

Incident ID	nAB1819156522
District RP	2RP-4848
Facility ID	fAB1807457621
Application ID	NA

May 13, 2019

Mike Bratcher & Robert Hamlet New Mexico Energy, Minerals and Natural Resources Department Oil Conservation Division, District 2 811 S. First Street Artesia, NM 88210

Ryan Mann Hobbs Field Office New Mexico State Land Office 2827 North Dal Paso Street, Suite 117 Hobbs, NM 88240

Re: Site Assessment Report and Deferral Request Site Name: Avalon Compressor Station GPS: Latitude: 32.02618 Longitude: -104.11717 Legals: UL "K", Sec. 20, T26S, R28E EddyCounty, New Mexico NMOCD Ref. No. 2RP-4848

Lowry Environmental & Associates, LLC (LEA), on behalf of ETC Texas Pipeline, Ltd., has prepared this Site Assessment Report and Deferral Request for the Release Site known as the Avalon Compressor Station. Details of the release are summarized on the table below:

Nature and Volume of Release							
Date Release Discovered	7/5/2018	Source of Release	Compressor Station				
		Volumo Boloacod	5.0 bbls (Condensate)				
Type of Release	Condensate and Produced Water	volume keleased	2.0 bbls (Produced Water)				
		Volume Recovered	None				
The release was attributed Affected Area The release affected an are	to a tank equalizing valve being left closes and the truck loading ramp measuring a	ed, resulting in the tank bein	g over run. est of the above ground storage tanks.				
Was this a major release? If YES, for what reasons (s) is this considered a major release?							
No	No N/A						
If Yes, was immediate notice given to the OCD? By whom? To whom? When and by what means? N/A							

A copy of the Release Notification (NMOCD Form C-141) is provided as Attachment #8.

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Site Assessment/Characterization				
What is the shallowest depth to groundwater beneath the area affected by the release?	<50 Ft.			
Did this release impact groundwater or surface water?	No			
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	No			
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	No			
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	No			
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	No			
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	No			
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	No			
Are the lateral extents of the release within 300 feet of a wetland?	No			
Are the lateral extents of the release overlying a subsurface mine?	No			
Are the lateral extents of the release overlying an unstable area such as karst geology?	Yes			
Are the lateral extents of the release within a 100-year floodplain?	No			
Did the release impact areas not on an exploration, development, production or storage site?	No			

A search of groundwater databases maintained by the New Mexico Office of the State Engineer (NMOSE) and United States Geological Survey was conducted in an effort to determine the average depth to groundwater within a 1 Mile radius of the Site and identify any registered water wells within a 1/2 Mile radius of the Site. A search of NMOSE and USGS databases indicated no water wells were located within a 1-Mile radius of the Site. Wells with available information are located within low lying draws and are likely not representative of groundwater conditions of at the Site, which sits atop a hill.

Based on the volume and nature of the release, inferred depth to groundwater and NMOCD Siting Criteria, the NMOCD Closure Criteria for the Site is as follows:

Closure Criteria for Soil Impacted by a Release						
Benzene	10 mg/kg					
Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX)	50 mg/kg					
Total Petroleum Hydrocarbons	100 mg/kg					
Chloride	600 mg/kg					

NMOCD Siting Criteria data was gathered from available resources including Bureau of Land Management (BLM) shapefiles; topographic maps; NMOSE and USGS databases; and aerial imagery. The results are depicted on Figures 1 & 2. Depth to groundwater information is provided as Attachment #4. A Photographic Log is provided as Attachment #7.

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INITIAL SITE ASSESSMENT

On **July 6, 2018**, an environmental contractor conducted an initial investigation in an effort to characterize soil impacts at the Site. During the initial site assessment, six (6) soil samples (V1 6", V2 6", V3 6", V4 6", H! 4" and H2 4") were collected and submitted to an NMOCD-approved laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX concentrations ranged from <0.3 mg/kg in soil sample V4 6" to 202 mg/kg in soil sample V2 6". Analytical results indicated TPH concentrations ranged from 2,170 mg/kg in soil sample V3 6" to 19.370 mg/kg in soil sample V2 6". Chloride concentrations ranged from 96 mg/kg in soil sample V4 6" to 24,000 mg/kg in soil sample H2 4".

On **July 12, 2019**, the Site was revisited in an effort to further characterize affected soil. During the site visit, a series of test trenches were advanced in an effort to determine the vertical and horizontal extent of soil impacts. During the advancement of the test trenches, soil samples were collected and field screened for concentrations of TPH and chloride. Nine (9) soil samples (TP-1-2, TP-1-4, TP-2-2, TP-2-8, TP-3-4, TP-4-2, TP-4-4, TP-5-2, TP-5-4, and TP-7-12) were submitted to the laboratory for analysis of BTEX, TPH and/or chloride concentrations. Laboratory analytical results indicated BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil sample TP-2-8, which exhibited a TPH concentration of 589 mg/kg.

On **August 20, 2019,** the Site was revisited in an effort to further characterize impacted soil in the area characterized by soil sample TP-2-8. During the site visit, a test trench (TP-7) was advanced in the area characterized by soil sample TP-2-8. One (1) soil sample (TP-7-12) was collected and submitted to the laboratory for analysis of TPH and chloride. Laboratory analytical results indicated soil sample TP-7-12 exhibited a TPH concentration of <62.6 mg/kg and a chloride concentration of 50.0 mg/kg.

Please reference the Site Assessment Report dated November 12, 2018, for additional details regarding the Avalon Compressor 2RP-4848.

A table summarizing laboratory analytical results from soil samples collected during the initial site assessment is provided on the following page:

Incident ID	nAB1819156522			
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Concentrations of BTEX, TPH and/or Chloride in Soil - Initial Assessment(s)											
				SW 846 8021B			E300/4500Cl				
Sample ID	Date	Depth	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
V1 6"	7/6/18	6"	Excavated	0.635	60.5	905	2,400	3,305	1,230	4,535	5,840
V2 6"	7/6/18	6"	Excavated	3.4	202	4450	9,980	14,430	4,940	19,370	19,200
V3 6"	7/6/18	6"	Excavated	0.369	19.9	337	1,170	1,507	663	2,170	8,000
V4 6"	7/6/18	6"	Excavated	<0.050	<0.3	32.3	4,440	4,472.3	887	5,359.3	96
H1 4"	7/6/18	4"	Excavated	<0.050	5.85	160	2,120	2,280	1,230	3,510	992
H2 4"	7/6/18	4"	Excavated	<2.0	164	4,000	9,700	13,700	5,050	18,750	24,000
TP-1-2	7/12/48	2'	Excavated	<0.025	<0.244	<5.0	<10.0	<16.0	<51.0	<66.0	42
TP-1-4	7/12/48	4'	Excavated	<0.024	<0.215	<4.8	<10.0	<14.8	<50.0	<64.8	34.0
TP-2-2	7/12/48	2'	Excavated	<0.023	<0.207	<4.6	<10.0	<14.6	<50.0	<64.6	300
TP-2-8	7/12/48	8'	Excavated	<0.024	<0.213	69	290	359	230	589	230
TP-3-4	7/12/48	4'	In-Situ	-	-	-	-	-	-	-	70.0
TP-4-2	7/12/48	2'	In-Situ	-	-	-	-	-	-	-	85.0
TP-4-4	7/12/48	4'	In-Situ	-	-	-	-	-	-	-	45.0
TP-5-2	7/12/48	2'	In-Situ	-	-	-	-	-	-	-	350
TP-5-4	7/12/48	4'	In-Situ	-	-	-	-	-	-	-	370
TP-7-12	8/20/18	12'	In-Situ	-	-	<3.9	<9.7	<13.6	<49	<62.6	50.0
	Closure C	riteria		10	50	-	-	-	-	100	600

A "Site & Sample Location Map" is provided as Attachment #3. Field Data, if applicable, is provided as Attachment #9. Soil profile observations are provided on Attachment #5. Laboratory analytical reports are provided as Attachment #6.

PROPOSED REMEDIATION PLAN

On November 12, 2018, a Site Assessment Report and Remediation Work Plan was submitted to the NMOCD and NMSLO detailing the results of the initial site assessment and proposing remediation activities designed to advance the site toward and NMOCD and NMSLO-approved closure.

NMOCD APPROVALS/STIPULATIONS

The Site Assessment Report and Proposed Remediation Plan was subsequently approved. Please reference the associated Site Assessment Report and Proposed Remediation Plan that has been prepared for 2RP-4848 for additional details.

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REMEDIATION ACTIVITIES SUMMARY

On **April 17, 2019**, excavation activities commenced at the Site. During the initial excavation phase, the affected area was excavated to a depth of approximately 2 Ft. bgs to allow for continued and safe access to the loading zone. Sidewalls of the shallow excavation were advanced until field observations and field test results suggested BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria. Excavated soil was transported to an NMOCD-approved disposal facility.

On **April 22, 2019**, upon transporting a sufficient amount of locally sourced, non-impacted caliche to the site to immediately backfill the excavation within the truck loading zone, excavation activities resumed at the Site. Impacted soil within the truck loading zone adjacent to the load lines was excavated and transported to an NMOCD-approved disposal facility. The floor and sidewalls of the excavated area were advanced until field observations and field test results suggested BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria, a depth of approximately 9.5 Ft. bgs. Upon excavating impacted soil from within the affected area, **four (4)** excavation confirmation soil samples (SEF NSW, SEF SSW, SEF WSW and SE Floor @ 9.5') were collected from the floor and sidewalls of the deep excavation adjacent to and beneath the load lines within the truck loading zone. In addition, **one (1)** representative grab sample (EW Stain In-Situ) was collected a stain present on the east sidewall. Upon collecting and field screening the necessary soil samples, the deep excavation adjacent to and beneath the load lines was backfilled with locally sourced, non-impacted material, in an effort to mitigate safety concerns and allow transport trucks to continue to access the truck loading zone.

Upon backfilling the deep excavation beneath and adjacent to the load lines within the truck loading zone, **nine (9)** excavation confirmation soil samples (NE Floor @ 2', NC Floor @ 2', NW Floor @ 2', SC Floor @ 3', SW Floor @ 2', W. Floor @ 1', NSW, SSW and WSW) were collected from the shallow excavation. In addition, **one (1)** soil sample (ESW In-Situ) was collected from soil present in the east sidewall adjacent to the above ground storage tanks in an effort to characterize impacted soil remaining in-situ.

Upon backfilling the deep excavation beneath and adjacent to the load lines within the truck loading zone, **nine (9)** excavation confirmation soil samples (NE Floor @ 2', NC Floor @ 2', NW Floor @ 2', SC Floor @ 3', SW Floor @ 2', W. Floor @ 1', NSW, SSW and WSW) were collected from the shallow excavation. In addition, **one (1)** soil sample (ESW In-Situ) was collected from soil present in the east sidewall adjacent to the above ground storage tanks in an effort to characterize impacted soil remaining in-situ.

The collected soil samples were submitted to an NMOCD-approved laboratory for analysis of BTEX, TPH and chloride concentrations. Laboratory analytical results indicated BTEX and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples. TPH concentrations ranged from less than the applicable laboratory sample detection limit in soil samples NE Floor @ 2', SW Floor @ 2', W. Floor @ 1' and WSW to 2,6p;/66 mg/kg in soil sample EW Stain In-Situ. TPH concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples, with the exception of soil samples SEF NSW, SEF SSW, SEF WSW, ESW In-Situ and EW Stain In-Situ.

A table summarizing laboratory analytical results from confirmation soil samples is provided on the following page:

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Concentrations of BTEX, TPH and/or Chloride in Soil - Initial Investigation											
				SW 846 8021B		SW 846 8015M Ext.					4500 C
Sample ID) Date	Depth	Soil Status	Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₆ (mg/kg)	TPH C ₆ -C ₃₆ (mg/kg)	Chloride (mg/kg)
SEF NSW	4/22/19	NA	In-Situ	<0.050	<0.300	<10.0	196	196	88.4	284.4	336
SEF SSW	4/22/19	NA	In-Situ	<0.025	<0.150	19.6	114	134	29.6	163.2	112
SEF WSW	4/22/19	NA	In-Situ	<0.025	0.213	19.3	137	156.3	56.7	213.0	208
SE Floor @ 9.5'	4/22/19	9.5'	In-Situ	<0.050	<0.300	<10.0	18.9	18.9	<10.0	18.9	288
NE Floor @ 2'	4/22/19	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
NC Floor @ 2'	4/22/19	2'	In-Situ	<0.050	<0.300	<10.0	67.5	67.5	19.0	86.5	416
NW Floor @ 2'	4/22/19	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
SC Floor @ 3'	4/22/19	3'	In-Situ	<0.050	<0.300	<10.0	149	149	70.2	219	352
SW Floor @ 2'	4/22/19	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
W Floor @ 1'	4/22/19	1'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
NSW	4/22/19	NA	In-Situ	0.095	1.02	<10.0	24.2	24.2	11.6	35.8	512
SSW	4/22/19	NA	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	16.3	16.3	208
WSW	4/22/19	NA	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
ESW In-Situ	4/22/19	NA	In-Situ	<0.100	16.5	734	1,180.0	1,914	281	2,195	288
EW Stain In-Situ	4/22/19	4'	In-Situ	<0.025	4.88	908	1,390	2,298	368	2,666	96.0
	Closure C	riteria		10	50	-	-	-	-	100	600

A "Site & Sample Location Map" is provided as Attachment #3. Field Data, if applicable, is provided as Attachment #5. Soil profile observations are provided on Attachment #6. Laboratory analytical reports are provided as Attachment #7.

DEFERRAL REQUEST

Approximately 168 cubic yards of impacted soil was excavated and transported to and NMOCD-approved disposal facility. Impacted soil affected above the NMOCD Closure Criteria remaining In-Situ is limited to an active oil and gas facility, affecting imported fill material utilized to construct the compressor station and associated truck loading zone. Laboratory analytical results from confirmation soil samples indicate BTEX, TPH and chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil samples SEF NSW, SEF SSW, SEF WSW, SC Floor @ 3', ESW In-Situ and EW Stain In-Situ, which exhibited TPH concentrations of 284.4 mg/kg, 163.2 mg/kg, 213.0 mg/kg, 219 mg/kg, 2,195 mg/kg and 2,666 mg/kg, respectively.

ETC maintains excavating impacted soil affected above the NMOCD Closure Criteria remaining in-situ would require a major facility deconstruction and/or poses a risk to human health and safety. ETC request NMOCD and NMSLO permission to defer remediation of impacted soil affected the NMOCD Closure Criteria in the areas characterized by soil samples SEF NSW, SEF SSW, SEF WSW, SC Floor @ 3', ESW In-Situ and EW Stain In-Situ until the facility is no longer in use.

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RESTORATION, RECLAMATION AND RE-VEGETATION PLAN

The release was limited to an active oil and gas facility. Restoration, reclamation and re-vegetation will be conducted in accordance with NMAC 19.15.29.13 once the facility is no longer needed for production operations. Once the facility is no longer in use, restoration, reclamation and re-vegetation will include, but is not limited to the following:

- Removal, sampling and proper disposistion of imported fill material.
- Excavation and removal of native soil affected above the NMOCD Closure Criteria.
- Backfill with non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg. Excavation backfill will include a top layer, which is either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.
- Upon reclaiming the facility, the Site will be reseeded in accordance with NMSLO during the first favorable growing season.

• Areas affected by restoration and reclamation activities will be monitored until a life-form ratio of plus or minimum fifty percent of pre-disturbance levels and a total percent plant cover of at least seventy percent of pre-disturbance levels, excluding noxious weeds.

If you have any questions, or need any additional information, please feel free to contact Dean Ericson or the undersigned by phone or email.

Respectfully,

Joel W. Lowry Environmental Professional Lowry Environmental & Associates, LLC

Attachments:	Attachment #1-	Figure 1 - Topographic Map
	Attachment #2-	Figure 2 - Aerial Map
	Attachment #3-	Figure 3 - Site & Sample Location Map
	Attachment #4-	Depth to Groundwater Information
	Attachment #5	Field Data
	Attachment #6-	Soil Profile
	Attachment #7-	Laboratory Analytical Reports
	Attachment #8-	Photographic Log
	Attachment #9-	Pages From Release Notification (FORM C-141)

LIMITATIONS

This document has been prepared on behalf of ETC Texas Pipeline, Ltd.. Use of information contained in this report, including exhibits and attachments, by any other party without the consent of LEA and/or ETC Texas Pipeline, Ltd. is prohibited.

This document has been prepared in a professional manner, using the degree of skill and care exercised by similar environmental professionals. LEA notes that the facts and conditions referenced in this document may change over time and that the conclusions and recommendations are only applicable to the facts and conditions as described at the time this

LEA has prepared this report to the best of its ability. No other warranty, expressed or implied, is made or intended.

Figure 1 - Topographic Map



Figure 2 - Aerial Map



Figure 3 - Site & Sample Location Map



Depth to Groundwater Information





New Mexico Office of the State Engineer Water Column/Average Depth to Water

(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) (NAD83 UTM in meters)

No records found.

UTMNAD83 Radius Search (in meters):

Easting (X): 583327.1

Northing (Y): 3543633.7

Radius: 1608

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability for any particular purpose of the data.

4/24/19 7:20 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER



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USGS Water Resources

Data Category: Groundwater Geographic Area: GO

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site_no list =

• 320134104094801

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 320134104094801 26S.27E.23.321431

Eddy County, New Mexico Latitude 32°01'34", Longitude 104°09'48" NAD27 Land-surface elevation 3,065 feet above NGVD29 This well is completed in the Bell Canyon Formation (313BLCN) local aquifer.

Output formats

Table of data

Tab-separated data

<u>Graph of data</u>

Reselect period

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1992-11-04		D	19.65			2		S		
1998-01-13		D	25.62			2		S		
2003-01-29		D	27.55			2		S	USGS	

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Measuring agency		Not determined
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	А	Reported by another government agency (do not use "A" if reported by owner, use "O").
Source of measurement	U	Source is unknown.
Water-level approval status	А	Approved for publication Processing and review completed.

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Search Results -- 1 sites found

Agency code = usgs

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• 320230104060601

Minimum number of levels = 1

Save file of selected sites to local disk for future upload

USGS 320230104060601 26S.28E.18.33111

Eddy County, New Mexico Latitude 32°02'30", Longitude 104°06'06" NAD27 Land-surface elevation 3,070 feet above NAVD88 This well is completed in the Castile Gypsum (312CSTL) local aquifer.

Output formats

Table of data

Tab-separated data

<u>Graph of data</u>

Reselect period

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurem
1981-05-01		D	17.52			2		U		
1983-01-25		D	16.25			2		U		
1987-10-13		D	15.13			2		U		
1992-11-03		D	17.63			2		S		
1998-01-22		D	16.35			2		S		

Explanation						
Section	Code	Description				
Water-level date-time accuracy	D	Date is accurate to the Day				
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot				
Status		The reported water-level measurement represents a static level				
Method of measurement	S	Steel-tape measurement.				
Method of measurement	U	Unknown method.				
Measuring agency		Not determined				
Source of measurement	U	Source is unknown.				
Water-level approval status	А	Approved for publication Processing and review completed.				

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Search Results -- 1 sites found

Agency code = usgs

Minimum number of levels = 1 Save file of selected sites to local disk for future upload

USGS 320145104041701 26S.28E.22.234431

Eddy County, New Mexico Latitude 32°01'45", Longitude 104°04'17" NAD27 Land-surface elevation 2,980 feet above NGVD29 The depth of the well is 23.00 feet below land surface. This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

<u>Table of data</u> Tab-separated data

Graph of data

Reselect period

Date	Time	? Water- level date- time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water- level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measureme
1987-12-12	2	D	21.02			2		S		
1998-01-22	2	D	22.35			2		S		

Explanation						
Section	Code	Description				
Water-level date-time accuracy	D	Date is accurate to the Day				
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot				
Status		The reported water-level measurement represents a static level				
Method of measurement	S	Steel-tape measurement.				
Measuring agency		Not determined				
Source of measurement	U	Source is unknown.				
Water-level approval status	Α	Approved for publication Processing and review completed.				

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Page Contact Information: USGS Water Data Support Team Page Last Modified: 2019-04-24 09:30:17 EDT 0.46 0.43 nadww01

USA.gov

ATTACHMENT #5 Soil Profile

Site Name: Avalone Comp. 4848

Date: 4/22/2019

Description		Depth (ft. bgs)
Imported Caliche		1
for Junic Ramp [Confressor		2
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ATTACHMENT #6 Laboratory Analytical Reports



July 10, 2018

DEAN ERICSON ENERGY TRANSFER

P. O. BOX 1226

JAL, NM 88252

RE: AVALON CS

Enclosed are the results of analyses for samples received by the laboratory on 07/09/18 11:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



/2018
k Intact
lenson
5 8 H

Sample ID: V1 6" (H801843-01)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.635	0.500	07/10/2018	ND	2.04	102	2.00	2.42	
Toluene*	8.67	0.500	07/10/2018	ND	2.02	101	2.00	2.40	
Ethylbenzene*	5.36	0.500	07/10/2018	ND	1.99	99.4	2.00	2.31	
Total Xylenes*	45.8	1.50	07/10/2018	ND	6.15	102	6.00	2.33	
Total BTEX	60.5	3.00	07/10/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	Surrogate: 4-Bromofluorobenzene (PID 120 %		2						
Chloride, SM4500Cl-B	mg,	/kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5840	16.0	07/09/2018	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	905	10.0	07/10/2018	ND	222	111	200	1.96	
DRO >C10-C28*	2400	10.0	07/10/2018	ND	226	113	200	2.03	
EXT DRO >C28-C36	1230	10.0	07/10/2018	ND					
Surrogate: 1-Chlorooctane	152	% 41-142							
Surrogate: 1-Chlorooctadecane	133	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENERGY TRANSFER DEAN ERICSON P. O. BOX 1226 JAL NM, 88252 Fax To:		
Received:	07/09/2018		Sampling Date:	07/06/2018
Reported:	07/10/2018		Sampling Type:	Soil
Project Name:	AVALON CS		Sampling Condition:	Cool & Intact
Project Number:	32.026153		Sample Received By:	Jodi Henson
Project Location:	AVALON CS			

Sample ID: V2 6" (H801843-02)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	3.40	2.00	07/10/2018	ND	2.04	102	2.00	2.42	
Toluene*	31.6	2.00	07/10/2018	ND	2.02	101	2.00	2.40	
Ethylbenzene*	17.8	2.00	07/10/2018	ND	1.99	99.4	2.00	2.31	
Total Xylenes*	149	6.00	07/10/2018	ND	6.15	102	6.00	2.33	
Total BTEX	202	12.0	07/10/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	116 9	% 69.8-14	2						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	19200	16.0	07/09/2018	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	4450	50.0	07/10/2018	ND	222	111	200	1.96	
DRO >C10-C28*	9980	50.0	07/10/2018	ND	226	113	200	2.03	
EXT DRO >C28-C36	4940	50.0	07/10/2018	ND					
Surrogate: 1-Chlorooctane	164	% 41-142	?						
Surrogate: 1-Chlorooctadecane	270	% 37.6-14	7						

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*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENERGY TRANSFER DEAN ERICSON P. O. BOX 1226 JAL NM, 88252 Fax To:		
Received:	07/09/2018		Sampling Date:	07/06/2018
Reported:	07/10/2018		Sampling Type:	Soil
Project Name:	AVALON CS		Sampling Condition:	Cool & Intact
Project Number:	32.026153		Sample Received By:	Jodi Henson
Project Location:	AVALON CS			

Sample ID: V3 6" (H801843-03)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.369	0.200	07/10/2018	ND	2.04	102	2.00	2.42	
Toluene*	3.50	0.200	07/10/2018	ND	2.02	101	2.00	2.40	
Ethylbenzene*	1.72	0.200	07/10/2018	ND	1.99	99.4	2.00	2.31	
Total Xylenes*	14.3	0.600	07/10/2018	ND	6.15	102	6.00	2.33	
Total BTEX	19.9	1.20	07/10/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	118	% 69.8-14	2						
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8000	16.0	07/09/2018	ND	416	104	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	337	10.0	07/10/2018	ND	222	111	200	1.96	
DRO >C10-C28*	1170	10.0	07/10/2018	ND	226	113	200	2.03	
EXT DRO >C28-C36	663	10.0	07/10/2018	ND					
Surrogate: 1-Chlorooctane	130	% 41-142	?						
Surrogate: 1-Chlorooctadecane	118	% 37.6-14	7						

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENERGY TRANSFER DEAN ERICSON P. O. BOX 1226 JAL NM, 88252 Fax To:		
Received:	07/09/2018		Sampling Date:	07/06/2018
Reported:	07/10/2018		Sampling Type:	Soil
Project Name:	AVALON CS		Sampling Condition:	Cool & Intact
Project Number:	32.026153		Sample Received By:	Jodi Henson
Project Location:	AVALON CS			

Sample ID: V4 6" (H801843-04)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/10/2018	ND	2.04	102	2.00	2.42	
Toluene*	<0.050	0.050	07/10/2018	ND	2.02	101	2.00	2.40	
Ethylbenzene*	<0.050	0.050	07/10/2018	ND	1.99	99.4	2.00	2.31	
Total Xylenes*	<0.150	0.150	07/10/2018	ND	6.15	102	6.00	2.33	
Total BTEX	<0.300	0.300	07/10/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	141 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	07/09/2018	ND	416	104	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	32.3	10.0	07/10/2018	ND	222	111	200	1.96	
DRO >C10-C28*	4440	10.0	07/10/2018	ND	226	113	200	2.03	
EXT DRO >C28-C36	887	10.0	07/10/2018	ND					
Surrogate: 1-Chlorooctane	96.9	% 41-142	?						
Surrogate: 1-Chlorooctadecane	205 9	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENERGY TRANSFER DEAN ERICSON P. O. BOX 1226 JAL NM, 88252 Fax To:		
Received:	07/09/2018		Sampling Date:	07/06/2018
Reported:	07/10/2018		Sampling Type:	Soil
Project Name:	AVALON CS		Sampling Condition:	Cool & Intact
Project Number:	32.026153		Sample Received By:	Jodi Henson
Project Location:	AVALON CS			

Sample ID: H1 4" (H801843-05)

BTEX 8021B	mg/	kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/10/2018	ND	2.04	102	2.00	2.42	
Toluene*	0.245	0.050	07/10/2018	ND	2.02	101	2.00	2.40	
Ethylbenzene*	0.535	0.050	07/10/2018	ND	1.99	99.4	2.00	2.31	
Total Xylenes*	5.07	0.150	07/10/2018	ND	6.15	102	6.00	2.33	
Total BTEX	5.85	0.300	07/10/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	153 %	69.8-14	2						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	07/09/2018	ND	416	104	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	160	10.0	07/10/2018	ND	222	111	200	1.96	
DRO >C10-C28*	2120	10.0	07/10/2018	ND	226	113	200	2.03	
EXT DRO >C28-C36	1230	10.0	07/10/2018	ND					
Surrogate: 1-Chlorooctane	122 %	% 41-142	?						
Surrogate: 1-Chlorooctadecane	144 %	37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		ENERGY TRANSFER DEAN ERICSON P. O. BOX 1226 JAL NM, 88252 Fax To:		
Received:	07/09/2018		Sampling Date:	07/06/2018
Reported:	07/10/2018		Sampling Type:	Soil
Project Name:	AVALON CS		Sampling Condition:	Cool & Intact
Project Number:	32.026153		Sample Received By:	Jodi Henson
Project Location:	AVALON CS			

Sample ID: H2 4" (H801843-06)

BTEX 8021B	mg	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<2.00	2.00	07/10/2018	ND	2.04	102	2.00	2.42	
Toluene*	26.7	2.00	07/10/2018	ND	2.02	101	2.00	2.40	
Ethylbenzene*	14.5	2.00	07/10/2018	ND	1.99	99.4	2.00	2.31	
Total Xylenes*	123	6.00	07/10/2018	ND	6.15	102	6.00	2.33	
Total BTEX	164	12.0	07/10/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 69.8-14	2						
Chloride, SM4500CI-B	mg,	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	24000	16.0	07/09/2018	ND	416	104	400	0.00	
TPH 8015M	mg,	′kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	4000	50.0	07/10/2018	ND	222	111	200	1.96	
DRO >C10-C28*	9770	50.0	07/10/2018	ND	226	113	200	2.03	
EXT DRO >C28-C36	5050	50.0	07/10/2018	ND					
Surrogate: 1-Chlorooctane	157	% 41-142	?						
Surrogate: 1-Chlorooctadecane	257	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500CI-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name:	EIC						
Project Manager:	Deaw Ericson		9.0. #:		ANALYSIS	REQUEST	1
Address:			Company:				
City:	State:	Zip:	Attn:				
Phone #:	Fax #:	P	Address:				
Project #:	Project Owner:		Xity:				
Project Name:	Funlaw Compressor St	s still	itate: Zip:				
Project Location:	32.026153	9	hone #:				
Sampler Name:	THUR R. Roma	-	AV 井				
FOR LAB LISE ONLY	The most	I ATDIV	dX #.			_	
		R MATRIX	PRESERV. SAMPLIN	G			
Lab I.D. HSOISH3	Sample I.D.	G)RAB OR (C)O # CONTAINERS GROUNDWATER WASTEWATER SOIL DIL SLUDGE	ACID/BASE: CE / COOL DTHER :	TPHEXt BTer			
1 11			7/2/14	1143Am []]			
19							
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L N	Ч. Ч						
0	2 Y"						
LEASE NOTE: Liability and Dam	ness. Cardinal's liability and client's exclusive remody for any						
inaryses. All claims including those ervice. In no event shall Cardinal I fiftiates or successors arising out o	tor negligence and any other cause whatsoever shall be dee be liable for incidental or consequental damages, including wi to related to the performance of services hereunder by Carc	emed waived unless made in writing and rec lithout limitation, business interruptions, loss - final, regardless of whether such claim is ba	eived by Cardinal within 30 days after co of use, or loss of profits incurred by clien sed upon any of the above stated reaso	completion of the applicable int, its subsidiaries, ans or otherwise.			
Relinquished By:	Tithe: []: 25 Arr	Jodi Hu	Magy -	Phone Result: Question: Phone Result: Phone Resu	No Add'l Phone #: No Add'l Fax #:		
Dolivorod Bu: (Ci	Time# 15	ground by.		Rish			
Sampler - UPS - Bi	ICIE UTIE)	Sample Condition Cool Intact	CHECKED BY:	N.M.			
		VC NO NO	YV.				



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

July 23, 2018

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672 FAX

OrderNo.: 1807773

RE: Avalon Booster

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 10 sample(s) on 7/14/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109
Lab Order: 1807773

Date Reported: 7/23/2018

			¥ *					-	
CLIENT:		GHD				L	ab C)rder: 18077	73
Project:		Avalon Booster							
Lab ID:		1807773-001		С	ollecti	on Date:	: 7/1	2/2018 9:48:00 A	М
Client Sam	ple ID	S -11135250-14-0	071218-MG-TP-1-2	-		Matrix	SC	DIL	
Analyses	•		Result	PQL	Qual	Units	DF	Date Analyzed	Batch II
EPA METH	IOD 3	00.0: ANIONS						Ana	alvst: SRM
Chloride			42	30		mg/Kg	20	7/19/2018 4:19:57	PM 39295
EPA METH	IOD 8	015M/D: DIESEL RA	NGE ORGANICS			0 0		Ana	alvst: Irm
Diesel Rar	nge Or	ganics (DRO)	ND	10		mg/Kg	1	7/17/2018 11:45:10	AM 39231
Motor Oil F	Range	Organics (MRO)	ND	51		mg/Kg	1	7/17/2018 11:45:10	AM 39231
Surr: DN	NOP		90.9	70-130		%Rec	1	7/17/2018 11:45:10	AM 39231
EPA METH	IOD 8	015D: GASOLINE R	ANGE					Ana	alyst: NSB
Gasoline R	Range	Organics (GRO)	ND	5.0		mg/Kg	1	7/17/2018 2:36:24	PM 39222
Surr: BF	В		98.2	15-316		%Rec	1	7/17/2018 2:36:24	PM 39222
EPA METH	IOD 8	021B: VOLATILES						Ana	alyst: NSB
Benzene			ND	0.025		mg/Kg	1	7/17/2018 2:36:24	PM 39222
Toluene			ND	0.050		mg/Kg	1	7/17/2018 2:36:24	PM 39222
Ethylbenze	ene		ND	0.050		mg/Kg	1	7/17/2018 2:36:24	PM 39222
Xylenes, T	otal		ND	0.099		mg/Kg	1	7/17/2018 2:36:24	PM 39222
Surr: 4-E	Bromo	fluorobenzene	111	80-120		%Rec	1	7/17/2018 2:36:24	PM 39222
Lab ID:		1807773-002		С	ollecti	on Date:	: 7/1	2/2018 9:50:00 Al	М
Client Sam	ple ID	S -11135250-14-0	071218-MG-TP-1-4			Matrix	SC SC	DIL	
Analyses			Result	PQL	Qual	Units	DF	Date Analyzed	Batch II
EPA METH	IOD 3	00.0: ANIONS						Ana	alvst: SRM
Chloride			.34	30		ma/Ka	20	7/19/2018 4:32:21	PM 39295
	פ חרו			00		ilig/itg	20	Λη-	alvet: Irm
		onsign (DBO)		10		malka	4	7/17/2019 1.00.02	uysi. IIII DM 20024
Motor Oil F	ige Oig Rande	Organics (DRO)	ND	10 50		mg/Kg	1	7/17/2018 1:00:03	PINI 39231 PM 39231
Surr: DN	NOP	organics (Mitto)	92.6	70-130		%Rec	1	7/17/2018 1:00:03	PM 39231
	א טטו					,		Δης	livet: NCR
Casolino P				1 9		ma/ka	1	7/17/2018 2:00:02	DM 2022
Surr: BF	B	Organics (GRO)	98.8	4.0		%Rec	1	7/17/2018 3:00:02	PM 39222
	IOD 8	021B: VOLATILES	00.0	10 010		/01100	•	Ana	alvst: NSB
Benzene			ND	0.024		ma/Ka	1	7/17/2018 3:00:02	PM 39222
Toluene			ND	0.048		mg/Kg	1	7/17/2018 3:00:02	PM 39222
Ethylbenze	ene		ND	0.048		mg/Kg	1	7/17/2018 3:00:02	PM 39222
Xylenes, T	otal		ND	0.095		mg/Kg	1	7/17/2018 3:00:02	PM 39222
Surr: 4-E	Bromo	fluorobenzene	108	80-120		%Rec	1	7/17/2018 3:00:02	PM 39222
Refe	er to th	e QC Summary repo	rt and sample login checkl	ist for fla	igged (QC data a	und p	preservation inform	ation.
Qualifiers:	*	Value exceeds Maximun	1 Contaminant Level.	В	Anal	yte detecte	d in th	ne associated Method B	lank
-	D	Sample Diluted Due to M	Iatrix	Е	Valu	e above qu	antita	tion range	
	Н	Holding times for prepar	ation or analysis exceeded	J	Anal	yte detecte	d belo	w quantitation limits	Page 1 of
	ND	Not Detected at the Repo	orting Limit	Р	Sam	ple pH Not	In Ra	inge	1 450 1 01
	PQL	Practical Quanitative Lin	nit	RL	Repo	orting Deteo	ction l	Limit	

Hall Environmental Analysis Laboratory, Inc.

Lab Order: 1807773

Date Reported: 7/23/2018

CLIENT:	GHD			L	ab O	Order: 1807773	
Project:	Avalon Booster						
L.L.D.	1907772 002		C.II.	the D - to	. 7/1	2/2010 10 45 00 AM	
Lab ID:	1807773-003		Colle	ection Date	: //1	12/2018 10:45:00 AM	
Client Sample	e ID: S-11135250-14-07121	18-MG-TP-2-2		Matrix	: SC	DIL	
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed H	Batch ID
EPA METHO	D 300.0: ANIONS					Analys	st: SRM
Chloride		300	30	mg/Kg	20	7/19/2018 4:44:45 PM	39295
EPA METHO	D 8015M/D: DIESEL RANGE	ORGANICS				Analys	st: Irm
Diesel Range	e Organics (DRO)	ND	10	mg/Kg	1	7/19/2018 3:31:28 PM	39231
Motor Oil Rai	nge Organics (MRO)	ND	50	mg/Kg	1	7/19/2018 3:31:28 PM	39231
Surr: DNO	P	120	70-130	%Rec	1	7/19/2018 3:31:28 PM	39231
EPA METHO	D 8015D: GASOLINE RANG	E				Analys	st: NSB
Gasoline Rar	nge Organics (GRO)	ND	4.6	mg/Kg	1	7/17/2018 3:23:46 PM	39222
Surr: BFB		95.0	15-316	%Rec	1	7/17/2018 3:23:46 PM	39222
EPA METHO	D 8021B: VOLATILES					Analys	st: NSB
Benzene		ND	0.023	mg/Kg	1	7/17/2018 3:23:46 PM	39222
Toluene		ND	0.046	mg/Kg	1	7/17/2018 3:23:46 PM	39222
Ethylbenzene	e	ND	0.046	mg/Kg	1	7/17/2018 3:23:46 PM	39222
Xylenes, Tota	al	ND	0.092	mg/Kg	1	7/17/2018 3:23:46 PM	39222
Surr: 4-Bro	omofluorobenzene	107	80-120	%Rec	1	7/17/2018 3:23:46 PM	39222

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

Hall Environmental Analysis Laboratory, Inc.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order: 1807773

Date Reported: 7/23/2018

CLIENT:	GHD				I	ab C)rder: 1807'	773	
Project:	Avalon Booster								
Lab ID:	1807773-004		C	ollecti	on Date	: 7 /1	12/2018 10:48:00	AM	
Client Sample ID:	S-11135250-14-07121	8-MG-TP-2-8			Matrix	: SC	DIL		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 30	0.0: ANIONS						An	alyst:	SRM
Chloride		230	30		mg/Kg	20	7/19/2018 4:57:09	ΡM	39295
EPA METHOD 80	15M/D: DIESEL RANGE	ORGANICS					An	alyst:	Irm
Diesel Range Org	anics (DRO)	290	9.9		mg/Kg	1	7/19/2018 3:53:48	PM	39231
Motor Oil Range C	Drganics (MRO)	230	49		mg/Kg	1	7/19/2018 3:53:48	PM	39231
Surr: DNOP		128	70-130		%Rec	1	7/19/2018 3:53:48	PM	39231
EPA METHOD 80	15D: GASOLINE RANGE	E					An	alyst:	NSB
Gasoline Range C	Organics (GRO)	69	4.7		mg/Kg	1	7/17/2018 3:47:30	PM	39222
Surr: BFB		672	15-316	S	%Rec	1	7/17/2018 3:47:30	PM	39222
EPA METHOD 80	21B: VOLATILES						An	alvst:	NSB
Benzene		ND	0.024		ma/Ka	1	7/17/2018 3:47:30	PM	39222
Toluene		ND	0.047		mg/Kg	1	7/17/2018 3:47:30	PM	39222
Ethylbenzene		ND	0.047		mg/Kg	1	7/17/2018 3:47:30	PM	39222
Xylenes, Total		0.84	0.095		mg/Kg	1	7/17/2018 3:47:30	PM	39222
Surr: 4-Bromofl	uorobenzene	134	80-120	S	%Rec	1	7/17/2018 3:47:30	PM	39222
Lab ID:	1807773-005		C	ollecti	on Date	: 7 /1	12/2018 11:10:00	AM	
Client Sample ID:	S-11135250-14-07121	8-MG-TP-3-2			Matrix	: SC	DIL		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 30	0.0: ANIONS						An	alyst:	SRM
Chloride		430	30		mg/Kg	20	7/19/2018 5:09:34	PM	39295
Lab ID:	1807773-006		C	ollecti	on Date	: 7 /1	12/2018 11:12:00	AM	
Client Sample ID:	S-11135250-14-07121	8-MG-TP-3-4			Matrix	: SC	DIL		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	Ba	tch ID
EPA METHOD 30	0.0: ANIONS						An	alyst:	SRM
Chloride		70	30		mg/Kg	20	7/19/2018 5:21:59	PM	39295

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Page 3 of 8

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method H	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Pa
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	I a
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	

Hall Environ		Analytical Report Lab Order: 1807773 Date Reported: 7/23/2018								
CLIENT: Project:	GHD Avalon Booster				L	ab C	order:	180777	73	
Lab ID:	1807773-007		C	ollecti	on Date	: 7/1	2/2018 11:	38:00 A	M	
Client Sample ID:	S-11135250-14-071218-M	G-TP-4-2			Matrix	: SC	IL			
Analyses		Result	PQL	Qual	Units	DF	Date Ana	lyzed	Bat	tch ID
EPA METHOD 30 Chloride	0.0: ANIONS	85	30		mg/Kg	20	7/19/2018	Anal 6:24:02 F	lyst: ²M	SRM 39295
Lab ID:	1807773-008		С	ollecti	on Date	: 7/1	2/2018 11:	40:00 A	Μ	
Client Sample ID:	S-11135250-14-071218-M	G-TP-4-4			Matrix	: SC	IL			
Analyses		Result	PQL	Qual	Units	DF	Date Anal	lyzed	Bat	tch ID
EPA METHOD 30 Chloride	0.0: ANIONS	45	30		mg/Kg	20	7/19/2018	Anal 6:36:27 F	lyst: ²M	SRM 39295
Lab ID:	1807773-009		С	ollecti	on Date	: 7/1	2/2018 11:	55:00 A	M	
Client Sample ID:	S-11135250-14-071218-M	G-TP-5-2			Matrix	: SC	IL			
Analyses		Result	PQL	Qual	Units	DF	Date Ana	lyzed	Bat	tch ID
EPA METHOD 30 Chloride	0.0: ANIONS	350	30		mg/Kg	20	7/20/2018	Anal 11:52:39	lyst: AM	CJS 39326
Lab ID:	1807773-010		С	ollecti	on Date	: 7/1	2/2018 11:	58:00 A	М	
Client Sample ID:	S-11135250-14-071218-M	G-TP-5-4			Matrix	: SC	IL			

Result

370

30

H

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

vel.

Analyses

Chloride

EPA METHOD 300.0: ANIONS

- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded Η
- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit

- В Analyte detected in the associated Method Blank
- Е Value above quantitation range

PQL Qual Units DF Date Analyzed

mg/Kg

Batch ID

Analyst: CJS

20 7/20/2018 12:29:52 PM 39326

- J Analyte detected below quantitation limits Page 4 of 8
- Р Sample pH Not In Range
- RL Reporting Detection Limit

GHD

Project:	Avalon Booster									
Sample ID MB-3	9326 SampT	ype: m ł	olk	Tes	tCode: EF	PA Method	300.0: Anion	S		
Client ID: PBS	Batch	n ID: 39	326	F	RunNo: 52	2859				
Prep Date: 7/20	0/2018 Analysis D	ate: 7/	20/2018	5	SeqNo: 17	737713	Units: mg/k	ίg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								
Sample ID LCS-	39326 SampT	ype: Ics	6	Tes	tCode: EF	PA Method	300.0: Anion	s		
Client ID: LCS	B Batch	n ID: 39	326	F	RunNo: 52	2859				
Prep Date: 7/20	0/2018 Analysis D	ate: 7/	20/2018	5	SeqNo: 17	737714	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

Qualifiers:

Client:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Daga
 - Page 5 of 8

Client:	GHD											
Project:	Avalon	Booster										
Sample ID	MB-39231	Samp	Гуре: М	BLK	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	PBS	Batc	Batch ID: 39231			RunNo: 52744						
Prep Date:	7/16/2018	Analysis E	Date: 7/	17/2018	S	SeqNo: 1	732326	Units: mg/ł	٨g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	ND	10									
Motor Oil Rang	ge Organics (MRO)	ND	50									
Surr: DNOP		9.9		10.00		99.5	70	130				
Sample ID	LCS-39231	Samp	Гуре: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID:	LCSS	Batc	h ID: 39	231	F	RunNo: 5	2744					
Prep Date:	7/16/2018	Analysis [Date: 7/	/17/2018	5	SeqNo: 1	732346	Units: mg/ł	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	48	10	50.00	0	96.2	70	130				
Surr: DNOP		4.4		5.000		88.1	70	130				
Sample ID	1807773-001AMS	Samp	Гуре: М	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID:	S-11135250-14-0	712 Batc	h ID: 39	231	F	RunNo: 5	2744					
Prep Date:	7/16/2018	Analysis E	Date: 7/	/17/2018	S	SeqNo: 1	732375	Units: mg/ł	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	40	10	49.85	2.953	74.3	62	120				
Surr: DNOP		3.3		4.985		66.5	70	130			S	
Sample ID	1807773-001AMS	SD Samp	Гуре: М	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID:	S-11135250-14-0	712 Batc	h ID: 39	231	F	RunNo: 5	2744					
Prep Date:	7/16/2018	Analysis E	Date: 7/	/17/2018	S	SeqNo: 1	732376	Units: mg/ł	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	39	10	50.30	2.953	72.3	62	120	1.64	20		
Surr: DNOP		3.3		5.030		65.4	70	130	0	0	S	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 6 of 8

GHD

Project: Avalon	Booster								
Sample ID MB-39222	SampType:	MBLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch ID:	39222	RunNo: 52767						
Prep Date: 7/16/2018	Analysis Date:	7/17/2018	S	SeqNo: 1	733195	Units: mg/H	٢g		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5 880	.0 1000		88.1	15	316			
Sample ID LCS-39222	SampType:	LCS	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch ID:	39222	F	RunNo: 52	2767				
Prep Date: 7/16/2018	Analysis Date:	7/17/2018	5	SeqNo: 1	733196	Units: mg/k	٢g		
Analyte	Result PQ	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26 5	.0 25.00	0	102	75.9	131			
Surr: BFB	970	1000		96.6	15	316			

Qualifiers:

Client:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 7
 - Page 7 of 8

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc

WO#:	1807773
	23-Jul-18

Client: GHD **Project:** Avalon Booster Sample ID MB-39222 SampType: MBLK TestCode: EPA Method 8021B: Volatiles PBS Client ID: Batch ID: 39222 RunNo: 52767 Prep Date: 7/16/2018 Analysis Date: 7/17/2018 SeqNo: 1733219 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Benzene ND 0.025 Toluene ND 0.050 Ethylbenzene ND 0.050 Xylenes, Total ND 0.10 Surr: 4-Bromofluorobenzene 1.0 1.000 101 80 120 Sample ID LCS-39222 SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: 39222 RunNo: 52767 Prep Date: 7/16/2018 Analysis Date: 7/17/2018 SeqNo: 1733220 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual 0.025 1.000 77.3 0.93 0 93.3 128 Benzene Toluene 0.97 0.050 1.000 0 97.2 79.2 125 Ethylbenzene 0.95 0.050 1.000 0 94.7 80.7 127 Xylenes, Total 2.9 0.10 3.000 97.1 81.6 129 0 Surr: 4-Bromofluorobenzene 1.000 100 80 120 1.0

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 8 of 8

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmer TEL: 505-345-3 Website: www	tal Analysis Labora 4901 Hawkin: Albuquerque, NM 87 975 FAX: 505-345-4 hallenvironmental.	atory s NE 7109 San 4107 com	mple Log-In Check List		
Client Name: GHD	Work Order Numb	ber: 1807773		RcptNo: 1		
Received By: Ashley Gallegos Completed By: Isaiah Ortiz Reviewed By: JAB 07/16/18 LB: ENM 7/16/18	7/14/2018 11:00:00 7/16/2018 8:26:27 /	AM	Ia			
 <u>Chain of Custody</u> 1. Is Chain of Custody complete? 2. How was the sample delivered? 		Yes 🗹 <u>Courier</u>	No 🗌	Not Present		
Log In 3. Was an attempt made to cool the samples	?	Yes 🔽	No 🗌			
4. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes 🗌	No 🗹			
5. Sample(s) in proper container(s)?		Yes 🗹 -	No 🗌			
6. Sufficient sample volume for indicated test(7. Are samples (except VOA and ONG) prope8. Was preservative added to bottles?	s)? rly preserved?	Yes ✔ Yes ✔ Yes □	No 🗌 No 💭 No 🗹	NA 🗌		
 9. VOA vials have zero headspace? 10. Were any sample containers received broken. 	en?	Yes □ Yes □	No 🗌 No 🗹	No VOA Vials		
 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) 12. Are matrices correctly identified on Chain of 13. Is it clear what analyses were requested? 14. Were all holding times able to be met? (If no, notify customer for authorization.) 	f Custody?	Yes ☑ Yes ☑ Yes ☑ Yes ☑	No No No No	Adjusted2 Checked by:		
Special Handling (if applicable) 15. Was client notified of all discrepancies with Person Notified: By Whom: Regarding: Client Instructions:	this order? Date: Via:	Yes 🗍	No -	NA 🗹		
16. Additional remarks:						

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	6.6	Good	Yes			

	LI ENVIRUNMENTAL VI YSTS I ARORATORY	hallenvironmental com	E - Albuquerque, NM 87109	75 Eax 505-345-4107	Analysis Request	(*(⊂B,² CB,² CB,² CB,2 (SV		28270 (1, 8082 2, 3, NO ₂ 2, 3 2, (2, 3, (2, 3, (2, 3, 1 2, 2, 1 2, 2, 1 2, 1 3, 1 3, 1 3, 1 3, 1 3, 1 3, 1 3, 1 3) or (1 (1) (1) (1) (1) (1) (1) (1) (1) (1)	0168) 2'HA9 PeM 8 AA77 IO,7) 2noinA Noions (F,Cl 8081 Pestici 10,70 (Semi- 201 10 201 10 20	X	×	X	X		×	×	X						ata will be clearly notated on the analytical report
			4901 Hawkins N	Tel. 505-345-3		(O) (م)ار (1508) AM / (ວະ ອ)	HTPH (1.4.1) (1.4.1)	9 2(9 7 (GE 3E	BTEX + MTI BTEX + MTE TPH 8015B Odfbd (Metho	X, X,	XX	XXX	\times								Remarks:		ossibility. Any sub-contracted
w rush	1.0 /		oster	×							HEAL No. 1407773	2 100-	-00 -	- Cr 3	-004	-005	-100-	109-	-003	900-	Q 10-		Date lime F	7 11.2/15 1107	This serves as notice of this po
urn-Around Time: S	□ Standard	roject Name:	Avalon Doc	roject #:	HI-OSESSIII	roject Manager:	Alan Brandon		ampler: <u> </u>	ample Temperature: 10	Container Preservative Type and # Type	*Soi Jar Jut											eceived by	eceived W.	racted to other accredited laboratories
stody Record	s Inc.		dian School Rol Stered	NM S7110 P	672 ,	unden@ ahd. com P)	Level 4 (Full Validation)	<u></u>		Sample Request ID	11125250-14.67/218,MG. TP.1.2 4	HISS 250 HY OTRIBING METPIN	11155250 14,07218,MCTP.22	B.C. J M & 101 - 05 05 25 111-	1135350-14 021218-16-78-32	וושששיין יערדאי ארשוע ארששיין	111252256-14-671218-146-TP-4-2	1-1-12-23-14-071218 246-TP-1-02622111	1113525614.071218.26.79.52	יוויצאלהאוגטוגווייליאיאיאיאיאי		pk.	by:	tted to Hall Environmental may be subconti
ain-of-Cus	HD Service		dress: 6/2/ Tm	DUG RECT VE.	3658840	X#: ALQN, Bro	kage:	q	on Other	ype)	ime Matrix	149 S 50	150 s	4S s	48 5	10	13	39 S	40 Þ	55	58 5		ie: Relinquistred	re: Rejinquened	secary sample submit
Chi	Client: 💪		Mailing Ad	NEANE	Phone #: 5	email or Fa	QA/QC Paci	□ Standar	Accreditati		Date	7/12/18/09	60		(0		11		11		11		7/15/18	THE THE	17 0,1.



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

August 20, 2018

Alan Brandon GHD 6121 Indian School Road, NE #200 Albuquerque, NM 87110 TEL: (505) 884-0672 FAX

OrderNo.: 1808A88

RE: Avalon 1

Dear Alan Brandon:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/17/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order: 1808A88

Date Reported: 8/20/2018

8/17/2018 9:59:20 AM

39838

CLIENT: Project:	GHD Avalon 1			I	ab C)rder: 1808.	A88	
110jeet.								
Lab ID:	1808A88-001		С	ollection Date	: 8/1	6/2018 10:50:00	AM	
Client Sample	ID: S-11135250-14-08161	8-MG-TP-7-12'		Matrix	: M	EOH (SOIL)		
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	Bat	ch ID
EPA METHOD	0 300.0: ANIONS					An	alyst:	MRA
Chloride		50	30	mg/Kg	20	8/17/2018 12:48:4	2 PM	39860
	0 8015M/D: DIESEL RANGE	ORGANICS				An	alyst:	Irm
Diesel Range	Organics (DRO)	ND	9.7	mg/Kg	1	8/17/2018 11:15:5	5 AM	39854
Motor Oil Rang	ge Organics (MRO)	ND	49	mg/Kg	1	8/17/2018 11:15:5	5 AM	39854
Surr: DNOP	5	88.8	50.6-138	%Rec	1	8/17/2018 11:15:5	5 AM	39854
	0 8015D: GASOLINE RANG	E				An	alyst:	NSB
Gasoline Rang	ge Organics (GRO)	ND	3.9	mg/Kg	1	8/17/2018 9:59:20	AM	39838

94.5

15-316

%Rec

1

Hall Environmental Analysis Laboratory, Inc.

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*

Surr: BFB

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit

GHD

Project:	Avalon 1										
Sample ID	MB-39860	SampT	ype: m l	olk	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID:	PBS	Batch	n ID: 39	860	F	RunNo: 5	3528				
Prep Date:	8/17/2018	Analysis D	ate: 8/	17/2018	S	SeqNo: 1	765188	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		ND	1.5								
Sample ID	LCS-39860	SampT	ype: Ics	6	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID:	LCSS	Batch	n ID: 39	860	F	RunNo: 5	3528				
Prep Date:	8/17/2018	Analysis D	ate: 8/	17/2018	5	SeqNo: 1	765189	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		14	1.5	15.00	0	95.4	90	110			

Qualifiers:

Client:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 2 of 4

Client:	GHD										
Project:	Avalon 1										
Sample ID	MB-39854	SampT	уре: М	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	n ID: 39	854	F	RunNo: 5	3521				
Prep Date:	8/17/2018	Analysis D	ate: 8/	17/2018	5	SeqNo: 1	764303	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	ND	10								
Motor Oil Rang	ge Organics (MRO)	ND	50								
Surr: DNOP		8.7		10.00		87.0	50.6	138			
Sample ID	LCS-39854	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	n ID: 39	854	F	RunNo: 5	3521				
Prep Date:	8/17/2018	Analysis D	ate: 8/	17/2018	5	SeqNo: 1	764304	Units: mg/k	ζg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	45	10	50.00	0	89.9	70	130			
Surr: DNOP	•	3.9		5.000		77.9	50.6	138			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 3 of 4

GHD

Project:	Avalon 1										
Sample ID	MB-39838	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID:	PBS	Batch	h ID: 39	838	F	RunNo: 5	3515				
Prep Date:	8/16/2018	Analysis D	Date: 8/	/17/2018	S	SeqNo: 1	764497	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	ND	5.0								
Surr: BFB		910		1000		90.9	15	316			
Sample ID	LCS-39838	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	LCSS	Batch	h ID: 39	838	F	RunNo: 5	3515				
Prep Date:	8/16/2018	Analysis D	Date: 8 /	/17/2018	5	SeqNo: 1	764498	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	24	5.0	25.00	0	95.8	75.9	131			
Surr: BFB		1000		1000		101	15	316			

Qualifiers:

Client:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 4 of 4

HALL HO ENVIRONMENTAL ANALYSIS LABORATORY	all Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 EL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com	Sample Log-In Check List
Client Name: GHD Wor	k Order Number: 1808A88	RcptNo: 1
Received By: Erin Melendrez 8/17/2 Completed By: Ashley Gallegos 8/17/2 Reviewed By: JAB 08/17/18	018 8:35:00 AM 018 8:56:25 AM Labeled	64: ENH 8/17/18
Chain of Custody	_	
1. Is Chain of Custody complete?	Yes 🗹	No 🗋 Not Present 🛄
2. How was the sample delivered?	<u>Courier</u>	
Log In 3. Was an attempt made to cool the samples?	Ves 🔽	
Were all samples received at a temperature of >0° C	to 6.0°C Yes 🗹	No 🗌 NA 🗌
5. Sample(s) in proper container(s)?	Yes 🗹	No 🗌
Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌
7. Are samples (except VOA and ONG) properly preserv	ved? Yes 🗹	No 🗌
3. Was preservative added to bottles?	Yes	No 🗹 NA 🗌
O VOA vials have zero headspace?	Yes	No 🗌 No VOA Vials 🗹
0. Were any sample containers received broken?	Yes	No 🗹 # of preserved
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🔽	No bottles checked for pH:
2. Are matrices correctly identified on Chain of Custody	Yes 🖌	No Adjusted
3. Is it clear what analyses were requested?	Yes 🗹	No 🗆
4. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No Checked by:
pecial Handling (if applicable)		
15. Was client notified of all discrepancies with this order	r? Yes	`No 🗌 NA 🗹
Person Notified:	Date	
By Whom:	Via: 🗌 eMail 🛄 Phon	e 📋 Fax 🔄 In Person
Regarding:		
Client Instructions:		
16. Additional remarks:		
17. <u>Cooler Information</u> Cooler No Temp ^o C Condition Seal Intact 1 4.0 Good Yes	Seal No Seal Date Sig	ned By

	MENTAL RATORY		109	2					(N)	رکر (۲ ه	ر کر کھ ج Air Bubbles			 	-				stercom	talytical report.	
		COM	NM 87	5-410	st				(\	۰۸۵٬	(OV) COSC								Tren	C C V ^L	
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Turm-Around Time:	Standard Kush		C WALEY +	Broject #: → こ と い し バ ● ご	1 M 00000 11	Project Manager:	Alon Brander		Sampler: / // () On loe: / Yes No	Sample Temperature 5.0-1.0 (re)=4.0	Container Preservative HEAL No. Type and # Type 180.8A88	1 for Soil 3af ICE - 001							Leh SILLIS 150	Received by: COUNSENTIS Date Date 05354	
Chain-of-Custody Record	Client GHD Services Inc	Mailing Address: / 101 101 101 000	11 - 11 - 11 - 14 The Ray Solved Ma Sterry	NE Albuquerque, NM 87110	XPhone #: 805 884 0672	Femail or Fax#: Alan & Canden @ ghad com	QA/QC Package:	Standard Level 4 (Full Validation)	Accreditation	🗆 EDD (Type)	Date Time Matrix Sample Request ID	G/1418 1050 5 5111352501406161814677712							 VILLIS 1500 Actor	Date: Time: Relinfuished by International Control Cont	•



May 02, 2019

JOEL LOWRY

LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296

LOVINGTON, NM 88260

RE: AVALON 4848

Enclosed are the results of analyses for samples received by the laboratory on 04/24/19 11:32.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keine

Celey D. Keene Lab Director/Quality Manager



LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296 LOVINGTON NM, 88260	Project: Project Number: Project Manager: Fax To:	AVALON 4848 NONE GIVEN JOEL LOWRY	Reported: 02-May-19 16:20
--	--	---	------------------------------

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NE FLOOR @ 2'	H901453-01	Soil	22-Apr-19 11:20	24-Apr-19 11:32
NC FLOOR @ 2'	H901453-02	Soil	22-Apr-19 11:20	24-Apr-19 11:32
NW FLOOR @ 2'	H901453-03	Soil	22-Apr-19 12:56	24-Apr-19 11:32
SE FLOOR @ 9.5'	H901453-04	Soil	22-Apr-19 12:31	24-Apr-19 11:32
SC FLOOR @ 3'	H901453-05	Soil	22-Apr-19 11:25	24-Apr-19 11:32
SW FLOOR @ 2'	H901453-06	Soil	22-Apr-19 11:25	24-Apr-19 11:32
W FLOOR @ 1'	H901453-07	Soil	22-Apr-19 12:10	24-Apr-19 11:32
NSW	H901453-08	Soil	22-Apr-19 11:30	24-Apr-19 11:32
ESW IN SIT4	H901453-09	Soil	22-Apr-19 11:35	24-Apr-19 11:32
SSW	H901453-10	Soil	22-Apr-19 12:10	24-Apr-19 11:32
WSW	H901453-11	Soil	22-Apr-19 12:15	24-Apr-19 11:32
SEF NSW	H901453-12	Soil	22-Apr-19 12:30	24-Apr-19 11:32
SEF SSW	H901453-13	Soil	22-Apr-19 12:30	24-Apr-19 11:32
SEF WSW	H901453-14	Soil	22-Apr-19 12:31	24-Apr-19 11:32
EW STAIN (IN SITU)	H901453-15	Soil	22-Apr-19 12:35	24-Apr-19 11:32

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & A PO BOX 296 LOVINGTON NM, 88260	LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296 LOVINGTON NM, 88260				alon 4848 Ne given El lowry			Reported: 02-May-19 16:20			
			NE F H9014	LOOR @)) 2' bil)						
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes	
			Cardina	l Laborat	tories						
Inorganic Compounds											
Chloride	192		16.0	mg/kg	4	9042504	AC	26-Apr-19	4500-Cl-B		
Volatile Organic Compounds b	y EPA Method	8021									
Benzene*	< 0.050		0.050	mg/kg	50	9042410	ms	25-Apr-19	8021B		
Toluene*	< 0.050		0.050	mg/kg	50	9042410	ms	25-Apr-19	8021B		
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042410	ms	25-Apr-19	8021B		
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042410	ms	25-Apr-19	8021B		
Total BTEX	< 0.300		0.300	mg/kg	50	9042410	ms	25-Apr-19	8021B		
Surrogate: 4-Bromofluorobenzene (PID)			96.8 %	73.3	-129	9042410	ms	25-Apr-19	8021B		
Petroleum Hydrocarbons by G	C FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B		
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B		
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctane			92.6 %	41-	142	9042503	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctadecane		99.2 %	37.6	-147	9042503	MS	25-Apr-19	8015B			

Cardinal Laboratories

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & AS PO BOX 296 LOVINGTON NM, 88260		Project Num Project Nana Project Mana Fax	ject: AVA ber: NON ger: JOE To:	lon 4848 Ne given L lowry		Reported: 02-May-19 16:20				
			NC F	LOOR @)) 2' sil)					
			11901-	133-02 (30)II)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	416		16.0	mg/kg	4	9042504	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			94.4 %	73.3-	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by GC	C FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B	
DRO >C10-C28*	67.5		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	19.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			96.3 %	41	142	9042503	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			104 %	37.6-	-147	9042503	MS	25-Apr-19	8015B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & AS PO BOX 296 LOVINGTON NM, 88260		Proj Project Num Project Mana Fax	ject: AVA ber: NOM ger: JOE To:	lon 4848 Ne given L lowry		Reported: 02-May-19 16:20				
			NW F H9014	LOOR () 153-03 (Sc	i) 2' sil)					
			11701-		,					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	496		16.0	mg/kg	4	9042504	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			<i>93.7 %</i>	73.3	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by GC	C FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9042503	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			95.0 %	41-	142	9042503	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			101 %	37.6	-147	9042503	MS	25-Apr-19	8015B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & PO BOX 296 LOVINGTON NM, 88260		Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:						Reported: 02-May-19 16:20		
			SE FL H9012	OOR @	9.5' sil)					
			11701-	133-04 (30	, iii)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	288		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds h	oy EPA Method 8	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID))		94.5 %	73.3-	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by G	GC FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	18.9		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			101 %	41-	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			96.2 %	37.6-	-147	9042505	MS	25-Apr-19	8015B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Lowry Enviromental & AS Po Box 296 Lovington NM, 88260		Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:					Reported: 02-May-19 16:20			
			SC Fl H9014	LOOR @) 3' jil)					
			Demonstine		,					
Analyte	Result	MDL	Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	352		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			92.6 %	73.3-	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	149		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	70.2		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			107 %	41	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			105 %	37.6-	-147	9042505	MS	25-Apr-19	8015B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & AS PO BOX 296 LOVINGTON NM, 88260		Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:					Reported: 02-May-19 16:20			
			SW F 19014	LOOR @)) 2' jil)					
			11701-	100 00 (50	,,,,,					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	496		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			94.5 %	73.3-	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			108 %	41	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			103 %	37.6-	-147	9042505	MS	25-Apr-19	8015B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & AS PO BOX 296 LOVINGTON NM, 88260		Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:					Reported: 02-May-19 16:20			
			W FI H9014	LOOR @	. 1' .iD					
			11201-	55-07 (50	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	352		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			96.0 %	73.3-	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by GC	FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			100 %	41	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			95.5 %	37.6-	-147	9042505	MS	25-Apr-19	8015B	

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Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & PO BOX 296 LOVINGTON NM, 88260	ASSOCIATES Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:							0	Reported: 02-May-19 16:20		
			110014	NSW)						
			119014	55-08 (50	511)						
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes	
			Cardina	l Laborat	tories						
Inorganic Compounds											
Chloride	512		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B		
Petroleum Hydrocarbons by G	GC FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
DRO >C10-C28*	24.2		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
EXT DRO >C28-C36	11.6		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctane			97.8 %	41-	142	9042505	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctadecane			95.2 %	37.6	-147	9042505	MS	25-Apr-19	8015B		
Volatile Organic Compounds h	oy EPA Method 8	260B									
Benzene*	0.095		0.025	mg/kg	50	9050121	ms	01-May-19	8260B		
Toluene*	0.594		0.025	mg/kg	50	9050121	ms	01-May-19	8260B		
Ethylbenzene*	0.047		0.025	mg/kg	50	9050121	ms	01-May-19	8260B		
Total Xylenes*	0.285		0.075	mg/kg	50	9050121	ms	01-May-19	8260B		
Total BTEX	1.02		0.150	mg/kg	50	9050121	ms	01-May-19	8260B		
Surrogate: Dibromofluoromethane			99.8 %	90.4	-111	9050121	ms	01-May-19	8260B		
Surrogate: Toluene-d8			102 %	102 % 85.3-114		9050121	ms	01-May-19	8260B		
Surrogate: 4-Bromofluorobenzene		99.3 %	80.1	-121	9050121	ms	01-May-19	8260B			

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Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & , PO BOX 296 LOVINGTON NM, 88260	ASSOCIATES		Proj Project Num Project Mana Fax	ect: AVA ber: NOI ger: JOE To:	alon 4848 Ne given El lowry			Reported: 02-May-19 16:20			
			ESW H9014	/ IN SIT 53-09 (Se	[4 pil)						
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes	
			Cardina	l Laborat	tories						
Inorganic Compounds											
Chloride	288		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B		
Petroleum Hydrocarbons by G	GC FID									S-04	
GRO C6-C10*	734		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
DRO >C10-C28*	1180		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
EXT DRO >C28-C36	281		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctane			166 %	41-	142	9042505	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctadecane			115 %	37.6	-147	9042505	MS	25-Apr-19	8015B		
Volatile Organic Compounds h	oy EPA Method 8	260B									
Benzene*	< 0.100		0.100	mg/kg	200	9050121	ms	02-May-19	8260B		
Toluene*	0.996		0.100	mg/kg	200	9050121	ms	02-May-19	8260B		
Ethylbenzene*	1.31		0.100	mg/kg	200	9050121	ms	02-May-19	8260B		
Total Xylenes*	14.2		0.300	mg/kg	200	9050121	ms	02-May-19	8260B		
Total BTEX	16.5		0.600	mg/kg	200	9050121	ms	02-May-19	8260B		
Surrogate: Dibromofluoromethane			102 %	90.4	-111	9050121	ms	02-May-19	8260B		
Surrogate: Toluene-d8			105 %	85.3	-114	9050121	ms	02-May-19	8260B		
Surrogate: 4-Bromofluorobenzene			116 %	80.1	-121	9050121	ms	02-May-19	8260B		

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & A PO BOX 296 LOVINGTON NM, 88260		Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:						Reported: 02-May-19 16:20		
			11001	SSW						
			H9014	153-10 (80	oil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	208		16.0	mg/kg	4	9042614	AC	26-Apr-19	4500-Cl-B	
Volatile Organic Compounds by	EPA Method	8021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			92.9 %	73.3-	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by GC	C FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	16.3		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			93.7 %	41-	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			91.4 %	37.6-	-147	9042505	MS	25-Apr-19	8015B	

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Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296 LOVINGTON NM, 88260			Proj Project Num Project Mana Fax	ject: AVA ber: NON ger: JOE To:	Lon 4848 Ne given L lowry			Reported: 02-May-19 16:20			
			,	WSW							
			H9014	153-11 (So	oil)						
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes	
			Cardina	l Laborat	ories						
Inorganic Compounds											
Chloride	352		16.0	mg/kg	4	9042614	AC	30-Apr-19	4500-Cl-B		
Volatile Organic Compounds by	EPA Method	8021									
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B		
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B		
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B		
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B		
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B		
Surrogate: 4-Bromofluorobenzene (PID)			94.1 %	73.3-	-129	9042501	ms	25-Apr-19	8021B		
Petroleum Hydrocarbons by GC	FID										
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctane			96.7 %	41	142	9042505	MS	25-Apr-19	8015B		
Surrogate: 1-Chlorooctadecane			92.8 %	37.6-	-147	9042505	MS	25-Apr-19	8015B		

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Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & PO BOX 296 LOVINGTON NM, 88260		Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:						Reported: 02-May-19 16:20		
			SE	EFNSW						
			H9014	453-12 (So	oil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	336		16.0	mg/kg	4	9042614	AC	30-Apr-19	4500-Cl-B	
Volatile Organic Compounds I	by EPA Method 8	021								
Benzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Toluene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Ethylbenzene*	< 0.050		0.050	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total Xylenes*	< 0.150		0.150	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Total BTEX	< 0.300		0.300	mg/kg	50	9042501	ms	25-Apr-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID))		94.3 %	73.3	-129	9042501	ms	25-Apr-19	8021B	
Petroleum Hydrocarbons by C	GC FID									
GRO C6-C10*	<10.0		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	196		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	88.4		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			105 %	41-	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			110 %	37.6	-147	9042505	MS	25-Apr-19	8015B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & / PO BOX 296 LOVINGTON NM, 88260	ASSOCIATES	S Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:						Reported: 02-May-19 16:20		
			SE H9014	CF SSW 53-13 (So	oil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	112		16.0	mg/kg	4	9042614	AC	30-Apr-19	4500-Cl-B	
Petroleum Hydrocarbons by G	C FID									
GRO C6-C10*	19.6		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	114		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	29.6		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			99.0 %	41-	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			95.1 %	37.6	-147	9042505	MS	25-Apr-19	8015B	
Volatile Organic Compounds h	y EPA Method 8	260B								
Benzene*	< 0.025		0.025	mg/kg	50	9050121	ms	01-May-19	8260B	
Toluene*	< 0.025		0.025	mg/kg	50	9050121	ms	01-May-19	8260B	
Ethylbenzene*	< 0.025		0.025	mg/kg	50	9050121	ms	01-May-19	8260B	
Total Xylenes*	0.117		0.075	mg/kg	50	9050121	ms	01-May-19	8260B	
Total BTEX	< 0.150		0.150	mg/kg	50	9050121	ms	01-May-19	8260B	
Surrogate: Dibromofluoromethane			96.8 %	90.4-111		9050121	ms	01-May-19	8260B	
Surrogate: Toluene-d8			100 %	85.3	-114	9050121	ms	01-May-19	8260B	
Surrogate: 4-Bromofluorobenzene			107 %	80.1	-121	9050121	ms	01-May-19	8260B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & PO BOX 296 LOVINGTON NM, 88260	ASSOCIATES	Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:							Reported: 02-May-19 16:20			
SEF WSW H901453-14 (Soil)												
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes		
			Cardina	l Laborat	ories							
Inorganic Compounds												
Chloride	208		16.0	mg/kg	4	9042614	AC	30-Apr-19	4500-Cl-B			
Petroleum Hydrocarbons by (GC FID											
GRO C6-C10*	19.3		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B			
DRO >C10-C28*	137		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B			
EXT DRO >C28-C36	56.7		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B			
Surrogate: 1-Chlorooctane			109 %	41-	142	9042505	MS	25-Apr-19	8015B			
Surrogate: 1-Chlorooctadecane			105 %	37.6	-147	9042505	MS	25-Apr-19	8015B			
Volatile Organic Compounds	by EPA Method 8	260B										
Benzene*	< 0.025		0.025	mg/kg	50	9050121	ms	01-May-19	8260B			
Toluene*	< 0.025		0.025	mg/kg	50	9050121	ms	01-May-19	8260B			
Ethylbenzene*	< 0.025		0.025	mg/kg	50	9050121	ms	01-May-19	8260B			
Total Xylenes*	0.213		0.075	mg/kg	50	9050121	ms	01-May-19	8260B			
Total BTEX	0.213		0.150	mg/kg	50	9050121	ms	01-May-19	8260B			
Surrogate: Dibromofluoromethane			97.0 %	90.4-111		9050121	ms	01-May-19	8260B			
Surrogate: Toluene-d8			101 %	85.3	-114	9050121	ms	01-May-19	8260B			
Surrogate: 4-Bromofluorobenzene			109 %	80.1	-121	9050121	ms	01-May-19	8260B			

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & A PO BOX 296 LOVINGTON NM, 88260	ASSOCIATES	IATES Project: AVALON 4848 Project Number: NONE GIVEN Project Manager: JOEL LOWRY Fax To:						Reported: 02-May-19 16:20		
			EW STA H9014	IN (IN \$ 453-15 (So	SITU) pil)					
Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
			Cardina	l Laborat	ories					
Inorganic Compounds										
Chloride	96.0		16.0	mg/kg	4	9042614	AC	30-Apr-19	4500-Cl-B	
Petroleum Hydrocarbons by G	C FID									S-04
GRO C6-C10*	908		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
DRO >C10-C28*	1390		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
EXT DRO >C28-C36	368		10.0	mg/kg	1	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctane			159 %	41-	142	9042505	MS	25-Apr-19	8015B	
Surrogate: 1-Chlorooctadecane			120 %	37.6	-147	9042505	MS	25-Apr-19	8015B	
Volatile Organic Compounds b	y EPA Method 8	8260B								S-04
Benzene*	< 0.025		0.025	mg/kg	50	9050121	ms	02-May-19	8260B	
Toluene*	0.081		0.025	mg/kg	50	9050121	ms	02-May-19	8260B	
Ethylbenzene*	1.13		0.025	mg/kg	50	9050121	ms	02-May-19	8260B	
Total Xylenes*	3.67		0.075	mg/kg	50	9050121	ms	02-May-19	8260B	
Total BTEX	4.88		0.150	mg/kg	50	9050121	ms	02-May-19	8260B	
Surrogate: Dibromofluoromethane			102 %	90.4	-111	9050121	ms	02-May-19	8260B	
Surrogate: Toluene-d8			124 %	85.3	-114	9050121	ms	02-May-19	8260B	
Surrogate: 4-Bromofluorobenzene			172 %	80.1	-121	9050121	ms	02-May-19	8260B	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296 LOVINGTON NM, 88260	Project: Project Number: Project Manager: Fax To:	AVALON 4848 NONE GIVEN JOEL LOWRY	Reported: 02-May-19 16:20
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Inorganic Compounds - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9042504 - General Prep - Wet Chem										
Blank (9042504-BLK1)				Prepared &	Analyzed:	25-Apr-19				
Chloride	ND	16.0	mg/kg							
LCS (9042504-BS1)				Prepared &	z Analyzed:	25-Apr-19				
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9042504-BSD1)				Prepared & Analyzed: 25-Apr-19						
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	
Batch 9042614 - General Prep - Wet Chem										
Blank (9042614-BLK1)				Prepared &	Analyzed:	26-Apr-19				
Chloride	ND	16.0	mg/kg							
LCS (9042614-BS1)				Prepared &	Analyzed:	26-Apr-19				
Chloride	400	16.0	mg/kg	400		100	80-120			
LCS Dup (9042614-BSD1)				Prepared &	Analyzed:	26-Apr-19				
Chloride	400	16.0	mg/kg	400		100	80-120	0.00	20	

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Celey D. Keene, Lab Director/Quality Manager



LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296 LOVINGTON NM, 88260	Project: Project Number: Project Manager: Fax To:	AVALON 4848 NONE GIVEN JOEL LOWRY	Reported: 02-May-19 16:20
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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9042410 - Volatiles										
Blank (9042410-BLK1)				Prepared &	Analyzed:	24-Apr-19				
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0947		mg/kg	0.100		94.7	73.3-129			
LCS (9042410-BS1)				Prepared &	Analyzed:	24-Apr-19	1			
Benzene	1.87	0.050	mg/kg	2.00		93.7	72.2-131			
Toluene	2.02	0.050	mg/kg	2.00		101	71.7-126			
Ethylbenzene	1.95	0.050	mg/kg	2.00		97.4	68.9-126			
Total Xylenes	5.87	0.150	mg/kg	6.00		97.9	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.0950		mg/kg	0.100		95.0	73.3-129			
LCS Dup (9042410-BSD1)				Prepared &	Analyzed:	24-Apr-19	1			
Benzene	1.83	0.050	mg/kg	2.00		91.5	72.2-131	2.30	6.91	
Toluene	1.97	0.050	mg/kg	2.00		98.4	71.7-126	2.70	7.12	
Ethylbenzene	1.90	0.050	mg/kg	2.00		94.8	68.9-126	2.64	7.88	
Total Xylenes	5.78	0.150	mg/kg	6.00		96.3	71.4-125	1.63	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.0946		mg/kg	0.100		94.6	73.3-129			
Batch 9042501 - Volatiles										
Blank (9042501-BLK1)				Prepared &	Analyzed:	25-Apr-19	1			
Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.0960		mg/kg	0.100		96.0	73.3-129			

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Celey D. Keine

Celey D. Keene, Lab Director/Quality Manager


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Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9042501 - Volatiles										
LCS (9042501-BS1)				Prepared &	Analyzed:	25-Apr-19				
Benzene	1.96	0.050	mg/kg	2.00		98.0	72.2-131			
Toluene	2.11	0.050	mg/kg	2.00		105	71.7-126			
Ethylbenzene	2.02	0.050	mg/kg	2.00		101	68.9-126			
Total Xylenes	6.12	0.150	mg/kg	6.00		102	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.0950		mg/kg	0.100		95.0	73.3-129			
LCS Dup (9042501-BSD1)				Prepared &	Analyzed:	25-Apr-19				
Benzene	1.94	0.050	mg/kg	2.00		97.2	72.2-131	0.810	6.91	
Toluene	2.08	0.050	mg/kg	2.00		104	71.7-126	1.05	7.12	
Ethylbenzene	2.00	0.050	mg/kg	2.00		100	68.9-126	0.928	7.88	
Total Xylenes	6.09	0.150	mg/kg	6.00		102	71.4-125	0.418	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.0945		mg/kg	0.100		94.5	73.3-129			

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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal	Labora	tories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9042503 - General Prep - Organics										
Blank (9042503-BLK1)				Prepared &	Analyzed:	25-Apr-19				
GRO C6-C10	ND	10.0	mg/kg							
DRO >C10-C28	ND	10.0	mg/kg							
EXT DRO >C28-C36	ND	10.0	mg/kg							
Surrogate: 1-Chlorooctane	48.2		mg/kg	50.0		96.4	41-142			
Surrogate: 1-Chlorooctadecane	53.9		mg/kg	50.0		108	37.6-147			
LCS (9042503-BS1)				Prepared &	Analyzed:	25-Apr-19				
GRO C6-C10	178	10.0	mg/kg	200		89.2	76.5-133			
DRO >C10-C28	182	10.0	mg/kg	200		90.8	72.9-138			
Total TPH C6-C28	360	10.0	mg/kg	400		90.0	78-132			
Surrogate: 1-Chlorooctane	50.9		mg/kg	50.0		102	41-142			
Surrogate: 1-Chlorooctadecane	53.3		mg/kg	50.0		107	37.6-147			
LCS Dup (9042503-BSD1)				Prepared &	Analyzed:	25-Apr-19				
GRO C6-C10	184	10.0	mg/kg	200		91.8	76.5-133	2.80	20.6	
DRO >C10-C28	188	10.0	mg/kg	200		94.2	72.9-138	3.69	20.6	
Total TPH C6-C28	372	10.0	mg/kg	400		93.0	78-132	3.25	18	
Surrogate: 1-Chlorooctane	50.8		mg/kg	50.0		102	41-142			
Surrogate: 1-Chlorooctadecane	52.9		mg/kg	50.0		106	37.6-147			
Batch 9042505 - General Prep - Organics										
Blank (9042505-BLK1)				Prepared &	Analvzed:	25-Apr-19				

Blank (9042505-BLK1)	Prepared & Analyzed: 25-Apr-19							
GRO C6-C10	ND	10.0	mg/kg					
DRO >C10-C28	ND	10.0	mg/kg					
EXT DRO >C28-C36	ND	10.0	mg/kg					
Surrogate: 1-Chlorooctane	49.3		mg/kg	50.0	98.5	41-142		
Surrogate: 1-Chlorooctadecane	51.9		mg/kg	50.0	104	37.6-147		

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Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

		Doporting		Sniko	Source		%PEC		רוסס	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9042505 - General Prep - Organics										
LCS (9042505-BS1)				Prepared &	Analyzed:	25-Apr-19				
GRO C6-C10	188	10.0	mg/kg	200		94.0	76.5-133			
DRO >C10-C28	179	10.0	mg/kg	200		89.7	72.9-138			
Total TPH C6-C28	367	10.0	mg/kg	400		91.9	78-132			
Surrogate: 1-Chlorooctane	54.2		mg/kg	50.0		108	41-142			
Surrogate: 1-Chlorooctadecane	53.0		mg/kg	50.0		106	37.6-147			
LCS Dup (9042505-BSD1)				Prepared &	z Analyzed:	25-Apr-19				
GRO C6-C10	186	10.0	mg/kg	200		92.8	76.5-133	1.34	20.6	
DRO >C10-C28	179	10.0	mg/kg	200		89.4	72.9-138	0.308	20.6	
Total TPH C6-C28	364	10.0	mg/kg	400		91.1	78-132	0.834	18	
Surrogate: 1-Chlorooctane	54.0		mg/kg	50.0		108	41-142			
Surrogate: 1-Chlorooctadecane	50.4		mg/kg	50.0		101	37.6-147			

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Celey D. Keene, Lab Director/Quality Manager



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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Cardinal	La	bora	tories
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		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 9050121 - Volatiles										
Blank (9050121-BLK1)				Prepared &	Analyzed:	01-May-19)			
Benzene	ND	0.025	mg/kg							
Toluene	ND	0.025	mg/kg							
Ethylbenzene	ND	0.025	mg/kg							
Total Xylenes	ND	0.075	mg/kg							
Total BTEX	ND	0.150	mg/kg							
Surrogate: Dibromofluoromethane	1.21		mg/kg	1.25		96.9	90.4 - 111			
Surrogate: Toluene-d8	1.26		mg/kg	1.25		101	85.3-114			
Surrogate: 4-Bromofluorobenzene	1.26		mg/kg	1.25		101	80.1-121			
LCS (9050121-BS1)				Prepared &	Analyzed:	01-May-19)			
Benzene	1.83	0.025	mg/kg	2.00		91.3	75.1-126			
Toluene	1.94	0.025	mg/kg	2.00		96.8	71.7-121			
Ethylbenzene	2.00	0.025	mg/kg	2.00		99.9	80.2-118			
m+p - Xylene	4.14	0.050	mg/kg	4.00		104	83-124			
Total Xylenes	6.18	0.075	mg/kg	6.00		103	84.1-122			
o-Xylene	2.03	0.025	mg/kg	2.00		102	84.7-121			
Surrogate: Dibromofluoromethane	1.21		mg/kg	1.25		96.9	90.4-111			
Surrogate: Toluene-d8	1.24		mg/kg	1.25		98.8	85.3-114			
Surrogate: 4-Bromofluorobenzene	1.28		mg/kg	1.25		102	80.1-121			
LCS Dup (9050121-BSD1)				Prepared &	z Analyzed:	01-May-19)			
Benzene	1.88	0.025	mg/kg	2.00		93.8	75.1-126	2.76	15.7	
Toluene	2.06	0.025	mg/kg	2.00		103	71.7-121	6.21	14.4	
Ethylbenzene	2.16	0.025	mg/kg	2.00		108	80.2-118	7.95	14.1	
m+p - Xylene	4.44	0.050	mg/kg	4.00		111	83-124	6.81	14.6	
Total Xylenes	6.61	0.075	mg/kg	6.00		110	84.1-122	6.81	14.1	
o-Xylene	2.18	0.025	mg/kg	2.00		109	84.7-121	6.79	14	
Surrogate: Dibromofluoromethane	1.23		mg/kg	1.25		98.4	90.4-111			
Surrogate: Toluene-d8	1.28		mg/kg	1.25		103	85.3-114			
Surrogate: 4-Bromofluorobenzene	1.29		mg/kg	1.25		103	80.1-121			

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LOWRY ENVIROMENTAL & ASSOCIATES PO BOX 296 LOVINGTON NM, 88260	Project: Project Number: Project Manager: Fax To:	AVALON 4848 None given Joel Lowry	Reported: 02-May-19 16:20
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Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

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† Cardinal cannot accept verbal changes. Please fax written changes to 575-393-2476

ATTACHMENT #7 Photographic Log





Figure 2 View of portion of the excavated area, facing southeast.



Figure 3 View of surface staining from the initial release and sample location, facing East.



View of portion of the excavated area, facing northwest. Figure 4



Figure 5 View of portion of the excavated area, facing northeast.





Figure 5 View of the affected area after remediation activities, facing northeast.



ATTACHMENT #8 Release Notification (FORM C-141)

District 1 1625 N. French Dr., Hobbs, NM 88240 State of New Mexico Energy Minerals and Natural Resources JUL 0 9 2018 Form C-141 District II Revised August 8, 2011 811 S. First St., Artesia, NM 88210 Oil Conservation Division DISTRICT IL ARTESIA Secondance with 19.15.29 NMAC. District III 1000 Rio Brazos Road, Aztec, NM 87410 1220 South St. Francis Dr. District IV 1220 S. St. Francis Dr., Santa Fc, NM 87505 Santa Fe, NM 87505 FAB 1807457621 **Release Notification and Corrective Action** 1819151052 **OPERATOR** X Initial Report Final Report Name of Company - Energy Transfer Partners Contact - Dean D. Ericson Address 600 N. Marienfeld Street Ste.700 Telephone No. 432-238-2142 Facility Name Avalon Compressor Station Facility Type Compressor Station Surface Owner: NMSLO Mineral Owner N/A API No. LOCATION OF RELEASE Feet from the Unit Letter Section Township Range North/South Line Feet from the East/West Line County: 20 28E к 26S N/A N/A N/A N/A Eddy Latitude: 32.026186 Longitude: -104.117172 NATURE OF RELEASE 5.066 Condensate Volume of Release: 6.9bbls 2.0 bbls Volume Recovered: 0 Date and Hour of Occurrence: WARDate and Hour of Discovery: Type of Release: Fluid - Condensate and Water Source of Release: Tank Hatch 07/05/18 10:30am 10:30am Was Immediate Notice Given? If YES, To Whom? Yes D No X Not Required **Hobbs District Office** By Whom? Date and Hour Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. Yes No X N If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action Taken.* Tank equalizing valve was closed. Tank Equalizing valve opened. Describe Area Affected and Cleanup Action Taken.* Impacted area is approximately 47' x 50'x 6". Spill contained within the "pad", no off-site impact occurred. All standing fluid was removed. Impacted soil will be removed and hauled to disposal. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or Jocal laws and/or regulations. OIL CONSERVATION DIVISION 61111 lam Signature: Approved by Environmental Printed Name: Dean D. Ericson Approval Date: **Expiration Date:** Title: Sr. Environmental Specialist E-mail Address: dean.ericson@energytransfer.com Conditions of Approval; Attached BUD attac Date: 07/09/18 Phone: 432-238-2142 Attach Additional Sheets If Necessary

RECEIVED

Form C-141 Page 3 State of New Mexico Oil Conservation Division

Incident ID	nAB1819156522
District RP	2RP-4848
Facility ID	fAB1807457621
Application ID	NA

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discover date.

What is the shallowest depth to groundwater beneath the area affected by the release?	15-20 F	t. (ft. bgs)
Did this release impact groundwater or surface water?	Yes 🗸	No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	Yes 🔽	No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	Yes 🗸	No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	Yes 🔽	No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	Yes 🗸	No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	Yes 🗸	No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	Yes 🗹	No
Are the lateral extents of the release within 300 feet of a wetland?	Yes 🗾	No
Are the lateral extents of the release overlying a subsurface mine?	Yes 🗸	No
Are the lateral extents of the release overlying an unstable area such as karst geology?	Yes 🗸	No
Are the lateral extents of the release within a 100-year floodplain?	Yes 🔽	No
Did the release impact areas not on an exploration, development, production or storage site?	Yes 🗸	No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data

Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release

Boring or excavation logs (NA, Field Work Completed during Transistional Period)

- Photographs including date and GIS information (NA, Field Work Completed during Transistional Period)
- ✓ Topographic/Aerial maps
- ✓ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. Than plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modifies by site- and release-specific parameters.

Form C-141	State of New Mexico	Inc	ident ID	nAB1810156522
Page 4	Oil Conservation Division	Dis	trict RP	2RP-4848
•		Fac	ility ID	fAB1807457621
		Ар	plication ID	NA
I hereby certify that the iregulations all operators public health or the envir failed to adequately inve addition, OCD acceptance and/or regulations.	information given above is true and complete to the are required to report and/or file certain release no ronment. The acceptance of a C-141 report by the (stigate and remediate contamination that pose a thu ce of a C-141 report does not relieve the operator o	best of my knowledge tifications and perform OCD does not relieve th eat to groundwater, sur f responsibility for com	and understar corrective acti te operator of face water, hu pliance with a	nd that pursuant to OCD rules and ions for releases which may endanger liability should their operations have uman health or the environment. In any other federal, state, or local laws
Printed Name:	Dean Ericson	Title:	Sr. Enviro	nmental Specialist
Signature: KL	am De Correra	Date: 2/2	25/19	
email: <u>dean.er</u>	cison@energytransfer.com	Telephone:	817-3	302-9758
OCD Only		<u> </u>		
Received by:		Date:		_

Form C-141 Page 5 State of New Mexico Oil Conservation Division

Incident ID	nAB1819156522
District RP	2RP-4848
Facility ID	fAB1807457621
Application ID	NA

Remediation Plan

Remediation Plan Checklist: Each of the following items must be	included in the report.
Detailed description of proposed remediation technique	
Scaled sitemap with GPS coordinates showing delineation points	
Estimated volume of material to be remediated	
Closure criteria is to Table 1 specifications subject to 19.15.29.1	2(C)(4) NMAC
Proposed schedule for remediation (note if remediation plan time	line is more than 90 days OCD approval is required)
······································	
Deferral Requests Only: Each of the following items must be conf	irmed as part of any request for deferral of remediation.
Contamination must be in areas immediately under or around prodeconstruction.	duction equipment where remediation could cause a major facility
Extents of contamination must be fully delineated.	
Contamination does not cause an imminent risk to human health,	the environment, or groundwater.
I hereby certify that the information given above is true and complete	to the best of my knowledge and understand that pursuant to OCD
which may endanger public health or the environment. The accentance	tain release notifications and perform corrective actions for releases
liability should their operations have failed to adequately investigate a	nd remediate contamination that pose a threat to groundwater.
surface water, human health or the environment. In addition, OCD acc	eptance of a C-141 report does not relieve the operator of
responsibility for compliance with any other federal, state, or local law	rs and/or regulations.
Printed Name: Dean Ericson	Title: Sr. Environmental Specialist
Signature: Sean & Cardon	Date: 2/25/2019
email: dean.ercison@energytransfer.com	Telephone: 817-302-9758
OCD Only	
Received by:	Date:
Approved Approved with Attached Conditions of A	Approval Denied Deferral Approved
Signature:	Date:

ATTACHMENT #9 Field Data

FIELD NOTES

Site Name: Avalon 4848

Date: 4/22/19



Continue Exerction & Sile, Set up Trattic Control Tale addition 1-7: - from existing exercation

Field Seven for Culoride

Field ID	Odor/PID	Chloride
NEFluorpzi	None	132
NL. Floorpal	None	340
NW. FILDI PIB"	wore	744
NW.FIOUDP71	None	480
W. FLOOR	Noup	480

Field ID	Odor/PID	Chloride
SEFIOUR PAS	No-2	132
SEF NSW	Nove	300
SEFSSW	100-2	420
SEF WSW	V. Slight	L170

Field ID	Odor/PID	Chloride
SL FIDDIAZ'	None	208
SW FILLIOZ	100~P	430

	Chloride 52.B	
Nop		
Stions	-	
NOP	132	
None	480	
	No-p Strong No-P No-P	

Field ID	Odor/PID	Chloride
EWStein	Stions	-
)	

Field ID	Odor/PID	Chloride	

Site Name: Avalon West

SAMPLE LOG

Date: 4/17/2019

Sample ID	Latitude	Longitude	Chloride	Odor
Floor #1	N/A	NIA	928	Nuse
-100-#2	10		632	4
Floor H3	N	· ·	2228	N
Floor HU	ii		480	۰.
1-1001 H5	<u>N</u>		632	**
FLOOT #6	5		1144	
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