



ANALYTICAL SUMMARY REPORT

September 09, 2022

Wesco Operating Inc
120 S Durbin St
Casper, WY 82602-2512

Work Order: C22080905 Quote ID: C15408

Project Name: Maudlin #12

Energy Laboratories, Inc. Casper WY received the following 6 samples for Wesco Operating Inc on 8/19/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C22080905-001	M#12 N	08/15/22 12:30	08/19/22	Solid	Metals by ICP/ICPMS, Total or Soluble Metals, CACL2 Extractable Metals, Saturated Paste Conductivity, Saturated Paste Extract Chromium, Hexavalent DRO-Ultrasonic Extraction Methanol Extraction for Volatiles Diesel Range Organics Gasoline Range Organics pH, Saturated Paste Digestion, Total Metals CaCl2 Hot Water Soil Extraction Alkaline Digestion For Hexavalent Chromium Saturated Paste Extraction Sodium Adsorption Ratio Soil Sonication SW3550C Extraction Semi-Volatile Organic Compounds Volatile Organics, Methanol Extraction SW8260B VOCs, Standard List
C22080905-002	M#12 S	08/15/22 12:45	08/19/22	Solid	Same As Above
C22080905-003	M#12 E	08/15/22 13:00	08/19/22	Solid	Same As Above
C22080905-004	M#12 W	08/15/22 13:15	08/19/22	Solid	Same As Above
C22080905-005	M#12 V	08/15/22 13:30	08/19/22	Solid	Same As Above
C22080905-006	M#12 Background	08/15/22 14:00	08/19/22	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager .

Report Approved By:



CLIENT: Wesco Operating Inc
Project: Maudlin #12
Work Order: C22080905

Report Date: 09/09/22

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.

Tests associated with analyst identified as ELI-H were subcontracted to Energy Laboratories, 3161 E.Lyndale Ave., Helena, MT, EPA Number MT00945.



Work Order Sample Summary

CLIENT: Wesco Operating Inc
Project: Maudlin #12
Work Order: C22080905

Report Date: 09/09/22

Lab ID	Client Sample ID	Collection Date	Date Received
C22080905-001	M#12 N	8/15/2022 12:30:00 PM	8/19/2022
C22080905-002	M#12 S	8/15/2022 12:45:00 PM	8/19/2022
C22080905-003	M#12 E	8/15/2022 1:00:00 PM	8/19/2022
C22080905-004	M#12 W	8/15/2022 1:15:00 PM	8/19/2022
C22080905-005	M#12 V	8/15/2022 1:30:00 PM	8/19/2022
C22080905-006	M#12 Background	8/15/2022 2:00:00 PM	8/19/2022



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-001
Client Sample ID: M#12 N

Report Date: 09/09/22
Collection Date: 08/15/22 12:30
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, sat. paste	7.7	s.u.		0.1		ASA10-3	09/01/22 09:21 / eli-h
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	5.9	mmhos/cm		0.1		ASA10-3	09/01/22 12:59 / eli-h
Sodium Adsorption Ratio (SAR)	9.0	unitless		0.1		USDA20b	09/06/22 15:51 / eli-h
METALS, TOTAL							
Arsenic	7.2	mg/kg		0.5		SW6020	08/26/22 20:53 / eli-h
Barium	163	mg/kg		1		SW6020	08/26/22 20:53 / eli-h
Cadmium	ND	mg/kg		1		SW6020	08/26/22 20:53 / eli-h
Chromium	10	mg/kg	D	3		SW6020	08/26/22 20:53 / eli-h
Copper	11	mg/kg	D	3		SW6020	08/26/22 20:53 / eli-h
Lead	14	mg/kg		1		SW6020	08/26/22 20:53 / eli-h
Nickel	9	mg/kg		1		SW6020	08/26/22 20:53 / eli-h
Selenium	ND	mg/kg		1		SW6020	08/26/22 20:53 / eli-h
Silver	ND	mg/kg		1		SW6020	09/01/22 17:10 / eli-h
Zinc	42	mg/kg	D	8		SW6020	08/26/22 20:53 / eli-h
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		1		SW7196A	08/30/22 18:30 / eli-h
METALS - CACL2 EXTRACTABLE							
Boron	0.4	mg/kg		0.1		SW6010B	09/01/22 18:03 / eli-h
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	08/27/22 07:16 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		78-160		SW8260B	08/27/22 07:16 / eli-b
Surr: Dibromofluoromethane	130	%REC		70-132		SW8260B	08/27/22 07:16 / eli-b
Surr: 1,2-Dichloroethane-d4	115	%REC		60-136		SW8260B	08/27/22 07:16 / eli-b
Surr: Toluene-d8	120	%REC		75-138		SW8260B	08/27/22 07:16 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	08/25/22 02:19 / adw
Total Purgeable Hydrocarbons	1.7	mg/kg	J	2.0		SW8015C	08/25/22 02:19 / adw
Surr: Trifluorotoluene	91.0	%REC		70-130		SW8015C	08/25/22 02:19 / adw
- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene. - Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.							

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-001
Client Sample ID: M#12 N

Report Date: 09/09/22
Collection Date: 08/15/22 12:30
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	61	mg/kg		10		SW8015C	08/27/22 10:04 / dse
Total Extractable Hydrocarbons	114	mg/kg		10		SW8015C	08/27/22 10:04 / dse
Total Petroleum Hydrocarbons (TPH)	108	mg/kg		10		SW8015C	08/29/22 13:36 / dse
Surr: o-Terphenyl	91.0	%REC		50-150		SW8015C	08/27/22 10:04 / dse

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

- Note 3: Total Petroleum Hydrocarbons (TPH) is calculated from the sum total of the Gasoline Range Organics (GRO) result and the Total Extractable Hydrocarbon Range from C10 through the end of the chromatogram (C40+).

SEMI-VOLATILE ORGANIC COMPOUNDS

1-Methylnaphthalene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Acenaphthene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Anthracene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Benzo(a)anthracene	1.4	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Benzo(a)pyrene	1.6	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Benzo(b)fluoranthene	1.8	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Benzo(k)fluoranthene	0.98	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Chrysene	1.7	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Fluoranthene	2.7	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Fluorene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Indeno(1,2,3-cd)pyrene	1.3	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Naphthalene	ND	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Pyrene	2.6	mg/kg		0.82		SW8270C	08/29/22 13:53 / eli-b
Surr: 2,4,6-Tribromophenol	69.0	%REC		53-141		SW8270C	08/29/22 13:53 / eli-b
Surr: 2-Fluorobiphenyl	73.0	%REC		63-98		SW8270C	08/29/22 13:53 / eli-b
Surr: 2-Fluorophenol	74.0	%REC		53-101		SW8270C	08/29/22 13:53 / eli-b
Surr: Nitrobenzene-d5	74.0	%REC		53-101		SW8270C	08/29/22 13:53 / eli-b
Surr: Phenol-d5	72.0	%REC		55-100		SW8270C	08/29/22 13:53 / eli-b
Surr: Terphenyl-d14	87.0	%REC		71-118		SW8270C	08/29/22 13:53 / eli-b

- The sample extract was diluted 5 times at analysis due to non-target compound sample matrix interference. The Reporting Limit reflects this dilution.

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-002
Client Sample ID: M#12 S

Report Date: 09/09/22
Collection Date: 08/15/22 12:45
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, sat. paste	7.8	s.u.		0.1		ASA10-3	09/01/22 09:22 / eli-h
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	2.8	mmhos/cm		0.1		ASA10-3	09/01/22 13:00 / eli-h
Sodium Adsorption Ratio (SAR)	6.6	unitless		0.1		USDA20b	09/06/22 15:51 / eli-h
METALS, TOTAL							
Arsenic	6.3	mg/kg		0.5		SW6020	08/26/22 20:55 / eli-h
Barium	190	mg/kg		1		SW6020	08/26/22 20:55 / eli-h
Cadmium	ND	mg/kg		1		SW6020	08/26/22 20:55 / eli-h
Chromium	13	mg/kg	D	3		SW6020	08/26/22 20:55 / eli-h
Copper	17	mg/kg	D	3		SW6020	08/26/22 20:55 / eli-h
Lead	30	mg/kg		1		SW6020	08/26/22 20:55 / eli-h
Nickel	12	mg/kg		1		SW6020	08/26/22 20:55 / eli-h
Selenium	ND	mg/kg		1		SW6020	08/26/22 20:55 / eli-h
Silver	ND	mg/kg		1		SW6020	09/01/22 17:11 / eli-h
Zinc	74	mg/kg	D	8		SW6020	08/26/22 20:55 / eli-h
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		1		SW7196A	08/30/22 18:30 / eli-h
METALS - CACL2 EXTRACTABLE							
Boron	0.7	mg/kg		0.1		SW6010B	09/01/22 18:27 / eli-h
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	08/27/22 07:41 / eli-b
Surr: p-Bromofluorobenzene	101	%REC		78-160		SW8260B	08/27/22 07:41 / eli-b
Surr: Dibromofluoromethane	125	%REC		70-132		SW8260B	08/27/22 07:41 / eli-b
Surr: 1,2-Dichloroethane-d4	112	%REC		60-136		SW8260B	08/27/22 07:41 / eli-b
Surr: Toluene-d8	113	%REC		75-138		SW8260B	08/27/22 07:41 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	08/25/22 02:58 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	08/25/22 02:58 / adw
Surr: Trifluorotoluene	77.0	%REC		70-130		SW8015C	08/25/22 02:58 / adw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

Report Definitions:	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
	QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
	D - Reporting Limit (RL) increased due to sample matrix	



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-002
Client Sample ID: M#12 S

Report Date: 09/09/22
Collection Date: 08/15/22 12:45
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	22	mg/kg		10		SW8015C	08/27/22 12:27 / dse
Total Extractable Hydrocarbons	48	mg/kg		10		SW8015C	08/27/22 12:27 / dse
Total Petroleum Hydrocarbons (TPH)	44	mg/kg		10		SW8015C	08/29/22 13:36 / dse
Surr: o-Terphenyl	89.0	%REC		50-150		SW8015C	08/27/22 12:27 / dse

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

- Note 3: Total Petroleum Hydrocarbons (TPH) is calculated from the sum total of the Gasoline Range Organics (GRO) result and the Total Extractable Hydrocarbon Range from C10 through the end of the chromatogram (C40+).

SEMI-VOLATILE ORGANIC COMPOUNDS

1-Methylnaphthalene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Acenaphthene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Anthracene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Chrysene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Fluoranthene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Fluorene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Naphthalene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Pyrene	ND	mg/kg		0.83		SW8270C	08/29/22 14:24 / eli-b
Surr: 2,4,6-Tribromophenol	79.0	%REC		53-141		SW8270C	08/29/22 14:24 / eli-b
Surr: 2-Fluorobiphenyl	77.0	%REC		63-98		SW8270C	08/29/22 14:24 / eli-b
Surr: 2-Fluorophenol	76.0	%REC		53-101		SW8270C	08/29/22 14:24 / eli-b
Surr: Nitrobenzene-d5	76.0	%REC		53-101		SW8270C	08/29/22 14:24 / eli-b
Surr: Phenol-d5	76.0	%REC		55-100		SW8270C	08/29/22 14:24 / eli-b
Surr: Terphenyl-d14	101	%REC		71-118		SW8270C	08/29/22 14:24 / eli-b

- The sample extract was diluted 5 times at analysis due to non-target compound sample matrix interference. The Reporting Limit reflects this dilution.

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-003
Client Sample ID: M#12 E

Report Date: 09/09/22
Collection Date: 08/15/22 13:00
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, sat. paste	7.6	s.u.		0.1		ASA10-3	09/01/22 09:23 / eli-h
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	5.0	mmhos/cm		0.1		ASA10-3	09/01/22 13:01 / eli-h
Sodium Adsorption Ratio (SAR)	2.5	unitless		0.1		USDA20b	09/06/22 15:51 / eli-h
METALS, TOTAL							
Arsenic	5.6	mg/kg		0.5		SW6020	08/26/22 20:58 / eli-h
Barium	196	mg/kg		1		SW6020	08/26/22 20:58 / eli-h
Cadmium	ND	mg/kg		1		SW6020	08/26/22 20:58 / eli-h
Chromium	29	mg/kg	D	3		SW6020	08/26/22 20:58 / eli-h
Copper	49	mg/kg	D	3		SW6020	08/26/22 20:58 / eli-h
Lead	49	mg/kg		1		SW6020	08/26/22 20:58 / eli-h
Nickel	16	mg/kg		1		SW6020	08/26/22 20:58 / eli-h
Selenium	ND	mg/kg		1		SW6020	08/26/22 20:58 / eli-h
Silver	ND	mg/kg		1		SW6020	08/29/22 20:17 / eli-h
Zinc	83	mg/kg	D	7		SW6020	08/26/22 20:58 / eli-h
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		1		SW7196A	08/30/22 18:30 / eli-h
METALS - CACL2 EXTRACTABLE							
Boron	0.5	mg/kg		0.1		SW6010B	09/01/22 18:31 / eli-h
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	08/28/22 04:14 / eli-b
Surr: p-Bromofluorobenzene	105	%REC		78-160		SW8260B	08/28/22 04:14 / eli-b
Surr: Dibromofluoromethane	130	%REC		70-132		SW8260B	08/28/22 04:14 / eli-b
Surr: 1,2-Dichloroethane-d4	119	%REC		60-136		SW8260B	08/28/22 04:14 / eli-b
Surr: Toluene-d8	118	%REC		75-138		SW8260B	08/28/22 04:14 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	08/25/22 03:36 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	08/25/22 03:36 / adw
Surr: Trifluorotoluene	94.0	%REC		70-130		SW8015C	08/25/22 03:36 / adw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

Report Definitions:	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
	QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
	D - Reporting Limit (RL) increased due to sample matrix	



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-003
Client Sample ID: M#12 E

Report Date: 09/09/22
Collection Date: 08/15/22 13:00
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	17	mg/kg		10		SW8015C	08/27/22 17:14 / dse
Total Extractable Hydrocarbons	54	mg/kg		10		SW8015C	08/27/22 17:14 / dse
Total Petroleum Hydrocarbons (TPH)	50	mg/kg		10		SW8015C	08/29/22 13:37 / dse
Surr: o-Terphenyl	72.0	%REC		50-150		SW8015C	08/27/22 17:14 / dse

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

- Note 3: Total Petroleum Hydrocarbons (TPH) is calculated from the sum total of the Gasoline Range Organics (GRO) result and the Total Extractable Hydrocarbon Range from C10 through the end of the chromatogram (C40+).

SEMI-VOLATILE ORGANIC COMPOUNDS

1-Methylnaphthalene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Acenaphthene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Anthracene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Chrysene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Fluoranthene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Fluorene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Naphthalene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Pyrene	ND	mg/kg		0.84		SW8270C	08/29/22 14:54 / eli-b
Surr: 2,4,6-Tribromophenol	68.0	%REC		53-141		SW8270C	08/29/22 14:54 / eli-b
Surr: 2-Fluorobiphenyl	72.0	%REC		63-98		SW8270C	08/29/22 14:54 / eli-b
Surr: 2-Fluorophenol	60.0	%REC		53-101		SW8270C	08/29/22 14:54 / eli-b
Surr: Nitrobenzene-d5	66.0	%REC		53-101		SW8270C	08/29/22 14:54 / eli-b
Surr: Phenol-d5	66.0	%REC		55-100		SW8270C	08/29/22 14:54 / eli-b
Surr: Terphenyl-d14	91.0	%REC		71-118		SW8270C	08/29/22 14:54 / eli-b

- The sample extract was diluted 5 times at analysis due to non-target compound sample matrix interference. The Reporting Limit reflects this dilution.

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-004
Client Sample ID: M#12 W

Report Date: 09/09/22
Collection Date: 08/15/22 13:15
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, sat. paste	7.4	s.u.		0.1		ASA10-3	09/01/22 09:24 / eli-h
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.6	mmhos/cm		0.1		ASA10-3	09/01/22 13:01 / eli-h
Sodium Adsorption Ratio (SAR)	0.1	unitless		0.1		USDA20b	09/06/22 15:51 / eli-h
METALS, TOTAL							
Arsenic	4.7	mg/kg		0.5		SW6020	08/26/22 21:00 / eli-h
Barium	185	mg/kg		1		SW6020	08/26/22 21:00 / eli-h
Cadmium	ND	mg/kg		1		SW6020	08/26/22 21:00 / eli-h
Chromium	13	mg/kg	D	3		SW6020	08/26/22 21:00 / eli-h
Copper	18	mg/kg	D	3		SW6020	08/26/22 21:00 / eli-h
Lead	46	mg/kg		1		SW6020	08/26/22 21:00 / eli-h
Nickel	15	mg/kg		1		SW6020	08/26/22 21:00 / eli-h
Selenium	ND	mg/kg		1		SW6020	08/26/22 21:00 / eli-h
Silver	ND	mg/kg		1		SW6020	08/29/22 20:22 / eli-h
Zinc	108	mg/kg	D	8		SW6020	08/26/22 21:00 / eli-h
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		1		SW7196A	08/30/22 18:30 / eli-h
METALS - CACL2 EXTRACTABLE							
Boron	0.4	mg/kg		0.1		SW6010B	09/01/22 18:35 / eli-h
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	08/27/22 08:31 / eli-b
Surr: p-Bromofluorobenzene	104	%REC		78-160		SW8260B	08/27/22 08:31 / eli-b
Surr: Dibromofluoromethane	120	%REC		70-132		SW8260B	08/27/22 08:31 / eli-b
Surr: 1,2-Dichloroethane-d4	112	%REC		60-136		SW8260B	08/27/22 08:31 / eli-b
Surr: Toluene-d8	110	%REC		75-138		SW8260B	08/27/22 08:31 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	08/25/22 05:32 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	08/25/22 05:32 / adw
Surr: Trifluorotoluene	93.0	%REC		70-130		SW8015C	08/25/22 05:32 / adw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

Report Definitions:	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
	QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
	D - Reporting Limit (RL) increased due to sample matrix	



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-004
Client Sample ID: M#12 W

Report Date: 09/09/22
Collection Date: 08/15/22 13:15
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	12	mg/kg		10		SW8015C	08/26/22 19:45 / dse
Total Extractable Hydrocarbons	38	mg/kg		10		SW8015C	08/26/22 19:45 / dse
Total Petroleum Hydrocarbons (TPH)	38	mg/kg		10		SW8015C	08/29/22 13:37 / dse
Surr: o-Terphenyl	83.0	%REC		50-150		SW8015C	08/26/22 19:45 / dse

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

- Note 3: Total Petroleum Hydrocarbons (TPH) is calculated from the sum total of the Gasoline Range Organics (GRO) result and the Total Extractable Hydrocarbon Range from C10 through the end of the chromatogram (C40+).

SEMI-VOLATILE ORGANIC COMPOUNDS

1-Methylnaphthalene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Acenaphthene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Anthracene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Chrysene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Fluoranthene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Fluorene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Naphthalene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Pyrene	ND	mg/kg		0.83		SW8270C	08/29/22 15:25 / eli-b
Surr: 2,4,6-Tribromophenol	67.0	%REC		53-141		SW8270C	08/29/22 15:25 / eli-b
Surr: 2-Fluorobiphenyl	73.0	%REC		63-98		SW8270C	08/29/22 15:25 / eli-b
Surr: 2-Fluorophenol	68.0	%REC		53-101		SW8270C	08/29/22 15:25 / eli-b
Surr: Nitrobenzene-d5	73.0	%REC		53-101		SW8270C	08/29/22 15:25 / eli-b
Surr: Phenol-d5	69.0	%REC		55-100		SW8270C	08/29/22 15:25 / eli-b
Surr: Terphenyl-d14	93.0	%REC		71-118		SW8270C	08/29/22 15:25 / eli-b

- The sample extract was diluted 5 times at analysis due to non-target compound sample matrix interference. The Reporting Limit reflects this dilution.

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-005
Client Sample ID: M#12 V

Report Date: 09/09/22
Collection Date: 08/15/22 13:30
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, sat. paste	7.8	s.u.		0.1		ASA10-3	09/01/22 09:25 / eli-h
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	5.1	mmhos/cm		0.1		ASA10-3	09/01/22 13:02 / eli-h
Sodium Adsorption Ratio (SAR)	21.2	unitless		0.1		USDA20b	09/06/22 15:51 / eli-h
METALS, TOTAL							
Arsenic	4.5	mg/kg		0.5		SW6020	08/26/22 21:02 / eli-h
Barium	82	mg/kg		1		SW6020	08/26/22 21:02 / eli-h
Cadmium	ND	mg/kg		1		SW6020	08/26/22 21:02 / eli-h
Chromium	12	mg/kg	D	3		SW6020	08/26/22 21:02 / eli-h
Copper	12	mg/kg	D	3		SW6020	08/26/22 21:02 / eli-h
Lead	13	mg/kg		1		SW6020	08/26/22 21:02 / eli-h
Nickel	11	mg/kg		1		SW6020	08/26/22 21:02 / eli-h
Selenium	ND	mg/kg		1		SW6020	08/26/22 21:02 / eli-h
Silver	ND	mg/kg		1		SW6020	09/01/22 17:13 / eli-h
Zinc	48	mg/kg	D	8		SW6020	08/26/22 21:02 / eli-h
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		1		SW7196A	08/30/22 18:30 / eli-h
METALS - CACL2 EXTRACTABLE							
Boron	0.6	mg/kg		0.1		SW6010B	09/01/22 18:39 / eli-h
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	08/27/22 08:56 / eli-b
Surr: p-Bromofluorobenzene	103	%REC		78-160		SW8260B	08/27/22 08:56 / eli-b
Surr: Dibromofluoromethane	123	%REC		70-132		SW8260B	08/27/22 08:56 / eli-b
Surr: 1,2-Dichloroethane-d4	112	%REC		60-136		SW8260B	08/27/22 08:56 / eli-b
Surr: Toluene-d8	112	%REC		75-138		SW8260B	08/27/22 08:56 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	08/25/22 06:11 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	08/25/22 06:11 / adw
Surr: Trifluorotoluene	85.0	%REC		70-130		SW8015C	08/25/22 06:11 / adw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

Report Definitions:	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
	QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
	D - Reporting Limit (RL) increased due to sample matrix	



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-005
Client Sample ID: M#12 V

Report Date: 09/09/22
Collection Date: 08/15/22 13:30
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg		10		SW8015C	08/25/22 12:14 / dse
Total Extractable Hydrocarbons	8.2	mg/kg	J	10		SW8015C	08/25/22 12:14 / dse
Total Petroleum Hydrocarbons (TPH)	7.0	mg/kg	J	10		SW8015C	08/29/22 13:37 / dse
Surr: o-Terphenyl	87.0	%REC		50-150		SW8015C	08/25/22 12:14 / dse

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

- Note 3: Total Petroleum Hydrocarbons (TPH) is calculated from the sum total of the Gasoline Range Organics (GRO) result and the Total Extractable Hydrocarbon Range from C10 through the end of the chromatogram (C40+).

SEMI-VOLATILE ORGANIC COMPOUNDS

1-Methylnaphthalene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Acenaphthene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Anthracene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Chrysene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Fluoranthene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Fluorene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Naphthalene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Pyrene	ND	mg/kg		0.33		SW8270C	08/29/22 15:55 / eli-b
Surr: 2,4,6-Tribromophenol	82.0	%REC		53-141		SW8270C	08/29/22 15:55 / eli-b
Surr: 2-Fluorobiphenyl	68.0	%REC		63-98		SW8270C	08/29/22 15:55 / eli-b
Surr: 2-Fluorophenol	72.0	%REC		53-101		SW8270C	08/29/22 15:55 / eli-b
Surr: Nitrobenzene-d5	72.0	%REC		53-101		SW8270C	08/29/22 15:55 / eli-b
Surr: Phenol-d5	67.0	%REC		55-100		SW8270C	08/29/22 15:55 / eli-b
Surr: Terphenyl-d14	97.0	%REC		71-118		SW8270C	08/29/22 15:55 / eli-b

Report Definitions:	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
	QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
	J - Estimated value - analyte was present but less than the Reporting Limit (RL)	



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-006
Client Sample ID: M#12 Background

Report Date: 09/09/22
Collection Date: 08/15/22 14:00
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SATURATED PASTE							
pH, sat. paste	7.6	s.u.		0.1		ASA10-3	09/01/22 09:27 / eli-h
SATURATED PASTE EXTRACT							
Conductivity, sat. paste	0.7	mmhos/cm		0.1		ASA10-3	09/01/22 13:03 / eli-h
Sodium Adsorption Ratio (SAR)	0.2	unitless		0.1		USDA20b	09/06/22 15:51 / eli-h
METALS, TOTAL							
Arsenic	4.8	mg/kg		0.5		SW6020	08/26/22 21:05 / eli-h
Barium	88	mg/kg		1		SW6020	08/26/22 21:05 / eli-h
Cadmium	ND	mg/kg		1		SW6020	08/26/22 21:05 / eli-h
Chromium	10	mg/kg	D	3		SW6020	08/26/22 21:05 / eli-h
Copper	12	mg/kg	D	3		SW6020	08/26/22 21:05 / eli-h
Lead	24	mg/kg		1		SW6020	08/26/22 21:05 / eli-h
Nickel	11	mg/kg		1		SW6020	08/26/22 21:05 / eli-h
Selenium	ND	mg/kg		1		SW6020	08/26/22 21:05 / eli-h
Silver	ND	mg/kg		1		SW6020	09/01/22 17:15 / eli-h
Zinc	62	mg/kg	D	8		SW6020	08/26/22 21:05 / eli-h
METALS, WATER EXTRACTABLE							
Chromium, Hexavalent - Soluble	ND	mg/kg		1		SW7196A	08/30/22 18:30 / eli-h
METALS - CACL2 EXTRACTABLE							
Boron	0.3	mg/kg		0.1		SW6010B	09/01/22 18:47 / eli-h
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	08/27/22 09:22 / eli-b
Surr: p-Bromofluorobenzene	91.0	%REC		78-160		SW8260B	08/27/22 09:22 / eli-b
Surr: Dibromofluoromethane	102	%REC		70-132		SW8260B	08/27/22 09:22 / eli-b
Surr: 1,2-Dichloroethane-d4	94.0	%REC		60-136		SW8260B	08/27/22 09:22 / eli-b
Surr: Toluene-d8	94.0	%REC		75-138		SW8260B	08/27/22 09:22 / eli-b
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	08/25/22 06:49 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	08/25/22 06:49 / adw
Surr: Trifluorotoluene	91.0	%REC		70-130		SW8015C	08/25/22 06:49 / adw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.

- Note 2: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

Report Definitions:	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
	QCL - Quality Control Limit	ND - Not detected at the Reporting Limit (RL)
	D - Reporting Limit (RL) increased due to sample matrix	



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Wesco Operating Inc
Project: Maudlin #12
Lab ID: C22080905-006
Client Sample ID: M#12 Background

Report Date: 09/09/22
Collection Date: 08/15/22 14:00
Date Received: 08/19/22
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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PETROLEUM HYDROCARBONS-SEMI-VOLATILE

Diesel Range Organics (DRO)	ND	mg/kg		10		SW8015C	08/26/22 22:09 / dse
Total Extractable Hydrocarbons	18	mg/kg		10		SW8015C	08/26/22 22:09 / dse
Total Petroleum Hydrocarbons (TPH)	17	mg/kg		10		SW8015C	08/29/22 13:38 / dse
Surr: o-Terphenyl	82.0	%REC		50-150		SW8015C	08/26/22 22:09 / dse

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.

- Note 2: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

- Note 3: Total Petroleum Hydrocarbons (TPH) is calculated from the sum total of the Gasoline Range Organics (GRO) result and the Total Extractable Hydrocarbon Range from C10 through the end of the chromatogram (C40+).

SEMI-VOLATILE ORGANIC COMPOUNDS

1-Methylnaphthalene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Acenaphthene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Anthracene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Chrysene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Fluoranthene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Fluorene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Naphthalene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Pyrene	ND	mg/kg		0.46		SW8270C	08/29/22 16:26 / eli-b
Surr: 2,4,6-Tribromophenol	83.0	%REC		53-141		SW8270C	08/29/22 16:26 / eli-b
Surr: 2-Fluorobiphenyl	70.0	%REC		63-98		SW8270C	08/29/22 16:26 / eli-b
Surr: 2-Fluorophenol	75.0	%REC		53-101		SW8270C	08/29/22 16:26 / eli-b
Surr: Nitrobenzene-d5	72.0	%REC		53-101		SW8270C	08/29/22 16:26 / eli-b
Surr: Phenol-d5	69.0	%REC		55-100		SW8270C	08/29/22 16:26 / eli-b
Surr: Terphenyl-d14	95.0	%REC		71-118		SW8270C	08/29/22 16:26 / eli-b

- Due to the sample matrix, 10 g of sample were extracted, as opposed to a normal 30 g. The Reporting Limit reflects the initial sample mass.

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: ASA10-3							Analytical Run: SOIL EC_220902A		
Lab ID: ICV_1_220831_1	Initial Calibration Verification Standard								09/01/22 12:54
Conductivity, sat. paste	1.40	mmhos/cm	0.10	99	90	110			
Lab ID: CCV_1_220831_1	Continuing Calibration Verification Standard								09/01/22 12:55
Conductivity, sat. paste	4.72	mmhos/cm	0.10	94	90	110			
Lab ID: CCV1_1_220831_1	Continuing Calibration Verification Standard								09/01/22 12:56
Conductivity, sat. paste	0.938	mmhos/cm	0.10	94	90	110			
Method: ASA10-3							Batch: 63186		
Lab ID: MB-63186	Method Blank								09/01/22 12:57
Conductivity, sat. paste	ND	mmhos/cm	0.05				Run: SOIL EC_220902A		
Lab ID: LCS-63186	Laboratory Control Sample								09/01/22 12:58
Conductivity, sat. paste	3.44	mmhos/cm	0.10	88	80	120	Run: SOIL EC_220902A		
Lab ID: LCS-63186DUP	Sample Duplicate								09/01/22 12:58
Conductivity, sat. paste	3.42	mmhos/cm	0.10				Run: SOIL EC_220902A		
Method: ASA10-3							al Run: SOIL PH METER - ORION A211_220902A		
Lab ID: ICV_1_220831_1	Initial Calibration Verification Standard								09/01/22 09:16
pH, sat. paste	7.04	s.u.	0.10	101	98.6	101.4			
Lab ID: CCV_1_220831_1	Continuing Calibration Verification Standard								09/01/22 09:16
pH, sat. paste	7.04	s.u.	0.10	101	98.6	101.4			
Lab ID: CCV1_1_220831_1	Continuing Calibration Verification Standard								09/01/22 09:17
pH, sat. paste	4.02	s.u.	0.10	100	97.5	102.5			
Method: ASA10-3							Batch: 63186		
Lab ID: LCS-63186	Laboratory Control Sample								09/01/22 09:19
pH, sat. paste	8.03	s.u.	0.10	101	95	105	Run: SOIL PH METER - ORION A2		
Lab ID: LCS-63186DUP	Sample Duplicate								09/01/22 09:20
pH, sat. paste	8.04	s.u.	0.10				Run: SOIL PH METER - ORION A2		

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: D2974							Batch: PMOIST_220826_A		
Lab ID: H22080801-001A DUP	Sample Duplicate				Run: SOIL DRYING OVEN 2_22082				08/26/22 09:42
Moisture	75.6	wt%	0.20				0.9	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6010B							Analytical Run: ICP2-HE_220901B		
Lab ID: ICV	Initial Calibration Verification Standard								09/01/22 10:21
Boron	0.791	mg/L	0.10	99	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard								09/01/22 10:26
Boron	2.48	mg/L	0.10	99	90	110			
Lab ID: ICSA	Interference Check Sample A								09/01/22 10:38
Boron	0.00910	mg/L	0.10		0	0			
Lab ID: ICSAB	Interference Check Sample AB								09/01/22 10:42
Boron	0.985	mg/L	0.10	98	80	120			
Method: SW6010B							Batch: 63163		
Lab ID: MB-63163	Method Blank								09/01/22 17:51
Boron	ND	mg/kg	0.004						
Lab ID: LFB-63163	Laboratory Fortified Blank								09/01/22 17:55
Boron	1.95	mg/kg	0.10	98	80	120			
Lab ID: LCS-63163	Laboratory Control Sample								09/01/22 17:59
Boron	0.812	mg/kg	0.10	126	70	130			
Lab ID: C22080905-001BMS2	Sample Matrix Spike								09/01/22 18:19
Boron	4.29	mg/kg	0.10	97	75	125			
Lab ID: C22080905-001BMSD2	Sample Matrix Spike Duplicate								09/01/22 18:23
Boron	4.34	mg/kg	0.10	98	75	125	1.2	20	
Lab ID: C22080905-005Bdup	Sample Duplicate								09/01/22 18:43
Boron	0.621	mg/kg	0.10				3.8	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020		Analytical Run: ICPMS205-H_220826C							
Lab ID: ICV	Initial Calibration Verification Standard								08/26/22 11:58
Arsenic	0.0637	mg/L	0.0010	106	90	110			
Barium	0.0624	mg/L	0.0010	104	90	110			
Cadmium	0.0314	mg/L	0.0010	105	90	110			
Chromium	0.0633	mg/L	0.0010	105	90	110			
Copper	0.0635	mg/L	0.0010	106	90	110			
Lead	0.0613	mg/L	0.0010	102	90	110			
Nickel	0.0626	mg/L	0.0010	104	90	110			
Selenium	0.0629	mg/L	0.0010	105	90	110			
Zinc	0.0608	mg/L	0.0013	101	90	110			
Lab ID: ICSA	Interference Check Sample A								08/26/22 12:05
Arsenic	-1.19E-06	mg/L	0.0010						
Barium	0.000163	mg/L	0.0010						
Cadmium	0.000146	mg/L	0.0010						
Chromium	0.00195	mg/L	0.0010						
Copper	0.000180	mg/L	0.0010						
Lead	-0.000155	mg/L	0.0010						
Nickel	-0.000566	mg/L	0.0010		0	0			
Selenium	0.000103	mg/L	0.0010						
Zinc	-0.000140	mg/L	0.0013						
Lab ID: ICSAB	Interference Check Sample AB								08/26/22 12:10
Arsenic	0.0104	mg/L	0.0010	104	70	130			
Barium	0.000169	mg/L	0.0010		0	0			
Cadmium	0.0104	mg/L	0.0010	103	70	130			
Chromium	0.0224	mg/L	0.0010	112	70	130			
Copper	0.0202	mg/L	0.0010	101	70	130			
Lead	-0.000186	mg/L	0.0010		0	0			
Nickel	0.0197	mg/L	0.0010	99	70	130			
Selenium	0.0104	mg/L	0.0010	104	70	130			
Zinc	0.00921	mg/L	0.0013	92	70	130			
Lab ID: CCV	Continuing Calibration Verification Standard								08/26/22 17:09
Arsenic	0.0503	mg/L	0.0010	101	90	110			
Barium	0.0504	mg/L	0.0010	101	90	110			
Cadmium	0.0504	mg/L	0.0010	101	90	110			
Chromium	0.0502	mg/L	0.0010	100	90	110			
Copper	0.0499	mg/L	0.0010	100	90	110			
Lead	0.0504	mg/L	0.0010	101	90	110			
Nickel	0.0490	mg/L	0.0010	98	90	110			
Selenium	0.0520	mg/L	0.0010	104	90	110			
Zinc	0.0515	mg/L	0.0013	103	90	110			
Method: SW6020		Batch: 63044							

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Batch: 63044
Lab ID: MB-63044	Method Blank				Run: ICPMS205-H_220826C				08/26/22 20:12
Arsenic	ND	mg/kg	0.2						
Barium	ND	mg/kg	0.3						
Cadmium	ND	mg/kg	0.04						
Chromium	ND	mg/kg	1						
Copper	ND	mg/kg	1						
Lead	ND	mg/kg	0.5						
Nickel	ND	mg/kg	0.5						
Selenium	ND	mg/kg	0.1						
Silver	ND	mg/kg	0.7						
Zinc	ND	mg/kg	3						
Lab ID: LCS-63044	Laboratory Control Sample				Run: ICPMS205-H_220826C				08/26/22 20:14
Arsenic	172	mg/kg	1.0	88	66.4	104			
Barium	196	mg/kg	1.0	105	71.8	124			
Cadmium	105	mg/kg	1.0	106	79.2	121			
Chromium	114	mg/kg	3.1	98	72.5	115			
Copper	133	mg/kg	3.2	97	73.9	113			
Lead	118	mg/kg	1.3	113	71.6	128			
Nickel	83.9	mg/kg	1.2	97	70.6	116			
Selenium	200	mg/kg	1.0	98	72.3	111			
Silver	47.5	mg/kg	1.8	113	70.8	133			
Zinc	235	mg/kg	7.6	102	83.1	125			
Lab ID: H22080679-052ADIL	Serial Dilution				Run: ICPMS205-H_220826C				08/26/22 20:21
Arsenic	10.1	mg/kg-dry	2.3		0	0			10 N
Barium	365	mg/kg-dry	4.0		0	0	2.0		10
Cadmium	ND	mg/kg-dry	1.0		0	0			10
Chromium	ND	mg/kg-dry	18		0	0			10
Copper	49.0	mg/kg-dry	19		0	0			10 N
Lead	18.9	mg/kg-dry	7.4		0	0			10 N
Nickel	13.7	mg/kg-dry	7.2		0	0			10 N
Selenium	ND	mg/kg-dry	2.0		0	0			10
Silver	ND	mg/kg-dry	10		0	0			10
Zinc	71.5	mg/kg-dry	45		0	0			10 N
Lab ID: LFB-63044	Laboratory Fortified Blank				Run: ICPMS205-H_220826C				08/26/22 20:31
Arsenic	53.4	mg/kg	1.0	108	80	120			
Barium	53.7	mg/kg	1.0	109	80	120			
Cadmium	27.6	mg/kg	1.0	112	80	120			
Chromium	54.1	mg/kg	3.0	110	80	120			
Copper	55.1	mg/kg	3.2	112	80	120			
Lead	53.9	mg/kg	1.3	110	80	120			
Nickel	54.5	mg/kg	1.2	111	80	120			
Selenium	50.5	mg/kg	1.0	103	80	120			
Silver	28.6	mg/kg	1.8	116	80	120			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

N - Analyte concentration was not sufficiently high to calculate a Relative Percent Difference (RPD) for the serial dilution test



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020							Batch: 63044		
Lab ID: LFB-63044	Laboratory Fortified Blank				Run: ICPMS205-H_220826C		08/26/22 20:31		
Zinc	50.3	mg/kg	7.6	102	80	120			
Lab ID: H22080679-052APDS1	Post Digestion/Distillation Spike				Run: ICPMS205-H_220826C		08/26/22 20:33		
Arsenic	23.8	mg/kg-dry	1.0	99	75	125			
Barium	368	mg/kg-dry	1.0		75	125			A
Cadmium	16.0	mg/kg-dry	1.0	109	75	125			
Chromium	26.3	mg/kg-dry	3.6	98	75	125			
Copper	59.0	mg/kg-dry	3.7	95	75	125			
Lead	34.1	mg/kg-dry	1.5	102	75	125			
Nickel	27.8	mg/kg-dry	1.4	99	75	125			
Selenium	14.8	mg/kg-dry	1.0	102	75	125			
Silver	6.89	mg/kg-dry	2.1	119	75	125			
Zinc	76.7	mg/kg-dry	8.9		75	125			A
Lab ID: H22080679-052AMS	Sample Matrix Spike				Run: ICPMS205-H_220826C		08/26/22 20:36		
Arsenic	69.7	mg/kg-dry	1.0	104	75	125			
Barium	440	mg/kg-dry	1.0		75	125			AE
Cadmium	32.1	mg/kg-dry	1.0	111	75	125			
Chromium	76.1	mg/kg-dry	3.6	111	75	125			
Copper	106	mg/kg-dry	3.7	105	75	125			
Lead	82.6	mg/kg-dry	1.5	110	75	125			
Nickel	74.2	mg/kg-dry	1.4	105	75	125			
Selenium	57.1	mg/kg-dry	1.0	99	75	125			
Silver	32.7	mg/kg-dry	2.1	114	75	125			
Zinc	123	mg/kg-dry	8.9	100	75	125			
Lab ID: H22080679-052AMSD	Sample Matrix Spike Duplicate				Run: ICPMS205-H_220826C		08/26/22 20:38		
Arsenic	69.9	mg/kg-dry	1.0	105	75	125	0.3	20	
Barium	436	mg/kg-dry	1.0		75	125	0.7	20	AE
Cadmium	31.9	mg/kg-dry	1.0	110	75	125	0.7	20	
Chromium	75.7	mg/kg-dry	3.6	111	75	125	0.6	20	
Copper	106	mg/kg-dry	3.7	105	75	125	0	20	
Lead	81.2	mg/kg-dry	1.5	108	75	125	1.7	20	
Nickel	73.6	mg/kg-dry	1.4	105	75	125	0.9	20	
Selenium	56.5	mg/kg-dry	1.0	98	75	125	1.0	20	
Silver	32.0	mg/kg-dry	2.1	111	75	125	2.4	20	
Zinc	124	mg/kg-dry	8.9	101	75	125	0.3	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated
E - Estimated value - result exceeds the instrument upper quantitation limit



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020					Analytical Run: ICPMS205-H_220829A				
Lab ID: ICV	Initial Calibration Verification Standard								08/29/22 12:55
Silver	0.0321	mg/L	0.0010	107	90	110			
Lab ID: ICSA	Interference Check Sample A								08/29/22 13:03
Silver	0.0000171	mg/L	0.0010						
Lab ID: ICSAB	Interference Check Sample AB								08/29/22 13:08
Silver	0.0195	mg/L	0.0010	97	70	130			
Lab ID: CCV	Continuing Calibration Verification Standard								08/29/22 13:15
Silver	0.0203	mg/L	0.0010	101	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard								08/29/22 19:42
Silver	0.0217	mg/L	0.0010	108	90	110			
Method: SW6020					Analytical Run: ICPMS205-H_220901A				
Lab ID: ICV	Initial Calibration Verification Standard								09/01/22 12:38
Silver	0.0306	mg/L	0.0010	102	90	110			
Lab ID: ICSA	Interference Check Sample A								09/01/22 12:45
Silver	5.18E-06	mg/L	0.0010						
Lab ID: ICSAB	Interference Check Sample AB								09/01/22 12:50
Silver	0.0203	mg/L	0.0010	102	70	130			
Lab ID: CCV	Continuing Calibration Verification Standard								09/01/22 12:57
Silver	0.0202	mg/L	0.0010	101	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard								09/01/22 17:04
Silver	0.0201	mg/L	0.0010	101	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW7196A							Analytical Run: GENESYS 20_220830C		
Lab ID: CCV	Continuing Calibration Verification Standard								08/30/22 18:30
Chromium, Hexavalent - Soluble	0.099	mg/kg	1.0	99	90	110			
Method: SW7196A							Batch: 63154		
Lab ID: MB-63154	Method Blank								08/30/22 18:30
Chromium, Hexavalent - Soluble	ND	mg/kg	0.1				Run: GENESYS 20_220830C		
Lab ID: LCS-63154	Laboratory Control Sample								08/30/22 18:30
Chromium, Hexavalent - Soluble	1.0	mg/kg	1.0	100	70	130	Run: GENESYS 20_220830C		
Lab ID: C22080905-001BDUP	Sample Duplicate								08/30/22 18:30
Chromium, Hexavalent - Soluble	ND	mg/kg	1.0				Run: GENESYS 20_220830C		20
Lab ID: C22080905-002BMS	Sample Matrix Spike								08/30/22 18:30
Chromium, Hexavalent - Soluble	1.1	mg/kg	1.0	111	70	130	Run: GENESYS 20_220830C		

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/07/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: USDA20b									Batch: R178001
Lab ID: LCS-63186									
Laboratory Control Sample									Run: SOIL CALC_220906A 09/06/22 15:51
Sodium Adsorption Ratio (SAR)	6.25	unitless	0.10	104	80	120			
Lab ID: LCS-63186dup									
Sample Duplicate									Run: SOIL CALC_220906A 09/06/22 15:51
Sodium Adsorption Ratio (SAR)	6.20	unitless	0.10				0.8	30	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/06/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: 169808
Lab ID: LCS-169808	11	Laboratory Control Sample		Run: VOA5977B_220826A				08/26/22 15:08		
Benzene		1.06	mg/kg	0.10	106	70	127			
Ethylbenzene		1.08	mg/kg	0.10	108	74	136			
Toluene		1.12	mg/kg	0.10	112	73	137			
1,2,4-Trimethylbenzene		0.989	mg/kg	0.10	99	67	125			
1,3,5-Trimethylbenzene		0.991	mg/kg	0.10	99	71	131			
m+p-Xylenes		2.22	mg/kg	0.20	111	75	136			
o-Xylene		1.06	mg/kg	0.10	106	72	134			
Surr: 1,2-Dichloroethane-d4				0.10	99	60	136			
Surr: Dibromofluoromethane				0.10	106	70	132			E
Surr: p-Bromofluorobenzene				0.10	93	78	160			
Surr: Toluene-d8				0.10	102	75	138			E
- Due to laboratory error, surrogates were added at two times the normal concentration which caused the surrogates to be at the upper end of the calibration range and slight exceed the calibration range for Dibromofluoromethane and Toluene-d8. The surrogate recoveries in the rest of the extraction batch indicated that this was an isolated problem with the LCS.										
Lab ID: B22082422-024AMS	11	Sample Matrix Spike		Run: VOA5977B_220826B				08/27/22 04:45		
Benzene		1.19	mg/kg	0.10	119	70	127			
Ethylbenzene		1.18	mg/kg	0.10	118	74	136			
Toluene		1.21	mg/kg	0.10	122	73	137			
1,2,4-Trimethylbenzene		0.964	mg/kg	0.10	97	67	125			
1,3,5-Trimethylbenzene		0.966	mg/kg	0.10	97	71	130			
m+p-Xylenes		2.39	mg/kg	0.20	120	75	136			
o-Xylene		1.16	mg/kg	0.10	116	72	134			
Surr: 1,2-Dichloroethane-d4				0.10	114	60	136			
Surr: Dibromofluoromethane				0.10	128	70	132			
Surr: p-Bromofluorobenzene				0.10	96	78	160			
Surr: Toluene-d8				0.10	117	75	138			
Lab ID: B22082422-024AMSD	11	Sample Matrix Spike Duplicate		Run: VOA5977B_220826B				08/27/22 05:11		
Benzene		1.05	mg/kg	0.10	106	70	127	12	20	
Ethylbenzene		1.07	mg/kg	0.10	107	74	136	10	20	
Toluene		1.10	mg/kg	0.10	110	73	137	10	20	
1,2,4-Trimethylbenzene		0.887	mg/kg	0.10	89	67	125	8.4	20	
1,3,5-Trimethylbenzene		0.888	mg/kg	0.10	89	71	130	8.4	20	
m+p-Xylenes		2.16	mg/kg	0.20	108	75	136	10	20	
o-Xylene		1.05	mg/kg	0.10	106	72	134	9.4	20	
Surr: 1,2-Dichloroethane-d4				0.10	96	60	136			
Surr: Dibromofluoromethane				0.10	106	70	132			
Surr: p-Bromofluorobenzene				0.10	80	78	160			
Surr: Toluene-d8				0.10	97	75	138			
Lab ID: MB-169808	11	Method Blank		Run: VOA5977B_220827A				08/27/22 16:58		
Benzene		ND	mg/kg	0.10						
Ethylbenzene		ND	mg/kg	0.10						
Toluene		ND	mg/kg	0.10						
1,2,4-Trimethylbenzene		ND	mg/kg	0.10						
1,3,5-Trimethylbenzene		ND	mg/kg	0.10						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

E - Estimated value - result exceeds the instrument upper quantitation limit



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/06/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B										Batch: 169808
Lab ID: MB-169808										08/27/22 16:58
11 Method Blank										
Run: VOA5977B_220827A										
m+p-Xylenes		ND	mg/kg	0.20						
o-Xylene		ND	mg/kg	0.10						
Surr: 1,2-Dichloroethane-d4				0.10	116	60	136			
Surr: Dibromofluoromethane				0.10	125	70	132			
Surr: p-Bromofluorobenzene				0.10	96	78	160			
Surr: Toluene-d8				0.10	111	75	138			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/06/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8270C										Batch: 169864
Lab ID: MB-169864	21	Method Blank		Run: SV5973N2.I_220829A				08/29/22 10:51		
1-Methylnaphthalene		ND	mg/kg	0.33						
2-Methylnaphthalene		ND	mg/kg	0.33						
Acenaphthene		ND	mg/kg	0.33						
Anthracene		ND	mg/kg	0.33						
Benzo(a)anthracene		ND	mg/kg	0.33						
Benzo(a)pyrene		ND	mg/kg	0.33						
Benzo(b)fluoranthene		ND	mg/kg	0.33						
Benzo(k)fluoranthene		ND	mg/kg	0.33						
Chrysene		ND	mg/kg	0.33						
Dibenzo(a,h)anthracene		ND	mg/kg	0.33						
Fluoranthene		ND	mg/kg	0.33						
Fluorene		ND	mg/kg	0.33						
Indeno(1,2,3-cd)pyrene		ND	mg/kg	0.33						
Naphthalene		ND	mg/kg	0.33						
Pyrene		ND	mg/kg	0.33						
Surr: 2,4,6-Tribromophenol				0.33	72	53	141			
Surr: 2-Fluorobiphenyl				0.33	72	63	98			
Surr: 2-Fluorophenol				0.33	79	53	101			
Surr: Nitrobenzene-d5				0.33	59	53	101			
Surr: Phenol-d5				0.33	75	55	100			
Surr: Terphenyl-d14				0.33	98	71	118			
Lab ID: B22082138-001AMS	21	Sample Matrix Spike		Run: SV5973N2.I_220829A				08/29/22 12:22		
1-Methylnaphthalene		14.8	mg/kg	1.0	74	63	97			
2-Methylnaphthalene		16.3	mg/kg	1.0	82	68	103			
Acenaphthene		16.5	mg/kg	1.0	83	73	104			
Anthracene		18.3	mg/kg	1.0	92	72	110			
Benzo(a)anthracene		16.7	mg/kg	1.0	84	75	112			
Benzo(a)pyrene		10.3	mg/kg	1.0	52	71	106			S
Benzo(b)fluoranthene		10.8	mg/kg	1.0	54	65	121			S
Benzo(k)fluoranthene		10.1	mg/kg	1.0	51	64	118			S
Chrysene		14.6	mg/kg	1.0	74	76	109			S
Dibenzo(a,h)anthracene		10.1	mg/kg	1.0	51	75	111			S
Fluoranthene		17.5	mg/kg	1.0	88	76	109			
Fluorene		16.6	mg/kg	1.0	84	67	108			
Indeno(1,2,3-cd)pyrene		8.83	mg/kg	1.0	44	63	112			S
Naphthalene		16.0	mg/kg	1.0	80	60	99			
Pyrene		16.3	mg/kg	1.0	82	77	111			
Surr: 2,4,6-Tribromophenol				1.0	92	64	125			
Surr: 2-Fluorobiphenyl				1.0	76	68	96			
Surr: 2-Fluorophenol				1.0	77	59	102			
Surr: Nitrobenzene-d5				1.0	86	65	92			
Surr: Phenol-d5				1.0	78	67	96			
Surr: Terphenyl-d14				1.0	94	46	147			

Qualifiers:

RL - Analyte Reporting Limit

S - Spike recovery outside of advisory limits

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 09/06/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8270C										Batch: 169864
Lab ID: B22082138-001AMSD	21	Sample Matrix Spike Duplicate			Run: SV5973N2.I_220829A				08/29/22 12:53	
1-Methylnaphthalene		14.4	mg/kg	0.97	74	63	97	2.5	40	
2-Methylnaphthalene		15.6	mg/kg	0.97	80	68	103	4.7	40	
Acenaphthene		16.1	mg/kg	0.97	83	73	104	2.6	40	
Anthracene		17.8	mg/kg	0.97	91	72	110	3.0	40	
Benzo(a)anthracene		16.1	mg/kg	0.97	83	75	112	3.7	40	
Benzo(a)pyrene		9.25	mg/kg	0.97	48	71	106	11	40	S
Benzo(b)fluoranthene		9.99	mg/kg	0.97	51	65	121	7.9	40	S
Benzo(k)fluoranthene		9.49	mg/kg	0.97	49	64	118	6.4	40	S
Chrysene		14.1	mg/kg	0.97	72	76	109	4.0	40	S
Dibenzo(a,h)anthracene		8.81	mg/kg	0.97	45	75	111	13	40	S
Fluoranthene		16.6	mg/kg	0.97	86	76	109	5.1	40	
Fluorene		16.3	mg/kg	0.97	84	67	108	2.2	40	
Indeno(1,2,3-cd)pyrene		8.32	mg/kg	0.97	43	63	112	5.9	40	S
Naphthalene		15.4	mg/kg	0.97	79	60	99	3.7	40	
Pyrene		15.5	mg/kg	0.97	80	77	111	5.2	40	
Surr: 2,4,6-Tribromophenol				0.97	91	64	125			
Surr: 2-Fluorobiphenyl				0.97	76	68	96			
Surr: 2-Fluorophenol				0.97	75	59	102			
Surr: Nitrobenzene-d5				0.97	90	65	92			
Surr: Phenol-d5				0.97	77	67	96			
Surr: Terphenyl-d14				0.97	91	46	147			
Lab ID: LCS-169864	21	Laboratory Control Sample			Run: SV5973N2.I_220829A				08/29/22 18:58	
1-Methylnaphthalene		2.82	mg/kg	0.33	85	63	97			
2-Methylnaphthalene		3.10	mg/kg	0.33	93	68	103			
Acenaphthene		3.09	mg/kg	0.33	93	73	104			
Anthracene		3.35	mg/kg	0.33	101	72	110			
Benzo(a)anthracene		3.65	mg/kg	0.33	110	75	112			
Benzo(a)pyrene		2.75	mg/kg	0.33	83	71	106			
Benzo(b)fluoranthene		2.98	mg/kg	0.33	90	65	121			
Benzo(k)fluoranthene		2.72	mg/kg	0.33	82	64	118			
Chrysene		3.41	mg/kg	0.33	103	76	109			
Dibenzo(a,h)anthracene		3.27	mg/kg	0.33	98	75	111			
Fluoranthene		3.44	mg/kg	0.33	103	76	109			
Fluorene		3.23	mg/kg	0.33	97	67	108			
Indeno(1,2,3-cd)pyrene		3.15	mg/kg	0.33	95	63	112			
Naphthalene		2.85	mg/kg	0.33	86	60	99			
Pyrene		3.41	mg/kg	0.33	102	77	111			
Surr: 2,4,6-Tribromophenol				0.33	109	64	125			
Surr: 2-Fluorobiphenyl				0.33	93	68	96			
Surr: 2-Fluorophenol				0.33	89	59	102			
Surr: Nitrobenzene-d5				0.33	101	65	92			S
Surr: Phenol-d5				0.33	93	67	96			
Surr: Terphenyl-d14				0.33	116	46	147			

Qualifiers:

RL - Analyte Reporting Limit

S - Spike recovery outside of advisory limits

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 08/29/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015C										Batch: 67976
Lab ID: LCS-67976	3	Laboratory Control Sample			Run: PIDFID1-C_220824A			08/24/22 16:02		
Gasoline Range Organics (GRO)		17.2	mg/kg	2.0	107	70	130			
Total Purgeable Hydrocarbons		19.1	mg/kg	2.0	96	70	130			
Surr: Trifluorotoluene				0.40	99	70	130			
Lab ID: LCSD-67976	3	Laboratory Control Sample Duplicate			Run: PIDFID1-C_220824A			08/24/22 16:40		
Gasoline Range Organics (GRO)		17.3	mg/kg	2.0	108	70	130	0.6	20	
Total Purgeable Hydrocarbons		19.3	mg/kg	2.0	97	70	130	0.9	20	
Surr: Trifluorotoluene				0.40	100	70	130			
Lab ID: MB-67976	3	Method Blank			Run: PIDFID1-C_220824A			08/24/22 17:19		
Gasoline Range Organics (GRO)		ND	mg/kg	2.0						
Total Purgeable Hydrocarbons		ND	mg/kg	2.0						
Surr: Trifluorotoluene				0.40	97	70	130			
Lab ID: C22080905-003AMS	3	Sample Matrix Spike			Run: PIDFID1-C_220824A			08/25/22 04:15		
Gasoline Range Organics (GRO)		16.2	mg/kg	2.0	101	55	123			
Total Purgeable Hydrocarbons		18.1	mg/kg	2.0	91	59	115			
Surr: Trifluorotoluene				0.40	91	64	113			
Lab ID: C22080905-003AMSD	3	Sample Matrix Spike Duplicate			Run: PIDFID1-C_220824A			08/25/22 04:53		
Gasoline Range Organics (GRO)		16.9	mg/kg	2.0	106	55	123	4.3	20	
Total Purgeable Hydrocarbons		18.9	mg/kg	2.0	94	56	115	4.2	20	
Surr: Trifluorotoluene				0.40	94	64	113			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 08/29/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015C										Batch: 67978
Lab ID: MBLK_67978	3	Method Blank					Run: FID3-F-C_220824A			08/24/22 19:29
Diesel Range Organics (DRO)		ND	mg/kg	10						
Total Extractable Hydrocarbons		ND	mg/kg	10						
Surr: o-Terphenyl				0.17	96	50	150			
Lab ID: LCS-67978	3	Laboratory Control Sample					Run: FID3-F-C_220824A			08/24/22 20:17
Diesel Range Organics (DRO)		551	mg/kg	10	83	60	140			
Total Extractable Hydrocarbons		571	mg/kg	10	86	60	140			
Surr: o-Terphenyl				0.17	96	50	150			
Lab ID: LCSD-67978	3	Laboratory Control Sample Duplicate					Run: FID3-F-C_220824A			08/24/22 21:05
Diesel Range Organics (DRO)		534	mg/kg	10	80	60	140	3.1	20	
Total Extractable Hydrocarbons		554	mg/kg	10	83	60	140	3.0	20	
Surr: o-Terphenyl				0.17	97	50	140			
Lab ID: C22080905-003AMSD	3	Sample Matrix Spike Duplicate					Run: FID3-F-C_220826A			08/26/22 17:21
Diesel Range Organics (DRO)		448	mg/kg	10	66	39	109	2.5	20	
Total Extractable Hydrocarbons		497	mg/kg	10	68	21	133	3.6	20	
Surr: o-Terphenyl				0.17	81	60	116			
Lab ID: C22080905-003AMS	3	Sample Matrix Spike					Run: FID3-R-C_220827A			08/27/22 19:38
Diesel Range Organics (DRO)		459	mg/kg	10	67	39	109			
Total Extractable Hydrocarbons		515	mg/kg	10	70	21	133			
Surr: o-Terphenyl				0.17	81	60	116			
Method: SW8015C										Analytical Run: R286233
Lab ID: CCV_0824HP204r	2	Continuing Calibration Verification Standard								08/24/22 14:45
Total Purgeable Hydrocarbons		18.8	mg/kg	2.0	94	80	120			
Surr: Trifluorotoluene				0.40	108	70	130			
Lab ID: ICV_0824HP205r	3	Initial Calibration Verification Standard								08/24/22 15:23
Gasoline Range Organics (GRO)		17.2	mg/kg	2.0	108	70	130			
Total Purgeable Hydrocarbons		20.7	mg/kg	2.0	104	70	130			
Surr: Trifluorotoluene				0.40	100	70	130			
Method: SW8015C										Analytical Run: R286249
Lab ID: ICV_0824FID302r	3	Initial Calibration Verification Standard								08/24/22 17:05
Diesel Range Organics (DRO)		18.6	mg/kg	10	93	80	120			
Total Extractable Hydrocarbons		19.7	mg/kg	10	98	80	120			
Surr: o-Terphenyl				0.17	106	80	120			
Lab ID: CCV_0824FID304r	2	Continuing Calibration Verification Standard								08/24/22 18:41
Total Extractable Hydrocarbons		21.0	mg/kg	10	105	80	120			
Surr: o-Terphenyl				0.17	110	80	120			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Casper, WY Branch

Client: Wesco Operating Inc

Work Order: C22080905

Report Date: 08/29/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015C										Analytical Run: R286329
Lab ID: ICV_0826FID302r	3	Initial Calibration Verification Standard								08/26/22 14:58
Diesel Range Organics (DRO)		18.7	mg/kg	10	94	80	120			
Total Extractable Hydrocarbons		19.7	mg/kg	10	99	80	120			
Surr: o-Terphenyl				0.17	108	80	120			
Lab ID: CCV_0826FID304r	2	Continuing Calibration Verification Standard								08/26/22 16:33
Total Extractable Hydrocarbons		20.9	mg/kg	10	104	80	120			
Surr: o-Terphenyl				0.17	110	80	120			
Method: SW8015C										Analytical Run: R286330
Lab ID: ICV_0826FID3B02r	3	Initial Calibration Verification Standard								08/26/22 14:58
Diesel Range Organics (DRO)		19.6	mg/kg	10	98	80	120			
Total Extractable Hydrocarbons		20.7	mg/kg	10	103	80	120			
Surr: o-Terphenyl				0.17	107	80	120			
Lab ID: CCV_0826FID3B04r	2	Continuing Calibration Verification Standard								08/26/22 16:33
Total Extractable Hydrocarbons		21.8	mg/kg	10	109	80	120			
Surr: o-Terphenyl				0.17	108	80	120			
Method: SW8015C										Analytical Run: R286368
Lab ID: CCV_0826FID3B33r	2	Continuing Calibration Verification Standard								08/27/22 15:38
Total Extractable Hydrocarbons		22.0	mg/kg	10	110	80	120			
Surr: o-Terphenyl				0.17	110	80	120			
Lab ID: ICV_0826FID3B34r	3	Initial Calibration Verification Standard								08/27/22 16:26
Diesel Range Organics (DRO)		19.6	mg/kg	10	98	80	120			
Total Extractable Hydrocarbons		20.7	mg/kg	10	104	80	120			
Surr: o-Terphenyl				0.17	108	80	120			

Qualifiers:

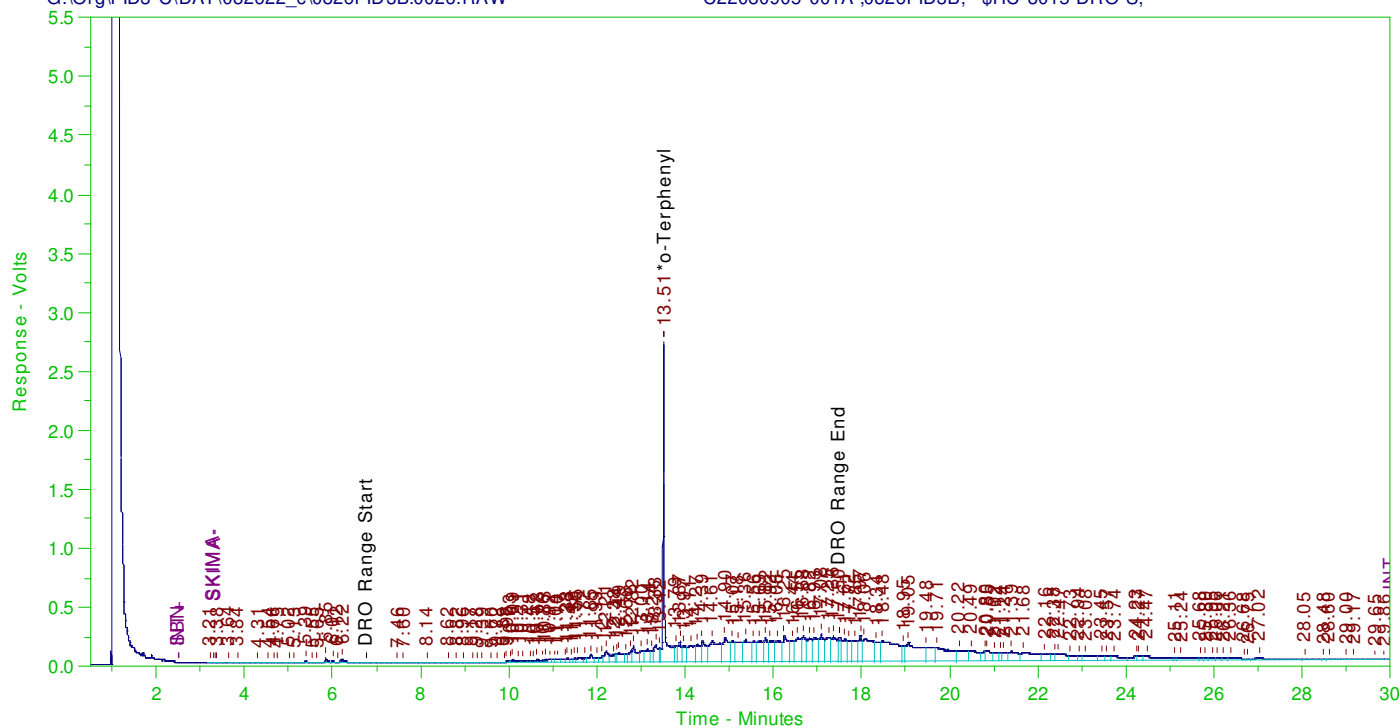
RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Batch ID: 67978

G:\Org\FID3-C\DAT\082622_c\0826FID3B.0026.RAW

C22080905-001A ;0826FID3B, \$HC-8015-DRO-S,



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22080905-001A ;0826FID3B, \$HC-8015-DRO-S,
Raw File: G:\Org\FID3-C\DAT\082622_c\0826FID3B.0026.RAW
Date & Time Acquired: 8/27/2022 10:04:46
Method File: G:\Org\FID3-C\Methods\220607AB.met
Calibration File: G:\Org\FID3-C\Cals\220607B.CAL
Sample Weight: 30.9 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 27383.54
Rt range for Diesel Range Organics (C10 to C28): 6.71 to 17.61
Rt range for Oil Range Organics (C28 to C40+): 17.47 to End Time

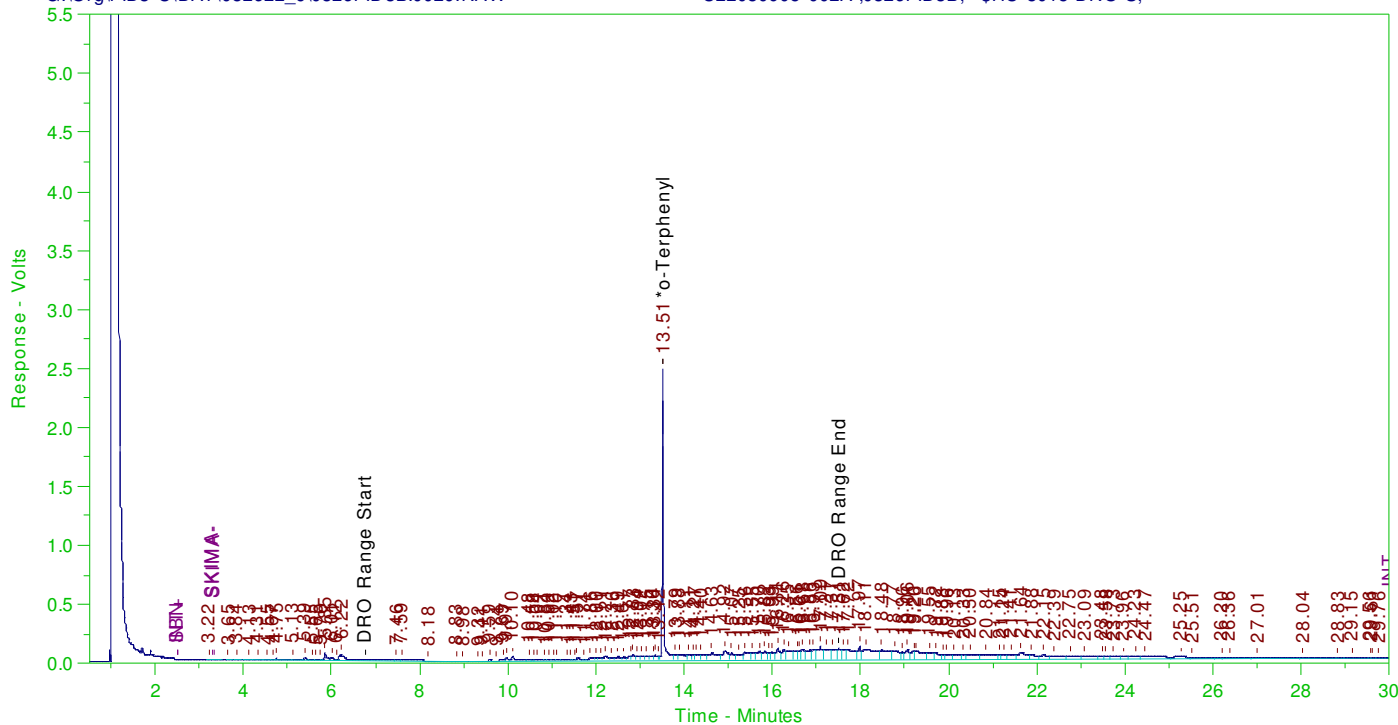
SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	13.507	6.472	8.679	134.09	-

DRO Area:5.143326E+07 DRO AMOUNT: 60.78494
TEH Area:9.652114E+07 TEH AMOUNT: 114.0708
Oil Area:4.446471E+07 OIL AMOUNT: 52.54936

Batch ID: 67978

G:\Org\FID3-C\DAT\082622_c\0826FID3B.0029.RAW

C22080905-002A ;0826FID3B, \$HC-8015-DRO-S,



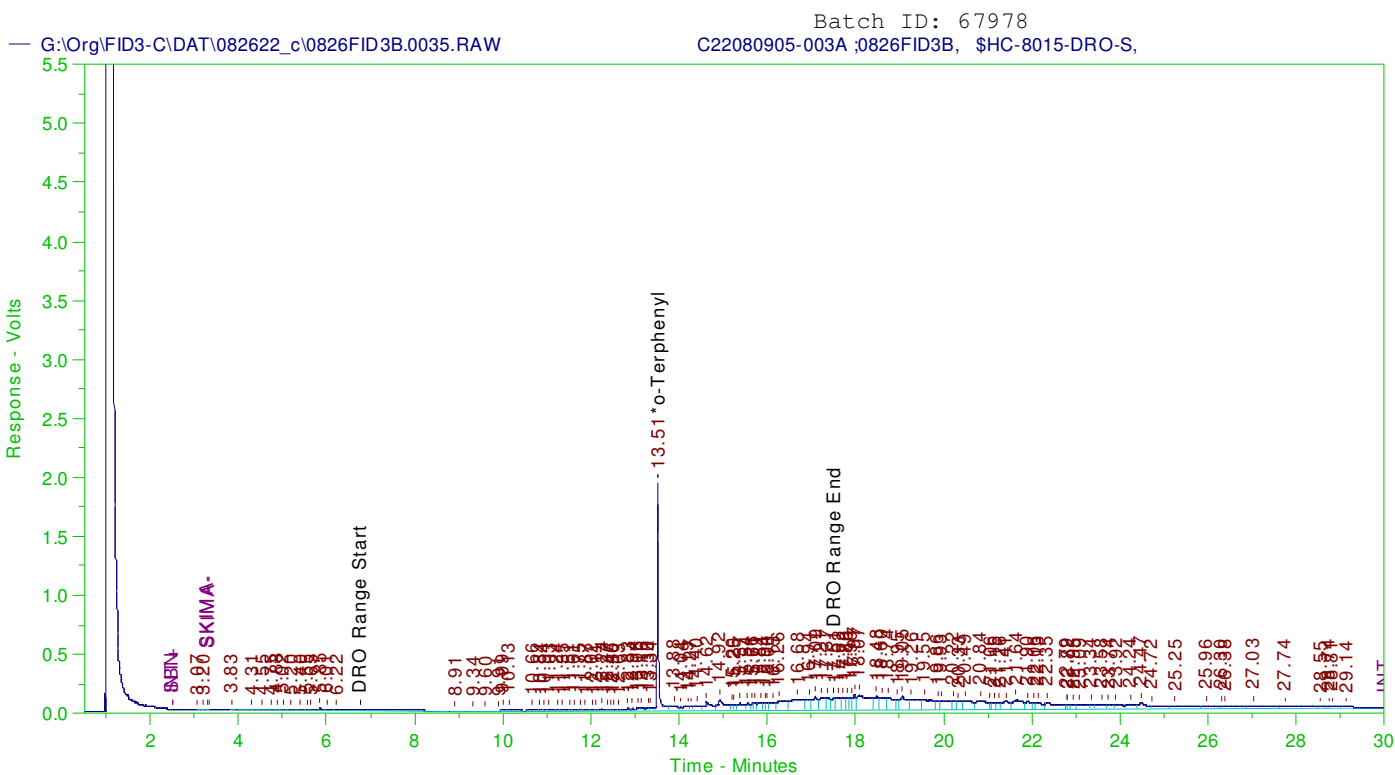
DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22080905-002A ;0826FID3B, \$HC-8015-DRO-S,
Raw File: G:\Org\FID3-C\DAT\082622_c\0826FID3B.0029.RAW
Date & Time Acquired: 8/27/2022 12:27:47
Method File: G:\Org\FID3-C\Methods\220607AB.met
Calibration File: G:\Org\FID3-C\Cals\220607B.CAL
Sample Weight: 30.9 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 27383.54
Rt range for Diesel Range Organics (C10 to C28): 6.71 to 17.61
Rt range for Oil Range Organics (C28 to C40+): 17.47 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	13.511	6.472	6.806	105.15	-

DRO Area:1.826345E+07 DRO AMOUNT: 21.58415
TEH Area:4.079533E+07 TEH AMOUNT: 48.21281
Oil Area:2.102102E+07 OIL AMOUNT: 24.8431



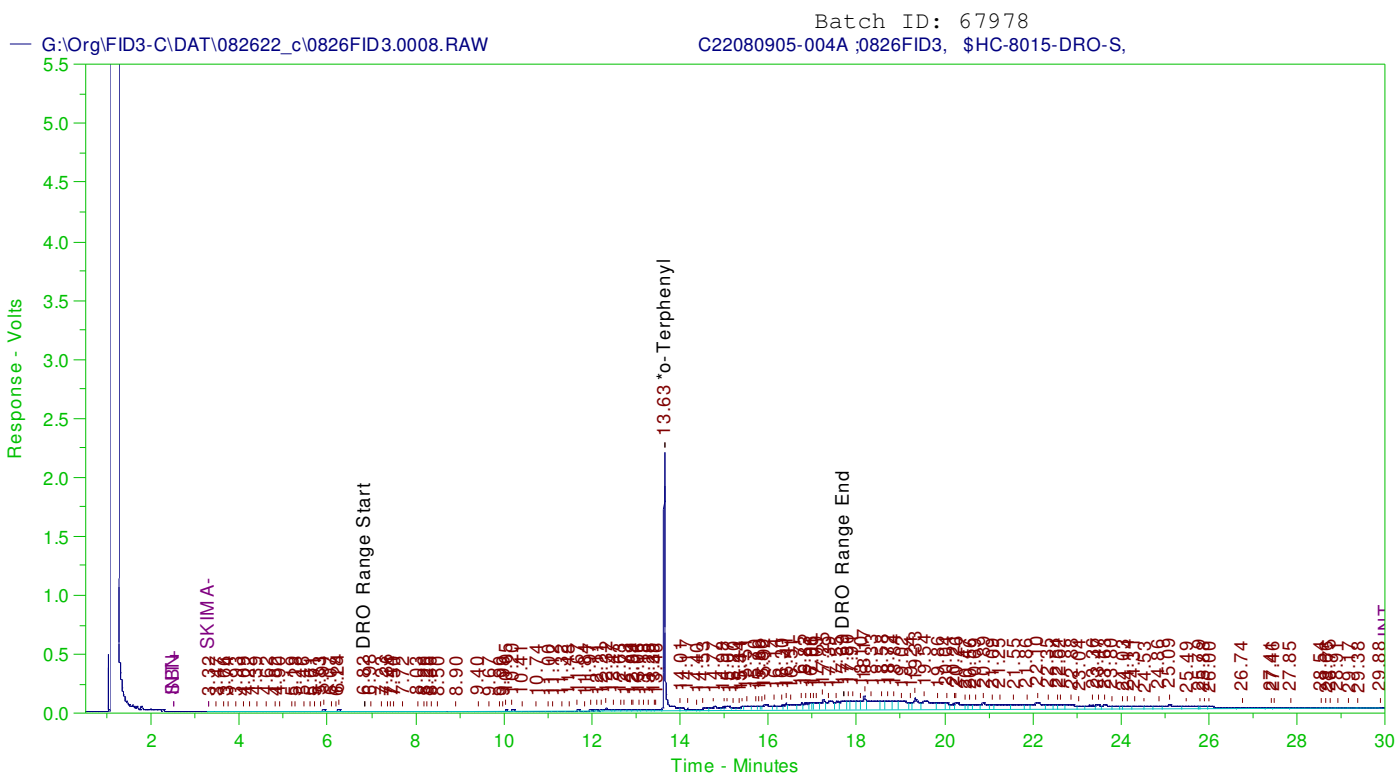
DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22080905-003A ;0826FID3B, \$HC-8015-DRO-S,
Raw File: G:\Org\FID3-C\DAT\082622_c\0826FID3B.0035.RAW
Date & Time Acquired: 8/27/2022 17:14:34
Method File: G:\Org\FID3-C\Methods\220607AB.met
Calibration File: G:\Org\FID3-C\Cals\220607B.CAL
Sample Weight: 30.1 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 27383.54
Rt range for Diesel Range Organics (C10 to C28): 6.71 to 17.61
Rt range for Oil Range Organics (C28 to C40+): 17.47 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	13.511	6.645	5.386	81.06	-

DRO Area:1.390251E+07 DRO AMOUNT: 16.86697
TEH Area:4.446342E+07 TEH AMOUNT: 53.94445
Oil Area:2.986569E+07 OIL AMOUNT: 36.23402



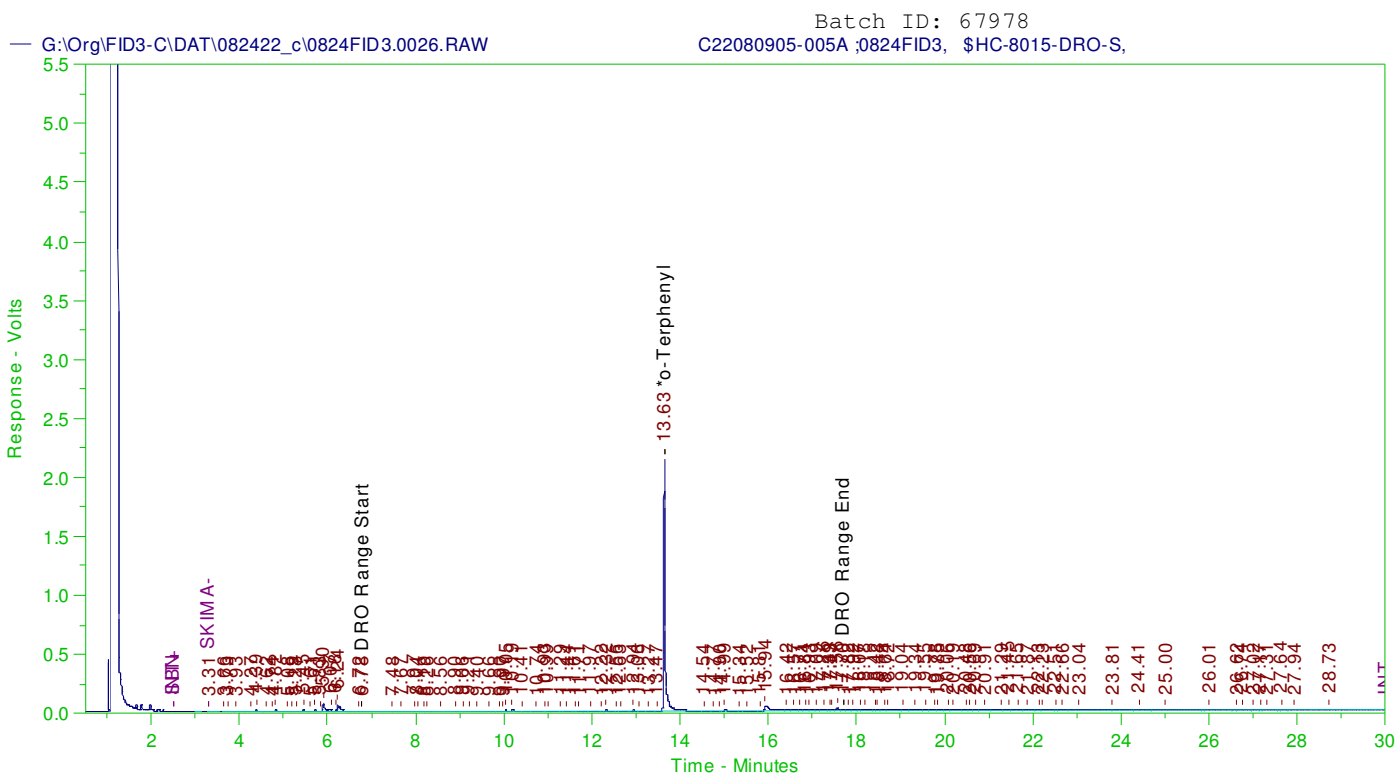
DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22080905-004A ;0826FID3, \$HC-8015-DRO-S,
Raw File: G:\Org\FID3-C\DAT\082622_c\0826FID3.0008.RAW
Date & Time Acquired: 8/26/2022 19:45:34
Method File: G:\Org\FID3-C\Methods\220607A.met
Calibration File: G:\Org\FID3-C\Cals\220607A.CAL
Sample Weight: 30.2 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 29051.21
Rt range for Diesel Range Organics (C10 to C28): 6.76 to 17.78
Rt range for Oil Range Organics (C28 to C40+): 17.64 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	13.634	6.623	6.318	95.41	-

DRO Area:1.017254E+07 DRO AMOUNT: 11.59466
TEH Area:3.347148E+07 TEH AMOUNT: 38.1508
Oil Area:2.343677E+07 OIL AMOUNT: 26.71324



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22080905-005A ;0824FID3, \$HC-8015-DRO-S,
Raw File: G:\Org\FID3-C\DAT\082422_c\0824FID3.0026.RAW
Date & Time Acquired: 8/25/2022 12:14:23
Method File: G:\Org\FID3-C\Methods\220607A.met
Calibration File: G:\Org\FID3-C\Cals\220607A.CAL
Sample Weight: 30.7 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 29051.21
Rt range for Diesel Range Organics (C10 to C28): 6.76 to 17.78
Rt range for Oil Range Organics (C28 to C40+): 17.64 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	13.633	6.515	6.783	104.11	-

DRO Area:2158391 DRO AMOUNT: 2.420067
TEH Area:7306561 TEH AMOUNT: 8.192385
Oil Area:4160999 OIL AMOUNT: 4.665465

C22080905-006A ;0826FID3, \$HC-8015-DRO-S,

— G:\Org\FID3-C\DAT\082622_c\0826FID3.0011.RAW

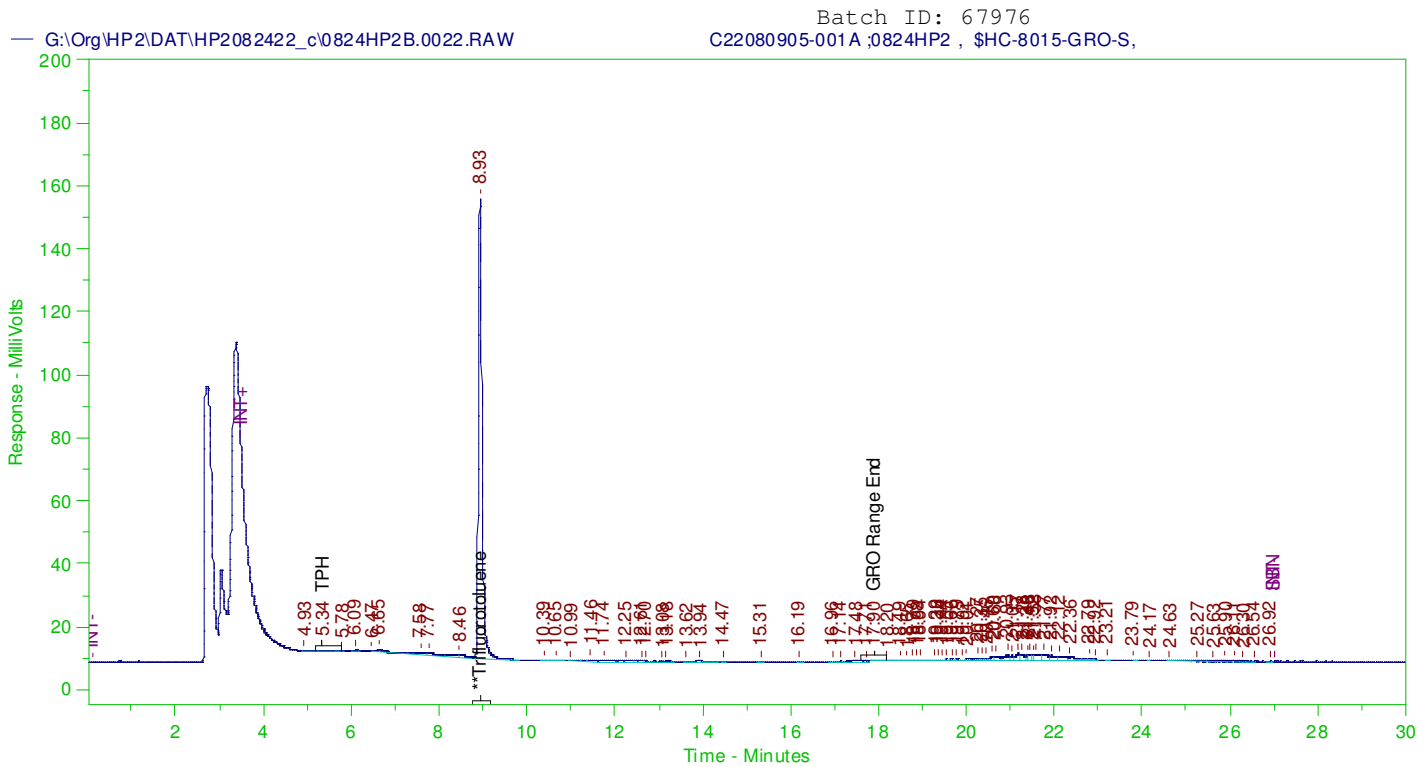


Sample Name: C22080905-006A ;0826FID3, \$HC-8015-DRO-S,
Raw File: G:\Org\FID3-C\DAT\082622_c\0826FID3.0011.RAW
Date & Time Acquired: 8/26/2022 22:09:28
Method File: G:\Org\FID3-C\Methods\220607A.met
Calibration File: G:\Org\FID3-C\Cals\220607A.CAL
Sample Weight: 30.2 Dilution: 1 S.A.: 1

Mean RF for Hydrocarbon Range Calculations: 29051.21
Rt range for Diesel Range Organics (C10 to C28): 6.76 to 17.78
Rt range for Oil Range Organics (C28 to C40+): 17.64 to End Time

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
*o-Terphenyl_____	13.633	6.623	6.354	95.95

DRO Area:3532204	DRO AMOUNT: 4.026006
TEH Area:1.574183E+07	TEH AMOUNT: 17.94254
Oil Area:1.187072E+07	OIL AMOUNT: 13.53025



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

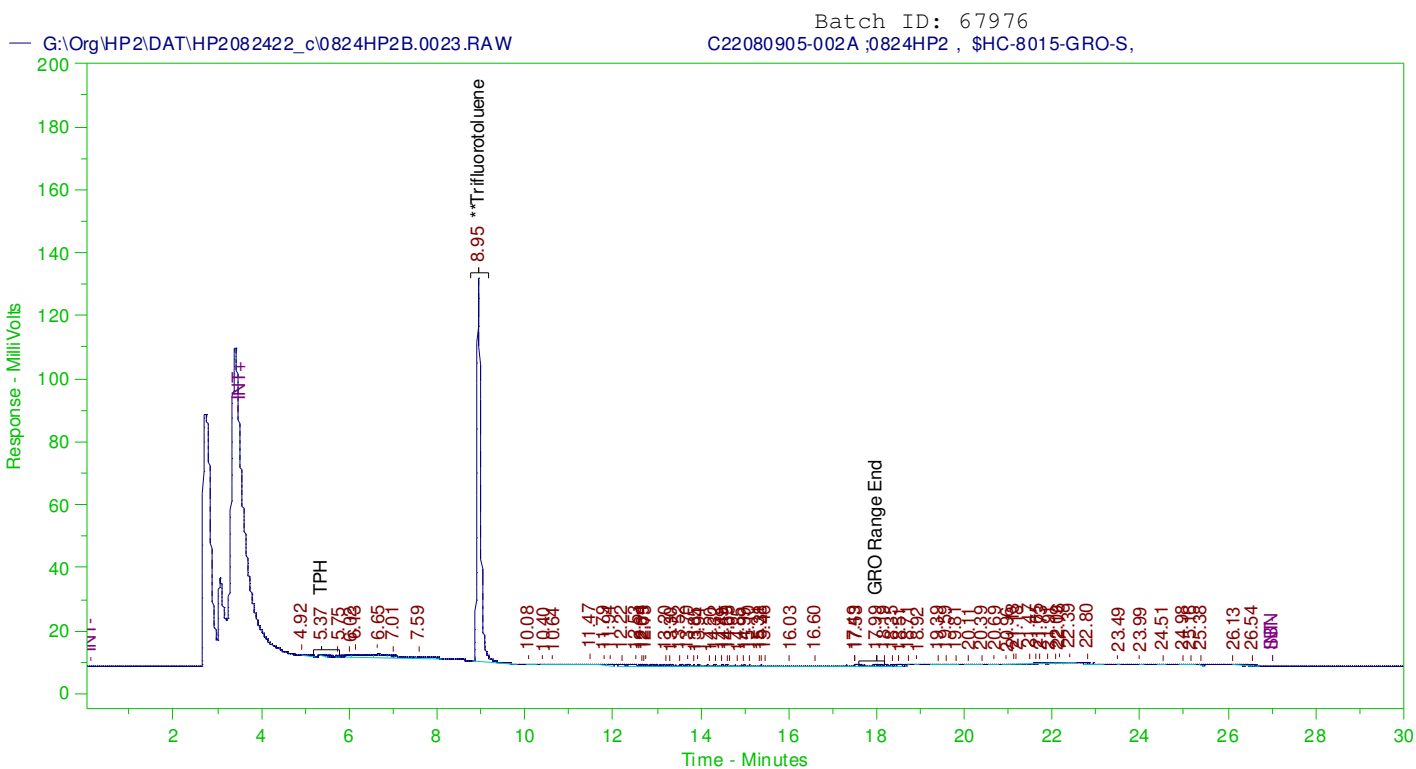
Sample Name: C22080905-001A ;0824HP2 , \$HC-8015-GRO-S,
Raw File: G:\Org\HP2\DAT\HP2082422_c\0824HP2B.0022.RAW
Date & Time Acquired: 8/25/2022 2:19:22 AM
Method File: G:\Org\HP2\Methods\1_012822_AB.MET
Calibration File: G:\Org\HP2\Cals\1_012822_AB.CAL
Sample Weight: 50 Dilution: 1 S.A.: 1

Mean RF for TPH: 3370.839

Rt range for Gasoline Range Organics: 5.18 to 18.19

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.935	5.	4.54	90.81

GRO Area:59532.73 GRO Amount: 0.353222
TPH Area:282452 TPH Amount: 1.675856



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

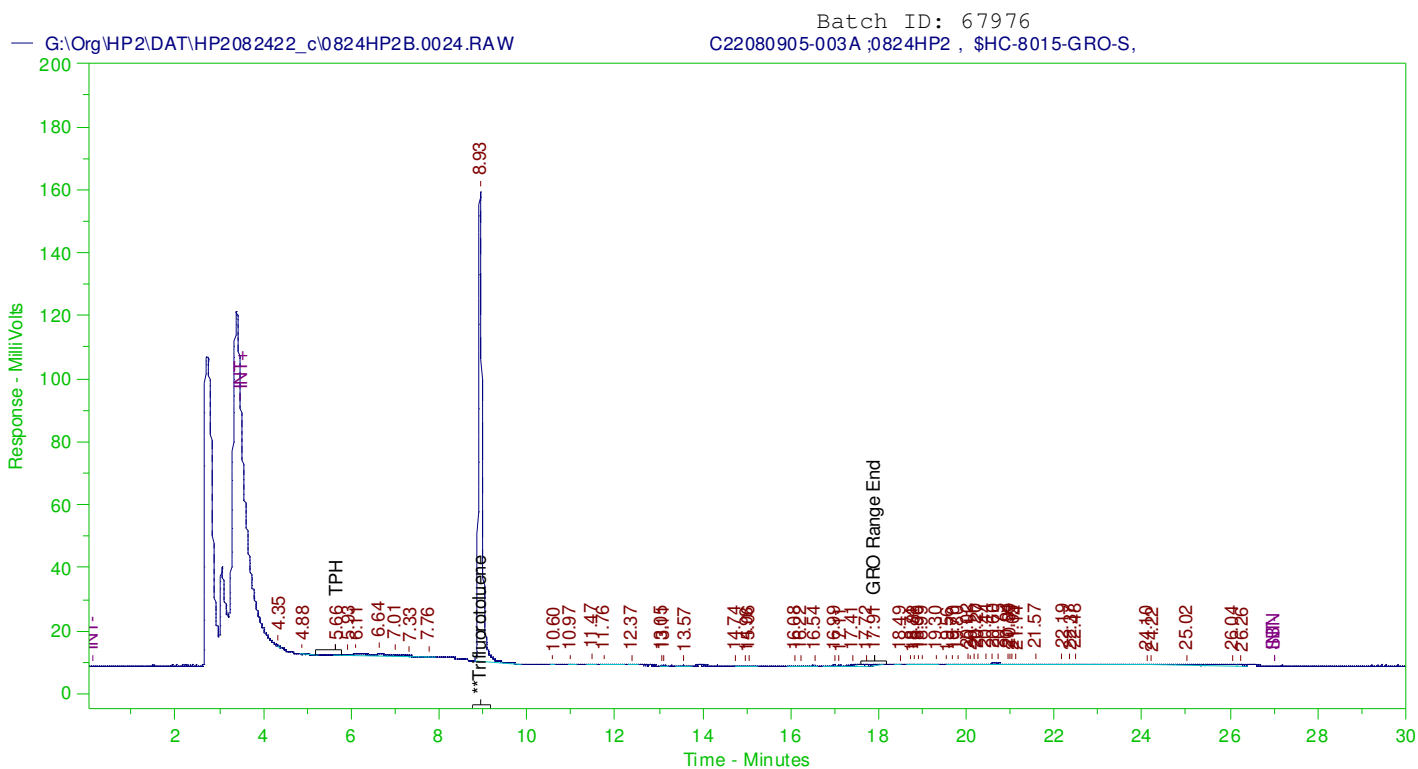
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Raw File: G:\Org\HP2\DAT\HP2082422_c\0824HP2B.0023.RAW
Date & Time Acquired: 8/25/2022 2:58:03 AM
Method File: G:\Org\HP2\Methods\1_012822_AB.MET
Calibration File: G:\Org\HP2\Cals\1_012822_AB.CAL
Sample Weight: 50 Dilution: 1 S.A.: 1

Mean RF for TPH: 3370.839

Rt range for Gasoline Range Organics: 5.18 to 18.19

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.947	5.	3.86	77.19

GRO Area:97532.86 GRO Amount: 0.5786859
TPH Area:122790.9 TPH Amount: 0.7285482



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

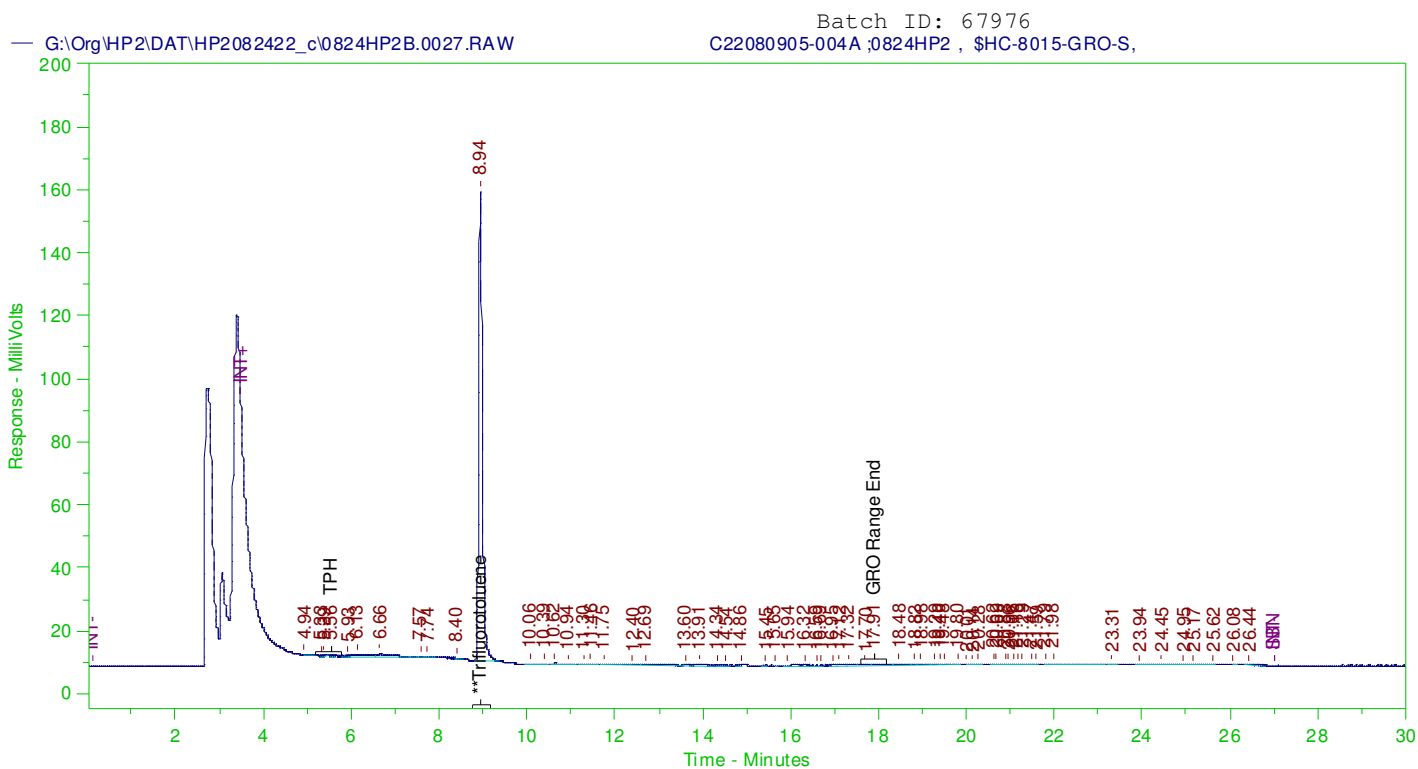
Sample Name: C22080905-003A ;0824HP2 , \$HC-8015-GRO-S,
Raw File: G:\Org\HP2\DAT\HP2082422_c\0824HP2B.0024.RAW
Date & Time Acquired: 8/25/2022 3:36:31 AM
Method File: G:\Org\HP2\Methods\1_012822_AB.MET
Calibration File: G:\Org\HP2\Cals\1_012822_AB.CAL
Sample Weight: 50 Dilution: 1 S.A.: 1

Mean RF for TPH: 3370.839

Rt range for Gasoline Range Organics: 5.18 to 18.19

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.934	5.	4.723	94.45	-

GRO Area:58320.05 GRO Amount: 0.3460269
TPH Area:135337.8 TPH Amount: 0.8029919



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

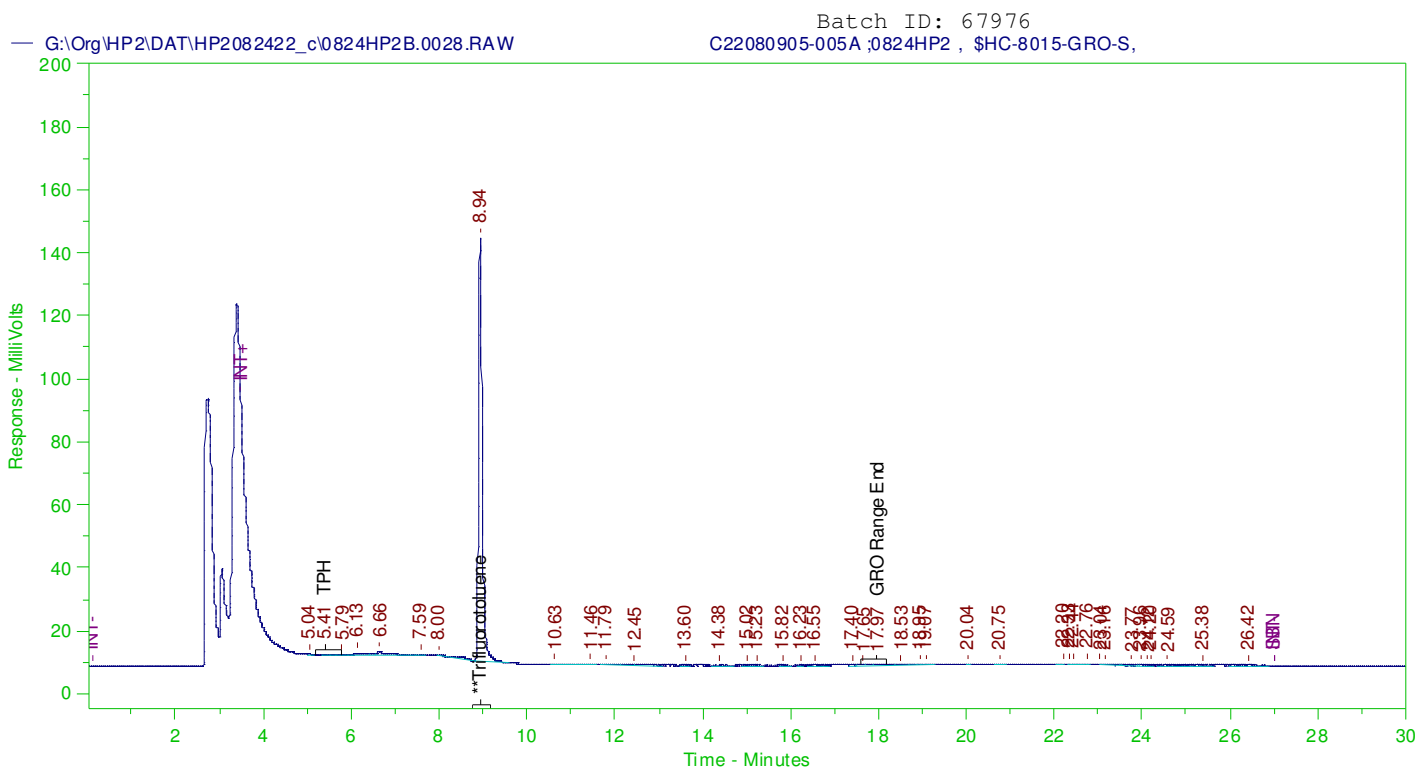
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Raw File: G:\Org\HP2\DAT\HP2082422_c\0824HP2B.0027.RAW
Date & Time Acquired: 8/25/2022 5:32:17 AM
Method File: G:\Org\HP2\Methods\1_012822_AB.MET
Calibration File: G:\Org\HP2\Cals\1_012822_AB.CAL
Sample Weight: 50 Dilution: 1 S.A.: 1

Mean RF for TPH: 3370.839

Rt range for Gasoline Range Organics: 5.18 to 18.19

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.942	5.	4.643	92.86	-

GRO Area: 72969.63 GRO Amount: 0.4329464
TPH Area: 117407.8 TPH Amount: 0.6966088



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: C22080905-005A ;0824HP2 , \$HC-8015-GRO-S,
Raw File: G:\Org\HP2\DAT\HP2082422_c\0824HP2B.0028.RAW
Date & Time Acquired: 8/25/2022 6:11:00 AM
Method File: G:\Org\HP2\Methods\1_012822_AB%.MET
Calibration File: G:\Org\HP2\Cals\1_012822_AB.CAL
Sample Weight: 50 Dilution: 1 S.A.: 1

Mean RF for TPH: 3370.839

Rt range for Gasoline Range Organics: 5.18 to 18.19

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	8.937	5.	4.232	84.63	-

GRO Area:75382.24 GRO Amount: 0.447261
TPH Area:104660.8 TPH Amount: 0.6209779

C22080905-006A ;0824HP2 , \$HC-8015-GRO-S,



Sample Name: C22080905-006A ; 0824HP2 , \$HC-8015-GRO-S,
Raw File: G:\Org\HP2\DAT\HP2082422_c\0824HP2B.0029.RAW
Date & Time Acquired: 8/25/2022 6:49:46 AM
Method File: G:\Org\HP2\Methods\1_012822_AB.MET
Calibration File: G:\Org\HP2\Cals\1_012822_AB.CAL
Sample Weight: 50 Dilution: 1 S.A.: 1

Rt range for Gasoline Range Organics: 5.18 to 18.19

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	8.938	5.	4.548	90.95

GRO Area:68289.64 GRO Amount: 0.4051788
TPH Area:149765 TPH Amount: 0.888592



Work Order Receipt Checklist

Wesco Operating Inc

C22080905

Login completed by: Chantel S. Johnson

Date Received: 8/19/2022

Reviewed by: Misty Stephens

Received by: mar

Reviewed Date: 9/2/2022

Carrier name:

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>
Container/Temp Blank temperature:	°C		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as —dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

The collection times were taken from the sample bottles.

8/23/2022 MR



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page ____ of ____

Account Information (Billing Information)

Company/Name	Wesco Operating, Inc
Contact	Dave Weinert
Phone	307-259-0230
Mailing Address	PO Box 1650
City, State, Zip	Casper WY
Email	davew@kirkwoodcompanies.com
Receive Invoice	<input type="checkbox"/> Hard Copy <input type="checkbox"/> Email
Receive Report	<input type="checkbox"/> Hard Copy <input type="checkbox"/> Email
Purchase Order	Quote
Boiler Order	

Report Information (If different than Account Information)

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	<input type="checkbox"/> Hard Copy <input type="checkbox"/> Email
Special Report/Format:	<input type="checkbox"/> LEVEL IV CNEIAC <input type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other

Comments

--

Project Information

Project Name, PWSID, Permit, etc.	Maudlin #12
Sampler Name	Scott Kerr
Sampler Phone	307-462-3844
Sample Origin State	CO
EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

Matrix Codes	
A - Air	
W - Water	
S - Solids	
V - Vegetation	
B - Biosassay	
O - Oil	
DW - Drinking Water	

Colorado Table 915 Soils

Analysis Requested	
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All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)

Sample Identification	Collection Date	Time	Number of Containers	Matrix (See Codes Above)	Analysis Requested	Signature	ELI LAB ID
1 M#12 N	08/15/2022		4	S			
2 M#12 S	08/15/2022		4	S			
3 M#12 E	08/15/2022		4	S			
4 M#12 W	08/15/2022		4	S			
5 M#12 V	08/15/2022		4	S			
6 M#12 Background	08/15/2022		4	S			
7							
8							
9							

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Dan/01/10/2022	8/16/2022 12:24 PM				

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	CC	Cash	Check	Amount	Receipt Number (cash/check only)
HND	yes	Y N C B	X N	5.2°C	Y (N)	Q					

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

**Table 915-1
CLEANUP CONCENTRATIONS**

Contaminant of Concern	Concentrations
Soil TPH (total volatile [C ₆ -C ₁₀] and extractable [C ₁₀ -C ₃₆] hydrocarbons)	500mg/kg
Soils and Groundwater - liquid hydrocarbons including condensate and oil	below visual detection limits
Soil Suitability for Reclamation	
Electrical conductivity (EC) (by saturated paste method) ^{1,2}	<4mmhos/cm
Sodium adsorption ratio (SAR) (by saturated paste method) ^{1,2,3}	<6
pH (by saturated paste method) ^{1,2}	6-8.3
boron (hot water soluble soil extract) ^{1,2,3}	2mg/l
Organic Compounds in Groundwater⁴	
benzene	5µg/l
toluene ⁵	560 to 1,000µg/l
ethylbenzene	700µg/l
xylene (sum of o-, m- and p- isomers = total xylenes) ⁵	1,400 to 10,000µg/l
naphthalene	140µg/l
1,2,4-trimethylbenzene	67µg/l
1,3,5-trimethylbenzene	67µg/l
Groundwater Inorganic Parameters⁴	
total dissolved solids (TDS) ¹	<1.25 X local background
chloride ion ¹	250mg/l or <1.25 X local background
sulfate ion ¹	250mg/l or <1.25 X local background

Table 915-1 (continued)

Contaminant of Concern	Concentrations	
	Residential Soil Screening Level Concentrations (mg/kg) ⁷	Protection of Groundwater Soil Screening Level Concentrations (mg/kg) Risk Based (R) and MCL Based (M) ^{7,8}
Organic Compounds in Soils^{6, 9, 10}		
benzene	1.2	0.0026 (M)
toluene	490	0.69 (M)
ethylbenzene	5.8	0.78 (M)
xylene (sum of o-, m- and p- isomers = total xylenes)	58	9.9 (M)
1,2,4-trimethylbenzene	30	0.0081 (R)
1,3,5-trimethylbenzene	27	0.0087 (R)
acenaphthene	360	0.55 (R)
anthracene	1800	5.8 (R)
benz(a)anthracene	1.1	0.011 (R)
benzo(b)fluoranthene	1.1	0.3 (R)
benzo(k)fluoranthene	11	2.9 (R)
benzo(a)pyrene	0.11	0.24 (M)
chrysene	110	9 (R)
dibenzo(a,h)anthracene	0.11	0.096 (R)
fluoranthene	240	8.9 (R)
fluorene	240	0.54 (R)
indeno(1,2,3-cd)pyrene	1.1	0.98 (R)
1-methylnaphthalene	18	0.006 (R)
2-methylnaphthalene	24	0.019 (R)
naphthalene	2	0.0038 (R)
pyrene	180	1.3 (R)
Metals in Soils^{1, 6, 9, 10, 11}		
arsenic	0.68	0.29 (M)
barium	15000	82 (M)
cadmium	71	0.38 (M)
chromium (VI)	0.3	0.00067 (R)
copper	3100	46 (M)
lead	400	14 (M)
nickel	1500	26 (R)
selenium	390	0.26 (M)
silver	390	0.8 (R)
zinc	23000	370 (R)