Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron c/o Earthfax Eng.
Suite 100
7324 South Union Park
Midvale UT 84047

September 22, 2011

Project: Red Butte Release

Submittal Date: 08/29/2011
Group Number: 1263977
SDG: SLC40
PO Number: 1288-10
State of Sample Origin: UT

Client Sample Description	Lancaster Labs (LLI) #
Mill Cr Below 700 East-Bed Composite Soil Sample	6390652
Mill Cr Below 700 East-Bank Composite Soil Sample	6390653
City Cr Near Cyn Ent Gate-Bed Composite Soil	6390654
City Cr Near Cyn Ent Gate-Bank Composite Soil	6390655

1 COPY TO Earthfax Engineering Attn: Galen Williams

Questions? Contact your Client Services Representative
Elizabeth A Leonhardt at (510) 232-8894

Respectfully Submitted,

Beatrice A. Stauffer
Manager

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: Mill Cr Below 700 East-Bed Composite Soil Sample
Red Butte Release

LLI Sample # SW 6390652
LLI Group # 1263977
Account # 12118

Project Name: Red Butte Release

Collected: 08/24/2011 07:45 by RBW

Submitted: 08/29/2011 17:00
Reported: 09/22/2011 12:39

Chevron c/o Earthfax Eng.
Suite 100
7324 South Union Park
Midvale UT 84047

SDG#: SLC40-01

General Sample Comments

The analysis for TOC by Walkley-Black and Total Solids were subcontracted to another laboratory. Please see attached reports.
This sample was originally submitted to the laboratory on 08/25/11 at 09:00. We received authorization for further testing on 08/29/11.

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: Mill Cr Below 700 East-Bank Composite Soil Sample
Red Butte Release

LLI Sample # SW 6390653
LLI Group # 1263977
Account # 12118

Project Name: Red Butte Release

Collected: 08/24/2011 07:45 by RBW

Submitted: 08/29/2011 17:00
Reported: 09/22/2011 12:39

Chevron c/o Earthfax Eng.
Suite 100
7324 South Union Park
Midvale UT 84047

SDG#: SLC40-02

General Sample Comments

The analysis for TOC by Walkley-Black and Total Solids were subcontracted to another laboratory. Please see attached reports.
This sample was originally submitted to the laboratory on 08/25/11 at 09:00. We received authorization for further testing on 08/29/11.

Lancaster Laboratories

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Analysis Report

Sample Description: **City Cr Near Cyn Ent Gate-Bed Composite Soil Sample**
Red Butte Release

LLI Sample # SW 6390654
LLI Group # 1263977
Account # 12118

Project Name: Red Butte Release

Collected: 08/24/2011 15:10 by RBW

Submitted: 08/29/2011 17:00
Reported: 09/22/2011 12:39

Chevron c/o Earthfax Eng.
Suite 100
7324 South Union Park
Midvale UT 84047

SDG#: SLC40-03

General Sample Comments

The analysis for TOC by Walkley-Black and Total Solids were subcontracted to another laboratory. Please see attached reports.
This sample was originally submitted to the laboratory on 08/25/11 at 09:00. We received authorization for further testing on 08/29/11.

Lancaster Laboratories

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Analysis Report

Sample Description: **City Cr Near Cyn Ent Gate-Bank Composite Soil Sample**
Red Butte Release

LLI Sample # SW 6390655
LLI Group # 1263977
Account # 12118

Project Name: Red Butte Release

Collected: 08/24/2011 15:10 by RBW

Submitted: 08/29/2011 17:00
Reported: 09/22/2011 12:39

Chevron c/o Earthfax Eng.
Suite 100
7324 South Union Park
Midvale UT 84047

SDG#: SLC40-04

General Sample Comments

The analysis for TOC by Walkley-Black and Total Solids were subcontracted to another laboratory. Please see attached reports.
This sample was originally submitted to the laboratory on 08/25/11 at 09:00. We received authorization for further testing on 08/29/11.

Chevron Generic Analysis Request/Chain of Custody

017805

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 12118 Sample #: 6390652-55 SCR#:

grp 1263977

Facility #:
Site Address:
Chevron PM: Lead Consultant: EarthFax
Consultant/Office: EarthFax Engineering
Consultant Prj. Mgr.: Galen Williams
Consultant Phone #: 801-561-1555 Fax #: 801-561-1861
Sampler: RB White & TA Jimenez
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil	Matrix: Air	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan TOC	Composites Grain size	TPHS Total solids	Extractable Org. TPH-D Silica Gel Cleanup Moisture	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	TPH-D20 (8015D GC/FID	TPH-O20 (8260C GC/MS) extended range	BTEX (8260C GC/MS	PAHs (8270D GC/MS/SIM)
Mill Cr below 700 East	8/24/11	07:45	✓			✓			7	✓								✓	✓	✓	✓
TB-1	8/24/11	07:45	✓			✓			1											✓	
Mill Cr below 700 East - Bed	8/24/11	07:45		✓	✓				4		✓	✓	✓	✓				✓	✓	✓	✓
Mill Cr below 700 East - Bank	8/24/11	07:45		✓	✓				4		✓	✓	✓	✓				✓	✓	✓	✓
City Cr Near Gym Entrance Gate	8/24/11	15:10	✓			✓			7									✓	✓	✓	✓
City Cr Near Gym Ent Gate - Bed	8/24/11	15:10		✓	✓				4		✓	✓	✓	✓				✓	✓	✓	✓
City Cr Near Gym Ent Gate - Bank	8/24/11	15:10		✓	✓				4		✓	✓	✓	✓				✓	✓	✓	✓
TB-2	8/24/11	15:10	✓			✓			1											✓	

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk ____ Other.

	Date	Time		Date	Time
Relinquished by:	8/24/11	19:10	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Brandy Buckley	8-25-11	900
Temperature Upon Receipt 3.2-5.7 C°			Custody Seals Intact? Yes No		

PTS Laboratories, Inc.

8100 Secura Way • Santa Fe Springs, CA 90670
Telephone (562) 347-2500 • Fax (562) 907-3610

September 16, 2011

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17601-5994

Re: PTS File No: 41604
Physical Properties Data
6390652-55

Dear Mrs. Binkley:

Please find enclosed report for Physical Properties analyses conducted upon samples received from your 6390652-55 project. All analyses were performed by applicable ASTM, EPA, or API methodologies. An electronic version of the report has previously been sent to your attention via the internet. The samples are currently in storage and will be retained for thirty days past completion of testing at no charge. Please note that the samples will be disposed of at that time. You may contact me regarding storage, disposal, or return of the samples.

PTS Laboratories appreciates the opportunity to be of service. If you have any questions or require additional information, please contact Rachel Spitz at (562) 347-2504.

Sincerely,
PTS Laboratories

for Rachel Spitz

Michael Mark Brady, P.G.
District Manager

Encl.

PTS Laboratories

Project Name: N/A
Project Number: 6390652-55

PTS File No: 41604
Client: Lancaster Laboratories

TEST PROGRAM - 20110907

CORE ID	Depth ft.	Core Recovery ft.	Grain Size Analysis ASTM D4464	TOC/foc Walkley-Black	% Solids ASTM D2216			Notes
		Plugs:	Grab	Grab	Grab			
Date Received: 20110901								
6390652	N/A	N/A	X	X	X			Mill Cr Below 700 East-Bed
6390653	N/A	N/A	X	X	X			Mill Cr Below 700 East-Bank
6390654	N/A	N/A	X	X	X			City Cr Near Cyn Ent Gate-Bed
6390655	N/A	N/A	X	X	X			City Cr Near Cyn Ent Gate-Bank
TOTALS:	4 jars		4	4	4			

Laboratory Test Program Notes
Standard TAT for basic analysis is 10-15 business days.

PTS File No: 41604
Client: Lancaster Laboratories

PERCENT SOLIDS

(METHODOLOGY: *Mod. ASTM D 2216-98)

PROJECT NAME: N/A
PROJECT NO: 6390652-55

SAMPLE ID.	ANALYSES DATE	ANALYSES TIME	DEPTH, ft.	MATRIX	TARE WEIGHT, grams	WET SAMPLE + TARE WEIGHT, grams	DRY SAMPLE + TARE WEIGHT, grams	MOISTURE CONTENT, percent wet weight	SOLIDS, percent wet weight
6390652	N/A	20110913	1234	SOIL	15.51	53.64	44.92	22.9	77.1
6390653	N/A	20110913	1234	SOIL	15.38	48.69	37.56	33.4	66.6
6390654	N/A	20110913	1234	SOIL	15.55	71.50	59.22	21.9	78.1
6390655	N/A	20110913	1234	SOIL	15.36	61.36	48.75	27.4	72.6

*Per Lancaster Laboratories

PTS File No: 41604
Client: Lancaster Laboratories

ORGANIC CARBON DATA - TOC (foc)

(METHODOLOGY: WALKLEY-BLACK)

PROJECT NAME: N/A
PROJECT NO: 6390652-55

SAMPLE ID.	DEPTH, ft.	ANALYSIS DATE	ANALYSIS TIME	SAMPLE MATRIX	TOTAL ORGANIC CARBON, mg/kg	FRACTION ORGANIC CARBON, g/g
6390652	N/A	20110913	1052	SOIL	8650	8.65E-03
6390653	N/A	20110913	1052	SOIL	24600	2.46E-02
6390654	N/A	20110913	1052	SOIL	4800	4.80E-03
6390655	N/A	20110913	1052	SOIL	16900	1.69E-02
Blank	N/A	20110913	1052	BLANK	ND	ND
SRM D071-542	N/A	20110913	1052	SRM	2030	2.03E-03

QC DATA

SRM ID/Lot No.	REC (%)	Control Limits	Certified Concentration mg/kg	QC Performance Acceptance Limits, mg/kg Lower	Upper
D071-542	93	75-125	2180	1635	2725

ND = Not Detected

PTS Laboratories, Inc.

Lancaster Laboratories
PTS File No: 41604

PARTICLE SIZE SUMMARY

(METHODOLOGY: ASTM D422/D4464M)

PROJECT NAME: N/A
PROJECT NO: 6390652-55

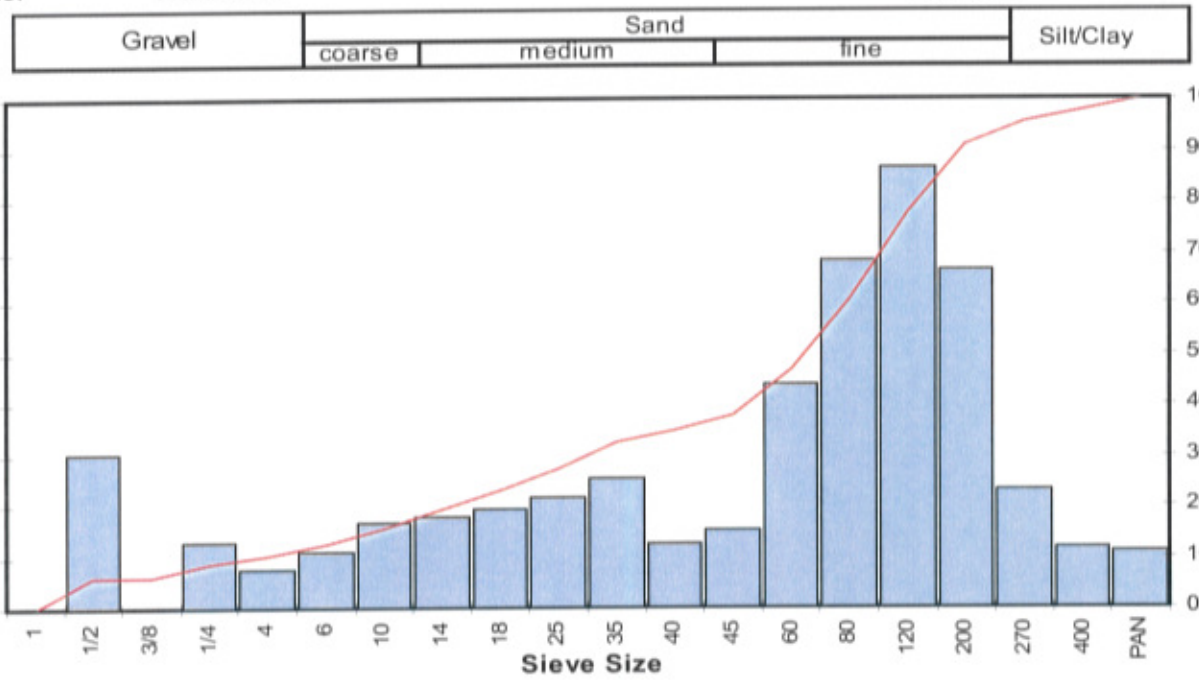
Sample ID	Depth, ft.	Mean Grain Size Description (1)	Median Grain Size mm	Particle Size Distribution, wt. percent						Silt & Clay
				Gravel	Sand Size			Silt	Clay	
					Coarse	Medium	Fine			
6390652	N/A	Medium sand	0.230	10.12	5.46	19.28	56.00	(2)	(2)	9.14
6390653	N/A	Fine sand	0.069	0.00	0.00	5.82	41.35	45.82	7.02	52.83
6390654	N/A	Medium sand	0.819	20.38	13.02	35.52	29.01	(2)	(2)	2.08
6390655	N/A	Fine sand	0.224	0.99	2.85	25.57	55.35	(2)	(2)	15.25

(1) Based on Mean from Trask
(2) Mechanical sieve does not differentiate silt/clay fractions

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D422M

Client:	Lancaster Laboratories	**PTS File No:**	41604
Project:	N/A	**Sample ID:**	6390652
Project No:	6390652-55	**Depth, ft:**	N/A



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	2.28	6.04	6.04
0.3740	9.500	-3.25	3/8	0.00	0.00	6.04
0.2500	6.351	-2.67	1/4	0.96	2.54	8.58
0.1873	4.757	-2.25	4	0.58	1.54	10.12
0.1324	3.364	-1.75	6	0.82	2.17	12.29
0.0787	2.000	-1.00	10	1.24	3.28	15.58
0.0557	1.414	-0.50	14	1.35	3.58	19.15
0.0394	1.000	0.00	18	1.46	3.87	23.02
0.0278	0.707	0.50	25	1.61	4.26	27.28
0.0197	0.500	1.00	35	1.91	5.06	32.34
0.0166	0.420	1.25	40	0.95	2.52	34.86
0.0139	0.354	1.50	45	1.15	3.05	37.91
0.0098	0.250	2.00	60	3.30	8.74	46.65
0.0070	0.177	2.50	80	5.15	13.64	60.29
0.0049	0.125	3.00	120	6.53	17.30	77.59
0.0029	0.074	3.75	200	5.01	13.27	90.86
0.0021	0.053	4.25	270	1.74	4.61	95.47
0.0015	0.037	4.75	400	0.87	2.30	97.77
			PAN	0.84	2.23	100.00
TOTALS				37.75	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-3.49	0.4418	11.222
10	-2.28	0.1915	4.865
16	-0.94	0.0756	1.920
25	0.23	0.0335	0.851
40	1.62	0.0128	0.325
50	2.12	0.0090	0.230
60	2.49	0.0070	0.178
75	2.93	0.0052	0.132
84	3.36	0.0038	0.097
90	3.70	0.0030	0.077
95	4.20	0.0021	0.054

Measure	Trask	Inman	Folk-Ward
Median, phi	2.12	2.12	2.12
Median, in.	0.0090	0.0090	0.0090
Median, mm	0.230	0.230	0.230
Mean, phi	1.02	1.21	1.51
Mean, in.	0.0194	0.0170	0.0138
Mean, mm	0.492	0.432	0.350
Sorting	2.543	2.152	2.240
Skewness	1.458	-0.424	-0.442
Kurtosis	0.075	0.786	1.170

Grain Size Description (ASTM-USCS Scale)	Medium sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	10.12
Coarse Sand	10	5.46
Medium Sand	40	19.28
Fine Sand	200	56.00
Silt/Clay	<200	9.14
	Total	100

Phone: (562) 907-3607

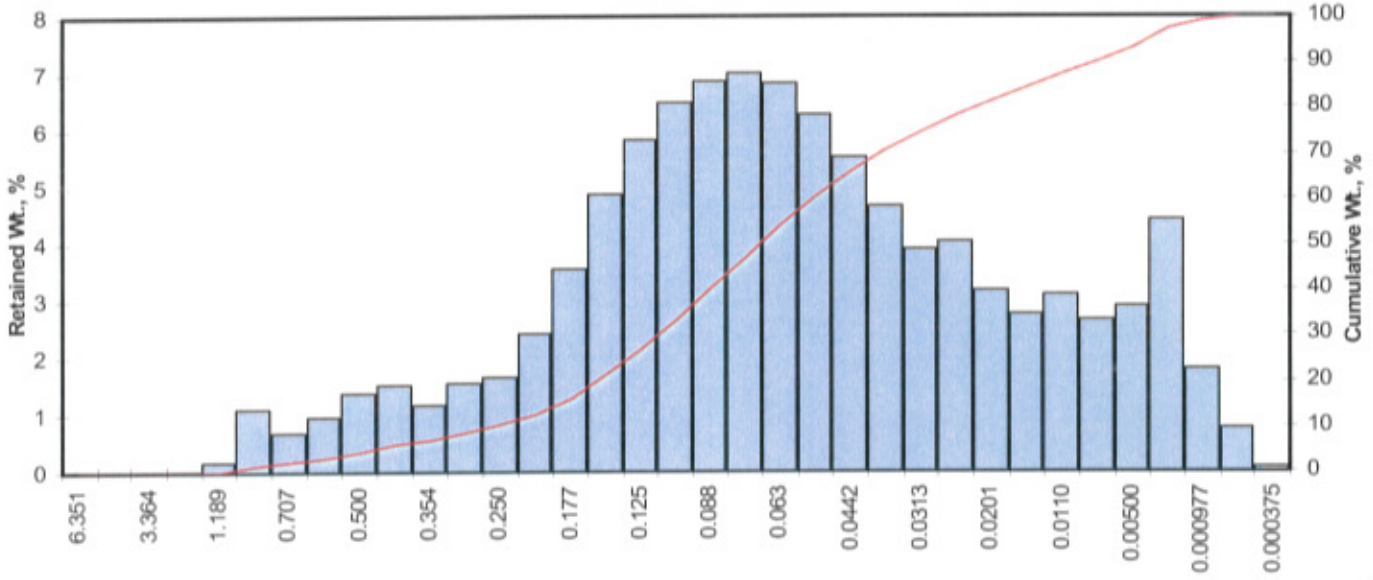
Fax: (562) 907-3610

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D4464M

Client:	Lancaster Laboratories	**PTS File No:**	41604
Project:	N/A	**Sample ID:**	6390653
Project No:	6390652-55	**Depth, ft:**	N/A

Grv	Sand Size			Silt	Clay
	crs	medium	fine		



Particle Size, mm

Opening		Phi of	U.S.	Sample Weight,	Increment Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.00	0.00	0.00
0.1324	3.364	-1.75	6	0.00	0.00	0.00
0.0787	2.000	-1.00	10	0.00	0.00	0.00
0.0468	1.189	-0.25	16	0.16	0.16	0.16
0.0331	0.841	0.25	20	1.10	1.10	1.26
0.0278	0.707	0.50	25	0.68	0.68	1.94
0.0234	0.595	0.75	30	0.96	0.96	2.90
0.0197	0.500	1.00	35	1.39	1.39	4.29
0.0166	0.420	1.25	40	1.53	1.53	5.82
0.0139	0.354	1.50	45	1.18	1.18	7.00
0.0117	0.297	1.75	50	1.56	1.56	8.56
0.0098	0.250	2.00	60	1.64	1.64	10.20
0.0083	0.210	2.25	70	2.40	2.40	12.60
0.0070	0.177	2.50	80	3.54	3.54	16.14
0.0059	0.149	2.75	100	4.85	4.85	20.99
0.0049	0.125	3.00	120	5.84	5.84	26.83
0.0041	0.105	3.25	140	6.47	6.47	33.30
0.0035	0.088	3.50	170	6.86	6.86	40.16
0.0029	0.074	3.75	200	7.01	7.01	47.17
0.0025	0.063	4.00	230	6.83	6.83	54.00
0.0021	0.053	4.25	270	6.29	6.29	60.29
0.00174	0.0442	4.50	325	5.52	5.52	65.81
0.00146	0.0372	4.75	400	4.67	4.67	70.48
0.00123	0.0313	5.00	450	3.90	3.90	74.37
0.000986	0.0250	5.32	500	4.04	4.04	78.41
0.000790	0.0201	5.64	635	3.16	3.16	81.57
0.000615	0.0156	6.00		2.77	2.77	84.34
0.000435	0.0110	6.50		3.09	3.09	87.43
0.000308	0.00781	7.00		2.64	2.64	90.07
0.000197	0.00500	7.65		2.91	2.91	92.98
0.000077	0.00195	9.00		4.40	4.40	97.38
0.000038	0.000977	10.00		1.80	1.80	99.18
0.000019	0.000488	11.00		0.75	0.75	99.93
0.000015	0.000375	11.38		0.07	0.07	100.00
TOTALS				**100.00**	**100.00**	**100.00**

Cumulative Weight Percent greater than			
Weight percent	Phi Value	Particle Size	
		Inches	Millimeters
5	1.12	0.0182	0.461
10	1.97	0.0101	0.255
16	2.49	0.0070	0.178
25	2.92	0.0052	0.132
40	3.49	0.0035	0.089
50	3.85	0.0027	0.069
60	4.24	0.0021	0.053
75	5.05	0.0012	0.030
84	5.96	0.0006	0.016
90	6.99	0.0003	0.008
95	8.27	0.0001	0.003

Measure	Trask	Inman	Folk-Ward
Median, phi	3.85	3.85	3.85
Median, in.	0.0027	0.0027	0.0027
Median, mm	0.069	0.069	0.069
Mean, phi	3.62	4.22	4.10
Mean, in.	0.0032	0.0021	0.0023
Mean, mm	0.081	0.054	0.058
Sorting	2.091	1.733	1.950
Skewness	0.913	0.213	0.224
Kurtosis	0.206	1.063	1.377
Grain Size Description (ASTM-USCS Scale)		Fine sand (based on Mean from Trask)	

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.00
Coarse Sand	10	0.00
Medium Sand	40	5.82
Fine Sand	200	41.35
Silt	>0.005 mm	45.82
Clay	<0.005 mm	7.02
	Total	**100**

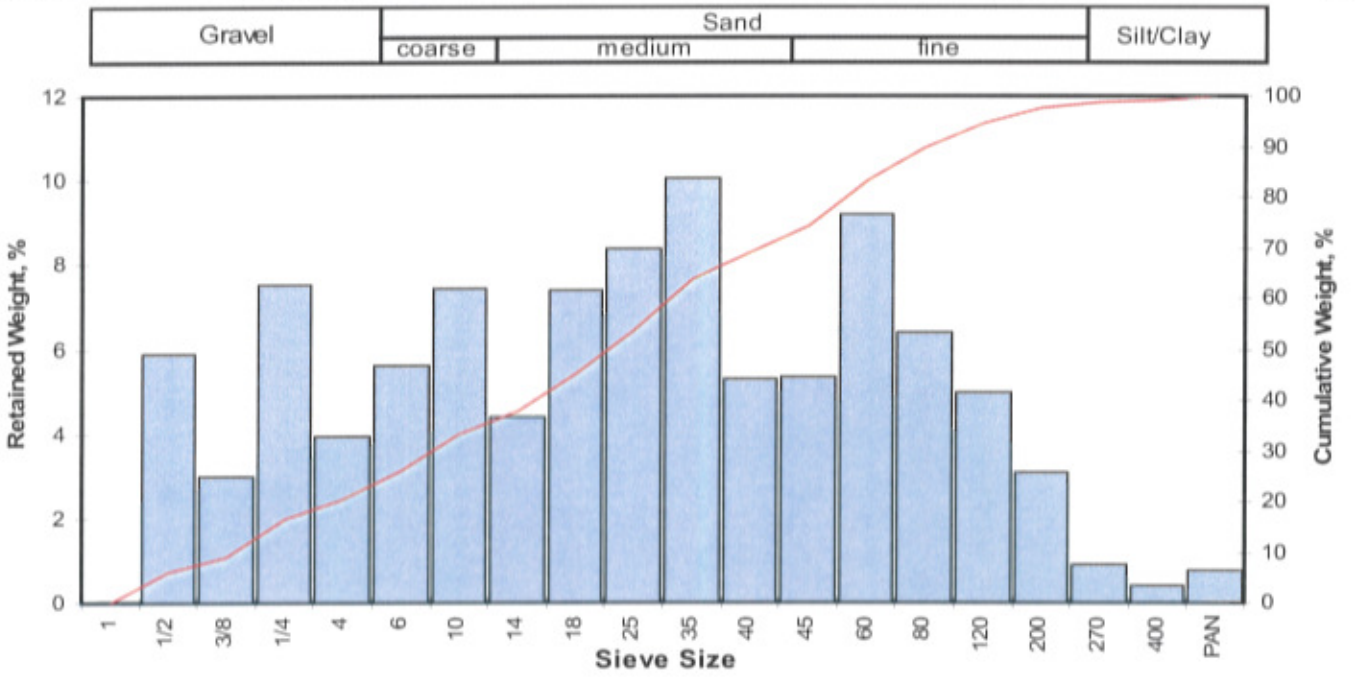
Phone: (562) 907-3607

Fax: (562) 907-3610

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D422M

Client:	Lancaster Laboratories	**PTS File No:**	41604
Project:	N/A	**Sample ID:**	6390654
Project No:	6390652-55	**Depth, ft:**	N/A



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	4.82	5.91	5.91
0.3740	9.500	-3.25	3/8	2.44	2.99	8.90
0.2500	6.351	-2.67	1/4	6.15	7.54	16.44
0.1873	4.757	-2.25	4	3.21	3.94	20.38
0.1324	3.364	-1.75	6	4.57	5.60	25.98
0.0787	2.000	-1.00	10	6.05	7.42	33.39
0.0557	1.414	-0.50	14	3.57	4.38	37.77
0.0394	1.000	0.00	18	6.03	7.39	45.16
0.0278	0.707	0.50	25	6.85	8.40	53.56
0.0197	0.500	1.00	35	8.19	10.04	63.60
0.0166	0.420	1.25	40	4.33	5.31	68.91
0.0139	0.354	1.50	45	4.37	5.36	74.27
0.0098	0.250	2.00	60	7.51	9.21	83.47
0.0070	0.177	2.50	80	5.22	6.40	89.87
0.0049	0.125	3.00	120	4.05	4.97	94.84
0.0029	0.074	3.75	200	2.51	3.08	97.92
0.0021	0.053	4.25	270	0.75	0.92	98.84
0.0015	0.037	4.75	400	0.33	0.40	99.24
			PAN	0.62	0.76	100.00
TOTALS				81.57	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-3.80	0.5476	13.908
10	-3.16	0.3527	8.959
16	-2.70	0.2560	6.502
25	-1.84	0.1407	3.573
40	-0.35	0.0502	1.274
50	0.29	0.0322	0.819
60	0.82	0.0223	0.566
75	1.54	0.0135	0.344
84	2.04	0.0096	0.243
90	2.51	0.0069	0.175
95	3.04	0.0048	0.122

Measure	Trask	Inman	Folk-Ward
Median, phi	0.29	0.29	0.29
Median, in.	0.0322	0.0322	0.0322
Median, mm	0.819	0.819	0.819
Mean, phi	-0.97	-0.33	-0.12
Mean, in.	0.0771	0.0495	0.0429
Mean, mm	1.959	1.257	1.090
Sorting	3.223	2.371	2.221
Skewness	1.353	-0.261	-0.228
Kurtosis	0.184	0.442	0.830

Grain Size Description (ASTM-USCS Scale)	Medium sand (based on Mean from Trask)

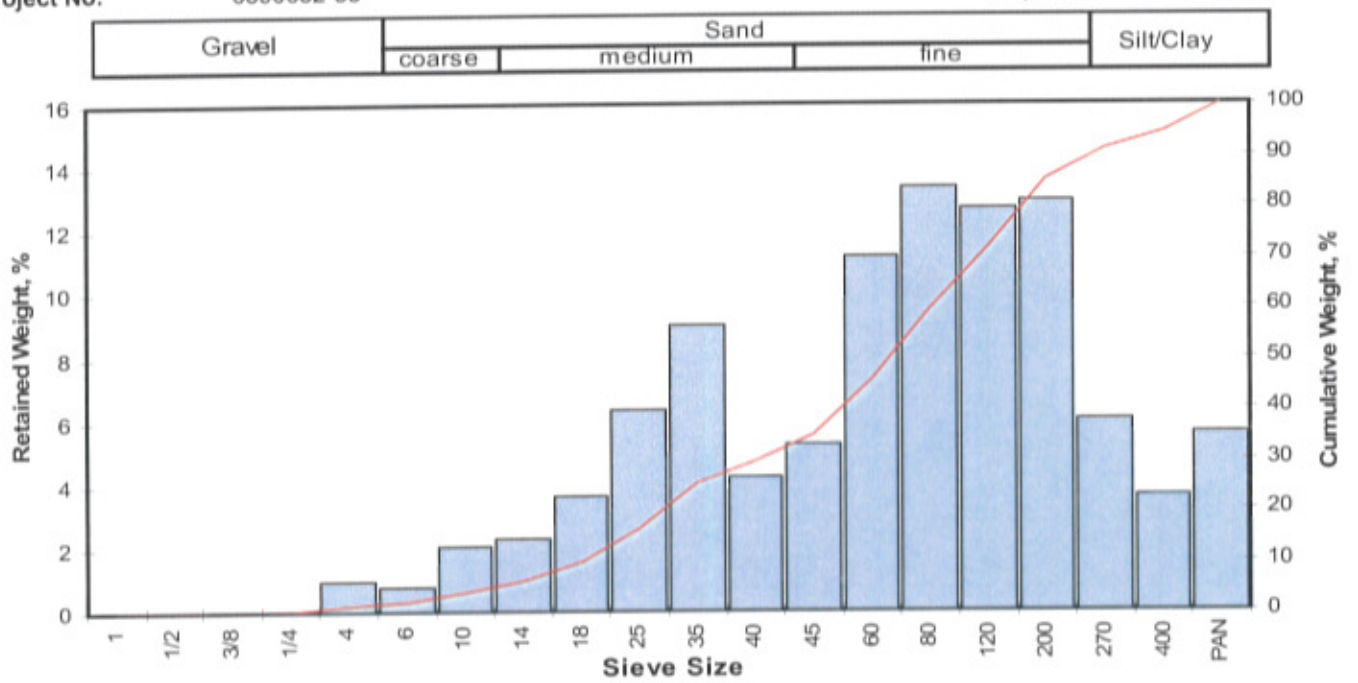
Description	Retained on Sieve #	Weight Percent
Gravel	4	20.38
Coarse Sand	10	13.02
Medium Sand	40	35.52
Fine Sand	200	29.01
Silt/Clay	<200	2.08
	Total	100

Phone: (562) 907-3607
Fax: (562) 907-3610

PTS Laboratories, Inc.

Particle Size Analysis - ASTM D422M

Client:	Lancaster Laboratories	**PTS File No:**	41604
Project:	N/A	**Sample ID:**	6390655
Project No:	6390652-55	**Depth, ft:**	N/A



Opening		Phi of	U.S. Sieve	Sample Weight	Incremental Weight,	Cumulative Weight,
Inches	Millimeters	Screen	No.	grams	percent	percent
0.9844	25.002	-4.64	1	0.00	0.00	0.00
0.4922	12.501	-3.64	1/2	0.00	0.00	0.00
0.3740	9.500	-3.25	3/8	0.00	0.00	0.00
0.2500	6.351	-2.67	1/4	0.00	0.00	0.00
0.1873	4.757	-2.25	4	0.42	0.99	0.99
0.1324	3.364	-1.75	6	0.33	0.78	1.77
0.0787	2.000	-1.00	10	0.88	2.07	3.84
0.0557	1.414	-0.50	14	0.98	2.31	6.15
0.0394	1.000	0.00	18	1.55	3.65	9.80
0.0278	0.707	0.50	25	2.70	6.36	16.16
0.0197	0.500	1.00	35	3.83	9.02	25.19
0.0166	0.420	1.25	40	1.79	4.22	29.41
0.0139	0.354	1.50	45	2.22	5.23	34.64
0.0098	0.250	2.00	60	4.75	11.19	45.83
0.0070	0.177	2.50	80	5.66	13.34	59.17
0.0049	0.125	3.00	120	5.38	12.68	71.84
0.0029	0.074	3.75	200	5.48	12.91	84.75
0.0021	0.053	4.25	270	2.55	6.01	90.76
0.0015	0.037	4.75	400	1.53	3.61	94.37
			PAN	2.39	5.63	100.00
TOTALS				42.44	100.00	100.00

Cumulative Weight Percent greater than			
Weight	Phi	Particle Size	
percent	Value	Inches	Millimeters
5	-0.75	0.0662	1.681
10	0.02	0.0389	0.989
16	0.49	0.0281	0.713
25	0.99	0.0198	0.504
40	1.74	0.0118	0.299
50	2.16	0.0088	0.224
60	2.53	0.0068	0.173
75	3.18	0.0043	0.110
84	3.71	0.0030	0.077
90	4.19	0.0022	0.055
95	4.22	0.0021	0.054

Measure	Trask	Inman	Folk-Ward
Median, phi	2.16	2.16	2.16
Median, in.	0.0088	0.0088	0.0088
Median, mm	0.224	0.224	0.224
Mean, phi	1.70	2.10	2.12
Mean, in.	0.0121	0.0092	0.0091
Mean, mm	0.307	0.234	0.231
Sorting	2.139	1.610	1.557
Skewness	1.050	-0.037	-0.104
Kurtosis	0.211	0.543	0.928

Grain Size Description (ASTM-USCS Scale)	Fine sand (based on Mean from Trask)

Description	Retained on Sieve #	Weight Percent
Gravel	4	0.99
Coarse Sand	10	2.85
Medium Sand	40	25.57
Fine Sand	200	55.35
Silt/Clay	<200	15.25
	Total	100

Phone: (562) 907-3607

Fax: (562) 907-3610

Analysis Request / Environmental Services Subcontracting Form

Lancaster Laboratories

For Lancaster Laboratories Use Only

Acct: _____ Group No.: 1263977 Sample Nos.: 6390652-55

Date: 8/30/2011

JC

~~41603~~
41604

Subcontractor: PTS

LLI P.O.#: _____ Courier: Fed Ex

Submit report to: Kathy Binkley Ext.: _____

Submit invoice to: Kathy Binkley

State where samples were collected: UT

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Other	Total # of Containers	Analyses Requested / Preservation Codes: TOC	Total Solids										Temperature of samples upon receipt (if requested)
Mill Cr Below 700 East-Bed	08/24/11	07:45		X	X			1	X	X										6390652 4oz
Mill Cr Below 700 East-Bank	08/24/11	07:45		X	X			1	X	X										6390653 16oz
City Cr Near Cyn Ent Gate-Bed	08/24/11	15:10		X	X			1	X	X										6390654
City Cr Near Cyn Ent Gate-Bank	08/24/11	15:10		X	X			1	X	X										6390655

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

COMMENTS: Report in mg/kg

Turnaround Time Requested (TAT): (Standard) Rush

Date Results are Needed:

Email Results to: kbinkley@lancasterlabs.com

Relinquished by:	Date	Time	Received by:	Date	Time
Kathy Binkley	8-30-11	1600		9/1/11	1714

Data Package Options (circled when required)
Type I (validation/NJ Reg) Type VI(Raw Data)
Type II (Tier II) Type III (Reduced NJ)
Type IV (CLP SOW) TX TRRP-13

SDG Complete? Yes No

MA MCP
CT RCP

Site-specific QC Required (MS/MSD/DUP)? Yes No
Internal Chain of Custody Required? Yes No

Lancaster Laboratories, Inc. 2425 New Holland Pike Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the samplers.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.