



## ANALYTICAL SUMMARY REPORT

November 03, 2022

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

Work Order: C22091204 Quote ID: C15408

Project Name: Maudlin #12 Spill Sampling

Energy Laboratories, Inc. Casper WY received the following 2 samples for Wesco Operating Inc on 9/30/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C22091204-001	E 0-6" [0-6]	09/28/22 13:00	09/30/22	Solid	DRO-Ultrasonic Extraction Methanol Extraction for Volatiles Diesel Range Organics Gasoline Range Organics Moisture Soil Sonication SW3550C Extraction Semi-Volatile Organic Compounds Volatile Organics, Methanol Extraction SW8260B VOCs, Standard List
C22091204-002	W 0-6" [0-6]	09/28/22 13:15	09/30/22	Soil	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:



## LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

**Client:** Wesco Operating Inc  
**Project:** Maudlin #12 Spill Sampling  
**Lab ID:** C22091204-001  
**Client Sample ID:** E 0-6" [0-6]

**Report Date:** 11/03/22  
**Collection Date:** 09/28/22 13:00  
**Date Received:** 09/30/22  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL CHARACTERISTICS</b>							
Moisture	28.0	wt%		0.2		D2974	10/04/22 11:42 / aps
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
2-Chloroethyl vinyl ether	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	10/06/22 19:42 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	10/08/22 04:05 / eli-b
Surr: p-Bromofluorobenzene	97.0	%REC		78-160		SW8260B	10/08/22 04:05 / eli-b
Surr: Dibromofluoromethane	95.0	%REC		70-132		SW8260B	10/08/22 04:05 / eli-b
Surr: 1,2-Dichloroethane-d4	93.0	%REC		60-136		SW8260B	10/08/22 04:05 / eli-b
Surr: Toluene-d8	87.0	%REC		75-138		SW8260B	10/08/22 04:05 / eli-b
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>							
Gasoline Range Organics (GRO)	ND	mg/kg		2.0		SW8015C	10/04/22 07:50 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	10/04/22 07:50 / adw
Surr: Trifluorotoluene	91.0	%REC		70-130		SW8015C	10/04/22 07:50 / 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.							
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>							
Diesel Range Organics (DRO)	25	mg/kg		10		SW8015C	10/06/22 20:26 / adw
Total Extractable Hydrocarbons	67	mg/kg		10		SW8015C	10/06/22 20:26 / adw
Total Petroleum Hydrocarbons (TPH)	65	mg/kg		10		SW8015C	10/10/22 16:06 / adw
Surr: o-Terphenyl	89.0	%REC		50-150		SW8015C	10/06/22 20:26 / adw
- 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+).							
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
1-Methylnaphthalene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Acenaphthene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Anthracene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Chrysene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Fluoranthene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b

**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 Spill Sampling  
**Lab ID:** C22091204-001  
**Client Sample ID:** E 0-6" [0-6]

**Report Date:** 11/03/22  
**Collection Date:** 09/28/22 13:00  
**Date Received:** 09/30/22  
**Matrix:** Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
Fluorene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Naphthalene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Pyrene	ND	mg/kg		0.33		SW8270C	10/29/22 22:10 / eli-b
Surr: 2,4,6-Tribromophenol	81.0	%REC		53-141		SW8270C	10/29/22 22:10 / eli-b
Surr: 2-Fluorobiphenyl	74.0	%REC		63-98		SW8270C	10/29/22 22:10 / eli-b
Surr: 2-Fluorophenol	64.0	%REC		53-101		SW8270C	10/29/22 22:10 / eli-b
Surr: Nitrobenzene-d5	66.0	%REC		53-101		SW8270C	10/29/22 22:10 / eli-b
Surr: Phenol-d5	64.0	%REC		55-100		SW8270C	10/29/22 22:10 / eli-b
Surr: Terphenyl-d14	104	%REC		71-118		SW8270C	10/29/22 22:10 / eli-b

**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 Spill Sampling  
**Lab ID:** C22091204-002  
**Client Sample ID:** W 0-6" [0-6]

**Report Date:** 11/03/22  
**Collection Date:** 09/28/22 13:15  
**Date Received:** 09/30/22  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL CHARACTERISTICS</b>							
Moisture	10.3	wt%		0.2		D2974	10/04/22 11:44 / aps
<b>VOLATILE ORGANIC COMPOUNDS</b>							
Benzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
2-Chloroethyl vinyl ether	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
Ethylbenzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
Toluene	ND	mg/kg		0.20		SW8260B	10/06/22 19:17 / eli-b
1,2,4-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
1,3,5-Trimethylbenzene	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
m+p-Xylenes	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
o-Xylene	ND	mg/kg		0.20		SW8260B	10/08/22 04:55 / eli-b
Surr: p-Bromofluorobenzene	104	%REC		78-160		SW8260B	10/08/22 04:55 / eli-b
Surr: Dibromofluoromethane	104	%REC		70-132		SW8260B	10/08/22 04:55 / eli-b
Surr: 1,2-Dichloroethane-d4	103	%REC		60-136		SW8260B	10/08/22 04:55 / eli-b
Surr: Toluene-d8	97.0	%REC		75-138		SW8260B	10/08/22 04:55 / eli-b
<b>PETROLEUM HYDROCARBONS-VOLATILE</b>							
Gasoline Range Organics (GRO)	0.78	mg/kg	J	2.0		SW8015C	10/04/22 09:07 / adw
Total Purgeable Hydrocarbons	ND	mg/kg		2.0		SW8015C	10/04/22 09:07 / adw
Surr: Trifluorotoluene	96.0	%REC		70-130		SW8015C	10/04/22 09:07 / 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.							
<b>PETROLEUM HYDROCARBONS-SEMI-VOLATILE</b>							
Diesel Range Organics (DRO)	74	mg/kg		20		SW8015C	10/07/22 07:37 / adw
Total Extractable Hydrocarbons	169	mg/kg		20		SW8015C	10/07/22 07:37 / adw
Total Petroleum Hydrocarbons (TPH)	166	mg/kg		20		SW8015C	10/10/22 16:06 / adw
Surr: o-Terphenyl	103	%REC		50-150		SW8015C	10/07/22 07:37 / adw
- 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+).							
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
1-Methylnaphthalene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
2-Methylnaphthalene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Acenaphthene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Anthracene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Benzo(a)anthracene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Benzo(a)pyrene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Benzo(b)fluoranthene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Benzo(k)fluoranthene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Chrysene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Dibenzo(a,h)anthracene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Fluoranthene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b

<b>Report</b>	RL - Analyte Reporting Limit	MCL - Maximum Contaminant Level
<b>Definitions:</b>	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 Spill Sampling  
**Lab ID:** C22091204-002  
**Client Sample ID:** W 0-6" [0-6]

**Report Date:** 11/03/22  
**Collection Date:** 09/28/22 13:15  
**Date Received:** 09/30/22  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>SEMI-VOLATILE ORGANIC COMPOUNDS</b>							
Fluorene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Indeno(1,2,3-cd)pyrene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Naphthalene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Pyrene	ND	mg/kg		0.84		SW8270C	10/29/22 22:41 / eli-b
Surr: 2,4,6-Tribromophenol	89.0	%REC		53-141		SW8270C	10/29/22 22:41 / eli-b
Surr: 2-Fluorobiphenyl	77.0	%REC		63-98		SW8270C	10/29/22 22:41 / eli-b
Surr: 2-Fluorophenol	64.0	%REC		53-101		SW8270C	10/29/22 22:41 / eli-b
Surr: Nitrobenzene-d5	67.0	%REC		53-101		SW8270C	10/29/22 22:41 / eli-b
Surr: Phenol-d5	75.0	%REC		55-100		SW8270C	10/29/22 22:41 / eli-b
Surr: Terphenyl-d14	104	%REC		71-118		SW8270C	10/29/22 22:41 / 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**  
**Definitions:** RL - Analyte Reporting Limit  
QCL - Quality Control Limit

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



## QA/QC Summary Report

Prepared by Casper, WY Branch

**Client:** Wesco Operating Inc

**Work Order:** C22091204

**Report Date:** 10/14/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	D2974							Batch: 221004A-MOIST		
Lab ID:	C22091221-008ADUP		Sample Duplicate			Run: BAL-105_221005A			10/04/22 11:57	
Moisture		3.70	wt%	0.20				9.4	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: C22091204

Report Date: 11/02/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8260B</b>										Batch: 171224
<b>Lab ID: MB-171224</b>	12	Method Blank				Run: VOA5977B_221006C				10/06/22 17:12
Benzene		ND	mg/kg	0.10						
2-Chloroethyl vinyl ether		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						
m+p-Xylenes		ND	mg/kg	0.20						
o-Xylene		ND	mg/kg	0.10						
Surr: 1,2-Dichloroethane-d4				0.10	128	60	136			
Surr: Dibromofluoromethane				0.10	131	70	132			
Surr: p-Bromofluorobenzene				0.10	121	78	160			
Surr: Toluene-d8				0.10	123	75	138			
<b>Lab ID: C22091204-002BMS</b>	12	Sample Matrix Spike				Run: VOA5977B_221006C				10/06/22 20:32
Benzene		1.02	mg/kg	0.10	102	70	127			
2-Chloroethyl vinyl ether		1.09	mg/kg	0.10	109	41	149			
Ethylbenzene		1.03	mg/kg	0.10	103	74	136			
Toluene		1.15	mg/kg	0.10	115	73	137			
1,2,4-Trimethylbenzene		1.07	mg/kg	0.10	107	67	125			
1,3,5-Trimethylbenzene		1.05	mg/kg	0.10	105	71	130			
m+p-Xylenes		2.12	mg/kg	0.20	106	75	136			
o-Xylene		1.05	mg/kg	0.10	105	72	134			
Surr: 1,2-Dichloroethane-d4				0.10	95	60	136			
Surr: Dibromofluoromethane				0.10	98	70	132			
Surr: p-Bromofluorobenzene				0.10	100	78	160			
Surr: Toluene-d8				0.10	103	75	138			
<b>Lab ID: C22091204-002BMSD</b>	12	Sample Matrix Spike Duplicate				Run: VOA5977B_221006C				10/06/22 20:57
Benzene		1.04	mg/kg	0.10	104	70	127	2.2	20	
2-Chloroethyl vinyl ether		1.06	mg/kg	0.10	107	41	149	2.6	20	
Ethylbenzene		1.04	mg/kg	0.10	105	74	136	1.4	20	
Toluene		1.18	mg/kg	0.10	118	73	137	2.1	20	
1,2,4-Trimethylbenzene		1.16	mg/kg	0.10	116	67	125	8.0	20	
1,3,5-Trimethylbenzene		1.13	mg/kg	0.10	113	71	130	7.6	20	
m+p-Xylenes		2.16	mg/kg	0.20	108	75	136	2.0	20	
o-Xylene		1.08	mg/kg	0.10	109	72	134	3.1	20	
Surr: 1,2-Dichloroethane-d4				0.10	92	60	136			
Surr: Dibromofluoromethane				0.10	98	70	132			
Surr: p-Bromofluorobenzene				0.10	105	78	160			
Surr: Toluene-d8				0.10	101	75	138			
<b>Lab ID: LCS-171224</b>	12	Laboratory Control Sample				Run: VOA5977B_221006D				10/07/22 03:12
Benzene		1.02	mg/kg	0.10	102	70	127			
2-Chloroethyl vinyl ether		0.987	mg/kg	0.10	99	41	149			
Ethylbenzene		1.02	mg/kg	0.10	102	74	136			
Toluene		1.19	mg/kg	0.10	119	73	137			

### 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:** C22091204

**Report Date:** 11/02/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> SW8260B										Batch: 171224
<b>Lab ID:</b> LCS-171224										10/07/22 03:12
12 Laboratory Control Sample										Run: VOA5977B_221006D
1,2,4-Trimethylbenzene		1.00	mg/kg	0.10	100	67	125			
1,3,5-Trimethylbenzene		1.02	mg/kg	0.10	102	71	131			
m+p-Xylenes		2.10	mg/kg	0.20	105	75	136			
o-Xylene		1.05	mg/kg	0.10	105	72	134			
Surr: 1,2-Dichloroethane-d4				0.10	96	60	136			
Surr: Dibromofluoromethane				0.10	98	70	132			
Surr: p-Bromofluorobenzene				0.10	103	78	160			
Surr: Toluene-d8				0.10	106	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: C22091204

Report Date: 11/02/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8270C</b>										Batch: 171367
<b>Lab ID: MB-171367</b>	21	Method Blank				Run: SV5973N2.I_221029A				10/29/22 12:36
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	75	53	141			
Surr: 2-Fluorobiphenyl				0.33	73	63	98			
Surr: 2-Fluorophenol				0.33	81	53	101			
Surr: Nitrobenzene-d5				0.33	64	53	101			
Surr: Phenol-d5				0.33	79	55	100			
Surr: Terphenyl-d14				0.33	110	71	118			
<b>Lab ID: LCS-171367</b>	21	Laboratory Control Sample				Run: SV5973N2.I_221029A				10/29/22 13:06
1-Methylnaphthalene		2.25	mg/kg	0.33	68	63	97			
2-Methylnaphthalene		1.34	mg/kg	0.33	40	68	103			S
Acenaphthene		1.39	mg/kg	0.33	42	73	104			S
Anthracene		1.53	mg/kg	0.33	46	72	110			S
Benzo(a)anthracene		1.60	mg/kg	0.33	48	75	112			S
Benzo(a)pyrene		1.56	mg/kg	0.33	47	71	106			S
Benzo(b)fluoranthene		1.70	mg/kg	0.33	51	65	121			S
Benzo(k)fluoranthene		1.66	mg/kg	0.33	50	64	118			S
Chrysene		1.74	mg/kg	0.33	52	76	109			S
Dibenzo(a,h)anthracene		1.67	mg/kg	0.33	50	75	111			S
Fluoranthene		1.55	mg/kg	0.33	47	76	109			S
Fluorene		1.43	mg/kg	0.33	43	67	108			S
Indeno(1,2,3-cd)pyrene		1.52	mg/kg	0.33	46	63	112			S
Naphthalene		1.17	mg/kg	0.33	35	60	99			S
Pyrene		1.60	mg/kg	0.33	48	77	111			S
Surr: 2,4,6-Tribromophenol				0.33	90	53	141			
Surr: 2-Fluorobiphenyl				0.33	79	63	98			
Surr: 2-Fluorophenol				0.33	82	53	101			
Surr: Nitrobenzene-d5				0.33	68	53	101			
Surr: Phenol-d5				0.33	85	55	100			
Surr: Terphenyl-d14				0.33	106	71	118			

- Lower than normal spike recoveries are due to a suspected spiking error.

### 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: C22091204

Report Date: 11/02/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8270C</b>										Batch: 171367
<b>Lab ID: B22092563-003AMS</b>	21	Sample Matrix Spike			Run: SV5973N2.I_221029A				10/29/22 15:07	
1-Methylnaphthalene		2.39	mg/kg-dry	0.38	62	63	97			S
2-Methylnaphthalene		1.49	mg/kg-dry	0.38	39	68	103			S
Acenaphthene		1.63	mg/kg-dry	0.38	42	73	104			S
Anthracene		1.67	mg/kg-dry	0.38	43	72	110			S
Benzo(a)anthracene		1.77	mg/kg-dry	0.38	46	75	112			S
Benzo(a)pyrene		1.64	mg/kg-dry	0.38	43	71	106			S
Benzo(b)fluoranthene		1.69	mg/kg-dry	0.38	44	65	121			S
Benzo(k)fluoranthene		1.70	mg/kg-dry	0.38	44	64	118			S
Chrysene		1.94	mg/kg-dry	0.38	51	76	109			S
Dibenzo(a,h)anthracene		1.71	mg/kg-dry	0.38	44	75	111			S
Fluoranthene		1.66	mg/kg-dry	0.38	43	76	109			S
Fluorene		1.57	mg/kg-dry	0.38	41	67	108			S
Indeno(1,2,3-cd)pyrene		1.64	mg/kg-dry	0.38	43	63	112			S
Naphthalene		1.28	mg/kg-dry	0.38	33	60	99			S
Pyrene		1.74	mg/kg-dry	0.38	45	77	111			S
Surr: 2,4,6-Tribromophenol				0.38	76	53	141			
Surr: 2-Fluorobiphenyl				0.38	76	63	98			
Surr: 2-Fluorophenol				0.38	65	53	101			
Surr: Nitrobenzene-d5				0.38	63	53	101			
Surr: Phenol-d5				0.38	75	55	100			
Surr: Terphenyl-d14				0.38	98	71	118			
<b>Lab ID: B22092563-003AMSD</b>	21	Sample Matrix Spike Duplicate			Run: SV5973N2.I_221029A				10/29/22 15:37	
1-Methylnaphthalene		2.23	mg/kg-dry	0.38	58	63	97	7.0	40	S
2-Methylnaphthalene		1.49	mg/kg-dry	0.38	39	68	103	0.2	40	S
Acenaphthene		1.53	mg/kg-dry	0.38	40	73	104	6.1	40	S
Anthracene		1.62	mg/kg-dry	0.38	42	72	110	3.0	40	S
Benzo(a)anthracene		1.74	mg/kg-dry	0.38	45	75	112	1.6	40	S
Benzo(a)pyrene		1.66	mg/kg-dry	0.38	43	71	106	1.2	40	S
Benzo(b)fluoranthene		1.67	mg/kg-dry	0.38	43	65	121	1.4	40	S
Benzo(k)fluoranthene		1.56	mg/kg-dry	0.38	41	64	118	8.7	40	S
Chrysene		1.94	mg/kg-dry	0.38	51	76	109	0	40	S
Dibenzo(a,h)anthracene		1.68	mg/kg-dry	0.38	44	75	111	1.5	40	S
Fluoranthene		1.74	mg/kg-dry	0.38	45	76	109	4.7	40	S
Fluorene		1.63	mg/kg-dry	0.38	43	67	108	3.9	40	S
Indeno(1,2,3-cd)pyrene		1.67	mg/kg-dry	0.38	44	63	112	2.0	40	S
Naphthalene		1.20	mg/kg-dry	0.38	31	60	99	6.7	40	S
Pyrene		1.77	mg/kg-dry	0.38	46	77	111	1.3	40	S
Surr: 2,4,6-Tribromophenol				0.38	78	53	141			
Surr: 2-Fluorobiphenyl				0.38	81	63	98			
Surr: 2-Fluorophenol				0.38	81	53	101			
Surr: Nitrobenzene-d5				0.38	73	53	101			
Surr: Phenol-d5				0.38	79	55	100			
Surr: Terphenyl-d14				0.38	101	71	118			

### 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:** C22091204

**Report Date:** 10/10/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8015C</b>										Batch: 68443
<b>Lab ID: LCS-68443</b>	3	Laboratory Control Sample				Run: PIDFID1-C_221003A				10/03/22 15:04
Gasoline Range Organics (GRO)		16.0	mg/kg	2.0	100	70	130			
Total Purgeable Hydrocarbons		17.9	mg/kg	2.0	89	70	130			
Surr: Trifluorotoluene				0.40	99	70	130			
<b>Lab ID: LCSD-68443</b>	3	Laboratory Control Sample Duplicate				Run: PIDFID1-C_221003A				10/03/22 15:43
Gasoline Range Organics (GRO)		16.8	mg/kg	2.0	105	70	130	4.8	20	
Total Purgeable Hydrocarbons		18.7	mg/kg	2.0	93	70	130	4.5	20	
Surr: Trifluorotoluene				0.40	103	70	130			
<b>Lab ID: MB-68443</b>	3	Method Blank				Run: PIDFID1-C_221003A				10/03/22 16:21
Gasoline Range Organics (GRO)		ND	mg/kg	2.0						
Total Purgeable Hydrocarbons		ND	mg/kg	2.0						
Surr: Trifluorotoluene				0.40	100	70	130			
<b>Lab ID: C22091139-001AMS</b>	3	Sample Matrix Spike				Run: PIDFID1-C_221003A				10/03/22 18:17
Gasoline Range Organics (GRO)		14.9	mg/kg	2.0	93	55	123			
Total Purgeable Hydrocarbons		34.0	mg/kg	2.0	97	59	115			
Surr: Trifluorotoluene				0.40	88	64	113			
<b>Lab ID: C22091139-001AMSD</b>	3	Sample Matrix Spike Duplicate				Run: PIDFID1-C_221003A				10/03/22 19:34
Gasoline Range Organics (GRO)		15.1	mg/kg	2.0	94	55	123	0.9	20	
Total Purgeable Hydrocarbons		33.3	mg/kg	2.0	94	56	115	2.1	20	
Surr: Trifluorotoluene				0.40	87	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: C22091204

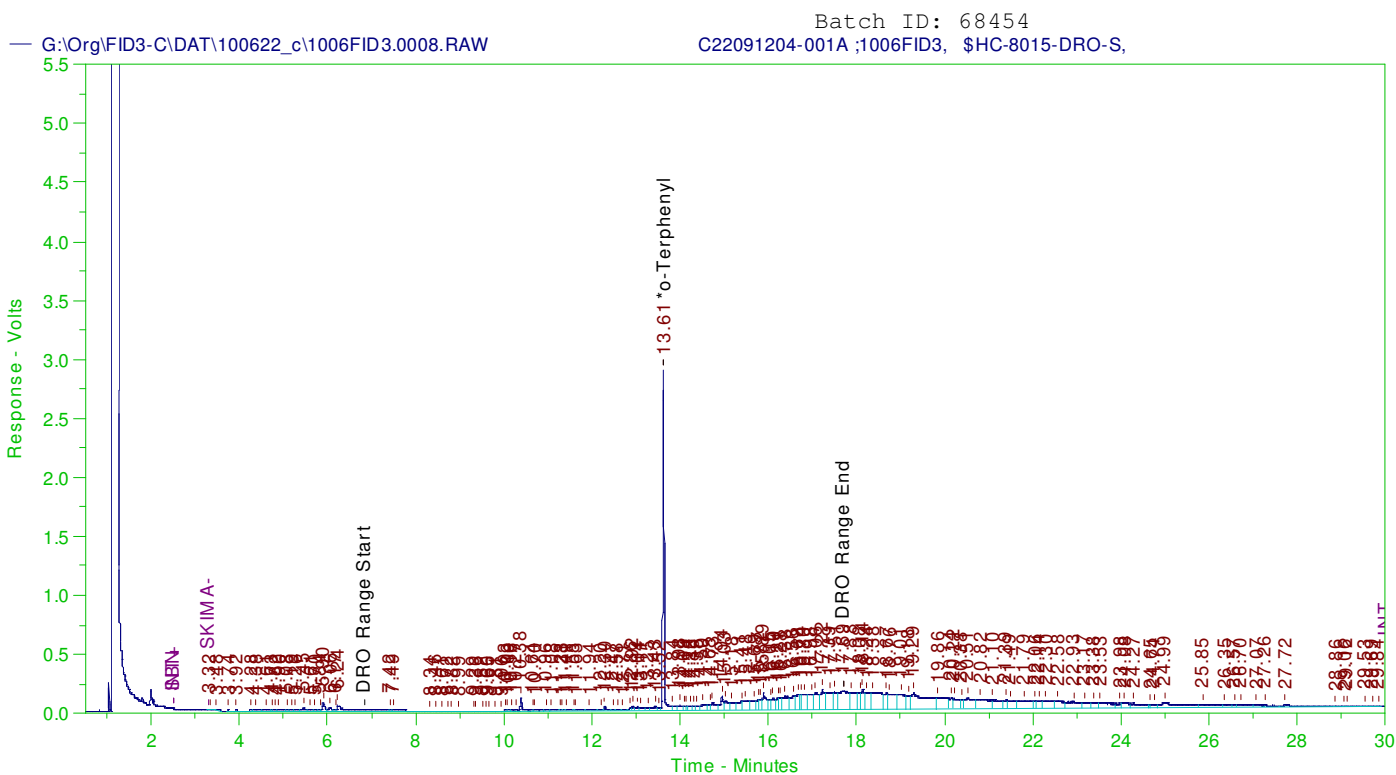
Report Date: 10/10/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: SW8015C</b>										Batch: 68454
<b>Lab ID: MBLK_68454</b>	3	Method Blank					Run: FID3-F-C_221005A			10/05/22 15:40
Diesel Range Organics (DRO)		ND	mg/kg	10						
Total Extractable Hydrocarbons		ND	mg/kg	10						
Surr: o-Terphenyl				0.17	100	50	150			
<b>Lab ID: LCS-68454</b>	3	Laboratory Control Sample					Run: FID3-F-C_221005A			10/05/22 16:28
Diesel Range Organics (DRO)		529	mg/kg	10	79	60	140			
Total Extractable Hydrocarbons		550	mg/kg	10	82	60	140			
Surr: o-Terphenyl				0.17	95	50	150			
<b>Lab ID: LCSD-68454</b>	3	Laboratory Control Sample Duplicate					Run: FID3-F-C_221005A			10/05/22 17:16
Diesel Range Organics (DRO)		513	mg/kg	10	77	60	140	3.2	20	
Total Extractable Hydrocarbons		531	mg/kg	10	80	60	140	3.6	20	
Surr: o-Terphenyl				0.17	93	50	140			
<b>Lab ID: C22091119-001AMS</b>	3	Sample Matrix Spike					Run: FID3-F-C_221005A			10/05/22 21:16
Diesel Range Organics (DRO)		560	mg/kg	98	57	39	109			
Total Extractable Hydrocarbons		773	mg/kg	98	53	21	133			
Surr: o-Terphenyl				1.6	86	60	116			
<b>Lab ID: C22091119-001AMSD</b>	3	Sample Matrix Spike Duplicate					Run: FID3-F-C_221005A			10/05/22 23:40
Diesel Range Organics (DRO)		651	mg/kg	99	71	39	109	15	20	
Total Extractable Hydrocarbons		902	mg/kg	99	73	21	133	15	20	
Surr: o-Terphenyl				1.6	82	60	116			
<b>Method: SW8015C</b>										Analytical Run: R287643
<b>Lab ID: CCV_1003HP204r</b>	2	Continuing Calibration Verification Standard								10/03/22 13:47
Total Purgeable Hydrocarbons		21.2	mg/kg	2.0	106	80	120			
Surr: Trifluorotoluene				0.40	108	70	130			
<b>Lab ID: ICV_1003HP205r</b>	3	Initial Calibration Verification Standard								10/03/22 14:26
Gasoline Range Organics (GRO)		18.6	mg/kg	2.0	116	70	130			
Total Purgeable Hydrocarbons		23.4	mg/kg	2.0	117	70	130			
Surr: Trifluorotoluene				0.40	104	70	130			
<b>Method: SW8015C</b>										Analytical Run: R287834
<b>Lab ID: CCV_1005FID333r</b>	2	Continuing Calibration Verification Standard								10/06/22 14:02
Total Extractable Hydrocarbons		21.0	mg/kg	10	105	80	120			
Surr: o-Terphenyl				0.17	107	80	120			
<b>Lab ID: ICV_1006FID301r</b>	3	Initial Calibration Verification Standard								10/06/22 14:50
Diesel Range Organics (DRO)		19.1	mg/kg	10	95	80	120			
Total Extractable Hydrocarbons		20.2	mg/kg	10	101	80	120			
Surr: o-Terphenyl				0.17	107	80	120			

### Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



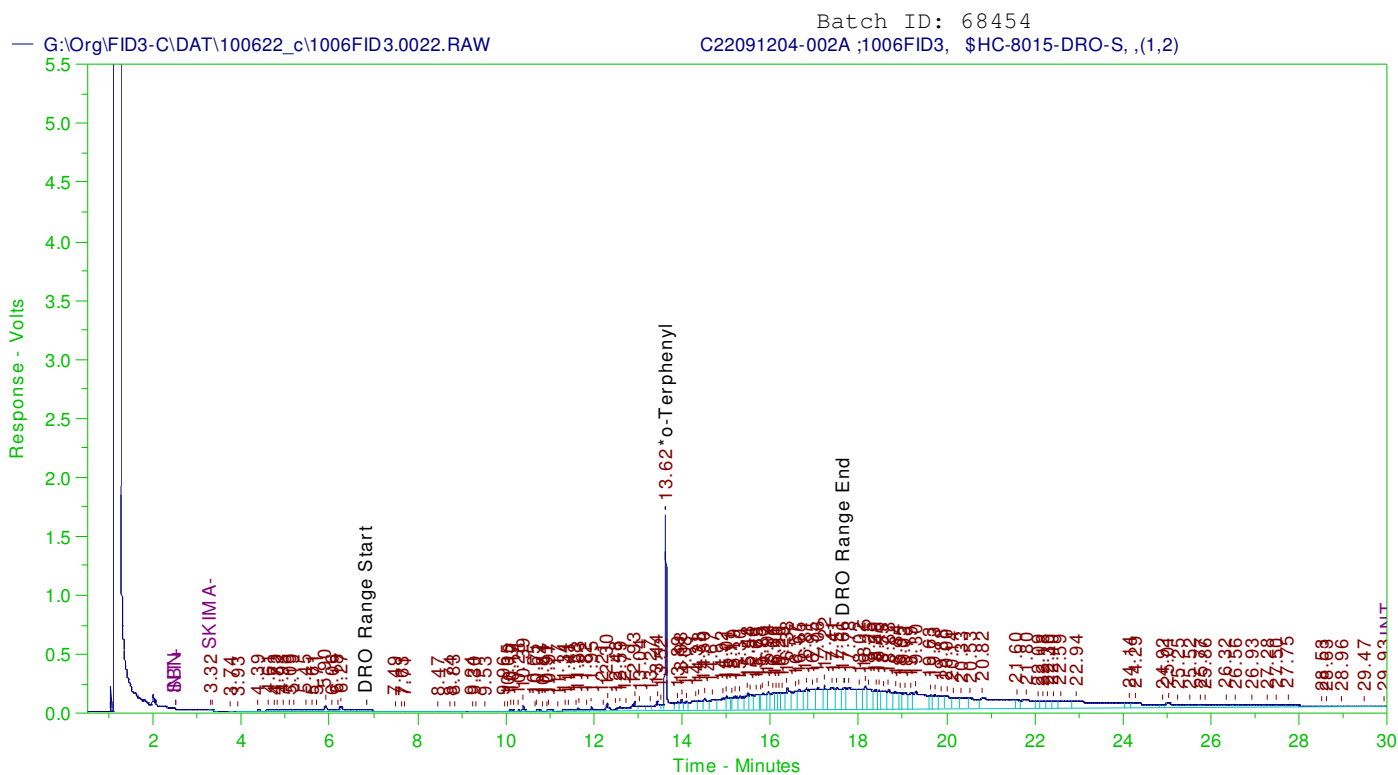
#### DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22091204-001A ;1006FID3, \$HC-8015-DRO-S,  
Raw File: G:\Org\FID3-C\DAT\100622\_c\1006FID3.0008.RAW  
Date & Time Acquired: 10/6/2022 20:26:46  
Method File: G:\Org\FID3-C\Methods\220607A.met  
Calibration File: G:\Org\FID3-C\Cals\220607A.CAL  
Sample Weight: 30.5 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	13.614	6.557	6.393	97.49	-

DRO Area:2.253398E+07 DRO AMOUNT: 25.4316  
TEH Area:5.916348E+07 TEH AMOUNT: 66.77126  
Oil Area:3.720928E+07 OIL AMOUNT: 41.99399



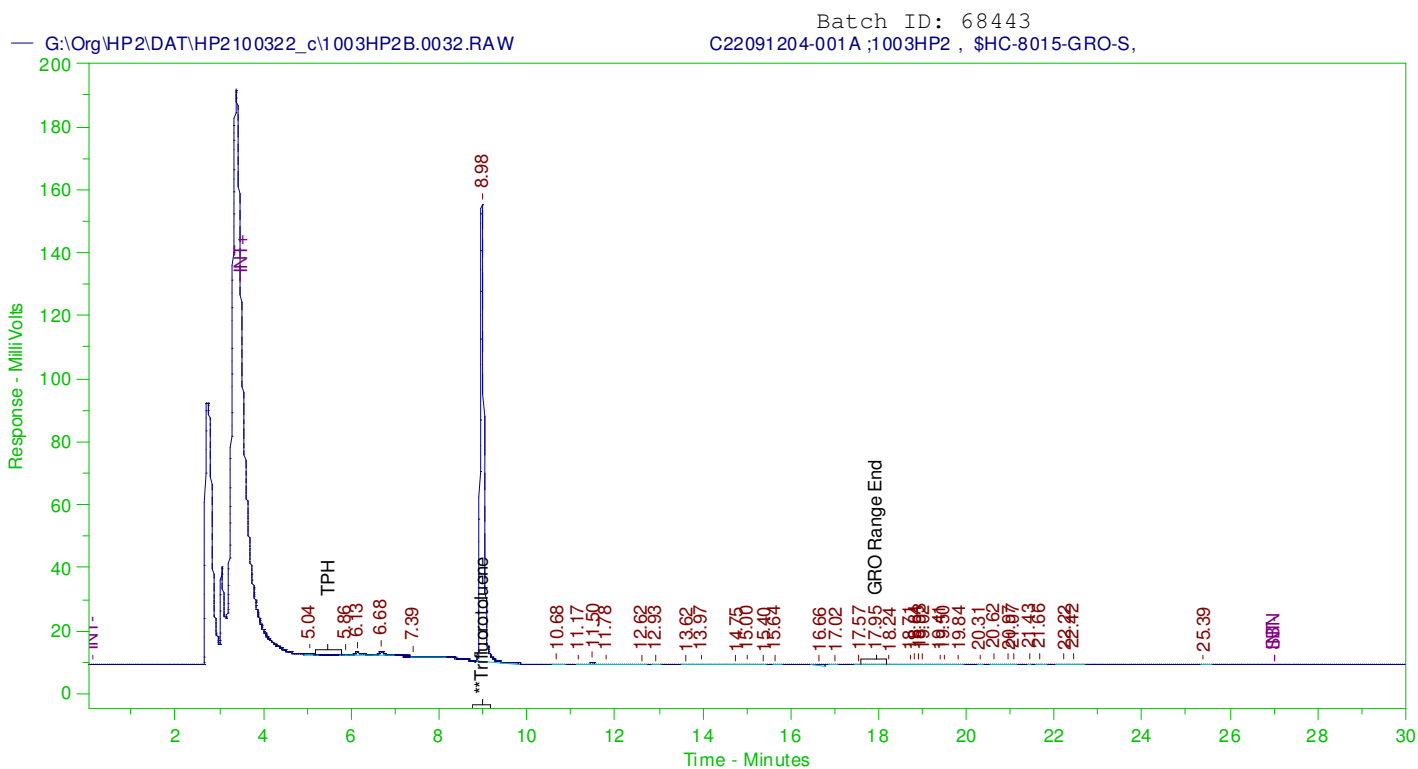
#### DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: C22091204-002A ;1006FID3, \$HC-8015-DRO-S, (1,2)  
Raw File: G:\Org\FID3-C\DAT\100622\_c\1006FID3.0022.RAW  
Date & Time Acquired: 10/7/2022 07:37:28  
Method File: G:\Org\FID3-C\Methods\220607A.met  
Calibration File: G:\Org\FID3-C\Cals\220607A.CAL  
Sample Weight: 30.3 Dilution: 2 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	13.617	6.601	8.749	132.55	-

DRO Area: 3.264938E+07 DRO AMOUNT: 74.18192  
TEH Area: 7.441244E+07 TEH AMOUNT: 169.0708  
Oil Area: 4.138842E+07 OIL AMOUNT: 94.0377



#### GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

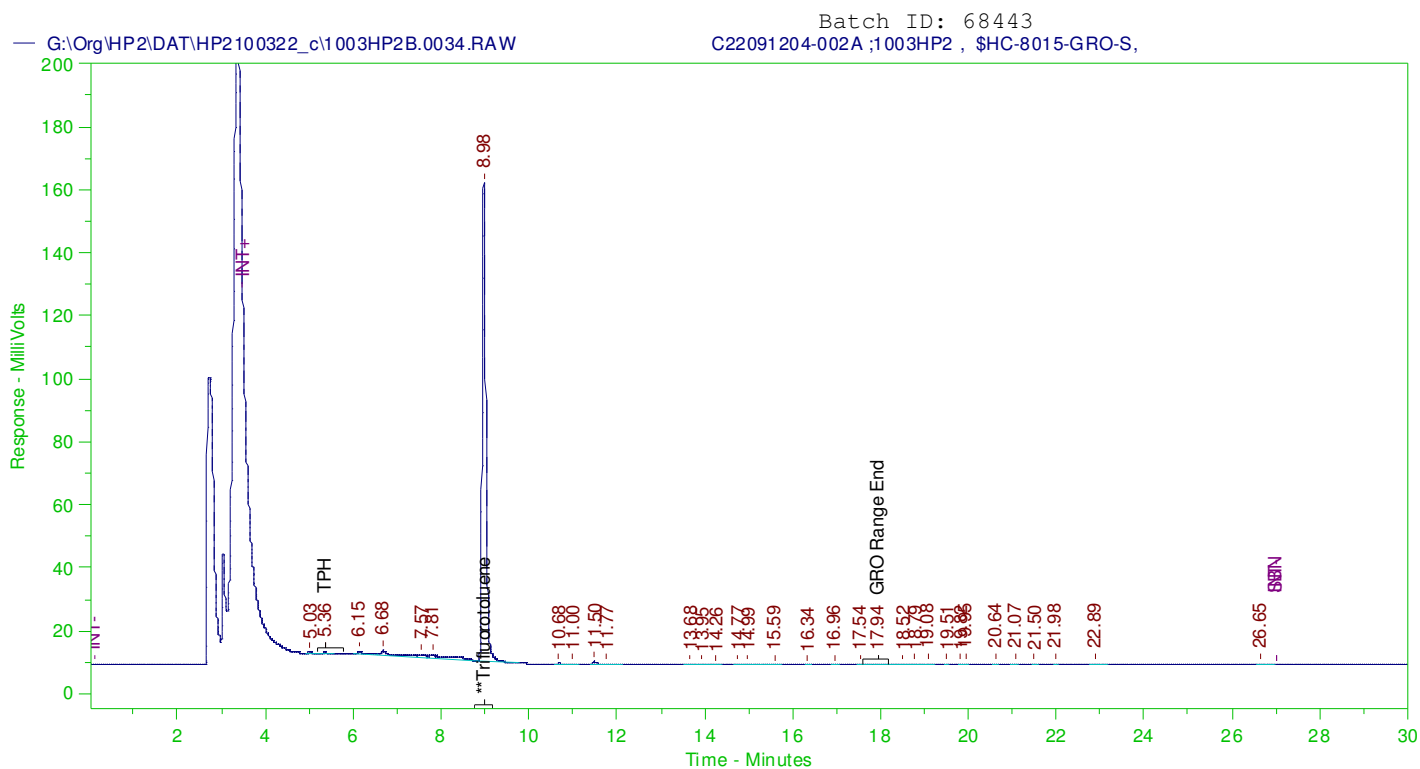
Sample Name: C22091204-001A ;1003HP2 , \$HC-8015-GRO-S,  
Raw File: G:\Org\HP2\DAT\HP2100322\_c\1003HP2B.0032.RAW  
Date & Time Acquired: 10/4/2022 7:50:11 AM  
Method File: G:\Org\HP2\Methods\1\_012822\_AB.MET  
Calibration File: G:\Org\HP2\Cals\1\_012822\_AB.CAL  
Sample Weight: 50 Dilution: 1 S.A.: 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	8.975	5.	4.569	91.38	-

GRO Area:46795.52 GRO Amount: 0.277649  
TPH Area:63671.73 TPH Amount: 0.3777797



#### GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: C22091204-002A ;1003HP2 , \$HC-8015-GRO-S,  
Raw File: G:\Org\HP2\DAT\HP2100322\_c\1003HP2B.0034.RAW  
Date & Time Acquired: 10/4/2022 9:07:52 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	8.975	5.	4.815	96.3	-

GRO Area:131804.3 GRO Amount: 0.7820263  
TPH Area:144367.3 TPH Amount: 0.856566





# Work Order Receipt Checklist

Wesco Operating Inc

C22091204

Login completed by: Ciara M. Leis

Date Received: 9/30/2022

Reviewed by: Cjohnson

Received by: cml

Reviewed Date: 10/2/2022

Carrier name: Hand Del

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 type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" 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 checked="" type="checkbox"/>	No <input 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 checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.4°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" 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.

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## Contact and Corrective Action Comments:

None



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Page of

72691704

## Comments

Company Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receiving Report	<input type="checkbox"/> Hard Copy <input type="checkbox"/> E-mail
Special Report of results	
<input type="checkbox"/> LEVEL W/ CNCLAC <input type="checkbox"/> EDD/EDT (outside laboratory) <input type="checkbox"/> Other	

... mud in #12 - spill samples

**Matrix Codes**

A - Air
W - Water
S - Soil
V - Vegetation
B - Biosphere
O - Oil
DW - Drinking Water

[illegible]

All turnaround times are standard unless marked as RUSH.

Energy Laboratories  
MUST be contacted prior to RUSH sample submission for changes and scheduling - See Instructions Page

Sample Identification (Name, Location, Volume, etc.)		Collection		Number of Containers	Matrix (for Chain of Custody)	COC Orig.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														</
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**EI 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

Customer Record MUST be signed	Retranscribed by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Rechecked by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
LABORATORY USE ONLY						
Shipped By	Cooler ID(s)	Customs Seals Y N C B	Intact Y N	Receipt Type O/C/C	Tape Blank Y N	Dry Ice Y N
AND						
				Payment Type CC Cash	Amount \$	Receipt Number (customer only)

This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.