

K.P. Kauffman Company, Inc.

Amoco-Charter-Schneider #7 Flowline Release

Spill/Release Point ID: 479483
Weld County, Colorado

Site Investigation and Remediation Report

Submitted: May 7, 2021

1.0 INTRODUCTION

K.P. Kauffman Company, Inc. (KPK) has performed an investigation and remediation following the discovery of the Amoco-Charter-Schneider #7 flowline release (Spill/Release Point ID 479483) in Weld County, Colorado. The flowline release occurred on February 19, 2021, east northeast of the intersection of Weld County Road (WCR) 2 and WCR 17. The location of the flowline release is illustrated on Figure 1 which has been provided in Appendix A. KPK has performed excavation activities to further investigate and remediate the flowline release location, as well as completed necessary repairs to bring the flowline back into service. Based on completed site investigation and remediation activities performed, the soil impacts from flowline release location have been 1) delineated both vertically and horizontally and 2) removed and disposed of at a certified disposal location.

2.0 FIELD ACTIVITIES

2.1 Flowline Release Investigation

On, or about March 1, 2021 excavation of impacted soil as a result of the flowline release was completed by KPK. The excavation of contaminated soil created an area of approximately 70 feet (ft.) long, 10 ft. wide, and 5 ft. deep. The excavation area is illustrated in Figure 2 which has been provided in Appendix A. Photographs of the excavation have been provided in Appendix B. Top soil was present along the sidewalls of the excavation area from the surface to 1 ft. below ground surface (BGS). The top soil was underlain by sandy clay to the base of the excavation area. **Groundwater was not encountered during the excavation process.**

Prior to the collection of discrete soil samples, the sidewalls and floor of the excavation area were field screened using a photoionization detector (PID) equipped with a 10.8 electro-volt lamp. PID field screening did not detect any presence of volatile organic compounds (VOCs) in the soil, indicating that the contaminated soil had been fully excavated and that the soil impacts associated with the flowline release had been defined both vertically and horizontally. Removal of impacted soil was confirmed with soil sampling and analysis described below.

KPK removed 240 tons (200 cubic yards) of impacted soil from the flowline release location and hauled it to a certified disposal facility. Soil manifests for the contaminated soil have been included in Appendix C.

2.2 Soil Sampling

On May 1, 2021, KPK collected five (5) soil samples from the excavation area at a depth of 5 ft. BGS. The soil sample locations were chosen based on the results of PID field screening. Based on PID field screening producing no detection of VOCs from the excavation area, soil samples were collected from center sections of the side walls and floor, as a best representation of the entire excavation area. The soil sample locations are illustrated in Figure 2 which is included in Appendix A.

The collected soil samples were field screened for VOCs with a PID. The PID did not detect a presence of VOCs in any of the soil samples. The collected soil samples were screened for odors, staining and/or discoloration. None of the samples exhibited any hydrocarbon odor, staining or discoloration.

2.3 Analytical Results

The soil samples were handled with clean, new, nitrile gloves and placed in laboratory supplied sample containers and labeled. Collected soil samples were placed in a cooler with ice and delivered to a certified laboratory under chain-of-custody documentation. Per COGCC Rule, all collected soil samples were analyzed for the full suite of Table 915-1 analytes, including inorganics and metals.

The laboratory results indicated soil samples collected from the excavation area were either non detect or below the COGCC reporting limit based on thresholds established in Table 915-1, with the exception of arsenic. A background sample was collected (Sample ID: 35ft Surrounding (BG)) to show that arsenic is naturally occurring in high concentrations in the area of the flowline release location. The results of the background sample show native soils have arsenic concentrations comparable to the confirmation soil samples collected from the excavation area (i.e., samples collected from the excavation area had measured arsenic levels within 1.25x the collected background sample). The laboratory results have been summarized in Appendix D.

The laboratory analytical reports and chain-of-custody (COC) forms are included in Appendix E. Please note that the COC did not accurately capture all samples collected and that one sample was missing from the COC. The laboratory was able to catch the recording error and analyze the

missing sample. The COC was not corrected; however, all soil samples collected are accurately reported in the laboratory analysis report.

3.0 CONCLUSIONS AND RECOMMENDATIONS

On or about March 1, 2021 the excavation of contaminated soil at Amoco-Charter-Schneider #7 flowline release was completed to a depth of 5 ft. No groundwater was encountered during the excavation process. Five (5) discrete soil samples were collected and analyzed for analytes in Table 915-1 following the completion of excavation activities. The laboratory results indicated that only arsenic exceeded thresholds established in Table 915-1; however the analytical results of the collected background sample show that arsenic is naturally occurring above the threshold in Table 915-1.

Based on the analytical results of the soil samples, additional work at the flowline release location is not warranted at this time.

Appendix A: Location Maps



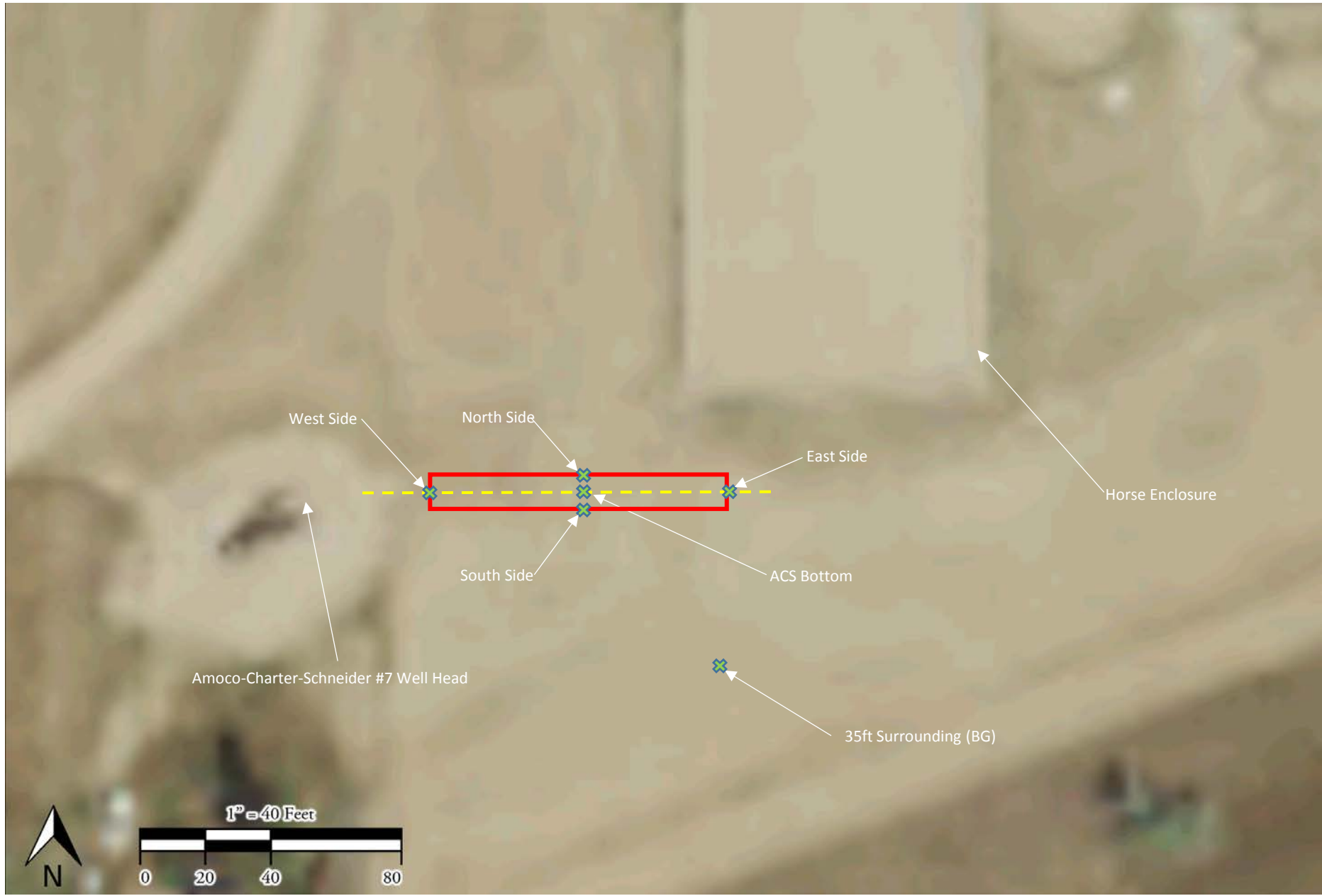
Date:	February 2021
Designed By:	K.P. Kauffman Co.
Drawn By:	MWK



K.P. Kauffman Company, Inc.
1675 Broadway, Suite 2800
Denver CO, 80202

K.P. Kauffman Company, Inc.
AMOCO-CHARTER-SCHNEIDER #7 Flowline Release
SESW, Section 33, Township 1 North, Range 67 West
Weld County, Colorado

Figure #1
Site Map



Legend

- Limits of Excavation
- Soil Sample Location
- ACS #7 Flowline

Soil Sample Details:
Soil Samples Collected 02/26/2021

Sample ID	Latitude	Longitude	Depth (ft.)
North Side	40.00227	-104.8974	3
South Side	40.00226	-104.8974	3
East Side	40.00227	-104.8973	3
West Side	40.00227	-104.8975	3
ACS Bottom	40.10072	-104.9826	5
35ft Surrounding (BG)	40.00231	-104.8973	3

Date:	May 2021
Designed By:	K.P. Kauffman Co.
Drawn By:	JRR



K.P. Kauffman Company, Inc.
1675 Broadway, Suite 2800
Denver CO, 80202

K.P. Kauffman Company, Inc.
AMOCO-CHARTER-SCHNEIDER #7 Flowline Release
SESW, Section 33, Township 1 North, Range 67 West
Weld County, Colorado

Figure #2
Soil Sample Location Map

Appendix B: Excavation Pictures

Photos of the ACS#7 Flowline Repair and Excavation



Appendix C: Soil Manifests

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: AMY B
BILL TO: 2140
K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505
Reference: FR16050
Grid: FRL-WK1
NOTES:: PETROLEUM CONT SOIL DRILL CUTT
YARDS:: K P KAUFFMAN
PO#:: REPLACES # 2044796
Manifest#: 4162

DATE IN: 02/22/2021 TIME IN: 13:10:58
DATE OUT: 02/22/2021 TIME OUT: 13:10:58

INBOUND TICKET Number: 03-02045000

MANUAL GROSS WT.	44620 LB
STORED TARE WT.	20980 LB
NET WEIGHT	23640 LB

Qty	Description	Amount
11.82	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

HAZARDOUS WASTE MANIFEST

Manifest Number: **4162**

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

Company Name: K P Kauffman Site Name: ACS #7
Address: County Road 22
City, State: _____ Zip: _____

Contact Person: Kauffman
Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Soil Consultant: _____
Address: _____

E&P Exempt: Petroleum Contaminated Soil City, State: _____
Zip: _____

Yards: ☐ Tons Contact Person: _____
Phone #: _____ Fax: _____

The same material represented on the Special Waste Application identified by the above Special
as delivered to the transporter on the shipment date referenced below.

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

Company Name: nan Well Service
Address: County Road 22
City, State: pton, CO

33-5670

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2045000
Yards _____ Tons 11.82 Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4163

DATE IN: 02/22/2021 TIME IN: 13:03:21
DATE OUT: 02/22/2021 TIME OUT: 13:03:21

INBOUND TICKET Number: 03-02044989

SCALE 1 GROSS WT. 47580 LB
STORED TARE WT. 20980 LB
NET WEIGHT 26600 LB

Qty Description Amount
13.30 ContSoil-E&P/Ton

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

AZARDOUS WASTE MANIFEST

Manifest Number:

4163

Approval Number:

FR16050

Expiration Date:

2/27/2020

Generator Information (generator to complete)

an

Site Name:

ACS #7

Road 22

Address:

O

City, State:

Zip:

nan

Contact Person:

Phone #:

Fax:

leum Contaminated Consultant:

Address:

Exempt: Petroleum City, State:

minated Soil

Zip:

Tons

Contact Person:

Phone #:

Fax:

aterial represented on the Special Waste Application identified by the above Special
to the transporter on the shipment date referenced below.

Signature of Generator's Authorized Agent

Shipment Date

Porter Information (transporter to complete)

Service

ad 22

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Destination Information (disposal facility to complete)

Volume Received Ticket #

Yards Tons Other

Grid Elevation

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4164

DATE IN: 02/22/2021 TIME IN: 14:35:50

DATE OUT: 02/22/2021 TIME OUT: 14:35:50

INBOUND TICKET Number: 03-02045104

SCALE 1 GROSS WT. 48140 LB

STORED TARE WT. 20980 LB

NET WEIGHT 27160 LB

Qty	Description	Amount
13.58	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

RITCHIE Bendley
Name of Driver (print / type)

Signature of Driver

Date

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Ritchie Bendley
Signature of Driver

2-22-21
Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received	Ticket #
Yards _____ Tons _____ Other _____	2045104
Grid _____ Elevation _____	

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Manifest Number:

4164

Approval Number:

FR16050

Expiration Date:

2/27/2020

HAZARDOUS WASTE MANIFEST

Generator Information (generator to complete)

man

Site Name: ASC #7

nty Road 22

Address:

, CO

City, State:

Zip:

uffman

Contact Person:

ax:

Phone #:

Fax:

Petroleum Contaminated

Consultant:

oil

Address:

E&P Exempt: Petroleum

City, State:

Contaminated Soil

Zip:

ds

Tons

Contact Person:

Phone #:

Fax:

the same material represented on the Special Waste Application identified by the above Special
delivered to the transporter on the shipment date referenced below.

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

an Well Service

ounty Road 22

on, CO

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: AMY B
BILL TO: 2140
K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505
Reference: FR16050
Grid: FRL-WK1
NOTES:: PETROLEUM CONT SOIL DRILL CUTT
YARDS:: K P KAUFFMAN
PO#:: BY TON
Manifest#: 4165

DATE IN: 02/23/2021 TIME IN: 08:48:53
DATE OUT: 02/23/2021 TIME OUT: 08:48:53

INBOUND TICKET Number: 03-02045366

SCALE 1 GROSS WT. 45640 LB
STORED TARE WT. 20980 LB
NET WEIGHT 24660 LB

Qty	Description	Amount
12.33	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

RITCHIE Pendley
Name of Driver (print / type)

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

[Signature] 2-23-21
Signature of Driver Date

Section 3 Front Range Landfill 1830 WCR 5 POB 320 Erie, CO 80516 Phone: 303-673-9431 Fax: 303-673-9432	Waste Codes	PCSEP_T	Volume Received Ticket # 2045366 Yards _____ Tons 12.33 Other _____ Grid _____ Elevation _____
	Charge To	2140	

<u>AD</u> Landfill Authorized Agent Name (print / type)	<u>AB</u> Signature of Landfill's Authorized Agent	<u>2-23-21</u> Date
--	---	------------------------

White: Landfill Yellow: Generator Pink: Transporter Gold: Consultant

-HAZARDOUS WASTE MANIFEST

Manifest Number: **4165**
Approval Number: FR16050
Expiration Date: 2/27/2020

Generator Information (generator to complete)

Kauffman Site Name: ACS #7
County Road 22 Address: _____
ton, CO City, State: _____
Zip: _____

Kauffman Contact Person: _____
Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Consultant: _____
Soil Address: _____

E&P Exempt: Petroleum City, State: _____
Contaminated Soil Zip: _____

Yards ☐ Tons Contact Person: _____
Phone #: _____ Fax: _____

the same material represented on the Special Waste Application identified by the above Special
as delivered to the transporter on the shipment date referenced below.

[Signature] 2-23-21
Signature of Generator's Authorized Agent Shipment Date

Transporter Information (transporter to complete)

man Well Service
County Road 22
pton, CO
Zip: _____

Important Notice
Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Destination Information (disposal facility to complete)

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

HAZARDOUS WASTE MANIFEST

Manifest Number: **4166**
Approval Number: **FR16050**
Expiration Date: **2/27/2020**
2-27-21

Weighed: AMY B
BILL TO: 2140
K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505
Reference: FR16050
Grid: FRL-WK1
NOTES:: PETROLEUM CONT SOIL DRILL CUTT
YARDS:: K P KAUFFMAN
PO#:: BY TON
Manifest#: 4166

DATE IN: 02/23/2021 TIME IN: 11:35:32
DATE OUT: 02/23/2021 TIME OUT: 11:35:32

INBOUND TICKET Number: 03-02045561

SCALE 1 GROSS WT. 46660 LB
STORED TARE WT. 20980 LB
NET WEIGHT 25680 LB

Qty Description Amount
12.84 ContSoil-E&P/Ton

X _____

Generator Information (generator to complete)

Kauffman
County Road 22
on, CO
Site Name: *ACS 717*
Address: _____
City, State: _____
Zip: _____

Kauffman
Contact Person: _____
Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated
Soil
E&P Exempt: Petroleum
Contaminated Soil
Consultant: _____
Address: _____
City, State: _____
Zip: _____

Yards ☐ Tons
Contact Person: _____
Phone #: _____ Fax: _____

I warrant that the same material represented on the Special Waste Application identified by the above Special
has delivered to the transporter on the shipment date referenced below.

4 *Pitchie Pendley* *2-23-21*
Signature of Generator's Authorized Agent Shipment Date

Transporter Information (transporter to complete)

man Well Service
County Road 22
pton, CO

Important Notice
Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Pitchie Pendley *Pitchie Pendley* *2-23-21*
Name of Driver (print / type) Signature of Driver Date

Section 3 Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes **PCSEP_T**
Charge To **2140**

Volume Received Ticket # *2045561*
Yards _____ Tons *12.84* Other _____
Grid _____ Elevation _____

AB *AB* *2-23-21*
Landfill Authorized Agent Name (print / type) Signature of Landfill's Authorized Agent Date

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4181

DATE IN: 02/23/2021 TIME IN: 15:23:38
DATE OUT: 02/23/2021 TIME OUT: 15:23:38

INBOUND TICKET Number: 03-02045800

SCALE 1 GROSS WT.	46260	LB
STORED TARE WT.	20980	LB
NET WEIGHT	25280	LB

Qty	Description	Amount
12.64	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

AZARDOUS WASTE MANIFEST

Manifest Number:

4181

Approval Number:

FR16050

Expiration Date:

2/27/2020

Generator Information (generator to complete)

nan

y Road 22

CO

ffman

Site Name: ACS #7

Address:

City, State:

Zip:

Contact Person:

x:

Phone #:

Fax:

roleum Contaminated Consultant:

l

Address:

P Exempt: Petroleum City, State:

ntaminated Soil

Zip:

Tons

Contact Person:

Phone #:

Fax:

me material represented on the Special Waste Application identified by the above Special
vered to the transporter on the shipment date referenced below.

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

Well Service

y Road 22

CO

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Destination Information (disposal facility to complete)

Volume Received	Ticket #	2045800
Yards	Tons	Other
Grid	Elevation	

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

HAZARDOUS WASTE MANIFEST

Manifest Number:

4180

Approval Number:

FR16050

Expiration Date:

2/27/2020

Weighed: JOYCE

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4180

DATE IN: 02/23/2021 TIME IN: 13:42:06
DATE OUT: 02/23/2021 TIME OUT: 13:42:06

INBOUND TICKET Number: 03-02045695

SCALE 1 GROSS WT. 48640 LB
STORED TARE WT. 20980 LB
NET WEIGHT 27660 LB

Qty	Description	Amount
13.83	ContSoil-E&P/Ton	

Generator Information (generator to complete)

an

y Road 22

CO

ffman

Site Name: ACS # 7

Address: _____

City, State: _____

Zip: _____

Contact Person: _____

ix: _____

Phone #: _____

Fax: _____

Petroleum Contaminated Consultant: _____

oil Address: _____

&P Exempt: Petroleum City, State: _____

Contaminated Soil Zip: _____

ds

Tons

Contact Person: _____

Phone #: _____

Fax: _____

I hereby warrant that the above material was picked up at the generator site listed above and delivered without incident to the destination listed below.

(type)

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

an Well Service

ounty Road 22

ton, CO

Important Notice

Disposal facility below must be notified in ADVANCE before delivery of waste with SPECIAL HANDLING instructions.

I/WE THE UNDERSIGNED, CERTIFY THAT THE WASTE DELIVERED FOR DISPOSAL IS NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2045695
Yards _____ Tons 383 Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

HAZARDOUS WASTE MANIFEST

Manifest Number: **4160**

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

Weighed: AMY B

BILL TO: 2140

K P KAUFFMAN COMPANY

1675 BROADWAY STE 2800

DENVER CO 80202-4519

Kauffman
County Road 22

Site Name: ACS #7

Address:

on, CO

City, State:

Zip:

Kauffman

Contact Person:

Fax:

Phone #:

Fax:

Petroleum Contaminated
Soil

Consultant:

Address:

E&P Exempt: Petroleum
Contaminated Soil

City, State:

Zip:

ards

Tons

Contact Person:

Phone #:

Fax:

the same material represented on the Special Waste Application identified by the above Special
as delivered to the transporter on the shipment date referenced below.

/ type)

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

nan Well Service
County Road 22

ton, CO

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2047112
Yards Tons 2.16 Other
Grid Elevation

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

The material delivered above was received at the landfill.

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: AMY B
BILL TO: 2140
K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505
Reference: FR16050
Grid: FRL-WK1
NOTES:: PETROLEUM CONT SOIL DRILL CUTT
YARDS:: K P KAUFFMAN
PO#:: BY TON
Manifest#: 4266

DATE IN: 02/26/2021 TIME IN: 15:34:25
DATE OUT: 02/26/2021 TIME OUT: 15:34:25

INBOUND TICKET Number: 03-02047202

SCALE 1 GROSS WT. 44960 LB
STORED TARE WT. 20980 LB
NET WEIGHT 23980 LB

Qty	Description	Amount
11.99	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

RITCHIE PENDLAY
Name of Driver (print / type)

Ritchie Pendlay
Signature of Driver

2-26-21
Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes PCSEP_T
Charge To 2140

Volume Received Ticket # 2047202
Yards _____ Tons 11.99 Other _____
Grid _____ Elevation _____

AR
Landfill Authorized Agent Name (print / type)

AR
Signature of Landfill's Authorized Agent

2-26-21
Date

White: Landfill Yellow: Generator Pink: Transporter Gold: Consultant

Manifest Number: **4266**
Approval Number: FR16050
Expiration Date: 2/27/2020

-HAZARDOUS WASTE
MANIFEST

Generator Information (generator to complete)

Kauffman Site Name: ACS # 7
County Road 22 Address: _____
ton, CO City, State: _____
Zip: _____
Kauffman Contact Person: _____
Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Consultant: _____
Soil Address: _____
E&P Exempt: Petroleum City, State: _____
Contaminated Soil Zip: _____

Yards ☐ Tons Contact Person: _____
Phone #: _____ Fax: _____

Is the same material represented on the Special Waste Application identified by the above Special
was delivered to the transporter on the shipment date referenced below.

Ray Ritchie Pendlay 2-26-21
Signature of Generator's Authorized Agent Shipment Date

Transporter Information (transporter to complete)

Kauffman Well Service
County Road 22
upton, CO
1

Important Notice
Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

RITCHIE PENDLAY
Name of Driver (print / type)

Ritchie Pendlay
Signature of Driver

2-26-21
Date

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE
BILL TO: 2140
K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505
Reference: FR16050
Grid: FRL-WK1
NOTES: PETROLEUM CONT SOIL DRILL CUTT
YARDS: K P KAUFFMAN
PO#: BY TON
Manifest#: 4155

DATE IN: 02/24/2021 TIME IN: 13:26:46
DATE OUT: 02/24/2021 TIME OUT: 13:26:46

INBOUND TICKET Number: 03-02046332

SCALE 1 GROSS WT. 47060 LB
STORED TARE WT. 20980 LB
NET WEIGHT 26080 LB

Qty Description Amount
13.04 ContSoil-E&P/Ton

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

RITCHIE RENDLEY
Name of Driver (print / type)

Signature of Driver

Date

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2046332
Yards 10 Tons Other
Grid Elevation

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

AZARDOUS WASTE MANIFEST

Manifest Number:

4155

Approval Number:

FR16050

Expiration Date:

2/27/2020

Generator Information (generator to complete)

n
Road 22

Site Name: ACS # 7

Address:

City, State:

Zip:

an

Contact Person:

Phone #:

Fax:

um Contaminated Consultant:

Address:

empt: Petroleum City, State:

nated Soil

Zip:

Tons

Contact Person:

Phone #:

Fax:

erial represented on the Special Waste Application identified by the above Special
the transporter on the shipment date referenced below.

Signature of Generator's Authorized Agent

Shipment Date

ter Information (transporter to complete)

vice

22

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Phone #: 303-833-5670

RITCHIE RENDLEY
Name of Driver (print / type)

Signature of Driver

Date

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

HAZARDOUS WASTE MANIFEST

Manifest Number: **4154**

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

Kauffman
County Road 22
on, CO
Site Name: ACS #7
Address: _____
City, State: _____
Zip: _____

Kauffman Contact Person: _____

Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Soil Consultant: _____
Address: _____

E&P Exempt: Petroleum Contaminated Soil City, State: _____
Zip: _____

Yards ☐ Tons Contact Person: _____

Phone #: _____ Fax: _____

I hereby warrant that the above material was picked up at the generator site listed above and delivered without incident to the destination listed below.

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

man Well Service
County Road 22
pton, CO

Important Notice
Disposal facility below must be notified in ADVANCE before delivery of waste with SPECIAL HANDLING instructions.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2046193
Yards _____ Tons _____ Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4156

DATE IN: 02/24/2021 TIME IN: 15:02:51

DATE OUT: 02/24/2021 TIME OUT: 15:02:51

INBOUND TICKET Number: 03-02046445

SCALE 1 GROSS WT.	45740	LB
STORED TARE WT.	20980	LB
NET WEIGHT	24760	LB

Qty	Description	Amount
12.38	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

HAZARDOUS WASTE MANIFEST

Manifest Number: **4156**

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

man _____ Site Name: ACS # 7
nty Road 22 _____ Address: _____

_____, CO _____ City, State: _____

_____ Zip: _____

uffman _____ Contact Person: _____

ax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated _____ Consultant: _____
Soil _____ Address: _____

E&P Exempt: Petroleum _____ City, State: _____
Contaminated Soil _____ Zip: _____

rd ☐ Tons _____ Contact Person: _____

Phone #: _____ Fax: _____

the same material represented on the Special Waste Application identified by the above Special
delivered to the transporter on the shipment date referenced below.

May _____ Signature of Generator's Authorized Agent _____ Shipment Date 2-24-21

Transporter Information (transporter to complete)

an Well Service _____
ounty Road 22 _____

ton, CO _____

Important Notice
Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Phone #: 303-833-5670

I herby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

RITCHIE Pendlay _____ Peter Pendlay _____ 2-24-21
Name of Driver (print / type) Signature of Driver Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2046445
Yards 0 Tons _____ Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE
BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4268

DATE IN: 03/02/2021 TIME IN: 14:43:54
DATE OUT: 03/02/2021 TIME OUT: 14:43:54

INBOUND TICKET Number: 03-02048408

SCALE 1 GROSS WT.	49020	LB
STORED TARE WT.	20980	LB
NET WEIGHT	28040	LB

Qty	Description	Amount
14.02	ContSoil-E&P/Ton	

Manifest Number: **4268**

Approval Number: FR16050

Expiration Date: 2/27/2020

HAZARDOUS WASTE MANIFEST

Generator Information (generator to complete)

Company Name: K P Kauffman Site Name: ACS #7
Address: County Road 22
City, State: _____
Zip: _____

Contact Person: Kauffman

Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Soil Consultant: _____
Address: _____

E&P Exempt: Petroleum City, State: _____
Contaminated Soil Zip: _____

Quantity: 28040 Tons Contact Person: _____

Phone #: _____ Fax: _____

I hereby warrant that the same material represented on the Special Waste Application identified by the above Special
as delivered to the transporter on the shipment date referenced below.

Signature of Generator's Authorized Agent

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

Company Name: Man Well Service
Address: County Road 22

City, State: _____

Zip: _____

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received Ticket # 2048400
Yards 14.02 Tons 4.02 Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

-HAZARDOUS WASTE MANIFEST

Manifest Number:

4269

Approval Number:

FR16050

Expiration Date:

2/27/2020

Weighed: AMY B

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4269

DATE IN: 03/03/2021 TIME IN: 09:07:18

DATE OUT: 03/03/2021 TIME OUT: 09:07:18

INBOUND TICKET Number: 03-02048614

SCALE 1 GROSS WT.	48120 LB
STORED TARE WT.	20980 LB
NET WEIGHT	27140 LB

Qty	Description	Amount
13.57	ContSoil-E&P/Ton	

X _____

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Generator Information (generator to complete)

Kauffman
County Road 22

ton, CO

Site Name: ACS #7

Address:

City, State:

Zip:

Kauffman

Contact Person:

Fax:

Phone #:

Fax:

Petroleum Contaminated

Consultant:

Soil

Address:

E&P Exempt: Petroleum

City, State:

Contaminated Soil

Zip:

Yards

Tons

Contact Person:

Phone #:

Fax:

is the same material represented on the Special Waste Application identified by the above Special
was delivered to the transporter on the shipment date referenced below.

(print / type)

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

Kauffman Well Service

County Road 22

upton, CO

21

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received

Ticket # 2048614

Yards

Tons 3.57

Other

Grid

Elevation

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Operating Hours: M-F 6am-5pm, Sat 6am-2pm
Phone: 303-673-9431

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

Weighed: JOYCE
BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505
Reference: FR16050
Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT
YARDS:: K P KAUFFMAN
PO#:: BY TON
Manifest#: 4272

DATE IN: 03/03/2021 TIME IN: 14:11:36
DATE OUT: 03/03/2021 TIME OUT: 14:11:36

INBOUND TICKET Number: 03-02048871

SCALE 1 GROSS WT. 43060 LB
STORED TARE WT. 20980 LB
NET WEIGHT 22080 LB

Qty Description Amount
11.04 ContSoil-E&P/Ton

I hereby warrant that the above material is the same material represented on the Special Waste Application identified by the above Special Waste Approval Code and is delivered to the transporter on the shipment date referenced below.

X

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes PCSEP_T

Charge To 2140

Volume Received Ticket # 2048871
Yards 10 Tons Other
Grid Elevation

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

The material delivered above was received at the landfill.

HAZARDOUS WASTE MANIFEST

Manifest Number: 4272

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

Company Name
County Road 22

City, State

Contact Person

Site Name: ACS #7

Address:

City, State:

Zip:

Contact Person:

Fax:

Phone #:

Fax:

Petroleum Contaminated
Soil

Consultant:

Address:

E&P Exempt: Petroleum
Contaminated Soil

City, State:

Zip:

Yards Tons

Contact Person:

Phone #:

Fax:

Transporter Information (transporter to complete)

Company Name
County Road 22

City, State

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Name of Driver (print / type)

Signature of Driver

Date

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

I-HAZARDOUS WASTE MANIFEST

Manifest Number: **4270**

Approval Number: FR16050

Expiration Date: 2/27/2020

Weighed: AMY B

BILL TO: 2140

K P KAUFFMAN COMPANY
1675 BROADWAY STE 2800
DENVER CO 80202-4519

Vehicle ID: KP_505

Reference: FR16050

Grid: FRL-WK1

NOTES:: PETROLEUM CONT SOIL DRILL CUTT

YARDS:: K P KAUFFMAN

PO#:: BY TON

Manifest#: 4270

DATE IN: 03/03/2021 TIME IN: 10:23:31

DATE OUT: 03/03/2021 TIME OUT: 10:23:31

INBOUND TICKET Number: 03-02048668

SCALE 1 GROSS WT.	44600 LB
STORED TARE WT.	20980 LB
NET WEIGHT	23620 LB

Qty	Description	Amount
11.81	ContSoil-E&P/Ton	

Generator Information (generator to complete)

Kauffman
County Road 22

Site Name: **ACS # 7**

Address:

oton, CO

City, State:

Zip:

Kauffman

Contact Person:

Fax:

Phone #:

Fax:

Petroleum Contaminated
Soil

Consultant:

Address:

E&P Exempt: Petroleum
Contaminated Soil

City, State:

Zip:

Yards

Tons

Contact Person:

Phone #:

Fax:

I certify that the same material represented on the Special Waste Application identified by the above Special
was delivered to the transporter on the shipment date referenced below.

ay
nt / type)

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

fman Well Service
County Road 22

upton, CO

1

Important Notice

Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

I/WE THE UNDERSIGNED, CERTIFY THAT THE
WASTE DELIVERED FOR DISPOSAL IS
NON-HAZARDOUS SOLID WASTE MATERIALS.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes

PCSEP_T

Charge To

2140

Volume Received

Ticket # 2048668

Yards

Tons 11.81

Other

Grid

Elevation

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

-HAZARDOUS WASTE MANIFEST

Manifest Number: **4271**

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

Kauffman
County Road 22
ton, CO
Site Name: ACS #7
Address: _____
City, State: _____
Zip: _____

Kauffman
Contact Person: _____
Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Soil
Consultant: _____
Address: _____

E&P Exempt: Petroleum Contaminated Soil
City, State: _____
Zip: _____

Yards ☐ Tons Contact Person: _____
Phone #: _____ Fax: _____

is the same material represented on the Special Waste Application identified by the above Special
was delivered to the transporter on the shipment date referenced below.

Print / type)

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

Kauffman Well Service
County Road 22
upton, CO
1

Important Notice
Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes PCSEP_T

Charge To 2140

Volume Received Ticket # 2048756
Yards _____ Tons 12.57 Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

The material delivered above was received at the landfill.

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Front Range Landfill
FRONT RANGE LANDFILL
PO Box 320
Erie, CO 80516

-HAZARDOUS WASTE MANIFEST

Manifest Number: **4273**

Approval Number: FR16050

Expiration Date: 2/27/2020

Generator Information (generator to complete)

Kauffman
County Road 22
ton, CO
Site Name: ACS #7
Address: _____
City, State: _____
Zip: _____

Kauffman Contact Person: _____

Fax: _____ Phone #: _____ Fax: _____

Petroleum Contaminated Soil Consultant: _____
Address: _____

E&P Exempt: Petroleum Contaminated Soil City, State: _____
Zip: _____

Yards ☐ Tons Contact Person: _____

Phone #: _____ Fax: _____

is the same material represented on the Special Waste Application identified by the above Special
was delivered to the transporter on the shipment date referenced below.

X _____
Signature of Generator's Authorized Agent

Signature of Generator's Authorized Agent

Shipment Date

Transporter Information (transporter to complete)

ffman Well Service
County Road 22
upton, CO
1

Important Notice
Disposal facility below must be
notified in ADVANCE before
delivery of waste with SPECIAL
HANDLING instructions.

Phone #: 303-833-5670

I hereby warrant that the above material was picked up at the generator site
listed above and delivered without incident to the destination listed below.

Name of Driver (print / type)

Signature of Driver

Date

Section 3

Destination Information (disposal facility to complete)

Front Range Landfill
1830 WCR 5 POB 320
Erie, CO 80516
Phone: 303-673-9431
Fax: 303-673-9432

Waste Codes PCSEP_T

Charge To 2140

Volume Received Ticket # 2044088
Yards _____ Tons 11.62 Other _____
Grid _____ Elevation _____

Landfill Authorized Agent Name (print / type)

Signature of Landfill's Authorized Agent

Date

White: Landfill

Yellow: Generator

Pink: Transporter

Gold: Consultant

Appendix D: Comparison of Results with Table 915-1 Standards

Comparison of COGCC Table 915-1							
Concentration Levels							
Spill/Release Point ID 479483		Sampling Results					
	Date Sampled:	3/1/2021	3/1/2021	3/1/2021	3/1/2021	3/1/2021	3/1/2021
COGCC Table 915-1 Parameters	Sample ID:	North Side	South Side	West Side	35ft Surrounding (BG)	ACS Bottom	East Side
Organic Compounds in Soil							
Contaminant of Concern	Concentrations						
TPH (total volatile and extractable petroleum hydrocarbons) - GRO (Gasoline Range Organics)	500 mg/kg	ND	ND	ND	ND	ND	ND
TPH (total volatile and extractable petroleum hydrocarbons) - DRO (Diesel Range Organics)	500 mg/kg	ND	ND	ND	ND	ND	ND
TPH (total volatile and extractable petroleum hydrocarbons) - ORO (Oil Range Organics)	500 mg/kg	ND	ND	ND	ND	ND	ND
Benzene	1.2 mg/kg	ND	ND	ND	ND	ND	ND
Toluene	490 mg/kg	ND	ND	ND	ND	ND	ND
Ethylbenzene	5.8 mg/kg	ND	ND	ND	ND	ND	ND
Xylenes (total)	58 mg/kg	ND	ND	ND	ND	ND	ND
1,2,4-trimethylbenzene	30 mg/kg	ND	ND	ND	ND	ND	ND
1,3,5-trimethylbenzene	27 mg/kg	ND	ND	ND	ND	ND	ND
Acenaphthene	360 mg/kg	ND	ND	ND	ND	ND	ND
Anthracene	1,800 mg/kg	0.048	ND	0.00623	ND	ND	ND
Benzo(A)anthracene	1.1 mg/kg	ND	ND	ND	ND	ND	ND
Benzo(B)fluoranthene	1.1 mg/kg	ND	ND	ND	ND	ND	ND
Benzo(K)fluoranthene	11 mg/kg	ND	ND	ND	ND	ND	ND
Benzo(A)pyrene	0.11 mg/kg	ND	ND	ND	ND	ND	ND
Chrysene	110 mg/kg	ND	ND	ND	ND	ND	ND
Dibenzo(A,H)andthracene	0.11 mg/kg	ND	ND	ND	ND	ND	ND
Fluoranthene	240 mg/kg	ND	ND	ND	ND	ND	ND
Fluorene	240 mg/kg	ND	ND	ND	ND	ND	ND
Indeno(1,2,3,C,D)pyrene	1.1 mg/kg	ND	ND	ND	ND	ND	ND
Napthalene	2 mg/kg	ND	ND	ND	ND	ND	ND
Pyrene	180 mg/kg	ND	ND	ND	ND	ND	ND
Organic Compounds in Groundwater							
Contaminant of Concern	Concentrations						
Benzene	5 µg/l						
Toluene	560 to 1,000 µg/l						
Ethylbenzene	700 µg/l						
Xylenes (total)	1,400 to 10,000 µg/l						
naphthalene	140 µg/l						
1,2,4-trimethylbenzene	67 µg/l						
1,3,5-trimethylbenzene	67 µg/l						
Soil Suitability for Reclamation							
Electrical Conductivity (EC)	< 4 mmhos/cm	3.59	0.499	0.648	0.605	1.25	0.769
Sodium Adsorption Ration (SAR)	< 12	2.97	1.89	0.739	0.332	2.04	1.93
pH	6–8.3	8.15	8.50	8.30	8.47	8.19	8.44
boron (hot water soluble soil extract)	2 mg/l	0.43	0.44	0.50	0.19	0.31	0.36
Groundwater Inorganic Parameters							
Total Dissolved Solids (TDS)	< 1.25 x local background						
Chlorides	250mg/l or <1.25 X local background						
Sulfates	250mg/l or <1.25 X local background						
Metals in Soils							
Contaminant of Concern	Concentrations						
Arsenic	0.68 mg/kg	6.29	8.09	10.5	6.03	3.63	6.9
Barium (LDNR True Total Barium)	15,000 mg/kg	182	261	118	235	260	350
Cadmium	71 mg/kg	ND	0.226	ND	0.295	0.247	0.263
Chromium (VI)	0.3 mg/kg	ND	ND	ND	ND	ND	ND
Copper	3,100 mg/kg	13.4	18.8	14.9	26.8	9.39	19.2
Lead (inorganic)	400 mg/kg	9.05	12.4	12.8	12.7	6.1	12.3
Nickel (soluble salts)	1,500 mg/kg	16.7	20.7	11.6	20.4	9.12	19.4
Selenium	390 mg/kg	ND	ND	ND	ND	ND	ND
Silver	390 mg/kg	0.0839	0.0815	0.0731	0.087	ND	0.0944
Zinc	23,000 mg/kg	42.8	65.8	44.5	64.5	27.5	61.5
Liquid Hydrocarbons in Soils and Ground Water							
Soils and Groundwater - liquid hydrocarbons including condensate	below visual detection limits						
*ND = NON DETECT							

Appendix E: Laboratory Analysis

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 10, 2021

Max Knop

K.P. Kauffman

1675 Broadway

Denver, CO 80202

RE: ACS #7 Flowline Release

Work Order #2103039

Enclosed are the results of analyses for samples received by Summit Scientific on 03/02/21 10:19. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North Side	2103039-01	Soil	03/01/21 14:00	03/02/21 10:19
South Side	2103039-02	Soil	03/01/21 14:00	03/02/21 10:19
West Side	2103039-03	Soil	03/01/21 14:00	03/02/21 10:19
CS 7 35 ft Surrounding	2103039-04	Soil	03/01/21 14:00	03/02/21 10:19
ACS Bottom	2103039-05	Soil	03/01/21 14:00	03/02/21 10:19
East Side	2103039-06	Soil	03/01/21 14:00	03/02/21 10:19

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

2103039

Page 1 of 1

Project Manager:	Max Knop
E-Mail:	mknop@kpk.com; mduran@kpk.com
Project Name:	ACS #7 Flowline Release
Project Number:	

				Preservative				Matrix				Analyze For:								Special Instructions			
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	Table 915-1 Suite											
North Side	3/1/2021	14:00	1			x		x				x											
South Side	3/1/2021	14:00	1			x		x				x											
West Side	3/1/2021	14:00	1			x		x				x											
CS 7 35 ft Surrounding (BC)	3/1/2021	14:00	1			x		x				x											
ACS Bottom	3/1/2021	14:00	1			x		x				x											
																				New inorganic method			
Relinquished by: <i>Stephanie Estef</i>				Date/Time: <i>3/2/21 10:19</i>				Received by: <i>[Signature]</i>				Date/Time: <i>03/02/2021 4:09</i>				Turn Around Time (Check)				Notes:			
																Same Day <input type="checkbox"/>				72 Hours <input type="checkbox"/>			
																24 Hours <input type="checkbox"/>				Standard <input checked="" type="checkbox"/>			
																48 Hours <input type="checkbox"/>							
Relinquished by:				Date/Time:				Received by:				Date/Time:				Sample Integrity:							
Relinquished by:				Date/Time:				Received in Lab by:				Date/Time:				Temperature Upon Receipt: <i>4.2</i>							
																Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							

Sample Receipt Checklist

2103039

S2 Work Order _____

Client: KP KAUFFMANClient Project ID: ACS 7 FLOWLINE RELEASEShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____
☐ ☒ ☐ ☐ ☐
Matrix (check all that apply): ☐ Air ☒ Soil/Solid ☐ Water ☐ Other: _____
(Describe)

Temp (°C)	4.2
-----------	-----

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any): 				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

RZ

Custodian Printed Name or Initials

RZ

Signature of Custodian

3/2/21

Date/Time



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

North Side
2103039-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BEC0112	03/04/21	03/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		113 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0113	03/04/21	03/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		50.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

North Side
2103039-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0143	03/06/21	03/09/21	EPA 8270D SIM	
Anthracene	0.0480	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.00658	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00908	0.00500	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		48.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		57.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.29	0.213	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B	
Barium	182	0.425	"	"	"	"	"	"	
Boron	0.425	0.0100	mg/L	"	BEC0153	03/08/21	03/09/21	"	
Cadmium	ND	0.213	mg/kg dry	"	BEC0131	03/05/21	03/06/21	"	
Copper	13.4	0.425	"	"	"	"	"	"	
Lead	9.05	0.213	"	"	"	"	"	"	
Nickel	16.7	0.425	"	"	"	"	"	"	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

North Side
2103039-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Selenium	ND	0.276	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B
Silver	0.0839	0.0213	"	"	"	"	"	"
Zinc	42.8	0.425	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0197	03/10/21	03/10/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	389	0.0531	mg/L dry	1	BEC0156	03/08/21	03/09/21	EPA 6020B	
Magnesium	246	0.0531	"	"	"	"	"	"	
Sodium	304	0.0531	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.97	0.100	units	1	BEC0203	03/10/21	03/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BEC0116	03/05/21	03/05/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

North Side
2103039-01 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.59	0.0100		mmhos/cm	1	BEC0185	03/09/21	03/09/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.15			pH Units	1	BEC0186	"	03/09/21	EPA 9045D	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

South Side
2103039-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEC0112	03/04/21	03/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		110 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0113	03/04/21	03/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		81.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

South Side
2103039-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0143	03/06/21	03/09/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	8.09	0.220	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B	
Barium	261	0.440	"	"	"	"	"	"	
Boron	0.441	0.0100	mg/L	"	BEC0153	03/08/21	03/09/21	"	
Cadmium	0.226	0.220	mg/kg dry	"	BEC0131	03/05/21	03/06/21	"	
Copper	18.8	0.440	"	"	"	"	"	"	
Lead	12.4	0.220	"	"	"	"	"	"	
Nickel	20.7	0.440	"	"	"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

South Side
2103039-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Selenium	ND	0.286	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B
Silver	0.0815	0.0220	"	"	"	"	"	"
Zinc	65.8	0.440	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0197	03/10/21	03/10/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	31.2	0.0550	mg/L dry	1	BEC0156	03/08/21	03/09/21	EPA 6020B	
Magnesium	20.9	0.0550	"	"	"	"	"	"	
Sodium	55.5	0.0550	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.89	0.100	units	1	BEC0203	03/10/21	03/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.0		%	1	BEC0116	03/05/21	03/05/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

South Side
2103039-02 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.499	0.0100		mmhos/cm	1	BEC0185	03/09/21	03/09/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.50			pH Units	1	BEC0186	"	03/09/21	EPA 9045D	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

West Side
2103039-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEC0112	03/04/21	03/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.3 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0113	03/04/21	03/04/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		92.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

West Side
2103039-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0143	03/06/21	03/09/21	EPA 8270D SIM	
Anthracene	0.00623	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		52.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	10.5	0.212	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B	
Barium	118	0.425	"	"	"	"	"	"	
Boron	0.498	0.0100	mg/L	"	BEC0153	03/08/21	03/09/21	"	
Cadmium	ND	0.212	mg/kg dry	"	BEC0131	03/05/21	03/06/21	"	
Copper	14.9	0.425	"	"	"	"	"	"	
Lead	12.8	0.212	"	"	"	"	"	"	
Nickel	11.6	0.425	"	"	"	"	"	"	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

West Side
2103039-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Selenium	ND	0.276	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B
Silver	0.0731	0.0212	"	"	"	"	"	"
Zinc	44.5	0.425	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0197	03/10/21	03/10/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	65.7	0.0531	mg/L dry	1	BEC0156	03/08/21	03/09/21	EPA 6020B	
Magnesium	27.6	0.0531	"	"	"	"	"	"	
Sodium	28.3	0.0531	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.739	0.100	units	1	BEC0203	03/10/21	03/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.2		%	1	BEC0116	03/05/21	03/05/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

West Side
2103039-03 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.648	0.0100		mmhos/cm	1	BEC0185	03/09/21	03/09/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.30			pH Units	1	BEC0186	"	03/09/21	EPA 9045D	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

CS 7 35 ft Surrounding
2103039-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEC0112	03/04/21	03/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0113	03/04/21	03/05/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		93.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

CS 7 35 ft Surrounding
2103039-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0143	03/06/21	03/09/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		51.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.03	0.225	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B	
Barium	235	0.449	"	"	"	"	"	"	
Cadmium	0.295	0.225	"	"	"	"	"	"	
Boron	0.185	0.0100	mg/L	"	BEC0153	03/08/21	03/09/21	"	
Copper	26.8	0.449	mg/kg dry	"	BEC0131	03/05/21	03/06/21	"	
Lead	12.7	0.225	"	"	"	"	"	"	
Nickel	20.4	0.449	"	"	"	"	"	"	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

CS 7 35 ft Surrounding
2103039-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Selenium	ND	0.292	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B
Silver	0.0870	0.0225	"	"	"	"	"	"
Zinc	64.5	0.449	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0197	03/10/21	03/10/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.9	0.0562	mg/L dry	1	BEC0156	03/08/21	03/09/21	EPA 6020B	
Magnesium	18.8	0.0562	"	"	"	"	"	"	
Sodium	10.0	0.0562	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.332	0.100	units	1	BEC0203	03/10/21	03/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.0		%	1	BEC0116	03/05/21	03/05/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

CS 7 35 ft Surrounding
2103039-04 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.605	0.0100		mmhos/cm	1	BEC0185	03/09/21	03/09/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.47			pH Units	1	BEC0186	"	03/09/21	EPA 9045D	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

ACS Bottom
2103039-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEC0112	03/04/21	03/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		103 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0113	03/04/21	03/05/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		92.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

ACS Bottom
2103039-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0143	03/06/21	03/09/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		48.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.63	0.225	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B	
Barium	260	0.451	"	"	"	"	"	"	
Cadmium	0.247	0.225	"	"	"	"	"	"	
Boron	0.309	0.0100	mg/L	"	BEC0153	03/08/21	03/09/21	"	
Copper	9.39	0.451	mg/kg dry	"	BEC0131	03/05/21	03/06/21	"	
Lead	6.10	0.225	"	"	"	"	"	"	
Nickel	9.12	0.451	"	"	"	"	"	"	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

ACS Bottom
2103039-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Selenium	ND	0.293	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B
Silver	ND	0.0225	"	"	"	"	"	"
Zinc	27.5	0.451	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0197	03/10/21	03/10/21	EPA 7196A		

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	129	0.0563	mg/L dry	1	BEC0156	03/08/21	03/10/21	EPA 6020B		
Magnesium	52.8	0.0563	"	"	"	"	"	"		
Sodium	109	0.0563	"	"	"	"	"	"		

Calculated Analysis

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Sodium Adsorption Ratio	2.04	0.100	units	1	BEC0203	03/10/21	03/10/21	Calculation		

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.8		%	1	BEC0116	03/05/21	03/05/21	Calculation		

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

ACS Bottom
2103039-05 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.25	0.0100		mmhos/cm	1	BEC0185	03/09/21	03/09/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.19			pH Units	1	BEC0186	"	03/09/21	EPA 9045D	

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1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

East Side
2103039-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BEC0112	03/04/21	03/04/21	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		115 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BEC0113	03/04/21	03/05/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		88.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

East Side
2103039-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BEC0143	03/06/21	03/09/21	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		53.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.90	0.222	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B	
Barium	350	0.443	"	"	"	"	"	"	
Boron	0.364	0.0100	mg/L	"	BEC0153	03/08/21	03/09/21	"	
Cadmium	0.263	0.222	mg/kg dry	"	BEC0131	03/05/21	03/06/21	"	
Copper	19.2	0.443	"	"	"	"	"	"	
Lead	12.3	0.222	"	"	"	"	"	"	
Nickel	19.4	0.443	"	"	"	"	"	"	

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

East Side
2103039-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Selenium	ND	0.288	mg/kg dry	1	BEC0131	03/05/21	03/06/21	EPA 6020B
Silver	0.0944	0.0222	"	"	"	"	"	"
Zinc	61.5	0.443	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BEC0197	03/10/21	03/10/21	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.4	0.0554	mg/L dry	1	BEC0156	03/08/21	03/10/21	EPA 6020B	
Magnesium	31.7	0.0554	"	"	"	"	"	"	
Sodium	73.4	0.0554	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.93	0.100	units	1	BEC0203	03/10/21	03/10/21	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.3		%	1	BEC0116	03/05/21	03/05/21	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

East Side
2103039-06 (Soil)

Summit Scientific

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.769	0.0100		mmhos/cm	1	BEC0185	03/09/21	03/09/21	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **03/01/21 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.44			pH Units	1	BEC0186	"	03/09/21	EPA 9045D	

Summit Scientific

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1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0112 - EPA 5030 Soil MS

Blank (BEC0112-BLK1)

Prepared & Analyzed: 03/04/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0400		114	23-173			
Surrogate: Toluene-d8	0.0426		"	0.0400		106	20-170			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	21-167			

LCS (BEC0112-BS1)

Prepared & Analyzed: 03/04/21

Benzene	0.0793	0.0020	mg/kg	0.100		79.3	70-130			
Toluene	0.111	0.0050	"	0.100		111	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.210	0.010	"	0.200		105	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0434		"	0.0400		108	23-173			
Surrogate: Toluene-d8	0.0422		"	0.0400		105	20-170			
Surrogate: 4-Bromofluorobenzene	0.0419		"	0.0400		105	21-167			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting			Spike	Source	%REC		RPD		
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes	

Batch BEC0113 - EPA 3550A

Blank (BEC0113-BLK1)

Prepared & Analyzed: 03/04/21

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								

LCS (BEC0113-BS1)

Prepared & Analyzed: 03/04/21

C10-C28 (DRO)	433	50	mg/kg	500	86.6	70-130					
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Matrix Spike (BEC0113-MS1)

Source: 2103081-01

Prepared & Analyzed: 03/04/21

C10-C28 (DRO)	413	50	mg/kg	500	13.1	80.0	70-130				
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Matrix Spike Dup (BEC0113-MSD1)

Source: 2103081-01

Prepared & Analyzed: 03/04/21

C10-C28 (DRO)	400	50	mg/kg	500	13.1	77.3	70-130	3.32	20		
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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0143 - EPA 5030 Soil MS

Blank (BEC0143-BLK1)

Prepared: 03/06/21 Analyzed: 03/09/21

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0164		"	0.0333		49.1	40-150			
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.4	40-150			

LCS (BEC0143-BS1)

Prepared: 03/06/21 Analyzed: 03/09/21

Acenaphthene	0.0337	0.00500	mg/kg	0.0333	101	31-137
Anthracene	0.0351	0.00500	"	0.0333	105	30-120
Benzo (a) anthracene	0.0339	0.00500	"	0.0333	102	30-120
Benzo (a) pyrene	0.0354	0.00500	"	0.0333	106	30-120
Benzo (b) fluoranthene	0.0394	0.00500	"	0.0333	118	30-120
Benzo (k) fluoranthene	0.0388	0.00500	"	0.0333	116	30-120
Chrysene	0.0334	0.00500	"	0.0333	100	30-120
Dibenz (a,h) anthracene	0.0220	0.00500	"	0.0333	66.1	30-120
Fluoranthene	0.0317	0.00500	"	0.0333	95.1	30-120
Fluorene	0.0321	0.00500	"	0.0333	96.4	30-120
Indeno (1,2,3-cd) pyrene	0.0205	0.00500	"	0.0333	61.6	30-120
Pyrene	0.0296	0.00500	"	0.0333	88.8	35-142
1-Methylnaphthalene	0.0303	0.00500	"	0.0333	90.9	35-142
2-Methylnaphthalene	0.0329	0.00500	"	0.0333	98.7	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0202		"	0.0333	60.5	40-150
Surrogate: Fluoranthene-d10	0.0202		"	0.0333	60.6	40-150

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0143 - EPA 5030 Soil MS

Matrix Spike (BEC0143-MS1)

Source: 2103035-01

Prepared: 03/06/21 Analyzed: 03/09/21

Acenaphthene	0.0306	0.00500	mg/kg	0.0333	ND	91.9	31-137		
Anthracene	0.0324	0.00500	"	0.0333	ND	97.1	30-120		
Benzo (a) anthracene	0.0308	0.00500	"	0.0333	ND	92.5	30-120		
Benzo (a) pyrene	0.0332	0.00500	"	0.0333	ND	99.7	30-120		
Benzo (b) fluoranthene	0.0374	0.00500	"	0.0333	ND	112	30-120		
Benzo (k) fluoranthene	0.0369	0.00500	"	0.0333	ND	111	30-120		
Chrysene	0.0310	0.00500	"	0.0333	ND	93.0	30-120		
Dibenz (a,h) anthracene	0.0197	0.00500	"	0.0333	ND	59.0	30-120		
Fluoranthene	0.0301	0.00500	"	0.0333	ND	90.4	30-120		
Fluorene	0.0290	0.00500	"	0.0333	ND	87.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0182	0.00500	"	0.0333	ND	54.6	30-120		
Pyrene	0.0272	0.00500	"	0.0333	ND	81.7	35-142		
1-Methylnaphthalene	0.0291	0.00500	"	0.0333	ND	87.3	15-130		
2-Methylnaphthalene	0.0318	0.00500	"	0.0333	ND	95.5	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0195		"	0.0333		58.4	40-150		
Surrogate: Fluoranthene-d10	0.0191		"	0.0333		57.4	40-150		

Matrix Spike Dup (BEC0143-MSD1)

Source: 2103035-01

Prepared: 03/06/21 Analyzed: 03/09/21

Acenaphthene	0.0315	0.00500	mg/kg	0.0333	ND	94.5	31-137	2.80	30
Anthracene	0.0324	0.00500	"	0.0333	ND	97.1	30-120	0.0227	30
Benzo (a) anthracene	0.0311	0.00500	"	0.0333	ND	93.2	30-120	0.746	30
Benzo (a) pyrene	0.0333	0.00500	"	0.0333	ND	99.8	30-120	0.0972	30
Benzo (b) fluoranthene	0.0378	0.00500	"	0.0333	ND	114	30-120	1.17	30
Benzo (k) fluoranthene	0.0376	0.00500	"	0.0333	ND	113	30-120	1.87	30
Chrysene	0.0312	0.00500	"	0.0333	ND	93.5	30-120	0.539	30
Dibenz (a,h) anthracene	0.0201	0.00500	"	0.0333	ND	60.4	30-120	2.31	30
Fluoranthene	0.0293	0.00500	"	0.0333	ND	87.8	30-120	2.97	30
Fluorene	0.0302	0.00500	"	0.0333	ND	90.7	30-120	4.18	30
Indeno (1,2,3-cd) pyrene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	2.55	30
Pyrene	0.0278	0.00500	"	0.0333	ND	83.4	35-142	2.06	30
1-Methylnaphthalene	0.0293	0.00500	"	0.0333	ND	87.9	15-130	0.744	50
2-Methylnaphthalene	0.0312	0.00500	"	0.0333	ND	93.7	15-130	1.89	50
Surrogate: 2-Methylnaphthalene-d10	0.0192		"	0.0333		57.6	40-150		
Surrogate: Fluoranthene-d10	0.0184		"	0.0333		55.1	40-150		

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0131 - EPA 3050B

Blank (BEC0131-BLK1)

Prepared & Analyzed: 03/05/21

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	ND	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BEC0131-BS1)

Prepared & Analyzed: 03/05/21

Arsenic	44.7	0.200	mg/kg wet	40.0	112	80-120
Barium	40.6	0.400	"	40.0	101	80-120
Cadmium	2.09	0.200	"	2.00	105	80-120
Copper	41.6	0.400	"	40.0	104	80-120
Lead	20.0	0.200	"	20.0	100	80-120
Nickel	41.3	0.400	"	40.0	103	80-120
Selenium	3.37	0.260	"	4.00	84.3	80-120
Silver	1.98	0.0200	"	2.00	99.0	80-120
Zinc	45.8	0.400	"	40.0	115	80-120

Duplicate (BEC0131-DUP1)

Source: 2103039-01

Prepared: 03/05/21 Analyzed: 03/06/21

Arsenic	6.75	0.213	mg/kg dry	6.29	7.13	30
Barium	178	0.425	"	182	2.31	30
Cadmium	0.166	0.213	"	0.160	4.09	30
Copper	14.3	0.425	"	13.4	6.43	30
Lead	10.2	0.213	"	9.05	11.8	30
Nickel	18.4	0.425	"	16.7	9.74	30
Selenium	ND	0.276	"	ND		30
Silver	0.0899	0.0213	"	0.0839	6.79	30
Zinc	46.8	0.425	"	42.8	8.97	30

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0131 - EPA 3050B

Matrix Spike (BEC0131-MS1)		Source: 2103039-01			Prepared: 03/05/21		Analyzed: 03/06/21			
Arsenic	50.0	0.213	mg/kg dry	42.5	6.29	103	75-125			
Barium	220	0.425	"	42.5	182	88.8	75-125			
Cadmium	2.15	0.213	"	2.13	0.160	93.4	75-125			
Copper	55.1	0.425	"	42.5	13.4	98.2	75-125			
Lead	27.6	0.213	"	21.3	9.05	87.4	75-125			
Nickel	58.4	0.425	"	42.5	16.7	97.9	75-125			
Selenium	3.32	0.276	"	4.25	ND	78.2	75-125			
Silver	2.02	0.0213	"	2.13	0.0839	91.1	75-125			
Zinc	94.4	0.425	"	42.5	42.8	121	75-125			

Matrix Spike Dup (BEC0131-MSD1)		Source: 2103039-01			Prepared: 03/05/21		Analyzed: 03/06/21			
Arsenic	51.9	0.213	mg/kg dry	42.5	6.29	107	75-125	3.80	25	
Barium	222	0.425	"	42.5	182	94.3	75-125	1.07	25	
Cadmium	2.26	0.213	"	2.13	0.160	99.0	75-125	5.38	25	
Copper	57.2	0.425	"	42.5	13.4	103	75-125	3.69	25	
Lead	28.5	0.213	"	21.3	9.05	91.6	75-125	3.19	25	
Nickel	61.8	0.425	"	42.5	16.7	106	75-125	5.72	25	
Selenium	3.84	0.276	"	4.25	ND	90.2	75-125	14.4	25	
Silver	2.10	0.0213	"	2.13	0.0839	94.9	75-125	3.92	25	
Zinc	86.7	0.425	"	42.5	42.8	103	75-125	8.45	25	

Batch BEC0153 - EPA 3050B

Blank (BEC0153-BLK1)					Prepared: 03/08/21		Analyzed: 03/09/21			
Boron	ND	0.0100	mg/L							

LCS (BEC0153-BS1)					Prepared: 03/08/21		Analyzed: 03/09/21			
Boron	5.20	0.0100	mg/L	5.00		104	80-120			

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0153 - EPA 3050B

Duplicate (BEC0153-DUP1)		Source: 2103035-01			Prepared: 03/08/21 Analyzed: 03/09/21					
Boron	0.441	0.0100	mg/L		0.428			2.92	20	
Matrix Spike (BEC0153-MS1)		Source: 2103035-01			Prepared: 03/08/21 Analyzed: 03/09/21					
Boron	5.17	0.0100	mg/L	5.00	0.428	94.8	75-125			
Matrix Spike Dup (BEC0153-MSD1)		Source: 2103035-01			Prepared: 03/08/21 Analyzed: 03/09/21					
Boron	5.39	0.0100	mg/L	5.00	0.428	99.3	75-125	4.24	25	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0197 - 3060A Mod

Blank (BEC0197-BLK1)

Prepared & Analyzed: 03/10/21

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BEC0197-BS1)

Prepared & Analyzed: 03/10/21

Chromium, Hexavalent 23.9 0.30 mg/kg wet 25.0 95.6 80-120

Duplicate (BEC0197-DUP1)

Source: 2102366-03

Prepared & Analyzed: 03/10/21

Chromium, Hexavalent ND 0.30 mg/kg wet ND 20

Matrix Spike (BEC0197-MS1)

Source: 2102366-03

Prepared & Analyzed: 03/10/21

Chromium, Hexavalent 23.5 0.30 mg/kg wet 25.0 ND 94.0 75-125

Matrix Spike Dup (BEC0197-MSD1)

Source: 2102366-03

Prepared & Analyzed: 03/10/21

Chromium, Hexavalent 23.4 0.30 mg/kg wet 25.0 ND 93.8 75-125 0.213 20

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0156 - General Preparation

Blank (BEC0156-BLK1)

Prepared: 03/08/21 Analyzed: 03/09/21

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BEC0156-BS1)

Prepared: 03/08/21 Analyzed: 03/09/21

Calcium	5.19	0.0500	mg/L wet	5.00	104	70-130
Magnesium	5.65	0.0500	"	5.00	113	70-130
Sodium	5.32	0.0500	"	5.00	106	70-130

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0116 - General Preparation

Duplicate (BEC0116-DUP1)		Source: 2103038-01			Prepared & Analyzed: 03/05/21					
% Solids	91.6		%		91.5		0.109		20	

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BEC0185 - General Preparation

Blank (BEC0185-BLK1)

Prepared & Analyzed: 03/09/21

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BEC0185-BS1)

Prepared & Analyzed: 03/09/21

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 90-110

Duplicate (BEC0185-DUP1)

Source: 2103035-01

Prepared & Analyzed: 03/09/21

Specific Conductance (EC) 0.983 0.0100 mmhos/cm 0.996 1.32 20

Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BEC0186 - General Preparation

LCS (BEC0186-BS1)

Prepared & Analyzed: 03/09/21

pH	9.20	pH Units	9.21	99.9	95-105
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Duplicate (BEC0186-DUP1)

Source: 2103035-01

Prepared & Analyzed: 03/09/21

pH	8.58	pH Units	8.58	0.00	20
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Summit Scientific

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K.P. Kauffman
1675 Broadway
Denver CO, 80202

Project: ACS #7 Flowline Release

Project Number: [none]
Project Manager: Max Knop

Reported:
03/10/21 14:32

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference