	
cis-1,2-Dichloroethene	ug/kg	ND	1270	1060	83	64-138	
cis-1,3-Dichloropropene	ug/kg	ND	1270	1060	83	64-138	
Dibromochloromethane	ug/kg	ND	1270	1150	91	56-145	
Dibromomethane	ug/kg	ND	1270	1010	79	62-138	
Dichlorodifluoromethane	ug/kg	ND	1270	539	42	30-136	
Dichlorofluoromethane	ug/kg	ND	1270	989	78	47-150	
Diethyl ether (Ethyl ether)	ug/kg	ND	1270	1030	81	59-137	
Ethylbenzene	ug/kg	ND	1270	1120	83	63-135	
Hexachloro-1,3-butadiene	ug/kg	ND	1270	1770	138	65-150	
Isopropylbenzene (Cumene)	ug/kg	182	1270	1210	81	65-137	
Methyl-tert-butyl ether	ug/kg	ND	1270	1050	83	56-143	
Methylene Chloride	ug/kg	ND	1270	1010	80	62-133	
n-Butylbenzene	ug/kg	471	1270	3150	211	58-148	M1
n-Propylbenzene	ug/kg	478	1270	1370	70	60-142	
Naphthalene	ug/kg	ND	1270	1470	96	61-146	
p-Isopropyltoluene	ug/kg	ND	1270	1360	104	61-145	
sec-Butylbenzene	ug/kg	173	1270	1840	132	57-147	
Styrene	ug/kg	ND	1270	1070	85	67-137	
tert-Butylbenzene	ug/kg	ND	1270	1300	103	57-149	
Tetrachloroethene	ug/kg	ND	1270	1060	84	66-138	
Tetrahydrofuran	ug/kg	ND	12700	9660	76	53-145	
Toluene	ug/kg	ND	1270	1070	81	67-132	
trans-1,2-Dichloroethene	ug/kg	ND	1270	1040	82	61-136	
trans-1,3-Dichloropropene	ug/kg	ND	1270	984	78	60-140	
Trichloroethene	ug/kg	ND	1270	945	74	58-150	
Trichlorofluoromethane	ug/kg	ND	1270	900	71	53-150	
Vinyl chloride	ug/kg	ND	1270	965	76	45-139	
Xylene (Total)	ug/kg	ND	3800	3190	84	66-136	
1,2-Dichloroethane-d4 (S)	%.				101	74-125	
4-Bromofluorobenzene (S)	%.				127	75-125	S5
Toluene-d8 (S)	%.				107	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

SAMPLE DUPLICATE: 1830600

Parameter	Units	10286119003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	<123		30	
1,1,1-Trichloroethane	ug/kg	ND	<123		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	<33.7		30	
1,1,2-Trichloroethane	ug/kg	ND	<41.5		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	<103		30	
1,1-Dichloroethane	ug/kg	ND	<34.3		30	
1,1-Dichloroethene	ug/kg	ND	<49.0		30	
1,1-Dichloropropene	ug/kg	ND	<40.1		30	
1,2,3-Trichlorobenzene	ug/kg	ND	<58.4		30	
1,2,3-Trichloropropane	ug/kg	ND	<32.6		30	
1,2,4-Trichlorobenzene	ug/kg	ND	<44.6		30	
1,2,4-Trimethylbenzene	ug/kg	961	462	70	30	D6
1,2-Dibromo-3-chloropropane	ug/kg	ND	<130		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	<30.2		30	
1,2-Dichlorobenzene	ug/kg	ND	<123		30	
1,2-Dichloroethane	ug/kg	ND	<57.9		30	
1,2-Dichloropropane	ug/kg	ND	<39.4		30	
1,3,5-Trimethylbenzene	ug/kg	763	345	76	30	D6
1,3-Dichlorobenzene	ug/kg	ND	<123		30	
1,3-Dichloropropane	ug/kg	ND	<123		30	
1,4-Dichlorobenzene	ug/kg	ND	<123		30	
2,2-Dichloropropane	ug/kg	ND	<32.8		30	
2-Butanone (MEK)	ug/kg	ND	<613		30	
2-Chlorotoluene	ug/kg	ND	<123		30	
4-Chlorotoluene	ug/kg	ND	<123		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	<613		30	
Acetone	ug/kg	ND	<2450		30	
Allyl chloride	ug/kg	ND	<32.2		30	
Benzene	ug/kg	ND	<49.1		30	
Bromobenzene	ug/kg	ND	<42.5		30	
Bromochloromethane	ug/kg	ND	<33.4		30	
Bromodichloromethane	ug/kg	ND	<43.7		30	
Bromoform	ug/kg	ND	<491		30	
Bromomethane	ug/kg	ND	<1230		30	
Carbon tetrachloride	ug/kg	ND	<39.6		30	
Chlorobenzene	ug/kg	ND	<37.7		30	
Chloroethane	ug/kg	ND	<61.8		30	
Chloroform	ug/kg	ND	<37.4		30	
Chloromethane	ug/kg	ND	<44.7		30	
cis-1,2-Dichloroethene	ug/kg	ND	<50.0		30	
cis-1,3-Dichloropropene	ug/kg	ND	<30.8		30	
Dibromochloromethane	ug/kg	ND	<53.0		30	
Dibromomethane	ug/kg	ND	<68.7		30	
Dichlorodifluoromethane	ug/kg	ND	<113		30	
Dichlorofluoromethane	ug/kg	ND	<1230		30	
Diethyl ether (Ethyl ether)	ug/kg	ND	<52.0		30	
Ethylbenzene	ug/kg	ND	<30.8		30	

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

SAMPLE DUPLICATE: 1830600

Parameter	Units	10286119003 Result	Dup Result	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	ND	<613		30	
Isopropylbenzene (Cumene)	ug/kg	594	476	22	30	
Methyl-tert-butyl ether	ug/kg	ND	<123		30	
Methylene Chloride	ug/kg	ND	<491		30	
n-Butylbenzene	ug/kg	9370	8130	14	30	
n-Propylbenzene	ug/kg	4440	3730	18	30	
Naphthalene	ug/kg	ND	<491		30	
p-Isopropyltoluene	ug/kg	405	427	5	30	
sec-Butylbenzene	ug/kg	3880	3280	17	30	
Styrene	ug/kg	ND	<36.7		30	
tert-Butylbenzene	ug/kg	ND	<123		30	
Tetrachloroethene	ug/kg	ND	<88.6		30	
Tetrahydrofuran	ug/kg	ND	<314		30	
Toluene	ug/kg	ND	40.1J		30	
trans-1,2-Dichloroethene	ug/kg	ND	<48.7		30	
trans-1,3-Dichloropropene	ug/kg	ND	<34.5		30	
Trichloroethene	ug/kg	ND	<30.5		30	
Trichlorofluoromethane	ug/kg	ND	<43.7		30	
Vinyl chloride	ug/kg	ND	<36.4		30	
Xylene (Total)	ug/kg	ND	<96.4		30	
1,2-Dichloroethane-d4 (S)	%.	98	99	15		
4-Bromofluorobenzene (S)	%.	120	121	15		
Toluene-d8 (S)	%.	101	100	17		

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MSV/29185 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV 5030 Med Level
Associated Lab Samples: 10286797002

METHOD BLANK: 1833881 Matrix: Solid
Associated Lab Samples: 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<25.0	50.0	11/04/14 15:57	
1,1,1-Trichloroethane	ug/kg	<25.0	50.0	11/04/14 15:57	
1,1,2,2-Tetrachloroethane	ug/kg	<6.9	50.0	11/04/14 15:57	
1,1,2-Trichloroethane	ug/kg	<8.5	50.0	11/04/14 15:57	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.9	200	11/04/14 15:57	
1,1-Dichloroethane	ug/kg	<7.0	50.0	11/04/14 15:57	
1,1-Dichloroethene	ug/kg	<10	50.0	11/04/14 15:57	
1,1-Dichloropropene	ug/kg	<8.2	50.0	11/04/14 15:57	
1,2,3-Trichlorobenzene	ug/kg	18.7J	50.0	11/04/14 15:57	
1,2,3-Trichloropropane	ug/kg	<6.6	200	11/04/14 15:57	
1,2,4-Trichlorobenzene	ug/kg	47.9J	50.0	11/04/14 15:57	
1,2,4-Trimethylbenzene	ug/kg	<25.0	50.0	11/04/14 15:57	
1,2-Dibromo-3-chloropropane	ug/kg	<26.5	500	11/04/14 15:57	
1,2-Dibromoethane (EDB)	ug/kg	<6.2	50.0	11/04/14 15:57	
1,2-Dichlorobenzene	ug/kg	<25.0	50.0	11/04/14 15:57	
1,2-Dichloroethane	ug/kg	<11.8	50.0	11/04/14 15:57	
1,2-Dichloropropane	ug/kg	<8.0	50.0	11/04/14 15:57	
1,3,5-Trimethylbenzene	ug/kg	<25.0	50.0	11/04/14 15:57	
1,3-Dichlorobenzene	ug/kg	<25.0	50.0	11/04/14 15:57	
1,3-Dichloropropane	ug/kg	<25.0	50.0	11/04/14 15:57	
1,4-Dichlorobenzene	ug/kg	<25.0	50.0	11/04/14 15:57	
2,2-Dichloropropane	ug/kg	<6.7	200	11/04/14 15:57	
2-Butanone (MEK)	ug/kg	<125	250	11/04/14 15:57	
2-Chlorotoluene	ug/kg	<25.0	50.0	11/04/14 15:57	
4-Chlorotoluene	ug/kg	<25.0	50.0	11/04/14 15:57	
4-Methyl-2-pentanone (MIBK)	ug/kg	<125	250	11/04/14 15:57	
Acetone	ug/kg	<500	1000	11/04/14 15:57	
Allyl chloride	ug/kg	<6.6	200	11/04/14 15:57	
Benzene	ug/kg	<10.0	20.0	11/04/14 15:57	
Bromobenzene	ug/kg	<8.7	50.0	11/04/14 15:57	
Bromochloromethane	ug/kg	<6.8	50.0	11/04/14 15:57	
Bromodichloromethane	ug/kg	<8.9	50.0	11/04/14 15:57	
Bromoform	ug/kg	<100	200	11/04/14 15:57	
Bromomethane	ug/kg	<250	500	11/04/14 15:57	
Carbon tetrachloride	ug/kg	<8.1	50.0	11/04/14 15:57	
Chlorobenzene	ug/kg	<7.7	50.0	11/04/14 15:57	
Chloroethane	ug/kg	<12.6	500	11/04/14 15:57	CL
Chloroform	ug/kg	<7.6	50.0	11/04/14 15:57	
Chloromethane	ug/kg	<9.1	200	11/04/14 15:57	
cis-1,2-Dichloroethene	ug/kg	<10.2	50.0	11/04/14 15:57	
cis-1,3-Dichloropropene	ug/kg	<6.3	50.0	11/04/14 15:57	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

METHOD BLANK: 1833881 Matrix: Solid
Associated Lab Samples: 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/kg	<10.8	50.0	11/04/14 15:57	
Dibromomethane	ug/kg	<14.0	50.0	11/04/14 15:57	
Dichlorodifluoromethane	ug/kg	<23.1	200	11/04/14 15:57	
Dichlorofluoromethane	ug/kg	<250	500	11/04/14 15:57	
Diethyl ether (Ethyl ether)	ug/kg	<10.6	200	11/04/14 15:57	
Ethylbenzene	ug/kg	<6.3	50.0	11/04/14 15:57	
Hexachloro-1,3-butadiene	ug/kg	<125	250	11/04/14 15:57	
Isopropylbenzene (Cumene)	ug/kg	<25.0	50.0	11/04/14 15:57	
Methyl-tert-butyl ether	ug/kg	<25.0	50.0	11/04/14 15:57	
Methylene Chloride	ug/kg	<100	200	11/04/14 15:57	
n-Butylbenzene	ug/kg	35.7J	50.0	11/04/14 15:57	
n-Propylbenzene	ug/kg	<6.1	50.0	11/04/14 15:57	
Naphthalene	ug/kg	<100	200	11/04/14 15:57	
p-Isopropyltoluene	ug/kg	25.5J	50.0	11/04/14 15:57	
sec-Butylbenzene	ug/kg	21.4J	50.0	11/04/14 15:57	
Styrene	ug/kg	<7.5	50.0	11/04/14 15:57	
tert-Butylbenzene	ug/kg	<25.0	50.0	11/04/14 15:57	
Tetrachloroethene	ug/kg	<18.0	50.0	11/04/14 15:57	
Tetrahydrofuran	ug/kg	<63.9	2000	11/04/14 15:57	
Toluene	ug/kg	<6.8	50.0	11/04/14 15:57	
trans-1,2-Dichloroethene	ug/kg	<9.9	50.0	11/04/14 15:57	
trans-1,3-Dichloropropene	ug/kg	<7.0	50.0	11/04/14 15:57	
Trichloroethene	ug/kg	<6.2	50.0	11/04/14 15:57	
Trichlorofluoromethane	ug/kg	<8.9	200	11/04/14 15:57	CL
Vinyl chloride	ug/kg	<7.4	20.0	11/04/14 15:57	
Xylene (Total)	ug/kg	<19.6	150	11/04/14 15:57	
1,2-Dichloroethane-d4 (S)	%.	97	74-125	11/04/14 15:57	
4-Bromofluorobenzene (S)	%.	106	75-125	11/04/14 15:57	
Toluene-d8 (S)	%.	104	75-125	11/04/14 15:57	

LABORATORY CONTROL SAMPLE: 1833882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	1230	123	68-125	
1,1,1-Trichloroethane	ug/kg	1000	1050	105	62-125	
1,1,2,2-Tetrachloroethane	ug/kg	1000	1020	102	61-127	
1,1,2-Trichloroethane	ug/kg	1000	1090	109	70-125	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	1140	114	56-149	
1,1-Dichloroethane	ug/kg	1000	1000	100	60-127	
1,1-Dichloroethene	ug/kg	1000	1130	113	63-125	
1,1-Dichloropropene	ug/kg	1000	1060	106	67-125	
1,2,3-Trichlorobenzene	ug/kg	1000	1240	124	63-132	
1,2,3-Trichloropropane	ug/kg	1000	1080	108	67-125	
1,2,4-Trichlorobenzene	ug/kg	1000	1030	103	64-132	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1833882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	1190	119	64-125	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2860	114	56-132	
1,2-Dibromoethane (EDB)	ug/kg	1000	1180	118	72-125	
1,2-Dichlorobenzene	ug/kg	1000	1080	108	68-125	
1,2-Dichloroethane	ug/kg	1000	937	94	69-125	
1,2-Dichloropropane	ug/kg	1000	1020	102	73-125	
1,3,5-Trimethylbenzene	ug/kg	1000	1120	112	64-125	
1,3-Dichlorobenzene	ug/kg	1000	1100	110	67-125	
1,3-Dichloropropane	ug/kg	1000	1180	118	71-125	
1,4-Dichlorobenzene	ug/kg	1000	1050	105	69-125	
2,2-Dichloropropane	ug/kg	1000	1030	103	53-131	
2-Butanone (MEK)	ug/kg	5000	5410	108	52-131	
2-Chlorotoluene	ug/kg	1000	1120	112	66-125	
4-Chlorotoluene	ug/kg	1000	1090	109	52-131	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5820	116	64-125	
Acetone	ug/kg	5000	5100	102	42-150	
Allyl chloride	ug/kg	1000	1020	102	58-128	
Benzene	ug/kg	1000	1100	110	71-125	
Bromobenzene	ug/kg	1000	1080	108	69-125	
Bromochloromethane	ug/kg	1000	1070	107	75-125	
Bromodichloromethane	ug/kg	1000	1100	110	69-125	
Bromoform	ug/kg	1000	1340	134	62-125	L0
Bromomethane	ug/kg	1000	1030	103	62-125	
Carbon tetrachloride	ug/kg	1000	1260	126	66-125	L0
Chlorobenzene	ug/kg	1000	1130	113	75-125	
Chloroethane	ug/kg	1000	863	86	61-125	CL
Chloroform	ug/kg	1000	1070	107	72-125	
Chloromethane	ug/kg	1000	1110	111	59-125	
cis-1,2-Dichloroethene	ug/kg	1000	1140	114	74-125	
cis-1,3-Dichloropropene	ug/kg	1000	1070	107	68-125	
Dibromochloromethane	ug/kg	1000	1270	127	65-125	L0
Dibromomethane	ug/kg	1000	1160	116	72-125	
Dichlorodifluoromethane	ug/kg	1000	890	89	39-125	
Dichlorofluoromethane	ug/kg	1000	979	98	64-127	
Diethyl ether (Ethyl ether)	ug/kg	1000	1100	110	66-125	
Ethylbenzene	ug/kg	1000	1090	109	69-125	
Hexachloro-1,3-butadiene	ug/kg	1000	988	99	53-150	
Isopropylbenzene (Cumene)	ug/kg	1000	1140	114	70-125	
Methyl-tert-butyl ether	ug/kg	1000	1120	112	69-125	
Methylene Chloride	ug/kg	1000	1130	113	71-125	
n-Butylbenzene	ug/kg	1000	1150	115	59-133	
n-Propylbenzene	ug/kg	1000	1070	107	64-125	
Naphthalene	ug/kg	1000	1130	113	61-131	
p-Isopropyltoluene	ug/kg	1000	1150	115	63-127	
sec-Butylbenzene	ug/kg	1000	1070	107	64-125	
Styrene	ug/kg	1000	1140	114	74-125	
tert-Butylbenzene	ug/kg	1000	1080	108	66-125	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1833882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	1000	1070	107	68-125	
Tetrahydrofuran	ug/kg	10000	10400	104	68-125	
Toluene	ug/kg	1000	1120	112	70-125	
trans-1,2-Dichloroethene	ug/kg	1000	1140	114	68-125	
trans-1,3-Dichloropropene	ug/kg	1000	1100	110	70-125	
Trichloroethene	ug/kg	1000	1020	102	71-125	
Trichlorofluoromethane	ug/kg	1000	935	94	62-132	CL
Vinyl chloride	ug/kg	1000	1090	109	55-125	
Xylene (Total)	ug/kg	3000	3250	108	74-125	
1,2-Dichloroethane-d4 (S)	%.			93	74-125	
4-Bromofluorobenzene (S)	%.			102	75-125	
Toluene-d8 (S)	%.			104	75-125	

MATRIX SPIKE SAMPLE: 1834403

Parameter	Units	10287265001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	1380	1870	136	63-140	
1,1,1-Trichloroethane	ug/kg	ND	1380	1540	112	54-149	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1380	1610	117	46-150	
1,1,2-Trichloroethane	ug/kg	ND	1380	1660	120	62-141	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1380	1670	121	65-150	
1,1-Dichloroethane	ug/kg	ND	1380	1480	107	57-145	
1,1-Dichloroethene	ug/kg	ND	1380	1690	123	58-137	
1,1-Dichloropropene	ug/kg	ND	1380	1590	115	61-141	
1,2,3-Trichlorobenzene	ug/kg	ND	1380	1980	144	62-147	
1,2,3-Trichloropropane	ug/kg	ND	1380	1740	127	65-141	
1,2,4-Trichlorobenzene	ug/kg	ND	1380	1750	126	64-147	
1,2,4-Trimethylbenzene	ug/kg	0.20 mg/kg	1380	2380	159	59-144	M1
1,2-Dibromo-3-chloropropane	ug/kg	ND	3440	4560	133	56-147	
1,2-Dibromoethane (EDB)	ug/kg	ND	1380	1690	123	66-135	
1,2-Dichlorobenzene	ug/kg	ND	1380	1680	122	63-143	
1,2-Dichloroethane	ug/kg	ND	1380	1390	101	57-145	
1,2-Dichloropropane	ug/kg	ND	1380	1530	111	62-139	
1,3,5-Trimethylbenzene	ug/kg	ND	1380	1950	139	60-144	
1,3-Dichlorobenzene	ug/kg	ND	1380	1730	126	61-146	
1,3-Dichloropropane	ug/kg	ND	1380	1670	121	63-138	
1,4-Dichlorobenzene	ug/kg	ND	1380	1620	118	60-145	
2,2-Dichloropropane	ug/kg	ND	1380	1510	110	54-143	
2-Butanone (MEK)	ug/kg	ND	6890	8250	120	45-150	
2-Chlorotoluene	ug/kg	ND	1380	1720	125	62-140	
4-Chlorotoluene	ug/kg	ND	1380	1670	122	60-143	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	6890	9210	134	58-146	
Acetone	ug/kg	ND	6890	7760	113	30-150	
Allyl chloride	ug/kg	ND	1380	1500	109	55-142	
Benzene	ug/kg	0.20 mg/kg	1380	1650	105	61-134	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

MATRIX SPIKE SAMPLE: 1834403

Parameter	Units	10287265001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromobenzene	ug/kg	ND	1380	1650	120	64-143	
Bromochloromethane	ug/kg	ND	1380	1520	110	62-141	
Bromodichloromethane	ug/kg	ND	1380	1660	121	57-146	
Bromoform	ug/kg	ND	1380	1940	141	60-136	M0
Bromomethane	ug/kg	ND	1380	1620	118	54-141	
Carbon tetrachloride	ug/kg	ND	1380	1860	135	50-150	
Chlorobenzene	ug/kg	ND	1380	1660	121	67-135	
Chloroethane	ug/kg	ND	1380	1170	85	46-150	CL
Chloroform	ug/kg	ND	1380	1640	119	60-141	
Chloromethane	ug/kg	ND	1380	1550	113	46-133	
cis-1,2-Dichloroethene	ug/kg	ND	1380	1670	121	64-138	
cis-1,3-Dichloropropene	ug/kg	ND	1380	1570	114	64-138	
Dibromochloromethane	ug/kg	ND	1380	1850	134	56-145	
Dibromomethane	ug/kg	ND	1380	1690	123	62-138	
Dichlorodifluoromethane	ug/kg	ND	1380	1120	81	30-136	
Dichlorofluoromethane	ug/kg	ND	1380	1490	108	47-150	
Diethyl ether (Ethyl ether)	ug/kg	ND	1380	1600	116	59-137	
Ethylbenzene	ug/kg	0.22 mg/kg	1380	1630	102	63-135	
Hexachloro-1,3-butadiene	ug/kg	ND	1380	1720	122	65-150	
Isopropylbenzene (Cumene)	ug/kg	0.077 mg/kg	1380	1800	125	65-137	
Methyl-tert-butyl ether	ug/kg	ND	1380	1680	122	56-143	
Methylene Chloride	ug/kg	ND	1380	1660	120	62-133	
n-Butylbenzene	ug/kg	ND	1380	1960	140	58-148	
n-Propylbenzene	ug/kg	0.11 mg/kg	1380	1810	124	60-142	
Naphthalene	ug/kg	0.31 mg/kg	1380	2010	124	61-146	
p-Isopropyltoluene	ug/kg	ND	1380	2000	143	61-145	
sec-Butylbenzene	ug/kg	ND	1380	1740	124	57-147	
Styrene	ug/kg	ND	1380	1670	121	67-137	
tert-Butylbenzene	ug/kg	ND	1380	1730	125	57-149	
Tetrachloroethene	ug/kg	ND	1380	1550	112	66-138	
Tetrahydrofuran	ug/kg	ND	13800	15700	114	53-145	
Toluene	ug/kg	1.3 mg/kg	1380	1600	22	67-132	M1
trans-1,2-Dichloroethene	ug/kg	ND	1380	1690	122	61-136	
trans-1,3-Dichloropropene	ug/kg	ND	1380	1580	115	60-140	
Trichloroethene	ug/kg	ND	1380	1520	110	58-150	
Trichlorofluoromethane	ug/kg	ND	1380	1120	81	53-150	CL
Vinyl chloride	ug/kg	ND	1380	1530	111	45-139	
Xylene (Total)	ug/kg	1.0 mg/kg	4130	4810	92	66-136	
1,2-Dichloroethane-d4 (S)	%.				94	74-125	
4-Bromofluorobenzene (S)	%.				106	75-125	
Toluene-d8 (S)	%.				102	75-125	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

SAMPLE DUPLICATE: 1834404

Parameter	Units	10287265002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	<32.3		30	
1,1,1-Trichloroethane	ug/kg	ND	<32.3		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	<8.9		30	
1,1,2-Trichloroethane	ug/kg	ND	<10.9		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	<27.0		30	
1,1-Dichloroethane	ug/kg	ND	<9.0		30	
1,1-Dichloroethene	ug/kg	ND	<12.9		30	
1,1-Dichloropropene	ug/kg	ND	<10.6		30	
1,2,3-Trichlorobenzene	ug/kg	ND	<15.4		30	
1,2,3-Trichloropropane	ug/kg	ND	<8.6		30	
1,2,4-Trichlorobenzene	ug/kg	ND	<11.7		30	
1,2,4-Trimethylbenzene	ug/kg	ND	<32.3		30	
1,2-Dibromo-3-chloropropane	ug/kg	ND	<34.2		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	<8.0		30	
1,2-Dichlorobenzene	ug/kg	ND	<32.3		30	
1,2-Dichloroethane	ug/kg	ND	<15.2		30	
1,2-Dichloropropane	ug/kg	ND	<10.4		30	
1,3,5-Trimethylbenzene	ug/kg	ND	<32.3		30	
1,3-Dichlorobenzene	ug/kg	ND	<32.3		30	
1,3-Dichloropropane	ug/kg	ND	<32.3		30	
1,4-Dichlorobenzene	ug/kg	ND	<32.3		30	
2,2-Dichloropropane	ug/kg	ND	<8.6		30	
2-Butanone (MEK)	ug/kg	ND	<162		30	
2-Chlorotoluene	ug/kg	ND	<32.3		30	
4-Chlorotoluene	ug/kg	ND	<32.3		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	<162		30	
Acetone	ug/kg	ND	<646		30	
Allyl chloride	ug/kg	ND	<8.5		30	
Benzene	ug/kg	ND	<12.9		30	
Bromobenzene	ug/kg	ND	<11.2		30	
Bromochloromethane	ug/kg	ND	<8.8		30	
Bromodichloromethane	ug/kg	ND	<11.5		30	
Bromoform	ug/kg	ND	<129		30	
Bromomethane	ug/kg	ND	<323		30	
Carbon tetrachloride	ug/kg	ND	<10.4		30	
Chlorobenzene	ug/kg	ND	<9.9		30	
Chloroethane	ug/kg	ND	<16.3		30	CL
Chloroform	ug/kg	ND	<9.8		30	
Chloromethane	ug/kg	ND	<11.8		30	
cis-1,2-Dichloroethene	ug/kg	ND	<13.2		30	
cis-1,3-Dichloropropene	ug/kg	ND	<8.1		30	
Dibromochloromethane	ug/kg	ND	<14.0		30	
Dibromomethane	ug/kg	ND	<18.1		30	
Dichlorodifluoromethane	ug/kg	ND	<29.8		30	
Dichlorofluoromethane	ug/kg	ND	<323		30	
Diethyl ether (Ethyl ether)	ug/kg	ND	<13.7		30	
Ethylbenzene	ug/kg	ND	<8.1		30	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

SAMPLE DUPLICATE: 1834404

Parameter	Units	10287265002 Result	Dup Result	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	ND	<162		30	
Isopropylbenzene (Cumene)	ug/kg	ND	<32.3		30	
Methyl-tert-butyl ether	ug/kg	ND	<32.3		30	
Methylene Chloride	ug/kg	ND	<129		30	
n-Butylbenzene	ug/kg	ND	<7.8		30	
n-Propylbenzene	ug/kg	ND	<7.8		30	
Naphthalene	ug/kg	ND	<129		30	
p-Isopropyltoluene	ug/kg	ND	20.7J		30	
sec-Butylbenzene	ug/kg	ND	<7.6		30	
Styrene	ug/kg	ND	<9.7		30	
tert-Butylbenzene	ug/kg	ND	<32.3		30	
Tetrachloroethene	ug/kg	ND	<23.3		30	
Tetrahydrofuran	ug/kg	ND	<82.6		30	
Toluene	ug/kg	ND	29.1J		30	
trans-1,2-Dichloroethene	ug/kg	ND	<12.8		30	
trans-1,3-Dichloropropene	ug/kg	ND	<9.1		30	
Trichloroethene	ug/kg	ND	<8.0		30	
Trichlorofluoromethane	ug/kg	ND	<11.5		30	CL
Vinyl chloride	ug/kg	ND	<9.6		30	
Xylene (Total)	ug/kg	ND	<25.4		30	
1,2-Dichloroethane-d4 (S)	%.	97	97	1		
4-Bromofluorobenzene (S)	%.	104	103	1		
Toluene-d8 (S)	%.	103	104	1		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: MSV/29194 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV 5030 Med Level
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006, 10286797007

METHOD BLANK: 1834775 Matrix: Solid
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006, 10286797007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<25.0	50.0	11/05/14 03:46	
1,1,1-Trichloroethane	ug/kg	<25.0	50.0	11/05/14 03:46	
1,1,2,2-Tetrachloroethane	ug/kg	<6.9	50.0	11/05/14 03:46	
1,1,2-Trichloroethane	ug/kg	<8.5	50.0	11/05/14 03:46	
1,1,2-Trichlorotrifluoroethane	ug/kg	<20.9	200	11/05/14 03:46	
1,1-Dichloroethane	ug/kg	<7.0	50.0	11/05/14 03:46	
1,1-Dichloroethene	ug/kg	<10	50.0	11/05/14 03:46	
1,1-Dichloropropene	ug/kg	<8.2	50.0	11/05/14 03:46	
1,2,3-Trichlorobenzene	ug/kg	<11.9	50.0	11/05/14 03:46	
1,2,3-Trichloropropane	ug/kg	<6.6	200	11/05/14 03:46	
1,2,4-Trichlorobenzene	ug/kg	<9.1	50.0	11/05/14 03:46	
1,2,4-Trimethylbenzene	ug/kg	<25.0	50.0	11/05/14 03:46	
1,2-Dibromo-3-chloropropane	ug/kg	<26.5	500	11/05/14 03:46	
1,2-Dibromoethane (EDB)	ug/kg	<6.2	50.0	11/05/14 03:46	
1,2-Dichlorobenzene	ug/kg	<25.0	50.0	11/05/14 03:46	
1,2-Dichloroethane	ug/kg	<11.8	50.0	11/05/14 03:46	
1,2-Dichloropropane	ug/kg	<8.0	50.0	11/05/14 03:46	
1,3,5-Trimethylbenzene	ug/kg	<25.0	50.0	11/05/14 03:46	
1,3-Dichlorobenzene	ug/kg	<25.0	50.0	11/05/14 03:46	
1,3-Dichloropropane	ug/kg	<25.0	50.0	11/05/14 03:46	
1,4-Dichlorobenzene	ug/kg	<25.0	50.0	11/05/14 03:46	
2,2-Dichloropropane	ug/kg	<6.7	200	11/05/14 03:46	
2-Butanone (MEK)	ug/kg	<125	250	11/05/14 03:46	
2-Chlorotoluene	ug/kg	<25.0	50.0	11/05/14 03:46	
4-Chlorotoluene	ug/kg	<25.0	50.0	11/05/14 03:46	
4-Methyl-2-pentanone (MIBK)	ug/kg	<125	250	11/05/14 03:46	
Acetone	ug/kg	<500	1000	11/05/14 03:46	
Allyl chloride	ug/kg	<6.6	200	11/05/14 03:46	
Benzene	ug/kg	<10.0	20.0	11/05/14 03:46	
Bromobenzene	ug/kg	<8.7	50.0	11/05/14 03:46	
Bromochloromethane	ug/kg	<6.8	50.0	11/05/14 03:46	
Bromodichloromethane	ug/kg	<8.9	50.0	11/05/14 03:46	
Bromoform	ug/kg	<100	200	11/05/14 03:46	
Bromomethane	ug/kg	<250	500	11/05/14 03:46	
Carbon tetrachloride	ug/kg	<8.1	50.0	11/05/14 03:46	
Chlorobenzene	ug/kg	<7.7	50.0	11/05/14 03:46	
Chloroethane	ug/kg	<12.6	500	11/05/14 03:46	CL
Chloroform	ug/kg	<7.6	50.0	11/05/14 03:46	
Chloromethane	ug/kg	<9.1	200	11/05/14 03:46	
cis-1,2-Dichloroethene	ug/kg	<10.2	50.0	11/05/14 03:46	
cis-1,3-Dichloropropene	ug/kg	<6.3	50.0	11/05/14 03:46	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

METHOD BLANK: 1834775 Matrix: Solid
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006, 10286797007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/kg	<10.8	50.0	11/05/14 03:46	
Dibromomethane	ug/kg	<14.0	50.0	11/05/14 03:46	
Dichlorodifluoromethane	ug/kg	<23.1	200	11/05/14 03:46	
Dichlorofluoromethane	ug/kg	<250	500	11/05/14 03:46	
Diethyl ether (Ethyl ether)	ug/kg	<10.6	200	11/05/14 03:46	
Ethylbenzene	ug/kg	<6.3	50.0	11/05/14 03:46	
Hexachloro-1,3-butadiene	ug/kg	<125	250	11/05/14 03:46	
Isopropylbenzene (Cumene)	ug/kg	<25.0	50.0	11/05/14 03:46	
Methyl-tert-butyl ether	ug/kg	<25.0	50.0	11/05/14 03:46	
Methylene Chloride	ug/kg	<100	200	11/05/14 03:46	
n-Butylbenzene	ug/kg	32.1J	50.0	11/05/14 03:46	
n-Propylbenzene	ug/kg	<6.1	50.0	11/05/14 03:46	
Naphthalene	ug/kg	<100	200	11/05/14 03:46	
p-Isopropyltoluene	ug/kg	22.0J	50.0	11/05/14 03:46	
sec-Butylbenzene	ug/kg	23.0J	50.0	11/05/14 03:46	
Styrene	ug/kg	<7.5	50.0	11/05/14 03:46	
tert-Butylbenzene	ug/kg	<25.0	50.0	11/05/14 03:46	
Tetrachloroethene	ug/kg	<18.0	50.0	11/05/14 03:46	
Tetrahydrofuran	ug/kg	<63.9	2000	11/05/14 03:46	
Toluene	ug/kg	<6.8	50.0	11/05/14 03:46	
trans-1,2-Dichloroethene	ug/kg	<9.9	50.0	11/05/14 03:46	
trans-1,3-Dichloropropene	ug/kg	<7.0	50.0	11/05/14 03:46	
Trichloroethene	ug/kg	<6.2	50.0	11/05/14 03:46	
Trichlorofluoromethane	ug/kg	<8.9	200	11/05/14 03:46	CL
Vinyl chloride	ug/kg	<7.4	20.0	11/05/14 03:46	
Xylene (Total)	ug/kg	<19.6	150	11/05/14 03:46	
1,2-Dichloroethane-d4 (S)	%.	94	74-125	11/05/14 03:46	
4-Bromofluorobenzene (S)	%.	103	75-125	11/05/14 03:46	
Toluene-d8 (S)	%.	101	75-125	11/05/14 03:46	

LABORATORY CONTROL SAMPLE: 1834776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	1120	112	68-125	
1,1,1-Trichloroethane	ug/kg	1000	995	100	62-125	
1,1,2,2-Tetrachloroethane	ug/kg	1000	844	84	61-127	
1,1,2-Trichloroethane	ug/kg	1000	963	96	70-125	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	1090	109	56-149	
1,1-Dichloroethane	ug/kg	1000	959	96	60-127	
1,1-Dichloroethene	ug/kg	1000	1060	106	63-125	
1,1-Dichloropropene	ug/kg	1000	1000	100	67-125	
1,2,3-Trichlorobenzene	ug/kg	1000	848	85	63-132	
1,2,3-Trichloropropane	ug/kg	1000	900	90	67-125	
1,2,4-Trichlorobenzene	ug/kg	1000	790	79	64-132	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1834776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	1200	120	64-125	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2090	84	56-132	
1,2-Dibromoethane (EDB)	ug/kg	1000	1010	101	72-125	
1,2-Dichlorobenzene	ug/kg	1000	1060	106	68-125	
1,2-Dichloroethane	ug/kg	1000	895	89	69-125	
1,2-Dichloropropane	ug/kg	1000	994	99	73-125	
1,3,5-Trimethylbenzene	ug/kg	1000	1100	110	64-125	
1,3-Dichlorobenzene	ug/kg	1000	1060	106	67-125	
1,3-Dichloropropane	ug/kg	1000	1040	104	71-125	
1,4-Dichlorobenzene	ug/kg	1000	1010	101	69-125	
2,2-Dichloropropane	ug/kg	1000	962	96	53-131	
2-Butanone (MEK)	ug/kg	5000	4160	83	52-131	
2-Chlorotoluene	ug/kg	1000	1090	109	66-125	
4-Chlorotoluene	ug/kg	1000	1080	108	52-131	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4430	89	64-125	
Acetone	ug/kg	5000	4760	95	42-150	
Allyl chloride	ug/kg	1000	967	97	58-128	
Benzene	ug/kg	1000	1070	107	71-125	
Bromobenzene	ug/kg	1000	1060	106	69-125	
Bromochloromethane	ug/kg	1000	1010	101	75-125	
Bromodichloromethane	ug/kg	1000	1030	103	69-125	
Bromoform	ug/kg	1000	1120	112	62-125	
Bromomethane	ug/kg	1000	858	86	62-125	
Carbon tetrachloride	ug/kg	1000	1210	121	66-125	
Chlorobenzene	ug/kg	1000	1070	107	75-125	
Chloroethane	ug/kg	1000	662	66	61-125	CL
Chloroform	ug/kg	1000	1040	104	72-125	
Chloromethane	ug/kg	1000	862	86	59-125	
cis-1,2-Dichloroethene	ug/kg	1000	1090	109	74-125	
cis-1,3-Dichloropropene	ug/kg	1000	1000	100	68-125	
Dibromochloromethane	ug/kg	1000	1140	114	65-125	
Dibromomethane	ug/kg	1000	1080	108	72-125	
Dichlorodifluoromethane	ug/kg	1000	643	64	39-125	
Dichlorofluoromethane	ug/kg	1000	723	72	64-127	
Diethyl ether (Ethyl ether)	ug/kg	1000	969	97	66-125	
Ethylbenzene	ug/kg	1000	1030	103	69-125	
Hexachloro-1,3-butadiene	ug/kg	1000	925	92	53-150	
Isopropylbenzene (Cumene)	ug/kg	1000	1080	108	70-125	
Methyl-tert-butyl ether	ug/kg	1000	1010	101	69-125	
Methylene Chloride	ug/kg	1000	1090	109	71-125	
n-Butylbenzene	ug/kg	1000	1120	112	59-133	
n-Propylbenzene	ug/kg	1000	1060	106	64-125	
Naphthalene	ug/kg	1000	813	81	61-131	
p-Isopropyltoluene	ug/kg	1000	1130	113	63-127	
sec-Butylbenzene	ug/kg	1000	1060	106	64-125	
Styrene	ug/kg	1000	1070	107	74-125	
tert-Butylbenzene	ug/kg	1000	1060	106	66-125	

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REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

LABORATORY CONTROL SAMPLE: 1834776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	1000	973	97	68-125	
Tetrahydrofuran	ug/kg	10000	10000	100	68-125	
Toluene	ug/kg	1000	1040	104	70-125	
trans-1,2-Dichloroethene	ug/kg	1000	1100	110	68-125	
trans-1,3-Dichloropropene	ug/kg	1000	966	97	70-125	
Trichloroethene	ug/kg	1000	973	97	71-125	
Trichlorofluoromethane	ug/kg	1000	755	76	62-132	CL
Vinyl chloride	ug/kg	1000	828	83	55-125	
Xylene (Total)	ug/kg	3000	3000	100	74-125	
1,2-Dichloroethane-d4 (S)	%.			92	74-125	
4-Bromofluorobenzene (S)	%.			103	75-125	
Toluene-d8 (S)	%.			101	75-125	

MATRIX SPIKE SAMPLE: 1834777

Parameter	Units	10287153001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	1220	1690	138	63-140	
1,1,1-Trichloroethane	ug/kg	ND	1220	1380	112	54-149	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1220	1290	105	46-150	
1,1,2-Trichloroethane	ug/kg	ND	1220	1470	120	62-141	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1220	1500	123	65-150	
1,1-Dichloroethane	ug/kg	ND	1220	1320	107	57-145	
1,1-Dichloroethene	ug/kg	ND	1220	1450	119	58-137	
1,1-Dichloropropene	ug/kg	ND	1220	1410	115	61-141	
1,2,3-Trichlorobenzene	ug/kg	ND	1220	1520	124	62-147	
1,2,3-Trichloropropane	ug/kg	ND	1220	1390	114	65-141	
1,2,4-Trichlorobenzene	ug/kg	ND	1220	1260	103	64-147	
1,2,4-Trimethylbenzene	ug/kg	ND	1220	1670	136	59-144	
1,2-Dibromo-3-chloropropane	ug/kg	ND	3070	3300	108	56-147	
1,2-Dibromoethane (EDB)	ug/kg	ND	1220	1520	124	66-135	
1,2-Dichlorobenzene	ug/kg	ND	1220	1540	126	63-143	
1,2-Dichloroethane	ug/kg	ND	1220	1250	102	57-145	
1,2-Dichloropropane	ug/kg	ND	1220	1410	115	62-139	
1,3,5-Trimethylbenzene	ug/kg	ND	1220	1620	132	60-144	
1,3-Dichlorobenzene	ug/kg	ND	1220	1590	130	61-146	
1,3-Dichloropropane	ug/kg	ND	1220	1530	125	63-138	
1,4-Dichlorobenzene	ug/kg	ND	1220	1510	124	60-145	
2,2-Dichloropropane	ug/kg	ND	1220	1310	107	54-143	
2-Butanone (MEK)	ug/kg	ND	6120	5750	94	45-150	
2-Chlorotoluene	ug/kg	ND	1220	1610	131	62-140	
4-Chlorotoluene	ug/kg	ND	1220	1580	129	60-143	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	6120	6700	109	58-146	
Acetone	ug/kg	ND	6120	7050	115	30-150	
Allyl chloride	ug/kg	ND	1220	1330	108	55-142	
Benzene	ug/kg	ND	1220	1490	121	61-134	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

MATRIX SPIKE SAMPLE: 1834777

Parameter	Units	10287153001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromobenzene	ug/kg	ND	1220	1510	123	64-143	
Bromochloromethane	ug/kg	ND	1220	1420	116	62-141	
Bromodichloromethane	ug/kg	ND	1220	1530	125	57-146	
Bromoform	ug/kg	ND	1220	1640	134	60-136	
Bromomethane	ug/kg	ND	1220	1320	107	54-141	
Carbon tetrachloride	ug/kg	ND	1220	1650	135	50-150	
Chlorobenzene	ug/kg	ND	1220	1530	125	67-135	
Chloroethane	ug/kg	ND	1220	1060	86	46-150	CL
Chloroform	ug/kg	ND	1220	1450	118	60-141	
Chloromethane	ug/kg	ND	1220	1340	110	46-133	
cis-1,2-Dichloroethene	ug/kg	ND	1220	1560	127	64-138	
cis-1,3-Dichloropropene	ug/kg	ND	1220	1470	120	64-138	
Dibromochloromethane	ug/kg	ND	1220	1660	135	56-145	
Dibromomethane	ug/kg	ND	1220	1570	128	62-138	
Dichlorodifluoromethane	ug/kg	ND	1220	967	79	30-136	
Dichlorofluoromethane	ug/kg	ND	1220	1260	103	47-150	
Diethyl ether (Ethyl ether)	ug/kg	ND	1220	1370	112	59-137	
Ethylbenzene	ug/kg	ND	1220	1470	120	63-135	
Hexachloro-1,3-butadiene	ug/kg	ND	1220	1410	115	65-150	
Isopropylbenzene (Cumene)	ug/kg	ND	1220	1580	129	65-137	
Methyl-tert-butyl ether	ug/kg	ND	1220	1430	117	56-143	
Methylene Chloride	ug/kg	ND	1220	1490	121	62-133	
n-Butylbenzene	ug/kg	ND	1220	1610	130	58-148	
n-Propylbenzene	ug/kg	ND	1220	1550	126	60-142	
Naphthalene	ug/kg	ND	1220	1290	105	61-146	
p-Isopropyltoluene	ug/kg	ND	1220	1650	135	61-145	
sec-Butylbenzene	ug/kg	ND	1220	1550	127	57-147	
Styrene	ug/kg	ND	1220	1570	128	67-137	
tert-Butylbenzene	ug/kg	ND	1220	1580	129	57-149	
Tetrachloroethene	ug/kg	ND	1220	1470	120	66-138	
Tetrahydrofuran	ug/kg	ND	12200	14900	121	53-145	
Toluene	ug/kg	ND	1220	1480	121	67-132	
trans-1,2-Dichloroethene	ug/kg	ND	1220	1500	122	61-136	
trans-1,3-Dichloropropene	ug/kg	ND	1220	1420	116	60-140	
Trichloroethene	ug/kg	ND	1220	1400	114	58-150	
Trichlorofluoromethane	ug/kg	ND	1220	1200	98	53-150	CL
Vinyl chloride	ug/kg	ND	1220	1360	111	45-139	
Xylene (Total)	ug/kg	ND	3670	4420	120	66-136	
1,2-Dichloroethane-d4 (S)	%.				87	74-125	
4-Bromofluorobenzene (S)	%.				103	75-125	
Toluene-d8 (S)	%.				102	75-125	

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

SAMPLE DUPLICATE: 1834778

Parameter	Units	10287153002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	ND	<28.6		30	
1,1,1-Trichloroethane	ug/kg	ND	<28.6		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	<7.8		30	
1,1,2-Trichloroethane	ug/kg	ND	<9.7		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	<23.9		30	
1,1-Dichloroethane	ug/kg	ND	<8.0		30	
1,1-Dichloroethene	ug/kg	ND	<11.4		30	
1,1-Dichloropropene	ug/kg	ND	<9.3		30	
1,2,3-Trichlorobenzene	ug/kg	ND	<13.6		30	
1,2,3-Trichloropropane	ug/kg	ND	<7.6		30	
1,2,4-Trichlorobenzene	ug/kg	ND	<10.4		30	
1,2,4-Trimethylbenzene	ug/kg	ND	<28.6		30	
1,2-Dibromo-3-chloropropane	ug/kg	ND	<30.3		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	<7.0		30	
1,2-Dichlorobenzene	ug/kg	ND	<28.6		30	
1,2-Dichloroethane	ug/kg	ND	<13.5		30	
1,2-Dichloropropane	ug/kg	ND	<9.2		30	
1,3,5-Trimethylbenzene	ug/kg	ND	<28.6		30	
1,3-Dichlorobenzene	ug/kg	ND	<28.6		30	
1,3-Dichloropropane	ug/kg	ND	<28.6		30	
1,4-Dichlorobenzene	ug/kg	ND	<28.6		30	
2,2-Dichloropropane	ug/kg	ND	<7.6		30	
2-Butanone (MEK)	ug/kg	ND	<143		30	
2-Chlorotoluene	ug/kg	ND	<28.6		30	
4-Chlorotoluene	ug/kg	ND	<28.6		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	<143		30	
Acetone	ug/kg	ND	<572		30	
Allyl chloride	ug/kg	ND	<7.5		30	
Benzene	ug/kg	ND	<11.4		30	
Bromobenzene	ug/kg	ND	<9.9		30	
Bromochloromethane	ug/kg	ND	<7.8		30	
Bromodichloromethane	ug/kg	ND	<10.2		30	
Bromoform	ug/kg	ND	<114		30	
Bromomethane	ug/kg	ND	<286		30	
Carbon tetrachloride	ug/kg	ND	<9.2		30	
Chlorobenzene	ug/kg	ND	<8.8		30	
Chloroethane	ug/kg	ND	<14.4		30	CL
Chloroform	ug/kg	ND	<8.7		30	
Chloromethane	ug/kg	ND	<10.4		30	
cis-1,2-Dichloroethene	ug/kg	ND	<11.7		30	
cis-1,3-Dichloropropene	ug/kg	ND	<7.2		30	
Dibromochloromethane	ug/kg	ND	<12.3		30	
Dibromomethane	ug/kg	ND	<16.0		30	
Dichlorodifluoromethane	ug/kg	ND	<26.4		30	
Dichlorofluoromethane	ug/kg	ND	<286		30	
Diethyl ether (Ethyl ether)	ug/kg	ND	<12.1		30	
Ethylbenzene	ug/kg	ND	<7.2		30	

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REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

SAMPLE DUPLICATE: 1834778

Parameter	Units	10287153002 Result	Dup Result	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ug/kg	ND	<143		30	
Isopropylbenzene (Cumene)	ug/kg	ND	<28.6		30	
Methyl-tert-butyl ether	ug/kg	ND	<28.6		30	
Methylene Chloride	ug/kg	ND	<114		30	
n-Butylbenzene	ug/kg	ND	12.8J		30	
n-Propylbenzene	ug/kg	ND	<6.9		30	
Naphthalene	ug/kg	ND	<114		30	
p-Isopropyltoluene	ug/kg	ND	<8.3		30	
sec-Butylbenzene	ug/kg	ND	<6.7		30	
Styrene	ug/kg	ND	<8.5		30	
tert-Butylbenzene	ug/kg	ND	<28.6		30	
Tetrachloroethene	ug/kg	ND	<20.6		30	
Tetrahydrofuran	ug/kg	ND	<73.1		30	
Toluene	ug/kg	ND	<7.8		30	
trans-1,2-Dichloroethene	ug/kg	ND	<11.3		30	
trans-1,3-Dichloropropene	ug/kg	ND	<8.0		30	
Trichloroethene	ug/kg	ND	<7.1		30	
Trichlorofluoromethane	ug/kg	ND	<10.2		30	CL
Vinyl chloride	ug/kg	ND	<8.5		30	
Xylene (Total)	ug/kg	ND	<22.5		30	
1,2-Dichloroethane-d4 (S)	%.	93	93	5		
4-Bromofluorobenzene (S)	%.	103	102	6		
Toluene-d8 (S)	%.	102	101	6		

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: OEXT/27291 Analysis Method: EPA 8082
QC Batch Method: EPA 3550 Analysis Description: 8082 GCS PCB
Associated Lab Samples: 10286797001, 10286797002

METHOD BLANK: 1845775 Matrix: Solid
Associated Lab Samples: 10286797001, 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	<15.0	33.0	11/18/14 14:43	
PCB-1221 (Aroclor 1221)	ug/kg	<5.0	33.0	11/18/14 14:43	
PCB-1232 (Aroclor 1232)	ug/kg	<8.0	33.0	11/18/14 14:43	
PCB-1242 (Aroclor 1242)	ug/kg	<6.0	33.0	11/18/14 14:43	
PCB-1248 (Aroclor 1248)	ug/kg	<7.0	33.0	11/18/14 14:43	
PCB-1254 (Aroclor 1254)	ug/kg	<7.0	33.0	11/18/14 14:43	
PCB-1260 (Aroclor 1260)	ug/kg	<15.0	33.0	11/18/14 14:43	
PCB-1262 (Aroclor 1262)	ug/kg	<6.0	33.0	11/18/14 14:43	
PCB-1268 (Aroclor 1268)	ug/kg	<5.0	33.0	11/18/14 14:43	
Decachlorobiphenyl (S)	%.	92	55-130	11/18/14 14:43	
Tetrachloro-m-xylene (S)	%.	96	50-128	11/18/14 14:43	

LABORATORY CONTROL SAMPLE: 1845776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	667	598	90	62-125	
PCB-1260 (Aroclor 1260)	ug/kg	667	612	92	61-125	
Decachlorobiphenyl (S)	%.			99	55-130	
Tetrachloro-m-xylene (S)	%.			96	50-128	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1845777 1845778

Parameter	Units	10286797001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<170	759	759	722	722	95	95	34-125	0	30	
PCB-1260 (Aroclor 1260)	ug/kg	<170	759	759	691	654	91	86	30-128	6	30	
Decachlorobiphenyl (S)	%.						0	0	55-130			S4
Tetrachloro-m-xylene (S)	%.						0	0	50-128			D3,S4

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: OEXT/27066 Analysis Method: EPA 8270 by SIM
QC Batch Method: EPA 3550 Analysis Description: 8270 Solid PAH by SIM MSSV
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006

METHOD BLANK: 1829953 Matrix: Solid
Associated Lab Samples: 10286797003, 10286797004, 10286797005, 10286797006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<5.0	10.0	11/03/14 10:31	
Acenaphthylene	ug/kg	<5.0	10.0	11/03/14 10:31	
Anthracene	ug/kg	<5.0	10.0	11/03/14 10:31	
Benzo(a)anthracene	ug/kg	<5.0	10.0	11/03/14 10:31	
Benzo(a)pyrene	ug/kg	<5.0	10.0	11/03/14 10:31	
Benzo(b)fluoranthene	ug/kg	<0.28	10.0	11/03/14 10:31	
Benzo(g,h,i)perylene	ug/kg	<5.0	10.0	11/03/14 10:31	
Benzo(k)fluoranthene	ug/kg	<5.0	10.0	11/03/14 10:31	
Chrysene	ug/kg	<5.0	10.0	11/03/14 10:31	
Dibenz(a,h)anthracene	ug/kg	<5.0	10.0	11/03/14 10:31	
Fluoranthene	ug/kg	<5.0	10.0	11/03/14 10:31	
Fluorene	ug/kg	<5.0	10.0	11/03/14 10:31	
Indeno(1,2,3-cd)pyrene	ug/kg	<5.0	10.0	11/03/14 10:31	
Naphthalene	ug/kg	<5.0	10.0	11/03/14 10:31	
Phenanthrene	ug/kg	<5.0	10.0	11/03/14 10:31	
Pyrene	ug/kg	<0.23	10.0	11/03/14 10:31	
2-Fluorobiphenyl (S)	%.	61	30-150	11/03/14 10:31	
Terphenyl-d14 (S)	%.	74	30-150	11/03/14 10:31	

LABORATORY CONTROL SAMPLE: 1829954

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	33.3	20.0	60	46-125	
Acenaphthylene	ug/kg	33.3	19.6	59	45-125	
Anthracene	ug/kg	33.3	26.1	78	56-125	
Benzo(a)anthracene	ug/kg	33.3	22.1	66	64-125	
Benzo(a)pyrene	ug/kg	33.3	23.3	70	66-125	
Benzo(b)fluoranthene	ug/kg	33.3	26.9	81	65-125	
Benzo(g,h,i)perylene	ug/kg	33.3	24.2	73	60-125	
Benzo(k)fluoranthene	ug/kg	33.3	24.2	73	60-125	
Chrysene	ug/kg	33.3	26.9	81	60-125	
Dibenz(a,h)anthracene	ug/kg	33.3	23.8	71	59-125	
Fluoranthene	ug/kg	33.3	25.1	75	70-125	
Fluorene	ug/kg	33.3	21.1	63	55-125	
Indeno(1,2,3-cd)pyrene	ug/kg	33.3	22.9	69	60-125	
Naphthalene	ug/kg	33.3	21.0	63	43-125	
Phenanthrene	ug/kg	33.3	22.9	69	60-125	
Pyrene	ug/kg	33.3	25.3	76	67-125	
2-Fluorobiphenyl (S)	%.			67	30-150	
Terphenyl-d14 (S)	%.			79	30-150	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1829955 1829956

Parameter	Units	10286582016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acenaphthene	ug/kg	897	37.8	37.6	323J	819	-1520	-206	30-150		30	M1
Acenaphthylene	ug/kg	ND	37.8	37.6	<284	433J	-1340	-194	30-150		30	M1
Anthracene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Benzo(a)anthracene	ug/kg	ND	37.8	37.6	<284	440J	-1100	60	30-150		30	M1
Benzo(a)pyrene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Benzo(b)fluoranthene	ug/kg	ND	37.8	37.6	<15.9	<15.8	0	0	30-150		30	M1
Benzo(g,h,i)perylene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Benzo(k)fluoranthene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Chrysene	ug/kg	ND	37.8	37.6	<284	421J	-1050	65	30-150		30	M1
Dibenz(a,h)anthracene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Fluoranthene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Fluorene	ug/kg	2120	37.8	37.6	1040	2180	-2860	154	30-150	71	30	M1,R1
Indeno(1,2,3-cd)pyrene	ug/kg	ND	37.8	37.6	<284	<282	0	0	30-150		30	M1
Naphthalene	ug/kg	8640	37.8	37.6	3930	9060	-12500	1100	30-150	79	30	M1,R1
Phenanthrene	ug/kg	5170	37.8	37.6	2570	5080	-6890	-240	30-150	66	30	M1,R1
Pyrene	ug/kg	ND	37.8	37.6	<13.1	550J	-1360	98	30-150		30	M1
2-Fluorobiphenyl (S)	%.						0	0	30-150			D4,P3, S4
Terphenyl-d14 (S)	%.						0	0	30-150			S0

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: OEXT/27075 Analysis Method: WI MOD DRO
QC Batch Method: WI MOD DRO Analysis Description: WIDRO GCS
Associated Lab Samples: 10286797001

METHOD BLANK: 1830318 Matrix: Solid
Associated Lab Samples: 10286797001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	2.6J	10.0	10/31/14 17:36	
n-Triacontane (S)	%.	85	50-150	10/31/14 17:36	

LABORATORY CONTROL SAMPLE & LCSD: 1830319 1830320

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/kg	80	70.3	75.4	88	94	70-120	7	20	
n-Triacontane (S)	%.				85	81	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

QC Batch: OEXT/27099 Analysis Method: WI MOD DRO
QC Batch Method: WI MOD DRO Analysis Description: WIDRO GCS
Associated Lab Samples: 10286797002

METHOD BLANK: 1831900 Matrix: Solid
Associated Lab Samples: 10286797002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Range Organics	mg/kg	3.0J	10.0	11/03/14 17:21	
n-Triacontane (S)	%.	94	50-150	11/03/14 17:21	

LABORATORY CONTROL SAMPLE & LCSD: 1831901 1831902

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Diesel Range Organics	mg/kg	80	74.4	79.0	93	99	70-120	6	20	
n-Triacontane (S)	%.				101	100	50-150			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D4	Sample was diluted due to the presence of high levels of target analytes.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10286797001	SP-1	EPA 3550	OEXT/27291	EPA 8082	GCSV/14521
10286797002	SP-2	EPA 3550	OEXT/27291	EPA 8082	GCSV/14521
10286797001	SP-1	WI MOD DRO	OEXT/27075	WI MOD DRO	GCSV/14399
10286797002	SP-2	WI MOD DRO	OEXT/27099	WI MOD DRO	GCSV/14424
10286797003	TP1 0-2	TPH GRO/PVOC WI ext.	GCV/12886	WI MOD GRO	GCV/12889
10286797004	TP2 2-4	TPH GRO/PVOC WI ext.	GCV/12886	WI MOD GRO	GCV/12889
10286797005	TP3 0-2	TPH GRO/PVOC WI ext.	GCV/12886	WI MOD GRO	GCV/12889
10286797006	TP4 0-2	TPH GRO/PVOC WI ext.	GCV/12886	WI MOD GRO	GCV/12889
10286797001	SP-1	EPA 3050	MPRP/50209	EPA 6010	ICP/21504
10286797002	SP-2	EPA 3050	MPRP/50209	EPA 6010	ICP/21504
10286797003	TP1 0-2	EPA 3050	MPRP/50209	EPA 6010	ICP/21504
10286797004	TP2 2-4	EPA 3050	MPRP/50209	EPA 6010	ICP/21504
10286797005	TP3 0-2	EPA 3050	MPRP/50209	EPA 6010	ICP/21504
10286797006	TP4 0-2	EPA 3050	MPRP/50209	EPA 6010	ICP/21504
10286797001	SP-1	EPA 3010	MPRP/50561	EPA 6010	ICP/21702
10286797002	SP-2	EPA 3010	MPRP/50561	EPA 6010	ICP/21702
10286797001	SP-1	EPA 3050	MPRP/50368	EPA 6020A	ICPM/22372
10286797002	SP-2	EPA 3050	MPRP/50368	EPA 6020A	ICPM/22372
10286797003	TP1 0-2	EPA 3050	MPRP/50368	EPA 6020A	ICPM/22372
10286797004	TP2 2-4	EPA 3050	MPRP/50368	EPA 6020A	ICPM/22372
10286797005	TP3 0-2	EPA 3050	MPRP/50368	EPA 6020A	ICPM/22372
10286797006	TP4 0-2	EPA 3050	MPRP/50368	EPA 6020A	ICPM/22372
10286797001	SP-1	EPA 7470A	MERP/12172	EPA 7470A	MERC/14056
10286797002	SP-2	EPA 7470A	MERP/12172	EPA 7470A	MERC/14056
10286797001	SP-1	EPA 7471	MERP/12008	EPA 7471	MERC/13887
10286797002	SP-2	EPA 7471	MERP/12008	EPA 7471	MERC/13887
10286797003	TP1 0-2	EPA 7471	MERP/12008	EPA 7471	MERC/13887
10286797004	TP2 2-4	EPA 7471	MERP/12008	EPA 7471	MERC/13887
10286797005	TP3 0-2	EPA 7471	MERP/12008	EPA 7471	MERC/13887
10286797006	TP4 0-2	EPA 7471	MERP/12008	EPA 7471	MERC/13887
10286797001	SP-1	ASTM D2974	MPRP/50257		
10286797002	SP-2	ASTM D2974	MPRP/50258		
10286797003	TP1 0-2	ASTM D2974	MPRP/50258		
10286797004	TP2 2-4	ASTM D2974	MPRP/50258		
10286797005	TP3 0-2	ASTM D2974	MPRP/50258		
10286797006	TP4 0-2	ASTM D2974	MPRP/50258		
10286797003	TP1 0-2	EPA 3550	OEXT/27066	EPA 8270 by SIM	MSSV/11356
10286797004	TP2 2-4	EPA 3550	OEXT/27066	EPA 8270 by SIM	MSSV/11356
10286797005	TP3 0-2	EPA 3550	OEXT/27066	EPA 8270 by SIM	MSSV/11356
10286797006	TP4 0-2	EPA 3550	OEXT/27066	EPA 8270 by SIM	MSSV/11356
10286797001	SP-1	EPA 5035/5030B	MSV/29130	EPA 8260	MSV/29155
10286797002	SP-2	EPA 5035/5030B	MSV/29185	EPA 8260	MSV/29197

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 14-1004 Fraser Shipyard REV2
Pace Project No.: 10286797

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10286797003	TP1 0-2	EPA 5035/5030B	MSV/29194	EPA 8260	MSV/29210
10286797004	TP2 2-4	EPA 5035/5030B	MSV/29194	EPA 8260	MSV/29210
10286797005	TP3 0-2	EPA 5035/5030B	MSV/29194	EPA 8260	MSV/29210
10286797006	TP4 0-2	EPA 5035/5030B	MSV/29194	EPA 8260	MSV/29210
10286797007	TRIP BLANK	EPA 5035/5030B	MSV/29194	EPA 8260	MSV/29210

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

RUSH
10/28/14 RT

10286797

Page: 1 of 1

1556361

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: Env. Troubleshooters	Report To:	Attention:
Address: 3825 Grand Ave Duluth, MN 55807	Copy To: Same	Company Name: Same
Email To: jmccarthy@etsmn.com	Purchase Order No.:	Address:
Phone: 218 722 6013 Fax: —	Project Name: Fraser Shipyard	Pace Quote Reference: ET14
Requested Due Date/TAT: 5 day	Project Number: 14-1004J	Pace Project Manager: Lori Castile
		Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: WI

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N: DRO	GRO	Comp VOCs	TAL RCRA Metals	GRO	PAHs	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SP-1	SL	C	10/27/14	1030				8	5						3		X	X	X					001
2	SP-2	SL	C	10/27/14	1100				8	5						3		X	X	X					002
3																									
4	TP1 0-2	SL	G	10/27/14	0920				7	3						4		X	X	X	X	X			003
5																									
6	TP2 2-4	SL	G	10/27/14	1000				7	3						4			X	X	X	X			004
7																									
8	TP3 0-2	SL	G	10/27/14	1015				7	3						4			X	X	X	X			005
9																									
10	TP4 0-2	SL	G	10/27/14	1030				7	3						4			X	X	X	X			006
11																									
12																									

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
TP1 0-2 No DRO	John McCarthy / ET	10/27/14	1530		10/27/14	1520		Y		
		10/27/14	1730	JM / PACE	10/28/14	930	1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: John McCarthy
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/27/14

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical®	Document Name: Sample Condition Upon Receipt Form	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: F-MN-L-213-rev.09	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Environmental Troubleshooters

Project #: WO#: 10286797

10286797

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client
☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 7716 4175 6905

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No Seals Intact? ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: Temp Blank? ☑ Yes ☐ No

Thermom. Used: ☐ B88A9130516413 ☑ B88A912167504 ☐ B88A9132521491 Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.3 Cooler Temp Corrected (°C): 1.7 Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C Correction Factor: +0.4 Date and Initials of Person Examining Contents: 10-28-14/BT

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☑ Yes	☐ No	☐ N/A	7. 5 day
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: SL	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☑ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☑ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☑ No	☐ N/A	
Pace Trip Blank Lot # (if purchased): Seal Not Present				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Date: 10/29/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)