

PADCO LLC

Remediation Project 15981

Gulley 1-D

Attachment D

Laboratory Analysis

SKIM PIT ANALYSIS

Prepared for:
PADCO LLC

Prepared by:
Lesair Environmental, Inc.
www.Lesair.com

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 24, 2021

Ty Smith
Lesair Environmental
11786 Shaffer Place Suite 210
Littleton, CO 80127
RE: Padco Gulley Skim Pit
Work Order #2101217

Enclosed are the results of analyses for samples received by Summit Scientific on 01/22/21 17:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Michelle Clements
Technical Director



Lesair Environmental
11786 Shaffer Place Suite 210
Littleton CO, 80127

Project: Padco Gulley Skim Pit
Project Number: 45-0120-001
Project Manager: Ty Smith

Reported:
01/24/21 22:06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SP1	2101217-01	Soil	01/22/21 12:00	01/22/21 17:05
SP2	2101217-02	Soil	01/22/21 12:30	01/22/21 17:05
SP3	2101217-03	Soil	01/22/21 12:30	01/22/21 17:05
SP4	2101217-04	Soil	01/22/21 12:30	01/22/21 17:05

Summit Scientific

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2101217



Contact/Billing Information	
Name:	Lesair Environmental
Address:	11786 Shaffer Place, Suite 210
City/State/Zip:	Littleton, CO 80127
Phone Number:	303-904-2525
Fax Number:	303-904-7374
Project Manager:	Ty Smith
Email:	Ty.Smith@lesair.com

Notes: ~~** RUSH **~~
 - SAME DAY -
 INVOICE PADCO

Project Name:	PADCO GULLEY SKIM PIT	Sampled By:	Ty Smith
Project Number:	45-0120-001	Signature:	[Signature]
Sample Location:	GULLEY 1-D	Date:	1/22/2021

Sample Name	Sample Information					Matrix*	Preservation							Analysis				
	Date Sampled	Time Sampled	Number of Samples	G=Grab, C= Composite			HNO ₃	HCl	NaOH	H ₂ SO ₄	Methanol	None	Other (Specify)	GOR	DOR	ORO	BTEX	PAH
SP1	01/22	12:00	1	G	Soil						X		X	X	X	X	X	
SP2	01/22	12:30	1	G	Soil						X		X	X	X	X	X	
SP3	01/22	12:30	1	G	Soil						X		X	X	X	X	X	
SP4	01/22	12:30	1	G	Soil						X		X	X	X	X	X	

Relinquished By:	[Signature]	Date:	1/22/2021	Time:	12:05
Received By:	[Signature]	Date:	1-22-21	Time:	1705

*Choose from: SL- Sludge, DW-Drinking Water, GW- Groundwater, S- Soil/Solids, WW- Wastewater, Specify Other

5.5°

Sample Receipt Checklist

S2 Work Order 2101217

Client: LeSair Client Project ID: Padco Gulley Skim Pit

Shipped Via H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (check all that apply): Air Soil/Solid Water Other: _____
(Describe)

Temp (°C)	<u>5.5</u>
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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"/>			<u>on ice</u>
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>			<u>Same Day</u>
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<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 checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

HT
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

1-22-21
Date/Time



Lesair Environmental
11786 Shaffer Place Suite 210
Littleton CO, 80127

Project: Padco Gulley Skim Pit

Project Number: 45-0120-001
Project Manager: Ty Smith

Reported:
01/24/21 22:06

SP1
2101217-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/22/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BEA0255	01/22/21	01/22/21	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/22/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %		21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/22/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BEA0254	01/22/21	01/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/22/21 12:00**

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

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/22/21 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.88			pH Units	1	BEA0252	01/22/21	01/22/21	EPA 9045D	

Summit Scientific

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SP1
2101217-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

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Project Manager: Ty Smith

Reported:
01/24/21 22:06

SP2
2101217-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Gasoline Range Hydrocarbons	ND	0.50	mg/kg	1	BEA0255	01/22/21	01/22/21	EPA 8260B	

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.9 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BEA0254	01/22/21	01/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		102 %	30-150		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.16		pH Units	1	BEA0252	01/22/21	01/22/21	EPA 9045D	

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Project: Padco Gulley Skim Pit
Project Number: 45-0120-001
Project Manager: Ty Smith

Reported:
01/24/21 22:06

SP3
2101217-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Gasoline Range Hydrocarbons	ND	0.50	mg/kg	1	BEA0255	01/22/21	01/22/21	EPA 8260B	

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.7 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	87	50	mg/kg	1	BEA0254	01/22/21	01/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		101 %	30-150		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.86		pH Units	1	BEA0252	01/22/21	01/22/21	EPA 9045D	

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Project Number: 45-0120-001
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Reported:
01/24/21 22:06

SP4
2101217-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Gasoline Range Hydrocarbons	ND	0.50	mg/kg	1	BEA0255	01/22/21	01/23/21	EPA 8260B	

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.2 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	57	50	mg/kg	1	BEA0254	01/22/21	01/22/21	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		114 %	30-150		"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/22/21 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.07		pH Units	1	BEA0252	01/22/21	01/22/21	EPA 9045D	

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Project Number: 45-0120-001
Project Manager: Ty Smith

Reported:
01/24/21 22:06

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BEA0255 - EPA 5030 Soil MS

Blank (BEA0255-BLK1)

Prepared: 01/22/21 Analyzed: 01/23/21

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0373		"	0.0400		93.2	23-173			
Surrogate: 1,2-Dichloroethane-d4	0.0373		"	0.0400		93.2	23-173			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	20-170			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		94.0	21-167			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		94.0	21-167			

LCS (BEA0255-BS1)

Prepared: 01/22/21 Analyzed: 01/23/21

Benzene	0.127	0.0020	mg/kg	0.100		127	70-130			
Toluene	0.115	0.0050	"	0.100		115	70-130			
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130			
m,p-Xylene	0.237	0.010	"	0.200		118	70-130			
o-Xylene	0.111	0.0050	"	0.100		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0400		97.6	23-173			
Surrogate: 1,2-Dichloroethane-d4	0.0391		"	0.0400		97.6	23-173			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.7	21-167			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.7	21-167			

Matrix Spike (BEA0255-MS1)

Source: 2101102-10

Prepared: 01/22/21 Analyzed: 01/23/21

Benzene	0.128	0.0020	mg/kg	0.100	0.00384	124	70-130			
Toluene	0.116	0.0050	"	0.100	ND	116	70-130			
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130			
m,p-Xylene	0.237	0.010	"	0.200	0.00366	117	70-130			
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		102	23-173			
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.0	20-170			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	21-167			
Surrogate: 4-Bromofluorobenzene	0.0384		"	0.0400		96.0	21-167			

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Project: Padco Gulley Skim Pit
Project Number: 45-0120-001
Project Manager: Ty Smith

Reported:
01/24/21 22:06

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BEA0255 - EPA 5030 Soil MS

Matrix Spike Dup (BEA0255-MSD1)	Source: 2101102-10			Prepared: 01/22/21 Analyzed: 01/23/21						
Benzene	0.126	0.0020	mg/kg	0.100	0.00384	122	70-130	1.30	30	
Toluene	0.115	0.0050	"	0.100	ND	115	70-130	0.571	30	
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130	1.71	30	
m,p-Xylene	0.234	0.010	"	0.200	0.00366	115	70-130	1.43	30	
o-Xylene	0.111	0.0050	"	0.100	ND	111	70-130	2.62	30	
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	23-173			
Surrogate: 1,2-Dichloroethane-d4	0.0407		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	20-170			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		96.9	21-167			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		96.9	21-167			

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BEA0254 - EPA 3550A

Blank (BEA0254-BLK1)

Prepared & Analyzed: 01/22/21

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

LCS (BEA0254-BS1)

Prepared & Analyzed: 01/22/21

C10-C28 (DRO)	501	50	mg/kg	500	100	70-130				
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Matrix Spike (BEA0254-MS1)

Source: 2101102-10

Prepared & Analyzed: 01/22/21

C10-C28 (DRO)	504	50	mg/kg	500	14.9	97.7	70-130			
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Matrix Spike Dup (BEA0254-MSD1)

Source: 2101102-10

Prepared & Analyzed: 01/22/21

C10-C28 (DRO)	528	50	mg/kg	500	14.9	103	70-130	4.74	20	
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Reported:
 01/24/21 22:06

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

Summit Scientific

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

Batch BEA0252 - General Preparation

LCS (BEA0252-BS1)

Prepared & Analyzed: 01/22/21

pH 9.30 pH Units 9.21 101 95-105

Duplicate (BEA0252-DUP1)

Source: 2101204-01

Prepared & Analyzed: 01/22/21

pH 8.18 pH Units 8.17 0.122 20

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Project: Padco Gulley Skim Pit
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Reported:
01/24/21 22:06

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