Water Sampling Results & Oversight: UST Decommissioning, Penske Truck Site

2108 Joseph Street, MEDFORD, OR 97501

Prepared for: Mr. Stan Schlosser
General Manager
Space, LLC
2190 Joseph Street
Medford, OR 97501

Prepared by: Charles Lane, RG
Katalyst Associate

Reviewed by: Robert Coffan, President
Katalyst, Inc.
2499 Happy Valley Dr.
Medford, OR 97501

Date: September 25, 2013

REGISTERED OREGON CHARLES LANE 1634 GEOLOGIST

~ SEAL ~

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2499 Happy Valley Dr.
Medford, OR 97501

~ SEAL ~

Date: September 25, 2013

KATALYST , INC.

adding value to our natural resources… facilitating community change… *(541) 227-9024 * rcoffan@gmail.net*

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1.0 INTRODUCTION

Space LLC (Space) owns the property located at 2108 Joseph Street in Medford Oregon (Site) (Figure 1). The property is leased by Penske, and used as a truck staging and repair facility. There are two underground storage tanks (USTs) located at the Site that were used for fueling by Penske. Space planned on decommissioning the USTs.

On May 6, 2013, prior to any UST decommissioning work, Stan Schlosser of Space contacted Katalyst, Inc. (Katalyst) to collect an initial water sample from the observation port installed at the west end of two UST's located at the Site (Photograph 1). Since the USTs were buried in an area known to have shallow groundwater, Space wanted to have groundwater chemistry evaluated as part of the UST removal process in order to address potential contamination issues. Katalyst provided Space with initial sampling results on 5-13-2013. Details from the initial groundwater sampling event are presented in Section 4 below.

Western States Environmental Services (WSES) was selected by Space as the licensed UST contractor for decommissioning work. **Evaluation of any impacts to soils from the UST and associated infrastructure are the purview of WSES per the Oregon Department of Environmental Quality (ODEQ) decommissioning guidelines.** However, Space retained Katalyst to assist with oversight of the UST decommissioning phase in order to evaluate potential groundwater impacts during the UST removal.

2.0 OBJECTIVES

The fundamental objectives for Katalyst were to:

- monitor the UST removal with respect to potential groundwater contamination from the removal process, and
- assist with safe dewatering of water from the excavation into the nearby storm drain.

To achieve these objectives, Katalyst was onsite to observe and collect water samples prior to, during, and after the UST's were removed. Katalyst was also onsite for a timely collection of the final confirmation sample. Water chemistry was evaluated for worst-case conditions and appropriate operational methodology was ensured.

3.0 BACKGROUND

3.1. Location/Legal Description

The Site is located at 2108 Joseph Street in northwest Medford, Oregon (SE, 14, T37S, R2W).

3.2. General Characteristics: Site and Vicinity

The Site is located on the southwest side of US Highway 99 between Medford and Central Point, Oregon. It is located just west of Sage Road, a busy industrial street in northwest Medford.

Topography / Runoff:
Regionally, the area dips slightly to the north-northeast. However, the Site itself has been altered with construction and fill. It is entirely paved and runoff flows to a storm drain system on the west side of the Site.

Soil:
According to the US Department of Agriculture's Natural Resource Conservation Service (NRCS), The Site is underlain primarily by the Gregory Silty Clay Loam, a poorly-drained soil developed on old stream terraces. The far west side of the Site is underlain by the Medford Silty Clay Loam, with but slightly better soil drainage potential. It also is developed on old stream terraces.

Geology:
Based on the geologic map of the Medford area (Wiley, 1993), the Site is comprised of a thin layer of older quaternary alluvium (~10,000 years ago), which is underlain by the upper part of the Eocene Payne Cliffs Formation e (~ 40M years). The Payne Cliffs Formation is made up of river-deposited sandstone and conglomerates. Natural soil/bedrock was not observed in the tank pit during removal operations.

Groundwater:
The Site is located in an area informally referred to as the "wet triangle", an area between Medford, Central Point, and Jacksonville, known for its high groundwater table. The water comprises an unconfined surficial aquifer that is not used for domestic drinking water. At the site, the highest groundwater levels observed were between 3 and 4 feet bgs, consistent with the regional conditions in the "wet triangle".

4.0 FIELD WORK

4.1 Initial Groundwater Sample / Selection of Comparative Standards

Katalyst first visited the site on May 6, 2013, and inspected the UST layout and as-built drawings of the UST installation. The total depth of the west side observation port was

14 feet below ground surface (bgs). As-built depth of the UST's was described as 13.5 feet bgs. Initial static water level (swl) in the observation port was observed as 3.21 feet bgs. One well volume was purged, and the re-equilibrated swl was measured at 3.25 feet bgs. The water sample was then collected with a bailer (Photograph 2). As with all the subsequent water samples, collection was in clean containers provided by the laboratory, placed into an iced cooler, and delivered to Nielsen Laboratories using standard Chain of Custody procedures.

Results are tabulated in Table 1. Copies of all laboratory results are included in Appendix A. No petroleum hydrocarbons were detected in the water sample (SP-W1 in Table 1); thus, the pre-operations baseline was established.

Comparative standards from ODEQ are also shown in Table 1. Given that the water was to be dewatered to the storm drain, ultimately flowing to the Bear Creek, the ODEQ Level II Ecology Screening Benchmark Standards for Aquatic Organisms (updated in 2001) were selected as the most stringent comparative standards appropriate for the water.

4.2 Dewatering to Storm Drain

Based on the initial sampling results, Katalyst contacted both ODEQ and the City of Medford Stormwater Engineer to verify that it was acceptable to temporarily dewater any water encountered during UST decommissioning directly to the nearby storm drain system. ODEQ defaulted to the City. The City stated that 1) so, long as it could be documented that the water did not violate any ODEQ cleanup guidelines, and 2) that other standard erosion/sediment control practices were employed, water could be dewatered to the storm drain (Pers Com, Roger Thom, P.E. 8-2013).

4.3 UST Decommissioning

The locations of the UST pad, fuel island, and other relevant structures are shown on the 4 diagrams provided by WSES. On the morning of August 23, during preliminary excavation work for UST removal by WSES , the north side 20,000 gallon diesel fuel storage tank, abetted by the hydrostatic pressure of the groundwater and reduced (through excavation) lithostatic pressure of the overlying material, "floated" as a result of substandard coupling bolts and lines attaching the retaining straps to the cement ballast structure (Ralph Jenkins, WSES, per. Comm.). The upward acceleration ruptured the associated plumbing, and sent the tank into the bucket assembly of the track-hoe being used in the excavation. One end of the tank was fractured as a result (Photograph 3), with some product spilling into the tank pit. WSES immediately applied absorbent pads to collect spilled product (spots of hydrocarbon "sheen" and occasional tarry "dead oil" spots on the surface of the water). Although working carefully through the afternoon hours to excavate the south 20,000 gallon diesel UST, it also gave way, rupturing associated piping. However, on this occasion, the "floating" did not impact construction equipment and the tank itself remained intact.

Given the breach of one of the empty USTs, a pit water sample (PTW-1 in Table 1) was collected from the excavation on August 23, 2013 prior to performing any dewatering activities. Low concentrations of petroleum hydrocarbons were detected in PTW-1. Comparison to the most stringent standards appropriate for dewatering showed that the petroleum concentrations from the product release did not exceed the level of the most stringent risk-based assessment standards, and WSES was allowed to dispose of the pit water to the storm water drain system on the west side of the Site (Photograph 4) on August 28, 2013.

After dewatering, the pit was allowed to stand overnight and another confirmation pit water sample was collected (PTW-2 in Table 1) was collected on the morning of August 29, after groundwater was allowed to recharge the pit (Photograph 5). The excavation was subsequently lined with a textile (Photograph 6) and subsequently backfilled with 3/4 pea gravel and 4" rock the same day (Photograph 7). On the morning of September 9, the site was covered with new concrete (Photograph 8).

5.0 RESULTS

The ODEQ risk-based guidelines provide suggested cleanup standards for petroleum-related compounds for various exposure pathways, some of which are more stringent than others. Use of the most appropriate standards for groundwater depends on the use of the groundwater. In this case, groundwater was to be discharged to the storm drain system, which ultimately discharges to Bear Creek several thousand feet away. Therefore, the use of standards based on exposure pathways to human health (drinking water, volatilization underneath a building, etc.) was not appropriate. Instead, the ODEQ Ecology Standards for aquatic organisms listed in the Level II Screening Benchmark Tables Updated in 2001 were used as the most-stringent appropriate criteria.

Review of results shown in Table 1 shows:

- The initial baseline groundwater sample (SP-W1) indicates that no hydrocarbons were detected in the groundwater at the tank site prior to decommissioning.
- Hydrocarbons were introduced during the UST removal and rupture of the empty tank (PTW-1). However, hydrocarbon concentrations do not exceed the most stringent ecological risk-based standard used for dewatering to the storm drain.
- Finally, the confirmation pit water sample collected just after dewatering (PTW-2) shows that, with the exception of total petroleum hydrocarbons in the diesel range (TPH-Dx), no hydrocarbons were detected in the water remaining in the excavation prior to backfilling. TPH-Dx was detected at 92.1 micrograms per liter, which is orders of magnitude lower than any cleanup standards, and close to the laboratory's minimum detection limit (50 micrograms per liter) for TPH-Dx.

7.0 FINDINGS

Based on this investigation, Katalyst concludes the following:

1. Although the high groundwater conditions, in tandem with the substandard coupling bolts used to anchor the UST's caused both tanks to "float" and rupture associated piping, the associated product spill was not sufficient to exceed the most stringent appropriate standards applicable to the Site.

2. No exceedances of appropriate cleanup standards were observed during dewatering.

3. With the exception of a trace of TPH-Dx, well below all ODEQ cleanup standards, groundwater conditions returned to pre-decommissioning conditions on the day the excavation was filled.

8.0 RECOMMENDATIONS

Groundwater questions pertaining to the Site have successfully been answered. No exceedances occurred during dewatering. Katalyst suggests that no further action is necessary.

9.0 LIMITATIONS

With the exception of providing oversight pertaining to monitoring groundwater during decommissioning as outlined in the objectives of this report, Katalyst was not involved with other decommissioning activities.

The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated, and are based on the assumption that Site conditions do not deteriorate from those observed during the investigation. This report is not a definitive study of contamination at the Site and should not be interpreted as such.
This report was prepared for Space, LLC by Katalyst pursuant to a request for services and is accurate to the best of Katalyst's knowledge and belief.

Katalyst staff who assisted with this investigation and report are engineers and scientists, not attorneys. Therefore, it must be clear to all parties that this report does not offer any legal opinion, representation, or interpretation of environmental laws, rules, regulations, or policies of federal, state, or local government agencies.

Table 1: Laboratory Results - Water Samples (shown in micrograms per liter)

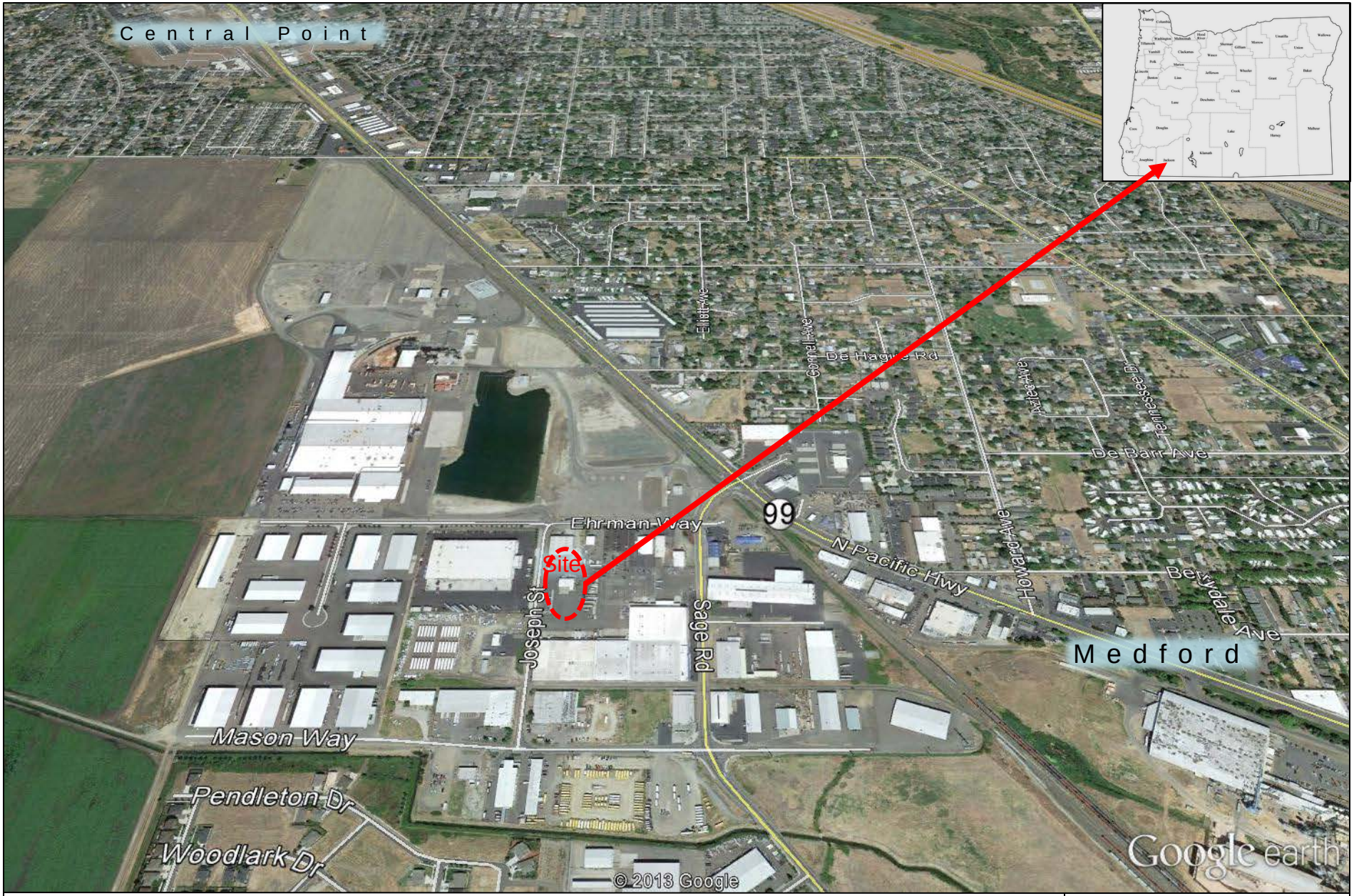
Sample ID	SP-W1	PTW-1	PTW-2	ODEQ
Sample Date	10-May-13	27-Aug-13	3-Sep-13	Ecological
TPH as diesel	ND	645	92.1	ns
TPH as lube oil	ND	ND	ND	ns
TPH as gasoline	ND	-	-	ns
Benzene	-	1.13	ND	130
Ethylbenzene	-	1.96	ND	7.3
Napthalene	-	1.23	ND	620
Toluene	-	5.63	ND	9.8
Xylenes (Total)	-	11.3	ND	13

ND = Non Detect

ns = no standard

ODEQ Ecology Standard is for aquatic organisms (from Level II Screening Benchmark Tables Updated 2001)

"-" = not analyzed



Source: Oblique aerial modified from Google Earth August 2012

Figure 1. Site Location

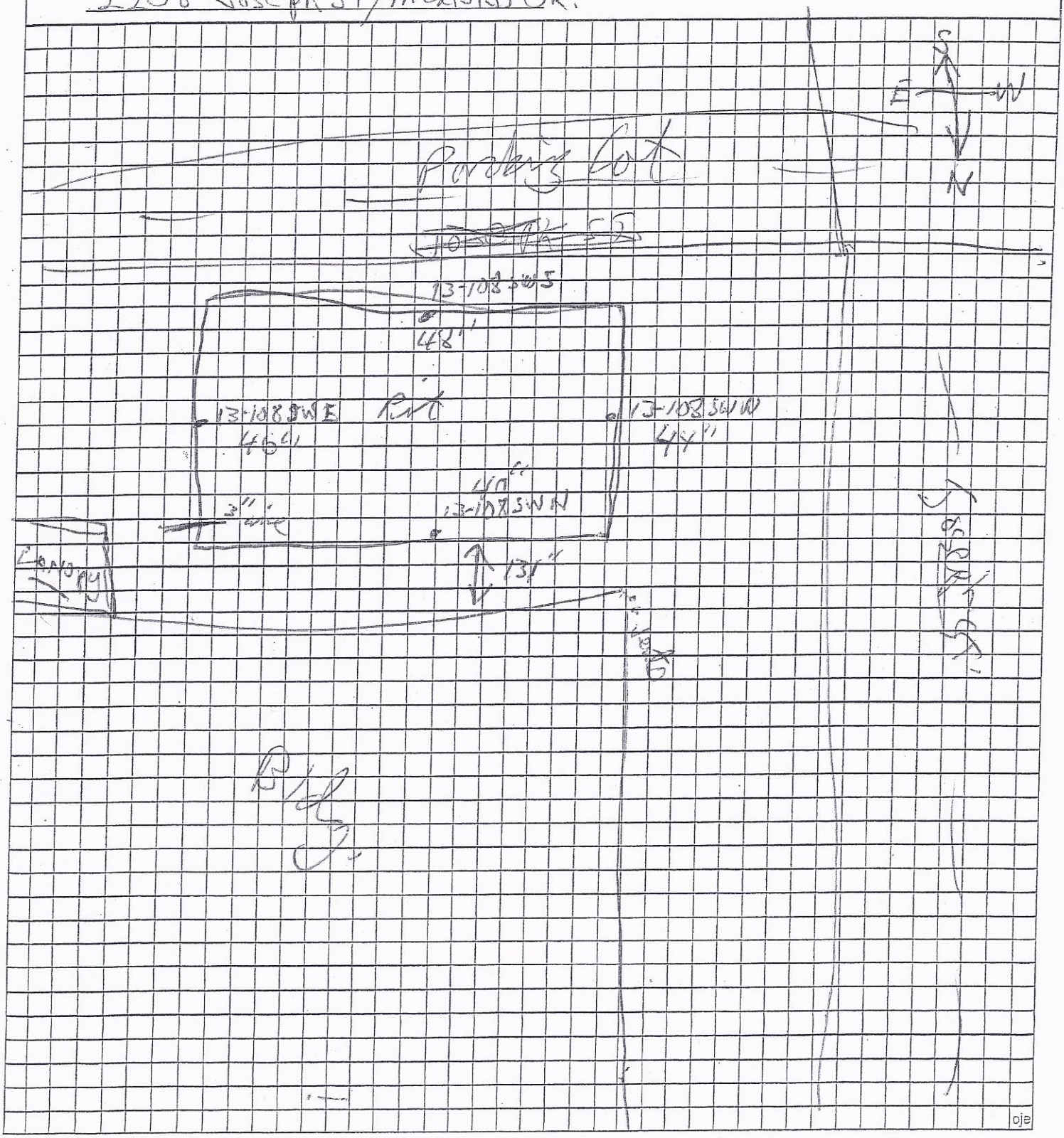
Katalyst, Inc.
UST Decommissioning
2108 Joseph St. Medford, OR

Western States
Environmental Services, Inc.

Job Name and Address
SPACE LLC
2208 Joseph ST / Medford OR.

Job Number: 13-108

Date: 8/26/13



ojb

Western States
Environmental Services, Inc.

Job Name and Address: JRECO LLC
2208 Joseph St. Medford

Job Number: 13-108

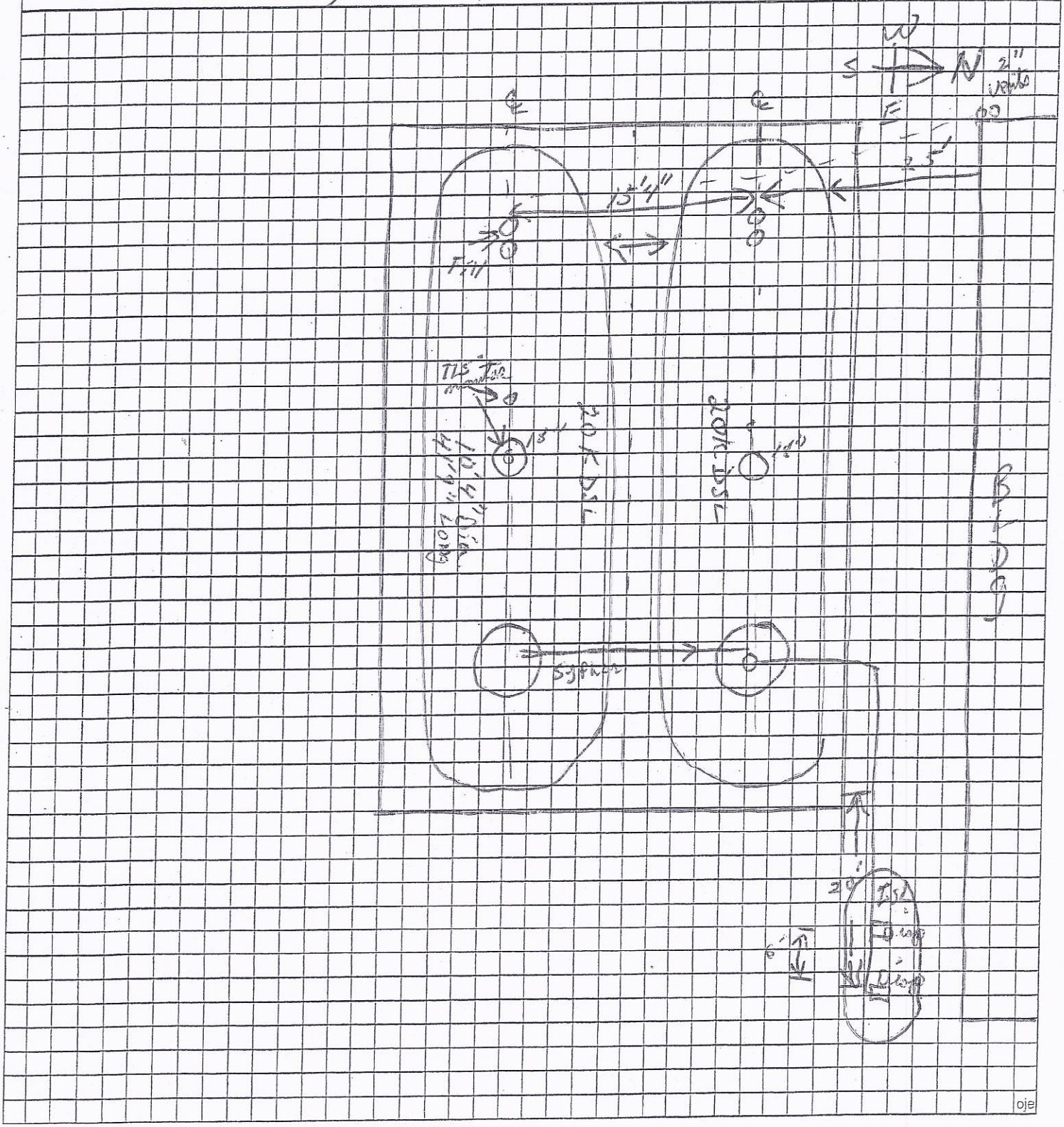
Date: 8/26/13

Western States
Environmental Services, Inc.

Job Name and Address
SPACE LLC
2203 JOSEPH ST, MEDFORD, OR

Job Number: 13-108

Date: 8/26/13

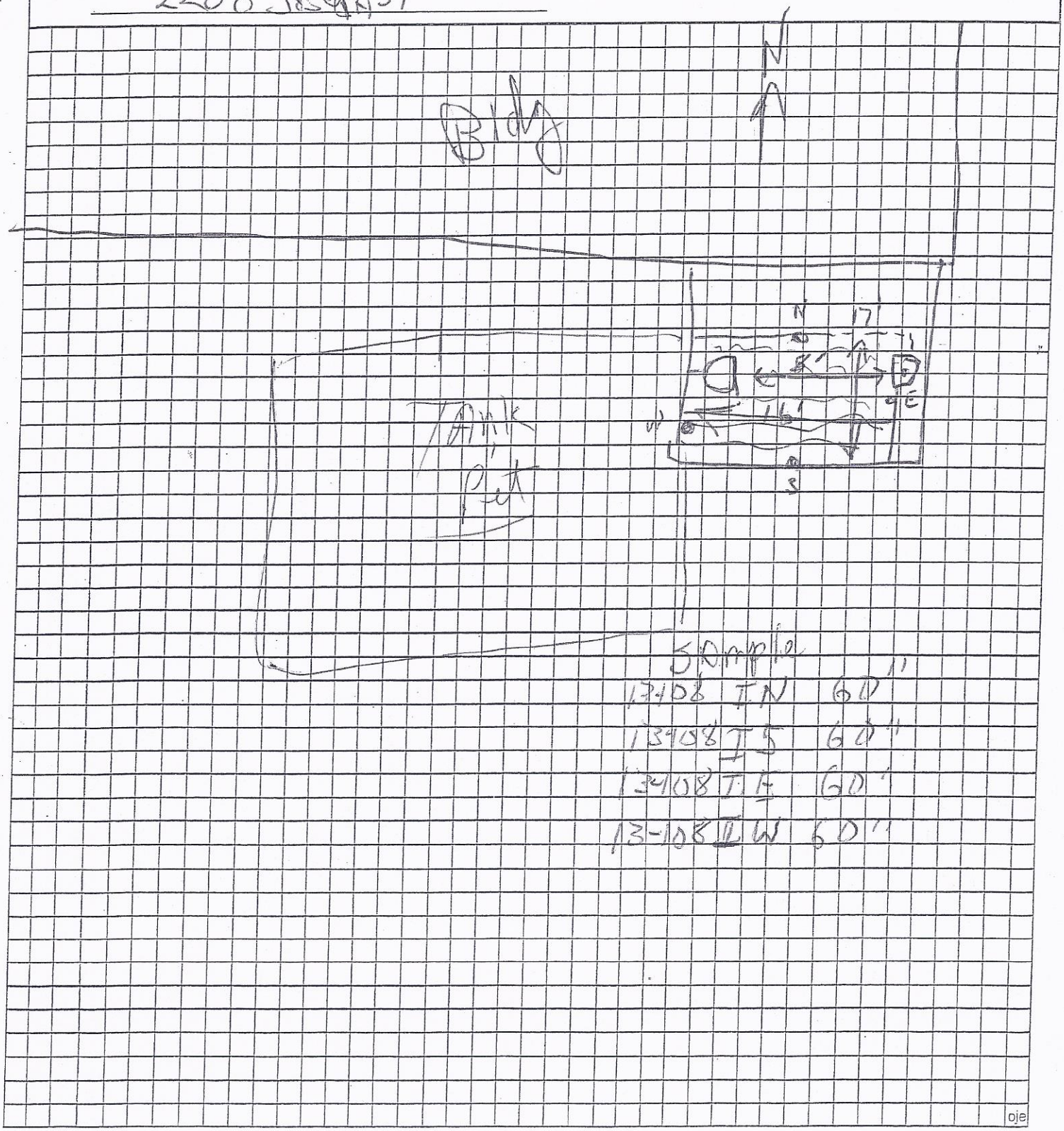


Western States
Environmental Services, Inc.

Job Name and Address
SPACE LLC
2208 JOSEPH ST

Job Number: 13-108

Date: 9/3/13



Sample

13-108	TN	60'
13-108	TS	60'
13-108	TE	60'
13-108	TW	60'

oje

Photograph 1. Looking west at the location of the covers of the two USTs and the Observation Port Cover (background center) between them. 5-6-2013.

Photograph 2. Collection of the initial groundwater sample from the Observation Port. 5-6-2013.

Photograph 3. Tank Pit after removal of first tank, note deployment of absorbent pads, fractured tank. 8-23-2013.

Photograph 4. Dewatering to the nearby storm drain along Joseph St. 8-29-2013.

Photograph 5. Looking west as groundwater recharges the recently dewatered excavation following UST removal. 8-29-2013.

Photograph 6. Looking west at laying the liner prior to backfilling. 8-29-2013.

Photograph 7. Looking east as backfill is compacted. 8-29-2013.

Photograph 8. Looking west just after the new concrete pad has been poured. 9-9-2013

NEILSON RESEARCH CORPORATION
Environmental Testing Laboratory

5/10/13

Robert Coffan
Katalyst
2499 Happy Valley Dr
Medford, OR 97501

TEL: (541) 227-9024
FAX

RE: 1311 Space - Penske

Order No.: 1305150

Dear Robert Coffan:

Neilson Research Corporation received 1 sample(s) on 5/6/13 for the analyses presented in the following report.

The results relate only to the parameters tested or to the sample as received by the laboratory. This report shall not be reproduced except in full, without the written approval of Neilson Research Corporation. If you have any questions regarding these test results, please feel free to call.

Sincerely,
Neilson Research Corporation

Fay L. Fowler
Project Manager

245 South Grape Street ♙ Medford, OR 97501-3123 ♙ (541) 770-5678 ♙ fax (541) 770-2901

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

CLIENT: Katalyst
Project: 1311 Space - Penske
Lab Order: 1305150

Date: 10-May-13

CASE NARRATIVE

The analyses were performed according to the guidelines in the Neilson Research Corporation Quality Assurance Program. This report contains analytical results for the sample(s) as received by the laboratory.

Neilson Research Corporation certifies that this report is in compliance with the requirements of NELAP. No unusual difficulties were experienced during analysis of this batch except as noted below or qualified with data flags on the reports.

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report ORELAP 100016 EPA OR00028

Katalyst
2499 Happy Valley Dr
Medford, OR 97501
Client Sample ID: **SP - W1**
Sample Location: **SP - W1**
Project: **1311 Space - Penske**

Lab Order: **1305150**
NRC Sample ID **1305150-01**
Collection Date: **5/6/13 12:30:00 PM**
Received Date: **5/6/13 1:16:00 PM**
Reported Date: **5/10/13 2:23:58 PM**
Matrix: **Aqueous**

ANALYTICAL RESULTS

Analyses	NELAC Accredited	Result	Qual	MRL	Units	Dilution Factor	Date Analyzed
Northwest TPH Dx in Water by NWTPH-DX							*Analyst: **CSB***
TPH as Diesel	A	**ND**		0.05	mg/L	1	5/8/13
TPH as Lube Oil	A	**ND**		0.1	mg/L	1	5/8/13
Surr: o-Terphenyl		**117**		0	%REC	1	5/8/13
Northwest TPH Gasoline in Water by GC-FID by NWTPH-GX							*Analyst: **BAY***
TPH as Gasoline	A	**ND**		0.05	mg/L	1	5/9/13
Surr: 4-Bromofluorobenzene		**94.5**		0	%REC	1	5/9/13

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
MRL - Minimum Reporting Limit

1

CLIENT: Katalyst
Work Order: 1305150
Project: 1311 Space - Penske

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDX_W

Sample ID	MB-27363	SampType:	MBLK	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	5/8/13	RunNo:	67325
Client ID:	ZZZZZ	Batch ID:	27363	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	5/8/13	SeqNo:	997094

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	ND	0.0500									
TPH as Lube Oil	ND	0.100									
Surr: o-Terphenyl	0.02167	0	0.02	0	108	50	150				

Sample ID	LCS-27363	SampType:	LCS	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	5/8/13	RunNo:	67325
Client ID:	ZZZZZ	Batch ID:	27363	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	5/8/13	SeqNo:	997095

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	0.9027	0.0500	1	0.01753	88.5	50	150				
Surr: o-Terphenyl	0.02285	0	0.02	0	114	50	150				

Sample ID	1305150-01BMS	SampType:	MS	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	5/8/13	RunNo:	67325
Client ID:	SP - W1	Batch ID:	27363	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	5/8/13	SeqNo:	997097

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	0.9507	0.0500	1	0	95.1	50	150				
Surr: o-Terphenyl	0.02744	0	0.02	0	137	50	150				

Sample ID	1305150-01BMSD	SampType:	MSD	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	5/8/13	RunNo:	67325
Client ID:	SP - W1	Batch ID:	27363	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	5/8/13	SeqNo:	997098

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	0.9991	0.0500	1	0	99.9	50	150	0.9507	4.96	20	
Surr: o-Terphenyl	0.02793	0	0.02	0	140	50	150	0	0	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Minimum Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

CLIENT: Katalyst
Work Order: 1305150
Project: 1311 Space - Penske

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHGX_W

Sample ID **MB**	SampType: **MBLK**	TestCode: **NWTPHGX_**	Units: **mg/L**	Prep Date:			RunNo: **67341**			
Client ID: **ZZZZZ**	Batch ID: **R67341**	TestNo: **NWTPH-GX**		Analysis Date: **5/9/13**			SeqNo: **997255**			
Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Gasoline	ND	0.0500									
Surr: 4-Bromofluorobenzene	0.02008	0	0.02	0	100	50	150				

Sample ID **LCS**	SampType: **LCS**	TestCode: **NWTPHGX_**	Units: **mg/L**	Prep Date:			RunNo: **67341**			
Client ID: **ZZZZZ**	Batch ID: **R67341**	TestNo: **NWTPH-GX**		Analysis Date: **5/9/13**			SeqNo: **997260**			
Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Gasoline	0.5114	0.0500	0.5	0	102	80	120				
Surr: 4-Bromofluorobenzene	0.02060	0	0.02	0	103	50	150				

Sample ID **1305150-01AMS**	SampType: **MS**	TestCode: **NWTPHGX_**	Units: **mg/L**	Prep Date:			RunNo: **67341**			
Client ID: **SP - W1**	Batch ID: **R67341**	TestNo: **NWTPH-GX**		Analysis Date: **5/9/13**			SeqNo: **997257**			
Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Gasoline	0.5083	0.0500	0.5	0.01041	99.6	70	130				
Surr: 4-Bromofluorobenzene	0.01904	0	0.02	0	95.2	50	150				

Sample ID **1305150-01AMSD**	SampType: **MSD**	TestCode: **NWTPHGX_**	Units: **mg/L**	Prep Date:			RunNo: **67341**			
Client ID: **SP - W1**	Batch ID: **R67341**	TestNo: **NWTPH-GX**		Analysis Date: **5/9/13**			SeqNo: **997258**			
Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Gasoline	0.4912	0.0500	0.5	0.01041	96.2	70	130	0.5083	3.42	25	
Surr: 4-Bromofluorobenzene	0.01892	0	0.02	0	94.6	50	150	0	0	0	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Minimum Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

NEILSON RESEARCH CORPORATION

245 S. GRAPE ST. * MEDFORD, OR 97501-3123 * (541) 770-5678 * FAX (541) 770-2901
Environmental Testing Laboratory ORELAP 100016

Chain of Custody Record

Date 5-6-13 Page 1 of 1

Attention: Robert Coffan
Results and Invoice to: Katalyst Inc.
Address: 2499 Happy Valley Dr.
Medford OR 97501
Phone: 541-227-9027 Sampled By: RAC
Fax #: P.O. #:

REPORTING REQUEST

Preliminary: Fax ☐ Verbal ☐ email ☒
Final: Written ☒ Fax ☐

RUSH REQUEST: ☐ 24–48 hrs. (100% sur)
☐ 5 days (50% sur) ☒ Standard 10–14 days
☐ Other 130515d

NRC - Page 6 of 6

PROJECT INFORMATION

Project Number: 1311
Project Name: Space - Penske
Attention:
Address:
Phone:

SPECIAL INSTRUCTIONS:

If: TPH-Gx
or
TPH-Dx is
detected. Then
run appropriate
RBDM petroleum
compounds
19.6 °C C/I

☐ 4°C
☐ EPA JARS/VIALS WITH TEFLON LIDS
☐
☐
FIELD BLANK INCLUDED: ☐ YES ☐ NO

ANALYSIS REQUEST

LAB ID	SAMPLE ID	DATE	TIME	SOIL/WATER OTHER	NO. OF CONTAINERS	TPH-Gx	TPH-Dx	RBDM-VOCs	PAHs	DEPTH	REMARKS/SAMPLE CONDITION
01	SP-W1	5-6-13	1230	W		XX					

RELINQUISHED BY (Sign and Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
Robert A Coffan / 5-6-13	1316		
Robert A Coffan		REC'D. BY (LABORATORY)	5/6/13 13:16

Note: See Standard Terms & Conditions on reverse side of this form.

SAMPLE DISPOSAL
☒ NRC disposal of non-contaminated
☐ Return ☐ Pick up

CHAIN OF CUSTODY SEALS Y/N/NA
SHIPPED VIA: UPS Fed-Ex Bus Hand

NEILSON RESEARCH CORPORATION
Environmental Testing Laboratory

8/27/13

Robert Coffan
Katalyst
2499 Happy Valley Dr
Medford, OR 97501

TEL: (541) 227-9024
FAX

RE: PT1 - Penske Trucking

Order No.: 1308806

Dear Robert Coffan:

Neilson Research Corporation received 2 sample(s) on 8/23/13 for the analyses presented in the following report.

The results relate only to the parameters tested or to the sample as received by the laboratory. This report shall not be reproduced except in full, without the written approval of Neilson Research Corporation. If you have any questions regarding these test results, please feel free to call.

Sincerely,
Neilson Research Corporation

Fay L. Fowler
Project Manager

245 South Grape Street ♙ Medford, OR 97501-3123 ♙ (541) 770-5678 ♙ fax (541) 770-2901

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

CLIENT: Katalyst
Project: PT1 - Penske Trucking
Lab Order: 1308806

Date: 27-Aug-13

CASE NARRATIVE

The analyses were performed according to the guidelines in the Neilson Research Corporation Quality Assurance Program. This report contains analytical results for the sample(s) as received by the laboratory.

Neilson Research Corporation certifies that this report is in compliance with the requirements of NELAP. No unusual difficulties were experienced during analysis of this batch except as noted below or qualified with data flags on the reports.

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

Katalyst
2499 Happy Valley Dr
Medford, OR 97501
Client Sample ID: **PTW - 1**
Sample Location: **PTW - 1**
Project: **PT1 - Penske Trucking**

Lab Order: **1308806**
NRC Sample ID **1308806-01**
Collection Date: **8/23/13 15:40:00**
Received Date: **8/23/13 16:05:00**
Reported Date: **8/27/13 12:22:09**
Matrix: **Aqueous**

ANALYTICAL RESULTS

Analyses	NELAC Accredited	Result	Qual	MRL	Units	Dilution Factor	Date Analyzed
Northwest TPH Dx in Water by NWTPH-DX							*Analyst:* ***CSB***
TPH as Diesel	A	**0.645**		0.05	mg/L	1	8/26/13
TPH as Lube Oil	A	**ND**		0.1	mg/L	1	8/26/13
Surr: o-Terphenyl		**63.4**		0	%REC	1	8/26/13
BTEX + Additives by EPA 8260B							*Analyst:* ***BAY***
Benzene	A	**1.13**		0.35	µg/L	1	8/26/13
Ethylbenzene	A	**1.96**		0.5	µg/L	1	8/26/13
Naphthalene	A	**1.23**		0.5	µg/L	1	8/26/13
Toluene	A	**5.63**		0.5	µg/L	1	8/26/13
Xylenes, Total	A	**11.3**		1.5	µg/L	1	8/26/13
Surr: 4-Bromofluorobenzene		**98.9**		0	%REC	1	8/26/13
Surr: Dibromofluoromethane		**102**		0	%REC	1	8/26/13
Surr: Toluene-d8		**97.0**		0	%REC	1	8/26/13

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
MRL - Minimum Reporting Limit

1

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

Katalyst
2499 Happy Valley Dr
Medford, OR 97501
Client Sample ID: **Trip Blank 8302**
Sample Location:
Project: **PT1 - Penske Trucking**

Lab Order: **1308806**
NRC Sample ID **1308806-02**
Collection Date: **8/23/13**
Received Date: **8/23/13 16:05:00**
Reported Date: **8/27/13 12:22:10**
Matrix: **Water**

ANALYTICAL RESULTS

Analyses	NELAC Accredited	Result	Qual	MRL	Units	Dilution Factor	Date Analyzed
BTEX + Additives by EPA 8260B							*Analyst: **BAY***
Benzene	A	**ND**		0.35	µg/L	1	8/26/13
Ethylbenzene	A	**ND**		0.5	µg/L	1	8/26/13
Naphthalene	A	**ND**		0.5	µg/L	1	8/26/13
Toluene	A	**ND**		0.5	µg/L	1	8/26/13
Xylenes, Total	A	**ND**		1.5	µg/L	1	8/26/13
Surr: 4-Bromofluorobenzene		**98.9**		0	%REC	1	8/26/13
Surr: Dibromofluoromethane		**103**		0	%REC	1	8/26/13
Surr: Toluene-d8		**97.6**		0	%REC	1	8/26/13

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
MRL - Minimum Reporting Limit

2

CLIENT: Katalyst
Work Order: 1308806
Project: PT1 - Penske Trucking

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_MS_W

Sample ID **MB** SampType: **MBLK** TestCode: **BTEX_MS_W** Units: **µg/L** Prep Date: RunNo: **69170**
Client ID: **ZZZZZ** Batch ID: **R69170** TestNo: **EPA 8260B** Analysis Date: **8/26/13** SeqNo: **1027233**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.350									
Ethylbenzene	ND	0.500									
Naphthalene	ND	0.500									
Toluene	ND	0.500									
o-Xylene	ND	0.500									
m,p-Xylene	ND	1.00									
Xylenes, Total	ND	1.50									
Surr: 4-Bromofluorobenzene	41.84	0	40	0	105	80	120				
Surr: Dibromofluoromethane	40.68	0	40	0	102	80	120				
Surr: Toluene-d8	39.46	0	40	0	98.6	80	120				

Sample ID **LCS** SampType: **LCS** TestCode: **BTEX_MS_W** Units: **µg/L** Prep Date: RunNo: **69170**
Client ID: **ZZZZZ** Batch ID: **R69170** TestNo: **EPA 8260B** Analysis Date: **8/26/13** SeqNo: **1027250**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.37	0.350	20	0	102	70	130				
Ethylbenzene	20.36	0.500	20	0	102	70	130				
Naphthalene	21.66	0.500	20	0	108	70	130				
Toluene	19.94	0.500	20	0	99.7	70	130				
o-Xylene	21.03	0.500									
m,p-Xylene	41.92	1.00									
Xylenes, Total	62.95	1.50	60	0	105	70	130				
Surr: 4-Bromofluorobenzene	43.12	0	40	0	108	80	120				
Surr: Dibromofluoromethane	40.91	0	40	0	102	80	120				
Surr: Toluene-d8	38.41	0	40	0	96.0	80	120				

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Minimum Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Katalyst
Work Order: 1308806
Project: PT1 - Penske Trucking

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_MS_W

Sample ID **1308806-01BMS** SampType: **MS** TestCode: **BTEX_MS_W** Units: **µg/L** Prep Date: RunNo: **69170**
Client ID: **PTW - 1** Batch ID: **R69170** TestNo: **EPA 8260B** Analysis Date: **8/26/13** SeqNo: **1027240**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	23.22	0.350	20	1.13	110	70	130				
Ethylbenzene	23.52	0.500	20	1.96	108	70	130				
Naphthalene	20.37	0.500	20	1.23	95.7	70	130				
Toluene	30.40	0.500	20	5.63	124	70	130				
Xylenes, Total	85.02	1.50	60	11.27	123	70	130				
Surr: 4-Bromofluorobenzene	45.79	0	40	0	114	80	120				
Surr: Dibromofluoromethane	40.05	0	40	0	100	80	120				
Surr: Toluene-d8	39.47	0	40	0	98.7	80	120				

Sample ID **1308806-01BMSD** SampType: **MSD** TestCode: **BTEX_MS_W** Units: **µg/L** Prep Date: RunNo: **69170**
Client ID: **PTW - 1** Batch ID: **R69170** TestNo: **EPA 8260B** Analysis Date: **8/26/13** SeqNo: **1027241**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.81	0.350	20	1.13	103	70	130	23.22	6.26	20	
Ethylbenzene	22.41	0.500	20	1.96	102	70	130	23.52	4.83	20	
Naphthalene	19.61	0.500	20	1.23	91.9	70	130	20.37	3.80	20	
Toluene	28.73	0.500	20	5.63	116	70	130	30.4	5.65	20	
Xylenes, Total	80.10	1.50	60	11.27	115	70	130	0	0	20	
Surr: 4-Bromofluorobenzene	44.28	0	40	0	111	80	120	0	0	20	
Surr: Dibromofluoromethane	39.06	0	40	0	97.6	80	120	0	0	20	
Surr: Toluene-d8	38.72	0	40	0	96.8	80	120	0	0	20	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Minimum Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Katalyst
Work Order: 1308806
Project: PT1 - Penske Trucking

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDX_W

Sample ID	MB-28204	SampType:	MBLK	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/25/13	RunNo:	69193
Client ID:	ZZZZZ	Batch ID:	28204	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/26/13	SeqNo:	1027308

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	ND	0.0500									
TPH as Lube Oil	ND	0.100									
Surr: o-Terphenyl	0.01514	0	0.02	0	75.7	50	150				

Sample ID	LCS-28204	SampType:	LCS	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/25/13	RunNo:	69193
Client ID:	ZZZZZ	Batch ID:	28204	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/26/13	SeqNo:	1027309

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	0.7925	0.0500	1	0	79.3	50	150				
Surr: o-Terphenyl	0.01748	0	0.02	0	87.4	50	150				

Sample ID	1308806-01AMS	SampType:	MS	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/26/13	RunNo:	69193
Client ID:	PTW - 1	Batch ID:	28204	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/26/13	SeqNo:	1027311

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	1.216	0.0500	1	0.6455	57.0	50	150				
Surr: o-Terphenyl	0.01682	0	0.02	0	84.1	50	150				

Sample ID	1308806-01AMSD	SampType:	MSD	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/26/13	RunNo:	69193
Client ID:	PTW - 1	Batch ID:	28204	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/26/13	SeqNo:	1027312

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	1.188	0.0500	1	0.6455	54.3	50	150	1.216	2.29	20	
Surr: o-Terphenyl	0.01594	0	0.02	0	79.7	50	150	0	0	20	

Qualifiers:
E Value above quantitation range
ND Not Detected at the Minimum Reporting Limit
H Holding times for preparation or analysis exceeded
R RPD outside accepted recovery limits
J Analyte detected below quantitation limits
S Spike Recovery outside accepted recovery limits

NEILSON RESEARCH CORPORATION

245 S. GRAPE ST. • MEDFORD, OR 97501-3123 • (541) 770-5678 • FAX (541) 770-2901
Environmental Testing Laboratory ORELAP 100016

Chain of Custody Record

Date 8/23/13 Page 1 of 1

Attention: Robert A Coffan
Results and Invoice to: Katalyst, Inc.
Address: 2499 Happy Valley Drive
Medford, OR 97501
Phone: (541) 227-9024 Sampled By:
Fax #: P.O. #:

REPORTING REQUEST

Preliminary: Fax ☐ Verbal ☐
Final: Written ☑ Fax ☐ pdf Robert, Dr. Lane, J. Early

RUSH REQUEST: ☐ 24–48 hrs. (100% sur)
☐ 5 days (50% sur) ☐ Standard 10–14 days
Other

NRC - Page 8 of 8

PROJECT INFORMATION

Project Number: Penske Truck
Project Name: PTI
Attention:
Address:
Phone:

SPECIAL INSTRUCTIONS:

Pdf *rcoffan@charter.net
pdf - Dr Lane + John Early - WSE

☐ 4°C 13°C Cooler + Ice
☐ EPA JARS/VIALS WITH TEFLON LIDS
☐
☐
FIELD BLANK INCLUDED: ☐ YES ☑ NO

1308806

LAB ID	SAMPLE ID	DATE	TIME	SOIL/WATER OTHER	NO. OF CONTAINERS	ANALYSIS REQUEST: NWTPHDX	ANALYSIS REQUEST: BTEX + N	DEPTH	REMARKS/SAMPLE CONDITION
01	PTW-1.	8/23	~~4:05 PM~~ 3:40PM.	W	6	✓	✓		Amber
					4				VOC's

RELINQUISHED BY (Sign and Print)

Jan / Charles Lane

DATE/TIME 8/23/13 16:05

RECEIVED BY (Sign)

REC'D. BY (LABORATORY) Fowler, Jay

DATE/TIME 8/23/13 16:05

SAMPLE DISPOSAL
☑ NRC disposal of non-contaminated
☐ Return ☐ Pick up

CHAIN OF CUSTODY SEALS Y/N/NA N
SHIPPED VIA: UPS Fed-Ex Bus (Hand)

Note: See Standard Terms & Conditions on reverse side of this form.

NEILSON RESEARCH CORPORATION
Environmental Testing Laboratory

9/3/13

Robert Coffan
Katalyst
2499 Happy Valley Dr
Medford, OR 97501

TEL: (541) 227-9024
FAX

RE: PT1 - Penske Trucking

Order No.: 1308926

Dear Robert Coffan:

Neilson Research Corporation received 2 sample(s) on 8/29/13 for the analyses presented in the following report.

The results relate only to the parameters tested or to the sample as received by the laboratory. This report shall not be reproduced except in full, without the written approval of Neilson Research Corporation. If you have any questions regarding these test results, please feel free to call.

Sincerely,
Neilson Research Corporation

Fay L. Fowler
Project Manager

CC:
Charles Lane
John Early - WSE

245 South Grape Street ▵ Medford, OR 97501-3123 ▵ (541) 770-5678 ▵ fax (541) 770-2901

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

CLIENT: Katalyst
Project: PT1 - Penske Trucking
Lab Order: 1308926

Date: 03-Sep-13

CASE NARRATIVE

The analyses were performed according to the guidelines in the Neilson Research Corporation Quality Assurance Program. This report contains analytical results for the sample(s) as received by the laboratory.

Neilson Research Corporation certifies that this report is in compliance with the requirements of NELAP. No unusual difficulties were experienced during analysis of this batch except as noted below or qualified with data flags on the reports.

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

Katalyst
2499 Happy Valley Dr
Medford, OR 97501
Client Sample ID: **PTW - 2**
Sample Location: **PTW - 2**
Project: **PT1 - Penske Trucking**

Lab Order: **1308926**
NRC Sample ID **1308926-01**
Collection Date: **8/29/13 7:30:00**
Received Date: **8/29/13 11:15:00**
Reported Date: **9/3/13 14:09:12**
Matrix: **Aqueous**

ANALYTICAL RESULTS

Analyses	NELAC Accredited	Result	Qual	MRL	Units	Dilution Factor	Date Analyzed
Northwest TPH Dx in Water by NWTPH-DX							*Analyst:* ***CSB***
Diesel Range (C12 - C24)	A	**0.0921**	D1	0.05	mg/L	1	8/29/13
TPH as Lube Oil	A	**ND**		0.1	mg/L	1	8/29/13
Surr: o-Terphenyl		**78.1**		0	%REC	1	8/29/13
BTEX + Additives by EPA 8260B							*Analyst:* ***BAY***
Benzene	A	**ND**		0.35	µg/L	1	8/29/13
Ethylbenzene	A	**ND**		0.5	µg/L	1	8/29/13
Naphthalene	A	**ND**		0.5	µg/L	1	8/29/13
Toluene	A	**ND**		0.5	µg/L	1	8/29/13
Xylenes, Total	A	**ND**		1.5	µg/L	1	8/29/13
Surr: 4-Bromofluorobenzene		**97.9**		0	%REC	1	8/29/13
Surr: Dibromofluoromethane		**98.1**		0	%REC	1	8/29/13
Surr: Toluene-d8		**89.6**		0	%REC	1	8/29/13

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
MRL - Minimum Reporting Limit

2

Neilson Research Corporation

245 South Grape Street, Medford, Oregon 97501 541-770-5678 Fax 541-770-2901

Analysis Report

ORELAP 100016
EPA OR00028

Katalyst
2499 Happy Valley Dr
Medford, OR 97501
Client Sample ID: **Trip Blank 8185**
Sample Location:
Project: **PT1 - Penske Trucking**

Lab Order: **1308926**
NRC Sample ID **1308926-02**
Collection Date: **8/29/13**
Received Date: **8/29/13 11:15:00**
Reported Date: **9/3/13 10:32:04**
Matrix: **Water**

ANALYTICAL RESULTS

Analyses	NELAC Accredited	Result	Qual	MRL	Units	Dilution Factor	Date Analyzed
BTEX + Additives by EPA 8260B							*Analyst:* ***BAY***
Benzene	A	**ND**		0.35	µg/L	1	8/29/13
1,2-Dibromoethane (EDB)	A	**ND**		0.5	µg/L	1	8/29/13
Ethylbenzene	A	**ND**		0.5	µg/L	1	8/29/13
Naphthalene	A	**ND**		0.5	µg/L	1	8/29/13
Toluene	A	**ND**		0.5	µg/L	1	8/29/13
Xylenes, Total	A	**ND**		1.5	µg/L	1	8/29/13
Surr: 4-Bromofluorobenzene		**101**		0	%REC	1	8/29/13
Surr: Dibromofluoromethane		**98.6**		0	%REC	1	8/29/13
Surr: Toluene-d8		**93.1**		0	%REC	1	8/29/13

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
MRL - Minimum Reporting Limit

2

DATA FLAGS

B	Analyte detected in the associated method blank.
BA	BOD Alternative Calculation: The initial results performed by Standard Methods did not fall within parameters of the Standard Methods calculation. An alternate approved calculation was performed using the HACH method and the value reported is an estimated concentration.
C	Sample(s) does not meet NELAC/ORELAP sample acceptance criteria. See Case Narrative.
C1	Sample(s) does not meet NELAC/ORELAP sample acceptance criteria for temperature.
CF	Results confirmed by re-analysis.
CU	Cleanup performed as specified by method.
D1	The diesel elution pattern for the sample is not typical.
D2	The sample appears to be a heavier hydrocarbon range than diesel.
D3	The sample appears to be a lighter hydrocarbon range than diesel.
D4	Detected hydrocarbons do not have pattern and range consistent with typical petroleum products and may be due to biogenic interference.
D5	Detected hydrocarbons in the diesel range appear to be weathered diesel.
E	Estimated value.
ER	Elevated reporting limit due to matrix. Report limits (MDLs, MRLs & PQLs) are adjusted based on variations in sample preparation amounts, analytical dilutions, and percent solids, where applicable.
FC	Fecal Coliforms: Sample(s) received past 40 CFR Part 136 specified holding time. Results reported as estimated values.
G1	The gasoline elution pattern for the sample is not typical.
G2	The sample appears to be a heavier hydrocarbon range than gasoline.
G3	The sample appears to be a lighter hydrocarbon range than gasoline.
G4	Detected hydrocarbons in the gasoline range appear to be weathered gasoline.
HP	Sample re-analysis performed outside of method specified holding time.
HR	Sample received outside of method specified holding time.
HS	Sample analyzed for volatile organics contained headspace.
HT	At the client's request, the sample was analyzed outside of method specified holding time.
H	Analysis performed outside of method specified holding time.
J	Analyte detected below the Minimum Reporting Limit (MRL) and above the Method Detection Limit (MDL). The J flag result is an estimated value and the user should be aware that this data is of limited reliability.
MI	Surrogate or Matrix Spike recovery is out of control limits due to matrix interference. Sample results may be biased.
N	See Case Narrative on page 2 of report.
Q	Closing continuing calibration verification (CCV) or laboratory control sample (LCS) exceeded high recovery limits, but associated samples are non-detect and the sample results are not affected. Data meets EPA/NELAC requirements.
R	Relative percent difference (RPD) is outside of the accepted recovery limits.
R1	Relative percent difference (RPD) is outside of the accepted recovery limits. However, analyses are not controlled on RPD values for sample concentrations that are less than the reporting limit.
R3	The relative percent difference (RPD) and/or percent recovery for the duplicate (DUP) or matrix spike (MS)/matrix spike duplicate (MSD) cannot be accurately calculated due to the concentration of analyte already present in the sample.
R4	Duplicate analysis failed due to result being at or near method reporting limit.
S	Surrogate and/or matrix spike recovery is outside of the accepted recovery limits. Sample results may be biased.
S1	Surrogate or matrix spike recovery is outside of control limits due to dilution necessary for analysis.
SC	Sub-contracted to another laboratory for analysis.
T	Toxicity Characteristic Leaching Procedure – Sample submitted contained < 0.5% solids. If the waste contains <0.5% dry solids, the liquid portion of the waste, after filtration, is defined as the TCLP extract.
#	Value exceeds regulatory level for TCLP contaminant.
X1	The motor oil elution pattern for the sample is not typical.
X2	The sample appears to be a heavier hydrocarbon range than motor oil.
X3	The sample appears to be a lighter hydrocarbon range than motor oil.
*	Value exceeds Maximum Contaminant Level or is outside the acceptable range.

CLIENT: Katalyst
Work Order: 1308926
Project: PT1 - Penske Trucking

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_MS_W

Sample ID **MB**	SampType: **MBLK**	TestCode: **BTEX_MS_W**	Units: **µg/L**	Prep Date:	RunNo: **69241**
Client ID: **ZZZZZ**	Batch ID: **R69241**	TestNo: **EPA 8260B**		Analysis Date: **8/29/13**	SeqNo: **1028230**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.350									
1,2-Dibromoethane (EDB)	ND	0.500									
Ethylbenzene	ND	0.500									
Naphthalene	ND	0.500									
Toluene	ND	0.500									
o-Xylene	ND	0.500									
m,p-Xylene	ND	1.00									
Xylenes, Total	ND	1.50									
Surr: 4-Bromofluorobenzene	36.46	0	40	0	91.2	80	120				
Surr: Dibromofluoromethane	38.52	0	40	0	96.3	80	120				
Surr: Toluene-d8	27.90	0	40	0	69.8	80	120				S

Sample ID **LCS**	SampType: **LCS**	TestCode: **BTEX_MS_W**	Units: **µg/L**	Prep Date:	RunNo: **69241**
Client ID: **ZZZZZ**	Batch ID: **R69241**	TestNo: **EPA 8260B**		Analysis Date: **8/29/13**	SeqNo: **1028235**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.15	0.350	20	0	90.8	70	130				
1,2-Dibromoethane (EDB)	20.38	0.500	20	0	102	70	130				
Ethylbenzene	17.76	0.500	20	0	88.8	70	130				
Naphthalene	17.95	0.500	20	0	89.8	70	130				
Toluene	18.57	0.500	20	0	92.8	70	130				
o-Xylene	18.94	0.500									
m,p-Xylene	37.53	1.00									
Xylenes, Total	56.47	1.50	60	0	94.1	70	130				
Surr: 4-Bromofluorobenzene	41.83	0	40	0	105	80	120				
Surr: Dibromofluoromethane	41.52	0	40	0	104	80	120				
Surr: Toluene-d8	38.09	0	40	0	95.2	80	120				

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Minimum Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Katalyst
Work Order: 1308926
Project: PT1 - Penske Trucking

ANALYTICAL QC SUMMARY REPORT

TestCode: BTEX_MS_W

Sample ID **1308926-01BMS**	SampType: **MS**	TestCode: **BTEX_MS_W**	Units: **µg/L**	Prep Date:	RunNo: **69241**
Client ID: **PTW-2**	Batch ID: **R69241**	TestNo: **EPA 8260B**		Analysis Date: **8/29/13**	SeqNo: **1028232**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.85	0.350	20	0	94.2	70	130				
1,2-Dibromoethane (EDB)	21.48	0.500	20	0	107	70	130				
Ethylbenzene	18.91	0.500	20	0	94.6	70	130				
Naphthalene	17.05	0.500	20	0	85.2	70	130				
Toluene	19.17	0.500	20	0	95.8	70	130				
Xylenes, Total	60.90	1.50	60	0.93	100	70	130				
Surr: 4-Bromofluorobenzene	42.58	0	40	0	106	80	120				
Surr: Dibromofluoromethane	41.94	0	40	0	105	80	120				
Surr: Toluene-d8	37.15	0	40	0	92.9	80	120				

Sample ID **1308926-01BMSD**	SampType: **MSD**	TestCode: **BTEX_MS_W**	Units: **µg/L**	Prep Date:	RunNo: **69241**
Client ID: **PTW-2**	Batch ID: **R69241**	TestNo: **EPA 8260B**		Analysis Date: **8/29/13**	SeqNo: **1028233**

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.22	0.350	20	0	96.1	70	130	18.85	1.94	20	
1,2-Dibromoethane (EDB)	20.85	0.500	20	0	104	70	130	21.48	2.98	20	
Ethylbenzene	18.95	0.500	20	0	94.8	70	130	18.91	0.211	20	
Naphthalene	18.70	0.500	20	0	93.5	70	130	17.05	9.23	20	
Toluene	19.85	0.500	20	0	99.2	70	130	19.17	3.49	20	
Xylenes, Total	61.86	1.50	60	0.93	102	70	130	0	0	20	
Surr: 4-Bromofluorobenzene	42.81	0	40	0	107	80	120	0	0	20	
Surr: Dibromofluoromethane	40.48	0	40	0	101	80	120	0	0	20	
Surr: Toluene-d8	37.74	0	40	0	94.4	80	120	0	0	20	

Qualifiers:
E Value above quantitation range
H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits
ND Not Detected at the Minimum Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

CLIENT: Katalyst
Work Order: 1308926
Project: PT1 - Penske Trucking

ANALYTICAL QC SUMMARY REPORT

TestCode: NWTPHDX_W

Sample ID	MB-28237	SampType:	MBLK	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/29/13	RunNo:	69245
Client ID:	ZZZZZ	Batch ID:	28237	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/29/13	SeqNo:	1028363

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	ND	0.0500									
TPH as Lube Oil	ND	0.100									
Surr: o-Terphenyl	0.01388	0	0.02	0	69.4	50	150				

Sample ID	LCS-28237	SampType:	LCS	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/29/13	RunNo:	69245
Client ID:	ZZZZZ	Batch ID:	28237	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/29/13	SeqNo:	1028364

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH as Diesel	0.8318	0.0500	1	0	83.2	50	150				
Surr: o-Terphenyl	0.01870	0	0.02	0	93.5	50	150				

Sample ID	1308926-01AMS	SampType:	MS	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/29/13	RunNo:	69245
Client ID:	PTW - 2	Batch ID:	28237	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/29/13	SeqNo:	1028367

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: o-Terphenyl	0.01838	0	0.02	0	91.9	50	150				

Sample ID	1308926-01AMSD	SampType:	MSD	TestCode:	NWTPHDX_	Units:	mg/L	Prep Date:	8/29/13	RunNo:	69245
Client ID:	PTW - 2	Batch ID:	28237	TestNo:	NWTPH-DX	(EPA 3510C)		Analysis Date:	8/29/13	SeqNo:	1028368

Analyte	Result	MRL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: o-Terphenyl	0.01642	0	0.02	0	82.1	50	150	0	0	20	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Minimum Reporting Limit	R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits

NEILSON RESEARCH CORPORATION

245 S. GRAPE ST. * MEDFORD, OR 97501-3123 * (541) 770-5678 * FAX (541) 770-2901
Environmental Testing Laboratory ORELAP 100016

Chain of Custody Record

Date 8/29/13 Page 1 of 1

Attention: Robert A Coffan
Results and Invoice to: Katalyst, Inc.
Address: 2499 Happy Valley Drive
Medford, OR 97501
Phone: (541) 227-9024 Sampled By:
Fax #: P.O. #:

REPORTING REQUEST

Preliminary: Fax ☐ Verbal ☐
Final: Written ☑ Fax ☐ .pdf to Robert, Charles Love, John Early

RUSH REQUEST: ☐ 24–48 hrs. (100% sur)
☐ 5 days (50% sur) ☒ Standard 10–14 days
☐ Other

PROJECT INFORMATION

Project Number: PTW1
Project Name: Penske Truck
Attention:
Address:
Phone:

SPECIAL INSTRUCTIONS:

Pdf *rcoffan@charter.net

6.1° C/i
☐ 4°C
☐ EPA JARS/VIALS WITH TEFLON LIDS
☐
☐
FIELD BLANK INCLUDED: ☐ YES ☐ NO

1308926

LAB ID	SAMPLE ID	DATE	TIME	SOIL/WATER OTHER	NO. OF CONTAINERS	NWTPHDX	BTEX + N	DEPTH	REMARKS/SAMPLE CONDITION
01	PTW-2	8/29	07:30	W	6	✓			Analysis
				W	4		✓		VOC's

RELINQUISHED BY (Sign and Print)	DATE/TIME	RECEIVED BY (Sign)	DATE/TIME
C. Coffan / Charles Love	8/29/13@11:15		
		REC'D. BY (LABORATORY) KDean	8/29/13 11:15

SAMPLE DISPOSAL
☒ NRC disposal of non-contaminated
☐ Return ☐ Pick up

CHAIN OF CUSTODY SEALS Y/N/(NA)
SHIPPED VIA: UPS Fed-Ex Bus Hand

Note: See Standard Terms & Conditions on reverse side of this form.