

AE Order Number Banner

Report Description

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.

App Number: pVF1733153109

3RP - 1058

Williams Four Corners, LLC

2/22/2018

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources FEB 01 2018

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

Form C-141 Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

	OPERATOR	Subsequent Report Final Report
Name of Company: Williams Four Corners LLC	Contact: Kijun Hong	
Address: 1755 Arroyo Dr., Farmington, NM 87413	Telephone No.: (505) 632-4475	
Facility Name: Hargrave RP F-2	Facility Type: Pipeline	

Mineral Owner

BLM Project No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
K	16	27N	10W					San Juan

Latitude <u>36.5749</u> Longitude <u>-107.9033</u>

NATURE OF RELEASE

Type of Release: Natural Gas	Volume of Release: 41.09 MCF	Volume Recovered: 0 MCF
Source of Release: Pipeline.	Date and Hour of Occurrence:	Date and Hour of Discovery:
	09/28/2017 at 11:30 AM	09/28/2017 at 11:30 AM
		Soil threshold was exceeded on
		10/17/2017
Was Immediate Notice Given?	If YES, To Whom?	
Yes 🗌 No 🗌 Not Required	Vanessa Fields	
By Whom? Chris Lucero	Date and Hour: 10/17/2017 @ 10:00	D AM
Was a Watercourse Reached?	If YES, Volume Impacting the Wate	ercourse.
🗌 Yes 🖾 No	NA	
If a Watercourse was Impacted, Describe Fully.*		
NA		
1325		
Describe Cause of Problem and Remedial Action Taken.*		
Natural gas and liquids released from a leak in the pipeline. The sect	tion was isolated and shut-in upon di	scovery
And a gas and related released it on a reactin the province the see	ion was isolated and shar in apon an	, corery:
Describe Area Affected and Cleanup Action Taken.*		
Clean up currently in progress. Approximately 3,000 yards of impa	cted soil have been trucked off site fo	or disposal and 3,000 yards of clean
dirt have been stock piled on site for back fill so far.		
I hereby certify that the information given above is true and complete to t	he best of my knowledge and understan	nd that pursuant to NMOCD rules and
regulations all operators are required to report and/or file certain release r		
public health or the environment. The acceptance of a C-141 report by th		
should their operations have failed to adequately investigate and remediat		
or the environment. In addition, NMOCD acceptance of a C-141 report d	loes not relieve the operator of responsi	bility for compliance with any other
federal, state, or local laws and/or regulations.		
$\Lambda I \Lambda \Lambda$	OIL CONSERV	ATION DIVISION
1 min and		
Signature:	Approved by Environmental Specialist	
Signature.		
Printed Name: Kijun Hong		
Timed Name. Kijun Hong	- China (
Title: Environmental Specialist	Approval Date: 315118	Expiration Date:
The Earth of the operation		
E-mail Address: kijun.hong@williams.com	Conditions of Approval:	
B. Contraction of the second sec		Attache
Date: 11/6/2017 Phone: (505) 632-4475	- /	
Attach Additional Sheets If Necessary	ALLE DOOLLO	222
	NVF1733148	0010

Susana Martinez Governor

Ken McQueen Cabinet Secretary

Matthias Sayer Deputy Cabinet Secretary

March 5, 2018

Mr. Aaron Galer Williams Four Corners LLC. 295 Chipeta Way Salt Lake City, Utah 84108 Heather Riley Division Director Oil Conservation Division



Re: Hargrave RP F-2 (3RP-1058) Groundwater Monitoring Work Plan

Dear Mr. Galer,

OCD has reviewed the subject work plan. OCD approves this work plan with the following conditions.

1.) Additional monitor well to be installed in the Northwest area of previous excavation.

2.) Provide District III staff with a schedule of major activities of tasks in your work plan

3.) Provide District III staff at least 72 hours prior notice of major activities in the schedule so that staff can witness activities.

4.) Collect two QA/QC samples as described in 6.8 of LTE's groundwater sampling plan.

Cando confiss

Randolph Bayliss, P.E. Hydrologist 505-476-3084

Vanessa Fields Environmental Specialist 505-334-6178 ext. 119

Cc: Jim Griswold, Brandon Powell, Cory Smith

Fields, Vanessa, EMNRD

From:	Fields, Vanessa, EMNRD
Sent:	Thursday, January 4, 2018 3:34 PM
То:	'Daniel Burns'
Cc:	Thomas, Leigh; Galer, Aaron; Ashley Ager; Smith, Cory, EMNRD
Subject:	RE: Hargrave RP F-2 - Proposed Remediation Workplan

Good afternoon Danny,

The OCD grants approval of Williams proposed work plan for the Hargrave RP F-2. Please submit a hardcopy with a subsequent C-141.

Please ensure to receive surface owner approval before proceeding with the amendment.

Thank you,

Vanessa Fields Environmental Specialist Oil Conservation Division Energy, Minerals, & Natural Resources 1000 Rio Brazos, Aztec, NM 87410 (505)334-6178 ext 119 Cell: (505) 419-0463 vanessa.fields@state.nm.us

From: Daniel Burns [mailto:dburns@ltenv.com]
Sent: Thursday, January 4, 2018 12:06 PM
To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Thomas, Leigh <l1thomas@blm.gov>; Galer, Aaron <Aaron.Galer@Williams.com>; Ashley Ager <aager@ltenv.com>
Subject: Hargrave RP F-2 - Proposed Remediation Workplan

Vanessa,

Please see the attached remediation workplan regarding the Hargrave RP F-2 location. We are tentatively scheduled to resume excavation activities next week, so if you would review and approve at your earliest convenience, that would be much appreciated. The excavation will continue in the north (NW-1) and east (EW-1) walls where samples indicated soil impacts remain. We'll schedule confirmation soil sampling with you and have the results rushed prior to backfill and applying the prescribed groundwater amendment. Our working schedule is to begun backfilling the week of the 15th.

Let us know if you have any questions.

Thank you, Danny Burns Project Geologist

LT Environmental, Inc.





January 25, 2018

Ms. Vanessa Fields New Mexico Oil Conservation Division 1000 Rio Brazos Road Aztec, New Mexico 87410

RE: Proposed Groundwater Monitoring Workplan Hargrave RP F-2 Pipeline Release Environmental Order # 3RP-1058 Williams Four Corners LLC San Juan County, New Mexico

Dear Ms. Fields:

LT Environmental, Inc. (LTE), on behalf of Williams Four Corners LLC (Williams), proposes the following work plan to install a groundwater monitoring network following initial remediation activities at the Hargrave RP F-2 pipeline release (Site) located in the northeast quarter of the southwest quarter of Section 16 within Township 27 North and Range 10 West in the San Juan Basin in San Juan County, New Mexico (Figure 1).

BACKGROUND/INITIAL EXCAVATION AND DELINEATION

Soil at the Site was impacted by petroleum hydrocarbons following a release from the Hargrave RP F-2 natural gas pipeline encountered on September 28, 2017. Upon discovery, the pipeline was isolated and shut in. Williams began excavation immediately, and excavated over 3,000 cubic yards of impacted soil.

On November 27 and 28, 2017, LTE advanced eight borings to delineate potential soil and groundwater impacts outside of the excavation (Figure 2). Boreholes were advanced using a CME 55 drill rig with hollow stem auger techniques in all directions around the existing excavation extent. Soil from the borings was described and field screened every five feet for volatile organic compounds (VOCs) with a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp per methods in accordance with the New Mexico Oil Conservation Division (NMOCD) *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. The sample with the highest field screening value as well as the bottom of each soil boring were collected from each borehole and submitted to Hall Environmental Analysis Laboratory (Hall) for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by United States Environmental Protection Agency (EPA) Method 8021, and total petroleum hydrocarbon (TPH) – gasoline range organics (GRO), diesel range organics (DRO), motor oil range organics (MRO) by EPA Method 8015. Laboratory analytical results from the soil delineation activities are presented in Table 1 and complete laboratory analytical reports are included in Attachment 1. All samples collected from the





Fields, V. Page 2

boreholes at the Site were in compliance with the NMOCD remediation action levels for BTEX and TPH based on a site ranking of 20. Soil boring locations are presented on Figure 2.

On November 28 and December 6, 2017, excavation confirmation soil samples were collected from the sidewalls of the existing excavation extent. An excavator bucket was used to collect 5-point composite sidewall confirmation soil samples. The samples were spaced approximately every 25 to 30 linear feet along the sidewall. Samples were submitted to Hall for analysis of BTEX and TPH – GRO, DRO and MRO. Laboratory analytical results from the excavation confirmation samples are presented in Table 1. Results of the laboratory analyses indicated that the excavation confirmation soil samples collected in the northern half of the eastern wall (EW-1) and the western half of the northern wall (NW-1) exhibited TPH concentrations of 713 milligrams per kilogram (mg/kg) and 160 mg/kg, respectively, which exceeded the NMOCD remediation standards. Excavation confirmation soil sample EW-1 also exhibited a total BTEX concentration of 64.08 mg/kg that exceeds the applicable standard. No excavation confirmation soil samples were collected from the base of the excavation, as groundwater had infiltrated in and filled the base of the excavation.

A grab sample of the excavation groundwater was collected via peristaltic pump and submitted to Hall for analysis of BTEX, TPH-GRO, DRO, and MRO. The excavation groundwater sample laboratory analytical results are summarized in Table 2 and the laboratory analytical report is included in Attachment 1. Laboratory analytical results indicate the excavation groundwater exhibited a benzene concentration of 310 micrograms per liter (μ g/L) which exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard for benzene of 10 μ g/L. Excavation confirmation soil and groundwater sample locations are presented on Figure 2.

ADDITIONAL EXCAVATION AND GROUNDWATER AMENDMENT APPLICATION

Since laboratory analytical results from excavation confirmation soil samples exceeded NMOCD remediation action levels, Williams conducted additional excavation of the remaining impacted sidewalls (EW-1 and NW-1). Following excavation, confirmation soil samples were collected in the presence of the NMOCD by Williams personnel on January 16, 2018 to ensure hydrocarbon impacts have been removed laterally via additional excavation activities. Samples were submitted to Hall for analysis of BTEX by EPA Method 8021 and TPH –GRO, DRO, and MRO by EPA Method 8015. In total, an estimated 6,500 cubic yards of soil impacts were excavated and transported for disposal at the landfarm facility operated by Envirotech Inc. in Hilltop, New Mexico. Additional excavation confirmation soil samples and the total excavation area is presented in Figure 2.

Laboratory analytical results from the two additional confirmation soil samples (East Area 6 Point and North West 6 Point) are in compliance with the NMOCD remediation standards and are presented in Table 1.



Fields, V. Page 3



Following the receipt of excavation confirmation soil sample laboratory results and prior to backfill, LTE added 750 pounds of a groundwater amendment (BOS200[®]) to the base of the excavation footprint. The groundwater amendment ensures that any remaining recalcitrant impacts to the saturated zone are mitigated. The BOS200[®] groundwater amendment is a mix of activated carbon, petroleum consuming microbes, calcium sulfate (gypsum), and nutrients. The product remediates hydrocarbons in the groundwater and saturated sediments through biological degradation of the hydrocarbon compounds. The product was applied directly to the smear zone during backfilling where the activated carbon will attract any hydrocarbons and adsorb them to the carbon matrix, where the hydrocarbons are co-located with microbes, nutrients, and electron acceptors. As the hydrocarbons are adsorbed into the activated carbon, the microbes use the hydrocarbons as a food source for respiratory and metabolic processes. The microbes metabolize the hydrocarbons that are adsorbed to the activated carbon. Gypsum at low concentrations is added to the mix to ensure proper mass of electron acceptors (the bacteria may use available oxygen or the supplemental sulfate) in order for the facultative bacteria to consume the hydrocarbons. The hydrocarbons are transformed via the microbial action to the innocuous products of carbon dioxide and water, which escape the activated carbon matrix and allow for re-adsorption of additional hydrocarbons. The technology has thus been coined a "trap and treat" technology, as the activated carbon immediately removes hydrocarbons (trap) in preparation for bioremediation processes (treat).

PROPOSED GROUNDWATER MONITORING WORKPLAN

Since impacted groundwater was encountered during excavation activities at the Site, LTE proposes the installation of five groundwater monitoring wells to monitor any residual impact and evaluate the efficacy of the BOS200[®] amendment. Three monitoring wells will be located outside the excavation area, with two wells located within the excavation area to be installed after the excavation is backfilled and pipelines replaced. The proposed monitoring well locations are shown in Figure 2.

Each new monitoring well be installed by via a hollow stem auger drilling rig. Continuous soil samples will be logged by an LTE geologist and described using the Unified Soil Classification System (USCS). The intervals from immediately beneath the ground surface and then every five feet thereafter will be screened for volatile aromatic hydrocarbons as well as any soil that is stained or has a hydrocarbon odor using a PID. If PID concentrations exceed 100 parts per million (ppm) in any of the soil samples, the sample will be submitted to Hall for analysis of BTEX by EPA Method 8021 TPH –GRO, DRO, and MRO by EPA Method 8015.

The monitoring wells will be installed to a depth of approximately 20 feet below ground surface. Monitoring wells will be constructed of schedule 40, 2-inch diameter polyvinyl chloride (PVC) and include 10 feet of 0.01-inch machine slotted flush-threaded PVC well screen. LTE will set at least 5 feet of screen beneath the water table and approximately 5 feet above to allow for seasonal fluctuations and a proper seal during well construction. A clean 10-20 grade silica sand gravel





pack will be placed from the bottom of the boring to one foot above the top of the screen. At least two feet of 3/8-inch natural bentonite chips will be set above the gravel pack to the ground surface.

At least 24 hours after installation, the new monitoring wells will be developed utilizing an electrical submersible pump. LTE personnel will remove a minimum of 10 saturated well casing volumes of water while monitoring the pH, electrical conductivity, and temperature until these parameters stabilize and turbidity is reduced to the greatest extent possible.

LTE will complete all work in accordance with industry-accepted practices. LTE will survey the new groundwater monitoring wells after construction with a Trimble[®] GeoExplorer[®] 6000 series Global Positioning System (GPS) to determine the latitude and longitude. Top-of-casing elevations will be surveyed to an accuracy of no less than plus or minus (\pm) 0.01 feet so that groundwater flow direction and gradient can be determined. Field activities will be documented in a bound field book and soil descriptions will be documented on a boring log. Observations to be noted on the boring log will include, but not be limited to, lithology, moisture content, staining, soil boring depth, latitude, longitude, project number, and comments. Monitoring well construction details will be documented on a well completion log. All down-hole drilling equipment will be thoroughly decontaminated prior to each use. If impacted soil is identified within a borehole, cuttings will be drummed and transported to the Envirotech, Inc. Landfarm in Hilltop, New Mexico.

At least one week after completion of monitoring well installation and development, groundwater sampling will be conducted using a peristaltic pump with dedicated tubing for low-flow sampling. LTE will measure depth to groundwater and total depth of the monitoring wells with a Keck[®] oil/water interface probe prior to sampling. As water is removed from the monitoring wells, pH, electric conductivity, and temperature will be monitored utilizing an in-line flow cell.

Once monitoring wells are properly purged, groundwater samples for laboratory analysis will be collected by filling pre-cleaned vials with zero headspace to prevent degradation of the sample and plastic bottles with appropriate preservatives. All groundwater samples will be labeled with the date and time of collection, well designation, project name, collector's name, and parameters to be analyzed. The samples will be immediately chilled by placing them in a cooler with ice. The cooler will be delivered to Hall following proper chain-of-custody procedures for analysis of BTEX according to EPA Method 8260.

Groundwater will be monitored quarterly until eight consecutive quarters show results that are below NMWQCC standards in the two monitoring wells within the excavation and the two downgradient monitoring wells. After the initial sampling event, the upgradient monitoring well will be used for groundwater elevation monitoring only. Quarterly groundwater monitoring will be documented and submitted in annual reports to the NMOCD. Reports will include groundwater elevations, relevant figures, including site location and potentiometric surface maps, and analytical results. The initial annual report will include soil boring and monitoring well completion logs.





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LTE appreciates the opportunity to provide this proposed work plan to the NMOCD. If you have any questions or comments regarding this plan, do not hesitate to contact me at (970) 385-1096 or via email at aager@ltenv.com or Aaron Galer at Williams at (801) 584-6746 or <u>Aaron.Galer@Williams.com</u>.

Sincerely,

LT ENVIRONMENTAL, INC.

Danny Burns Project Geologist

Ashley L. ager

Ashley Ager, M.S., P.G. Senior Geologist, VP of Regional Offices

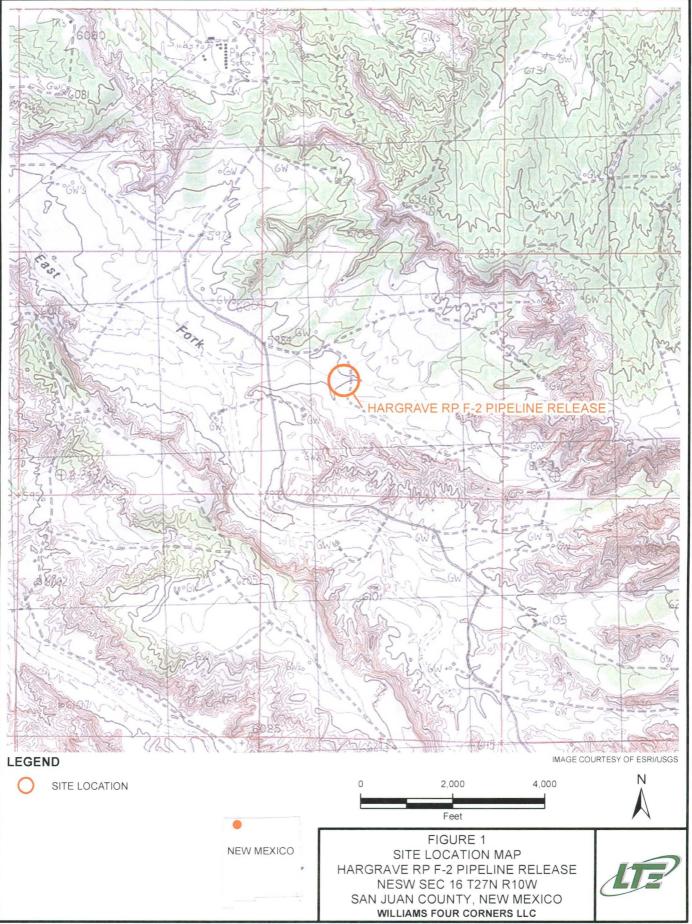
cc: Brandon Powell, Cory Smith - NMOCD

Attachments Figure 1 – Site Location Map Figure 2 – Site Map Table 1 – Soil Analytical Results Table 2 – Groundwater Analytical Results Attachment 1 – Laboratory Analytical Reports

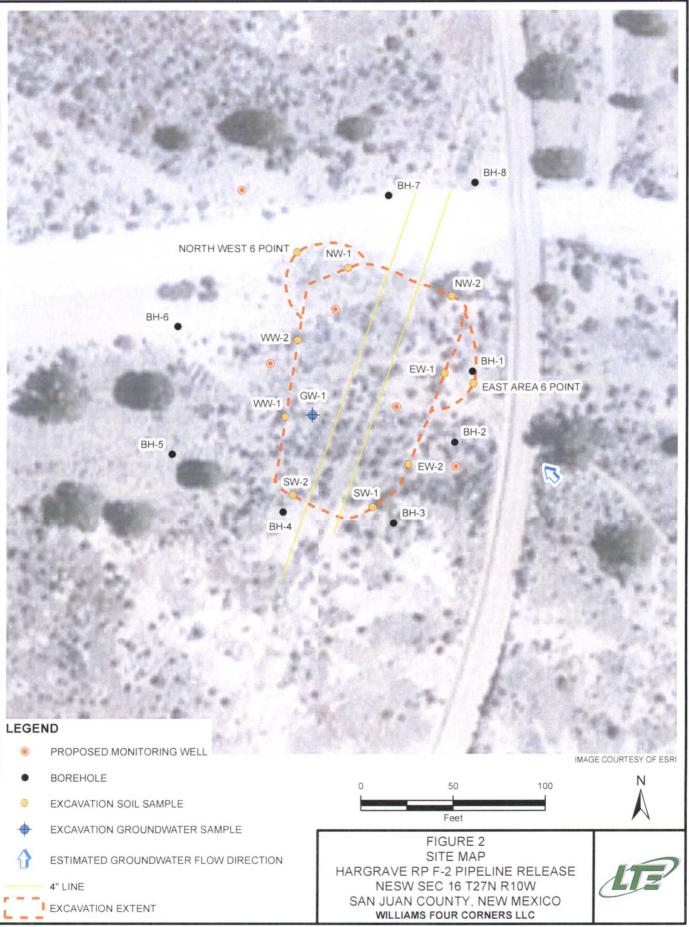


FIGURES





P:/Williams.Four.Corners/GIS/MXD/034017003_HARGRAVE/034017003_HARGRAVE_FIG01_SL.mo



P \Williams Four Corners\GIS\MXD\034017003_HARGRAVE\034017003_HARGRAVE_FIG01_SITE m

TABLES



TABLE 1 SOIL ANALYTICAL RESULTS

HARGRAVE RP F-2 PIPELINE RELEASE SAN JUAN COUNTY, NEW MEXICO WILLIAMS FOUR CORNERS LLC

Sample ID	Sample Date	Vapor (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
	a plan and the of the		side and a state	Soil Boring	- Delineatio	n Samples	a Mitta Mittanie	to deal the	Series Cardination	and the second	
BH1 @ 4-5'	11/27/2017	7.0	< 0.024	< 0.048	<0.048	< 0.097	< 0.217	<4.8	<9.1	<46	<59.9
BH1 @ 18-20'	11/27/2017	1.9	< 0.024	< 0.049	< 0.049	< 0.098	< 0.220	<4.9	11	<50	11
BH2 @ 4-5'	11/27/2017	22.3	< 0.023	< 0.046	<0.046	< 0.092	< 0.207	<4.6	< 9.8	<49	<63.4
BH2 @ 18-20'	11/27/2017	2.4	< 0.024	< 0.048	< 0.048	< 0.096	< 0.216	<4.8	<9.6	<48	<62.4
BH3 @ 8-10'	11/27/2017	7.5	< 0.024	< 0.048	<0.048	<0.097	< 0.217	<4.8	<9.8	<49	<63.6
BH3 @ 18-20'	11/27/2017	1.9	< 0.024	< 0.048	<0.048	< 0.096	< 0.216	<4.8	<9.5	<47	<61.3
BH4 @ 13-15'	11/27/2017	15.1	< 0.024	< 0.048	<0.048	<0,095	< 0.215	<4.8	< 9.8	<49	<63.6
BH4 @ 23-25'	11/27/2017	0.9	< 0.024	< 0.047	<0.047	< 0.095	< 0.213	<4.7	<9.7	<48	<62.4
BH5 @ 8-10'	11/28/2017	5.4	<0.025	< 0.049	< 0.049	<0.099	<0.222	<4.9	< 9.3	<46	<60.2
BH5 @ 23-25'	11/28/2017	0.9	< 0.024	< 0.048	<0.048	< 0.097	< 0.217	<4.8	<9.6	<48	<62.4
BH6 @ 13-15'	11/28/2017	4.6	< 0.025	< 0.049	< 0.049	< 0.099	<0.222	<4.9	<9.6	<48	<62.5
BH6 @ 23-25'	11/28/2017	2.8	< 0.024	< 0.048	<0.048	< 0.096	< 0.216	<4.8	<9.2	<46	<60
BH7 @ 8-10'	11/28/2017	4.1	< 0.024	< 0.047	< 0.047	< 0.095	< 0.213	<4.7	<9.9	<49	<63.6
BH7 @ 18-20'	11/28/2017	0.9	< 0.024	< 0.047	< 0.047	< 0.095	< 0.213	<4.7	11	<49	11
BH8 @ 3-5'	11/28/2017	3.1	< 0.023	< 0.047	< 0.047	< 0.093	< 0.210	<4.7	<9.7	<48	<62.4
BH8 @ 23-25'	11/28/2017	0.9	< 0.023	< 0.047	< 0.047	< 0.093	< 0.210	<4.7	<9.1	<46	<59.8
particular a second	And Same and Same	lease allocations]	Excavation	Confirmatio	on Samples	States and	S. Albert Maria	Service and service	and a state of the	- my in parts
SW-1	11/28/2017	34.3	< 0.024	< 0.048	<0.048	< 0.097	< 0.217	<4.8	<9.7	<48	<62.5
SW-2	11/28/2017	1,891	0.024	0.49	0.1	1.3	1.91	14	<10	<50	14
EW-1	11/28/2017	1,564	0.78	15	4.3	44	64.08	680	33	<49	713
EW-2	11/28/2017	1,936	0.065	0.65	0.092	0.88	1.69	6.0	<9.6	<48	6.0
NW-1	11/28/2017	1,924	1.9	16	2.3	20	40.20	160	<9.8	<49	160
NW-2	11/28/2017	2,134	0.55	5.8	1.1	11	18,45	90	<9.7	<48	90
WW-1	12/6/2017	1,998	< 0.12	1.1	0.68	6.9	8.68	100	<9.7	<48	100
WW-2	12/6/2017	2,048	< 0.025	0.63	0.19	2.0	2.82	13	<10	<50	13
East Area 6 Point	1/16/2018	NM	< 0.019	< 0.039	<0.039	<0.077	<0.174	<3.9	<9.7	<48	<61.6
North West 6 Point	1/16/2018	NM	0.41	1.7	0.15	1.3	3.56	62	<9.7	<49	62
10CD Closure Cr	iteria		10	NE	NE	NE	50	NE	NE	NE	100

NOTES:

BTEX - benzene, toluene, ethylbenzene, total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

MRO - motor oil range organics

NMOCD - New Mexico Oil Conservation Division

ppm - parts per million

NE - not established

NM - not measured

TPH- total petroleum hydrocarbons

< - indicates result is less than the stated laboratory reporting limit

BOLD indicates result exceeds applicable standard



TABLE 2 GROUNDWATER ANALYTICAL RESULTS

HARGRAVE RP F-2 PIPELINE RELEASE SAN JUAN COUNTY, NEW MEXICO WILLIAMS FOUR CORNERS LLC

Sample ID	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethyl- benzene (µg/L)	Total Xylenes (µg/L)	GRO (mg/L)	DRO (mg/L)	MRO (mg/L)
GW-1	12/6/2017	310	600	21	250	3.4	1.8	<5.0
NMWQC	CC Standard	10	750	750	620	NE	NE	NE

Notes:

µg/L - micrograms per liter

mg/L - milligrams per liter

NMWQCC - New Mexico Water Quality Control Commission

NE - not established

< - indicates result is below laboratory detection limit

BOLD indicates result exceeds the NMWQCC standard



ATTACHMENT

LABORATORY ANALYTICAL REPORTS





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

October 31, 2017

Kijun Hong Williams Field Services 1755 Arroyo Dr., Bloomfield, NM 87413 TEL: (505) 632-4442 FAX

RE: Har Grave RP F 2

OrderNo.: 1710E47

Dear Kijun Hong:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/27/2017 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 #NM0190

Sincerely,

ander

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Williams Field Servi	ices		Client Sampl	e ID: Ha	rgrave RP F-2 Botton	n Comp	
Project: Har Grave RP F 2			Collection I	Date: 10	/26/2017 1:45:00 PM		
Lab ID: 1710E47-001	Matrix:	Matrix: MEOH (SOIL)		Received Date: 10/27/2017 8:00:00 AM			
Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch	
EPA METHOD 300.0: ANIONS					Analys	t: MRA	
Chloride	ND	30	mg/Kg	20	10/27/2017 1:27:30 PM	1 34680	
EPA METHOD 8015M/D: DIES	EL RANGE ORGANIC	S			Analys	t: TOM	
Diesel Range Organics (DRO)	ND	8.1	mg/Kg	1	10/27/2017 10:38:46 A	M 34675	
Motor Oil Range Organics (MRO) ND	40	mg/Kg	1	10/27/2017 10:38:46 A	M 34675	
Surr: DNOP	93.3	70-130	%Rec	1	10/27/2017 10:38:46 A	M 34675	
EPA METHOD 8015D: GASOL	INE RANGE				Analys	t: NSB	
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	10/27/2017 10:48:49 A	M G46704	
Surr: BFB	85.6	15-316	%Rec	1	10/27/2017 10:48:49 A	M G46704	
EPA METHOD 8021B: VOLAT	ILES				Analys	t: NSB	
Benzene	ND	0.017	mg/Kg	1	10/27/2017 10:48:49 A	M B46704	
Toluene	0.038	0.035	mg/Kg	1	10/27/2017 10:48:49 A	M B46704	
Ethylbenzene	ND	0.035	mg/Kg	1	10/27/2017 10:48:49 A	M B46704	
Xylenes, Total	ND	0.070	mg/Kg	1	10/27/2017 10:48:49 A	M B46704	
Surr: 4-Bromofluorobenzene	98.1	80-120	%Rec	1	10/27/2017 10:48:49 A	M B46704	

Hall Environmental Analysis Laboratory, Inc.

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

Qualifiers: *	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	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	Page 1
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	r age r
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of lim	it as specif

% Recovery outside of range due to dilution or matrix S

1 of 5

Analytical Report Lab Order 1710E47

Date Reported: 10/31/2017

W Sample container temperature is out of limit as specified

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Williams Field Services

Project: Har Grave RP F 2

Sample ID MB-34680	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 34680	RunNo: 46707		
Prep Date: 10/27/2017	Analysis Date: 10/27/2017	SeqNo: 1488562	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID LCS-34680	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Sample ID LCS-34680 Client ID: LCSS	SampType: Ics Batch ID: 34680	TestCode: EPA Method RunNo: 46707	300.0: Anions	
	1 31		300.0: Anions Units: mg/Kg	
Client ID: LCSS	Batch ID: 34680 Analysis Date: 10/27/2017	RunNo: 46707		RPDLimit Qual

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 2 of 5

WO#: 1710E47 31-Oct-17

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Williams Field Services **Client:**

Project: Har Grave RP F 2

Sample ID LCS-34675	SampType: LCS			Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: LCSS	Batch	n ID: 34	675	F	RunNo: 4	6696				
Prep Date: 10/27/2017	Analysis D	ate: 10	0/27/2017	S	SeqNo: 1	487893	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.5	73.2	114			
Surr: DNOP	4.2		5.000		83.0	70	130			
Sample ID MB 24675	SamaT			Too			004 EM/D: Di	Dana	Ormanica	
Sample ID MB-34675	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Sample ID MB-34675 Client ID: PBS		ype: ME			tCode: El RunNo: 4		8015 M /D: Die	esel Range	e Organics	
		1D: 34		R		6696	8015M/D: Die Units: mg/K	Ū	e Organics	
Client ID: PBS	Batch	1D: 34	675 D/27/2017	R	RunNo: 4	6696		Ū	e Organics	Qual
Client ID: PBS Prep Date: 10/27/2017 Analyte	Batch Analysis D	ate: 10	675 D/27/2017	F	RunNo: 4 GeqNo: 14	6696 487894	Units: mg/K	g	J	Qual
Client ID: PBS Prep Date: 10/27/2017	Batch Analysis D Result	n ID: 340 ate: 10	675 D/27/2017	F	RunNo: 4 GeqNo: 14	6696 487894	Units: mg/K	g	J	Qual
Client ID: PBS Prep Date: 10/27/2017 Analyte Diesel Range Organics (DRO)	Batch Analysis D Result ND	n ID: 34 ate: 10 PQL 10	675 D/27/2017	F	RunNo: 4 GeqNo: 14	6696 487894	Units: mg/K	g	J	Qual

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
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- 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 3 of 5

31-Oct-17

WO#: 1710E47

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client:Williams Field ServicesProject:Har Grave RP F 2

the second se		the second se		
Sample ID RB	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: G46704	RunNo: 46704		
Prep Date:	Analysis Date: 10/27/2017	SeqNo: 1488186	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDL	imit Qual
Gasoline Range Organics (GRO)	ND 5.0			
Surr: BFB	830 1000	83.3 15	316	
Sample ID 2.5UG GRO LCS	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: G46704	RunNo: 46704		
Prep Date:	Analysis Date: 10/27/2017	SeqNo: 1488187	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDL	imit Qual
Gasoline Range Organics (GRO)	25 5.0 25.00	0 98.8 75.9	131	
Surr: BFB	960 1000	96.1 15	316	
Sample ID MB-34651	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 34651	RunNo: 46704		
Prep Date: 10/26/2017	Analysis Date: 10/27/2017	SeqNo: 1488208	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDL	imit Qual
Surr: BFB	870 1000	87.2 15	316	
Sample ID LCS-34651	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 34651	RunNo: 46704		
Prep Date: 10/26/2017	Analysis Date: 10/27/2017	SeqNo: 1488209	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLi	imit Qual
Surr: BFB	990 1000	99.0 15	316	

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 4 of 5

-	MMARY vironmenta				ory, Inc.					WO#:	171 <i>31-0</i>
Client: Project:	Williams Har Grav	Field Server	vices								
Sample ID	RB	Samp	уре: М	BLK	Test	Code: El	PA Method	8021B: Volat	tiles		
Client ID:	PBS	Batc	h ID: B4	46704	R	unNo: 4	6704				
Prep Date:		Analysis [Date: 1	0/27/2017	S	eqNo: 1	488226	Units: mg/K	٢g		
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-Brom	ofluorobenzene	0.98		1.000		98.1	80	120			
Sample ID	100NG BTEX LCS	Samp1	ype: LC	s	Test	Code: El	PA Method	8021B: Volat	tiles		
Client ID:	LCSS	Batc	D: B4	46704	R	unNo: 4	6704				
Prep Date:		Analysis D	ate: 1	0/27/2017	S	eqNo: 1	488227	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Ethylbenzene	0.93	0.050	1.000	0	93.3	80.7	127			
Xylenes, Total	2.8	0.10	3.000	0	93.8	81.6	129			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	80	120			
Sample ID MB-34651	Samp	Гуре: МВ	LK	Tes	tCode: EP	A Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 346	51	F	RunNo: 46	704				
Prep Date: 10/26/2017	Analysis D	Date: 10/	27/2017	5	SeqNo: 148	88248	Units: %Red	;		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	80	120			
Sample ID LCS-34651	Samp1	Type: LCS	6	Tes	tCode: EP/	A Method	8021B: Volat	iles		
Client ID: LCSS	Batcl	h ID: 346	51	F	RunNo: 467	704				
Prep Date: 10/26/2017	Analysis D	Date: 10/	27/2017	5	SeqNo: 148	88249	Units: %Rec	;		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

0

0

96.3

94.4

77.3

79.2

128

125

Qualifiers:

Benzene

Toluene

- Value exceeds Maximum Contaminant Level. *
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded

0.96

0.94

0.025

0.050

1.000

1.000

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- Page 5 of 5

- Sample pH Not In Range Р
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

10E47 Oct-17

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental A Albug LEL: 505-345-39754 Website: www.hali	4901 Hawkins N guergue, NM 8710 FAX: 505-345-410	99 Sam	ole Log-In Check List
Client Name: WILLIAMS FIELD SERVI	Work Order Number.	1710E47		RcptNo: 1
Received By: Sophia Campuzano	10/27/2017 8:00:00 AM		žejla, če zn -	
Completed By: Ashley Gallegos Reviewed By:	10/27/2017 8:42:45 AM		A	
Chain of Custody				
1. Custody seals intact on sample bottles?		Yes	No 🗍	Not Present
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present
3. How was the sample delivered?		Courier		
Log In				
Was an attempt made to cool the samples	?	Yes 🗹	No	NA
5. Were all samples received at a temperatur	e of >0" C to 6.0°C	Yes 🗹	No 🗌	NA 🗌
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌	
7. Sufficient sample volumo for indicated test	(5)?	Yes 🗹	No 🗌	
Are samples (except VOA and ONG) prope	rly proserved?	Yes 🗸	No 🗌	
9. Was preservative added to bottles?		Yes	No 🗹	NA
0.VOA vials have zero headspace?		Yes	No	No VOA Vials 🗹
1. Were any sample containers received brok	en?	Yes	No 🗸	# of preserved
2.Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🔽	Na 🗌	for pH: (<2 or >12 unless noted)
3. Are matrices correctly identified on Chain o	f Custody?	Yes 🗸	No 🗌	Adjusted?
4. Is it clear what analyses were requested?		Yes 🖌	No 🗌	
5. Ware all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗌	Checked by:
pecial Handling (if applicable)				
6. Was client notified of all discrepancies with	this order?	Yes	No L	NA 🗹
Porson Notified:	Date	Comparison Comparison		
By Whom:	3	eMail Pho	one 🗍 Fax	In Person
Regarding:		- Land	Participation of the last of the last	
Client Instructions:				
7. Additional remarks				
8. <u>Cooler Information</u> <u>Cooler No</u> Temp °C <u>Condition</u> S 1 3.1 Good Ye	Contraction of the second s	eal Date S	igned By	
Page 1 of 1	-			Sector "

			stody Record	Turn-Around Time: Same Day				10.5	H			F	٧V	TR	20	NP	٨E	NT	AL		
Client:	WFS			Standard	Rush_	10-27-17		1000	_										TC		
				Project Name:												al.co					
Mailing.	Address	1755	- ARROYO DR	Har Grave RP F-2 4901 Hawkins NE - A Project #: Tel 505-345-3975			E - Albuquerque, NM 87109														
1310	OMEI		Im 87413	Project #:				Те	1. 50	5-34	5-39	975	F	ax	505-	345-	4107	7			
Phone #	1: 505	5-632	- 4475							-	1	A	naly	sis	Req	uest					
email or	r Fax#: "	CIUN-1	Hong @ Willians .con	Project Mana	ger:		=	TPH (Gas only)	RO)					04)	s						
QA/QC F	QA/QC Package:						802	as o	W/W			SIMS)		O4,S	CB						
□ Stan			Level 4 (Full Validation)	KIJUN	Kijun Hong Sampler: Morgon, Killion Gwillions_com		B	U CO	SRO			SIN		D2,P(82 P						
Accredit		□ Othe	r	Sampler: Ma	Unice. A res Lino		た	TPI	1/02	18.1)	04.1)	8270		DNIC ONC	/ 80		(A)				Dr N)
EDD	(Type)					MTBE -	BE	9	-b po	00 50	0 or	stals	UN(ides	A	-10	2			ž	
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO:	BTEX + MT	BTEX + MTBE +	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Chlorde	-		Air Bubbles (Y or N)
10/26/17	1:45	Soil	Hangrave RP F-2 Bettom Comp.	1-402	200	-001	X		X									X			
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Date:	Time:	Relinquish	ned by: -	Received by:		Date Time	Rer	nark	S:				-				1				
16/26/17 Date:	1530 Time:		-Killion	Received by:	War	10/26/17 1530 Date Time	-							CC	. ¥	no	rsa	nk	illia men	0	
10/24/17		0.			a 10											totod o			17		pier

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

December 06, 2017

Aaron Galer Williams Four Corners 188 CR 4900 Bloomfield, NM 87413 TEL: (505) 632-4442 FAX

RE: Hargrave RP F 2

OrderNo.: 1711E00

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 11 sample(s) on 11/30/2017 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 #NM0190

Sincerely,

ander

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Williams Four CornersProject:Hargrave RP F 2Lab ID:1711E00-001Matrix: SOIL

Client Sample ID: BH-1 4'-5' Collection Date: 11/27/2017 9:30:00 AM Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	5			Analyst	том
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	12/4/2017 7:02:27 PM	35267
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/4/2017 7:02:27 PM	35267
Surr: DNOP	95.0	70-130	%Rec	1	12/4/2017 7:02:27 PM	35267
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/1/2017 3:12:35 PM	35250
Surr: BFB	111	15-316	%Rec	1	12/1/2017 3:12:35 PM	35250
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	12/1/2017 3:12:35 PM	35250
Benzene	ND	0.024	mg/Kg	1	12/1/2017 3:12:35 PM	35250
Toluene	ND	0.048	mg/Kg	1	12/1/2017 3:12:35 PM	35250
Ethylbenzene	ND	0.048	mg/Kg	1	12/1/2017 3:12:35 PM	35250
Xylenes, Total	ND	0.097	mg/Kg	1	12/1/2017 3:12:35 PM	35250
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	12/1/2017 3:12:35 PM	35250

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Fo	ur Corners	Client Sample ID: BH-1 18'-20'									
Project: Hargrave RI	PF 2	Collection Date: 11/27/2017 10:00:00 AM									
Lab ID: 1711E00-00	2	Matrix: S	Received	Received Date: 11/30/2017 7:40:00 AM							
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed	Batch				
EPA METHOD 8015M	D: DIESEL RAN	IGE ORGANICS				Analy	st: TOM				
Diesel Range Organics	(DRO)	11	10	mg/Kg	1	12/4/2017 8:08:04 PM	1 35267				
Motor Oil Range Organi	cs (MRO)	ND	50	ma/Ka	1	12/4/2017 8:08:04 PM	35267				

11	10	mg/Kg	1	12/4/2017 8:08:04 PM	35267
ND	50	mg/Kg	1	12/4/2017 8:08:04 PM	35267
92.5	70-130	%Rec	1	12/4/2017 8:08:04 PM	35267
				Analyst:	NSB
ND	4.9	mg/Kg	1	12/1/2017 6:47:06 PM	35250
111	15-316	%Rec	1	12/1/2017 6:47:06 PM	35250
				Analyst:	NSB
ND	0.098	mg/Kg	1	12/1/2017 6:47:06 PM	35250
ND	0.024	mg/Kg	1	12/1/2017 6:47:06 PM	35250
ND	0.049	mg/Kg	1	12/1/2017 6:47:06 PM	35250
ND	0.049	mg/Kg	1	12/1/2017 6:47:06 PM	35250
ND	0.098	mg/Kg	1	12/1/2017 6:47:06 PM	35250
103	80-120	%Rec	1	12/1/2017 6:47:06 PM	35250
	ND 92.5 ND 111 ND ND ND ND ND	ND 50 92.5 70-130 ND 4.9 111 15-316 ND 0.098 ND 0.024 ND 0.049 ND 0.049 ND 0.049 ND 0.098	ND 50 mg/Kg 92.5 70-130 %Rec ND 4.9 mg/Kg 111 15-316 %Rec ND 0.098 mg/Kg ND 0.024 mg/Kg ND 0.049 mg/Kg ND 0.049 mg/Kg ND 0.049 mg/Kg ND 0.098 mg/Kg	ND 50 mg/Kg 1 92.5 70-130 %Rec 1 ND 4.9 mg/Kg 1 111 15-316 %Rec 1 ND 0.098 mg/Kg 1 ND 0.024 mg/Kg 1 ND 0.049 mg/Kg 1 ND 0.098 mg/Kg 1 ND 0.049 mg/Kg 1 ND 0.098 mg/Kg 1	ND 50 mg/Kg 1 12/4/2017 8:08:04 PM 92.5 70-130 %Rec 1 12/4/2017 8:08:04 PM 92.5 70-130 %Rec 1 12/4/2017 8:08:04 PM 1 12/4/2017 8:08:04 PM Analyst: ND 4.9 mg/Kg 1 12/1/2017 6:47:06 PM 111 15-316 %Rec 1 12/1/2017 6:47:06 PM 111 15-316 %Rec 1 12/1/2017 6:47:06 PM Analyst: ND 0.098 mg/Kg 1 12/1/2017 6:47:06 PM ND 0.024 mg/Kg 1 12/1/2017 6:47:06 PM ND 0.049 mg/Kg 1 12/1/2017 6:47:06 PM ND 0.098 mg/Kg 1 12/1/2017 6:47:06 PM ND <

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical	Report

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Project: Hargrave RP F 2		Client Sample ID: BH-2 4'-5' Collection Date: 11/27/2017 10:30:00 AM								
Lab ID: 1711E00-003	Matrix:	SOIL	Received 1	Date: 11	/30/2017 7:40:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch				
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	;			Analyst	том				
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/4/2017 8:30:00 PM	35267				
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/4/2017 8:30:00 PM	35267				
Surr: DNOP	94.5	70-130	%Rec	1	12/4/2017 8:30:00 PM	35267				
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB				
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/1/2017 7:10:56 PM	35250				
Surr: BFB	109	15-316	%Rec	1	12/1/2017 7:10:56 PM	35250				
EPA METHOD 8021B: VOLATILES					Analyst	NSB				
Methyl tert-butyl ether (MTBE)	ND	0.092	mg/Kg	1	12/1/2017 7:10:56 PM	35250				
Benzene	ND	0.023	mg/Kg	1	12/1/2017 7:10:56 PM	35250				
Toluene	ND	0.046	mg/Kg	1	12/1/2017 7:10:56 PM	35250				
Ethylbenzene	ND	0.046	mg/Kg	1	12/1/2017 7:10:56 PM	35250				
Xylenes, Total	ND	0.092	mg/Kg	1	12/1/2017 7:10:56 PM	35250				
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	12/1/2017 7:10:56 PM	35250				

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 3 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Client Sample ID: BH-2 18'-20' Project: Hargrave RP F 2 Collection Date: 11/27/2017 10:50:00 AM Lab ID: 1711E00-004 Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM Analyses Result PQL Qual Units DF Date Analyzed Batch EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: TOM

		And the other design of the local data and t	And in the other states of the state of the	the lot of	the second s	
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	5			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/4/2017 8:51:50 PM	35267
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/4/2017 8:51:50 PM	35267
Surr: DNOP	89.4	70-130	%Rec	1	12/4/2017 8:51:50 PM	35267
EPA METHOD 8015D: GASOLINE RANG	θE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/1/2017 7:34:49 PM	35250
Surr: BFB	109	15-316	%Rec	1	12/1/2017 7:34:49 PM	35250
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	12/1/2017 7:34:49 PM	35250
Benzene	ND	0.024	mg/Kg	1	12/1/2017 7:34:49 PM	35250
Toluene	ND	0.048	mg/Kg	1	12/1/2017 7:34:49 PM	35250
Ethylbenzene	ND	0.048	mg/Kg	1	12/1/2017 7:34:49 PM	35250
Xylenes, Total	ND	0.096	mg/Kg	1	12/1/2017 7:34:49 PM	35250
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	12/1/2017 7:34:49 PM	35250

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	POL Oual		DF Date Analyzed	
Lab ID:	1711E00-005	05 Matrix: SOIL		Received Date: 11/30/2017 7:		
Project:	Hargrave RP F 2			Collection	Date: 11/27/2017 11:00:00 AM	ſ
CLIENT:	Williams Four Corners		C	lient Samp	ole ID: BH-3 8'-10'	

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS	6			Analyst	том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/4/2017 9:13:42 PM	35267
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/4/2017 9:13:42 PM	35267
Surr: DNOP	89.6	70-130	%Rec	1	12/4/2017 9:13:42 PM	35267
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/1/2017 7:58:41 PM	35250
Surr: BFB	111	15-316	%Rec	1	12/1/2017 7:58:41 PM	35250
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	12/1/2017 7:58:41 PM	35250
Benzene	ND	0.024	mg/Kg	1	12/1/2017 7:58:41 PM	35250
Toluene	ND	0.048	mg/Kg	1	12/1/2017 7:58:41 PM	35250
Ethylbenzene	ND	0.048	mg/Kg	1	12/1/2017 7:58:41 PM	35250
Xylenes, Total	ND	0.097	mg/Kg	1	12/1/2017 7:58:41 PM	35250
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	12/1/2017 7:58:41 PM	35250

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

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Client Sample ID: BH-3 18'-20' Project: Hargrave RP F 2 Collection Date: 11/27/2017 11:30:00 AM Lab ID: 1711E00-006 Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM Analyses Result PQL Qual Units DF Date Analyzed Batch

					2 1110	Barren
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	6			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	12/4/2017 9:35:26 PM	35267
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/4/2017 9:35:26 PM	35267
Surr: DNOP	90.5	70-130	%Rec	1	12/4/2017 9:35:26 PM	35267
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/1/2017 8:22:31 PM	35250
Surr: BFB	112	15-316	%Rec	1	12/1/2017 8:22:31 PM	35250
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	12/1/2017 8:22:31 PM	35250
Benzene	ND	0.024	mg/Kg	1	12/1/2017 8:22:31 PM	35250
Toluene	ND	0.048	mg/Kg	1	12/1/2017 8:22:31 PM	35250
Ethylbenzene	ND	0.048	mg/Kg	1	12/1/2017 8:22:31 PM	35250
Xylenes, Total	ND	0.096	mg/Kg	1	12/1/2017 8:22:31 PM	35250
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	12/1/2017 8:22:31 PM	35250

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 6 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1711E00

Date Reported: 12/6/2017

12/4/2017 9:57:18 PM

12/1/2017 8:46:17 PM

12/1/2017 8:46:17 PM

1 12/1/2017 8:46:17 PM 35250

1 12/1/2017 8:46:17 PM 35250 12/1/2017 8:46:17 PM 35250

12/1/2017 8:46:17 PM 35250

1 12/1/2017 8:46:17 PM

1 12/1/2017 8:46:17 PM

35267

35250

35250

35250

35250

Analyst: NSB

Analyst: NSB

Hall Environmental Analysis Laboratory, Inc.

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

EPA METHOD 8015D: GASOLINE RANGE

Gasoline Range Organics (GRO)

Methyl tert-butyl ether (MTBE)

Surr: 4-Bromofluorobenzene

EPA METHOD 8021B: VOLATILES

CLIENT:	Williams Four Corners	Client Sample ID: BH-4 13'-15'							
Project:	Hargrave RP F 2			Collection	Date: 11	/27/2017 12:00:00 P	М		
Lab ID:	1711E00-007	Matrix: SOIL		Received Date: 11/30/2017 7:40:00 AM			Л		
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8015M/D: DIESEL RAI	NGE ORGANICS	6			Analy	st: TOM		
Diesel Ra	ange Organics (DRO)	ND	9.8	mg/Kg	1	12/4/2017 9:57:18 PI	M 35267		
Motor Oil	Range Organics (MRO)	ND	49	mg/Kg	1	12/4/2017 9:57:18 PI	M 35267		

70-130

15-316

0.095

0.024

0.048

0.048

0.095

80-120

4.8

%Rec

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

1

1

1

1

1

90.0

ND

113

ND

ND

ND

ND

ND

107

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 7 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E00

Date Reported: 12/6/2017

1 12/1/2017 9:09:55 PM 35250

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT: Williams Four Corners			Client Sampl	e ID: Bł	H-4 23'-25'	
Project: Hargrave RP F 2			Collection	Date: 11	/27/2017 12:30:00 PM	
Lab ID: 1711E00-008	Matrix:	SOIL	Received	Date: 11	/30/2017 7:40:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/4/2017 10:19:20 PM	35267
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/4/2017 10:19:20 PM	35267
Surr: DNOP	90.6	70-130	%Rec	1	12/4/2017 10:19:20 PM	35267
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	12/1/2017 9:09:55 PM	35250
Surr: BFB	112	15-316	%Rec	1	12/1/2017 9:09:55 PM	35250
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	12/1/2017 9:09:55 PM	35250
Benzene	ND	0.024	mg/Kg	1	12/1/2017 9:09:55 PM	35250
Toluene	ND	0.047	mg/Kg	1	12/1/2017 9:09:55 PM	35250
Ethylbenzene	ND	0.047	mg/Kg	1	12/1/2017 9:09:55 PM	35250
Xylenes, Total	ND	0.095	mg/Kg	1	12/1/2017 9:09:55 PM	35250

80-120

%Rec

106

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 8 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E00

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	5		Anal	vst: TOM		
Analyses	Result	PQL (Qual Units	DF Date Analyzed	Batch		
Lab ID: 1711E00-009	Matrix:	SOIL	Received	Date: 11/30/2017 7:40:00 A	M		
Project: Hargrave RP F 2	Collection Date: 11/28/2017 3:10:00 PM						
CLIENT: Williams Four Corners	Client Sample ID: BH-8 3'-5'						

ORGANICS)			Analyst.	ION
ND	9.7	mg/Kg	1	12/4/2017 10:41:05 PM	35267
ND	48	mg/Kg	1	12/4/2017 10:41:05 PM	35267
88.7	70-130	%Rec	1	12/4/2017 10:41:05 PM	35267
				Analyst	NSB
ND	4.7	mg/Kg	1	12/1/2017 9:33:43 PM	35250
112	15-316	%Rec	1	12/1/2017 9:33:43 PM	35250
				Analyst	NSB
ND	0.093	mg/Kg	1	Analyst: 12/1/2017 9:33:43 PM	NSB 35250
ND ND	0.093 0.023	mg/Kg mg/Kg	1 1	,	
		0 0	1 1 1	12/1/2017 9:33:43 PM	35250
ND	0.023	mg/Kg	1 1 1	12/1/2017 9:33:43 PM 12/1/2017 9:33:43 PM	35250 35250
ND ND	0.023 0.047	mg/Kg mg/Kg	1 1 1 1	12/1/2017 9:33:43 PM 12/1/2017 9:33:43 PM 12/1/2017 9:33:43 PM	35250 35250 35250
	ND ND 88.7 ND	ND 9.7 ND 48 88.7 70-130 ND 4.7	ND 9.7 mg/Kg ND 48 mg/Kg 88.7 70-130 %Rec ND 4.7 mg/Kg	ND 9.7 mg/Kg 1 ND 48 mg/Kg 1 88.7 70-130 %Rec 1 ND 4.7 mg/Kg 1	ND 9.7 mg/Kg 1 12/4/2017 10:41:05 PM ND 48 mg/Kg 1 12/4/2017 10:41:05 PM 88.7 70-130 %Rec 1 12/4/2017 10:41:05 PM Analyst: ND 4.7 mg/Kg 1 12/1/2017 9:33:43 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 9 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1711E00

Date Reported: 12/6/2017

12/1/2017 9:57:29 PM

12/1/2017 9:57:29 PM

12/1/2017 9:57:29 PM

12/1/2017 9:57:29 PM

1 12/1/2017 9:57:29 PM 35250

1 12/1/2017 9:57:29 PM 35250

12/1/2017 9:57:29 PM 35250

12/1/2017 9:57:29 PM 35250

1

1

1

1

1

1

35250

35250

35250

35250

Analyst: NSB

Hall Environmental Analysis Laboratory, Inc.

Gasoline Range Organics (GRO)

Methyl tert-butyl ether (MTBE)

Surr: 4-Bromofluorobenzene

EPA METHOD 8021B: VOLATILES

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: Williams Four Corners	Client Sample ID: BH-8 23'-25'								
Project: Hargrave RP F 2		Collection Date: 11/28/2017 3:35:00 PM							
Lab ID: 1711E00-010	Matrix:	SOIL	Received Date: 11/30/2017 7:40:00 AM						
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS	3			Analys	t: TOM			
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	12/4/2017 11:02:54 PI	M 35267			
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/4/2017 11:02:54 PI	A 35267			
Surr: DNOP	89.9	70-130	%Rec	1	12/4/2017 11:02:54 PI	A 35267			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB			

4.7

15-316

0.093

0.023

0.047

0.047

0.093

80-120

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

ND

112

ND

ND

ND

ND

ND

107

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 limit Page 10 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

CLIENT: Williams Four Corners	Client Sample ID: BH-6 Collection Date: 11/28/2017 4:00:00 PM									
Project: Hargrave RP F 2										
Lab ID: 1711E00-011	Matrix:	AQUEOUS		Received Date: 11		/30/2017 7:40:00 AM				
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RANG	GE					Analyst	том			
Diesel Range Organics (DRO)	14	1.0		mg/L	1	12/4/2017 5:12:54 PM	35255			
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/4/2017 5:12:54 PM	35255			
Surr: DNOP	117	77.5-161		%Rec	1	12/4/2017 5:12:54 PM	35255			
EPA METHOD 8015D: GASOLINE RAN	IGE					Analyst	NSB			
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/5/2017 6:42:44 PM	GW4752			
Surr: BFB	111	69.3-150		%Rec	1	12/5/2017 6:42:44 PM	GW4752			
EPA METHOD 8260B: VOLATILES						Analyst	RAA			
Benzene	ND	1.0	Ρ	µg/L	1	12/1/2017 5:02:00 PM	R47456			
Toluene	ND	1.0	P	µg/L	1	12/1/2017 5:02:00 PM	R47456			
Ethylbenzene	ND	1.0	Ρ	µg/L	1	12/1/2017 5:02:00 PM	R47456			
Xylenes, Total	ND	1.5	Ρ	µg/L	1	12/1/2017 5:02:00 PM	R47456			
Surr: 1,2-Dichloroethane-d4	85.3	70-130	Ρ	%Rec	1	12/1/2017 5:02:00 PM	R47456			
Surr: 4-Bromofluorobenzene	94.4	70-130	Ρ	%Rec	1	12/1/2017 5:02:00 PM	R47456			
Surr: Dibromofluoromethane	97.8	70-130	Ρ	%Rec	1	12/1/2017 5:02:00 PM	R47456			
Surr: Toluene-d8	96.7	70-130	Ρ	%Rec	1	12/1/2017 5:02:00 PM	R47456			

Hall Environmental Analysis Laboratory, Inc.

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 11 of 20
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report

Lab Order 1711E00

Date Reported: 12/6/2017

Client: Williams Four Corners Hargrave RP F 2 **Project:**

Sample ID 1711E00-001AMS			8015M/D: Diesel Range Organics	
Client ID: BH-1 4'-5'	Batch ID: 35267	RunNo: 47491		
Prep Date: 12/1/2017	Analysis Date: 12/4/2017	SeqNo: 1517233	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	Qual
Diesel Range Organics (DRO)	45 9.3 46.38	0 97.4 55.8	125	
Surr: DNOP	4.2 4.638	90.9 70	130	
Sample ID 1711E00-001AMS	SD SampType: MSD	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Client ID: BH-1 4'-5'	Batch ID: 35267	RunNo: 47491		
Prep Date: 12/1/2017	Analysis Date: 12/4/2017	SeqNo: 1517234	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q)ual
Diesel Range Organics (DRO)	46 9.5 47.62	0 96.3 55.8	125 1.44 20	
Surr: DNOP	4.2 4.762	88.8 70	130 0 0	
Sample ID LCS-35267	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Client ID: LCSS	Batch ID: 35267	RunNo: 47491		
Prep Date: 12/1/2017	Analysis Date: 12/4/2017	SeqNo: 1517261	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Diesel Range Organics (DRO)	45 10 50.00	0 90.2 73.2	114	
Surr: DNOP	4.3 5.000	85.2 70	130	
Sample ID LCS-35273	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Client ID: LCSS	Batch ID: 35273	RunNo: 47491		
Prep Date: 12/1/2017	Analysis Date: 12/5/2017	SeqNo: 1517262	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	lual
Surr: DNOP	4.2 5.000	84.5 70	130	
Sample ID MB-35267	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Client ID: PBS	Batch ID: 35267	RunNo: 47491		
Prep Date: 12/1/2017	Analysis Date: 12/4/2017	SeqNo: 1517263	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Q	ual
Diesel Range Organics (DRO)	ND 10			
Motor Oil Range Organics (MRO)	ND 50			
Surr: DNOP	9.4 10.00	93.6 70	130	
Sample ID MB-35273	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Sample ID MB-35273 Client ID: PBS	SampType: MBLK Batch ID: 35273	TestCode: EPA Method RunNo: 47491	8015M/D: Diesel Range Organics	
			8015M/D: Diesel Range Organics Units: %Rec	

Qualifiers:

* Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank

Value above quantitation range Е

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 12 of 20

06-Dec-17

Client: Williams Four Corners Hargrave RP F 2 **Project:**

Sample ID MB-35273	SampType	BLK	Test	tCode: E	PA Method	8015M/D: Die	sel Rang	e Organics	
Client ID: PBS	Batch ID	35273	R	unNo:	47491				
Prep Date: 12/1/2017	Analysis Date	12/5/2017	S	eqNo:	1517264	Units: %Rec	;		
Analyte	Result F	PQL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4	10.00		93.9	70	130			

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
- % Recovery outside of range due to dilution or matrix S
- 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
- Sample container temperature is out of limit as specified W

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WO#: 1711E00

Client: Williams Four Corners

Hargrave RP F 2 **Project:**

Sample ID MB-35255	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range
Client ID: PBW	Batch ID: 35255	RunNo: 47459	
Prep Date: 11/30/2017	Analysis Date: 12/1/2017	SeqNo: 1515499	Units: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 1.0		
Motor Oil Range Organics (MRO)	ND 5.0		
Surr: DNOP	0.80 1.000	80.0 77.5	161
Sample ID LCS-35255	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range
Client ID: LCSW	Batch ID: 35255	RunNo: 47459	
Prep Date: 11/30/2017	Analysis Date: 12/1/2017	SeqNo: 1515784	Units: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.0 1.0 5.000	0 100 92.3	135
Surr: DNOP	0.47 0.5000	94.1 77.5	161
Sample ID LCS-35301	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range
Client ID: LCSW	Batch ID: 35301	RunNo: 47491	
Prep Date: 12/4/2017	Analysis Date: 12/5/2017	SeqNo: 1517943	Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Surr: DNOP	0.41 0.5000	82.5 77.5	161
Sample ID MB-35301	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range
Client ID: PBW	Batch ID: 35301	RunNo: 47491	
Prep Date: 12/4/2017	Analysis Date: 12/5/2017	SeqNo: 1517944	Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual

Qualifiers:

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

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WO#: 1711E00

Client: Williams Four Corners

Project: Hargrave RP F 2

Prep Date 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 15/16/20 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLinit HighLinit %RPD RPDLimit Qual assoine Range Organics (GR0) ND 5.0 Samp ID 1000 100 15 316 316 Samp ID LCS-35250 Samp Type: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 35250 RunNo: 47477 Analysis Date: 12/1/2017 SeqNo: 1516121 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLinit: HighLinit %RPD RPDLimit Qual assoine Range Organics (GR0) 28 5.0 25.00 0 105 316 316 316 Samp ID 1711E00-002AMS Samp Type: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: Batch ID: 32.7 23.74 0											
Prep Date: 11/30/2017 Analysis Date: 12/1/2017 Seq.No: 1516120 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual asadine Range Organics (GR0) ND 5.0 Sample ID LCS-35250 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 35250 RunNo: 47477 Units: mg/Kg Analyse Result POL SPK kalue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual asadine Range Organics (GR0) 26 5.0 25.00 0 123 15 316 Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Gasoline Range Gasoline Range Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Gasoli	Sample ID	MB-35250	SampType	BLK	Tes	stCode: E	PA Method	8015D: Gaso	line Rang	е	
Analyte Result PQL SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual assoline Range Organics (GRO) ND 5.0 1100 1000 110 15 316 Sam BFB 1100 1000 110 15 316	Client ID:	PBS	Batch ID	35250	I	RunNo: 4	7477				
Bascline Range Organics (GR0) ND 5.0 1100 1000 110 15 316 Sam: BFB 1100 1000 110 15 316 Samie Range Organics (GR0) Samp Type: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516121 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Basoline Range Organics (GR0) 26 5.0 25.00 0 105 75.9 131 Sum BFB 1200 1000 123 15 316 Sample ID 1711600-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: B4:1 18':20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analyte SeqNo: 1516131 Units: mg/Kg Sample ID 1711E00-0	Prep Date:	11/30/2017	Analysis Date	12/1/2017	:	SeqNo: 1	516120	Units: mg/K	g		
Surr. BFB 1100 1000 110 15 316 Sample ID LCS-35250 SampType: LCS TestCode: EPA Mathod 8015D: Gasoline Range Client ID: LCSS Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516121 Units: mg/Kg Analyte Result PQL SPK value SPK value SPK eValue Note: 47477 Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Mathod 8015D: Gasoline Range Qual Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Mathod 8015D: Gasoline Range Qual Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Mathod 8015D: Gasoline Range Qual Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Mathod 8015D: Gasoline Range Qual Sample ID 1711E00-002AMSD SampType: MS TestCode: EPA Mathod 8015D: Gasoline Range Sample ID Sample ID 1711E00-0	Analyte		Result P	QL SPK va	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID LCS-35250 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516121 Units: mg/Kg Analyte Result PQL SPK Ref Val %REC LowLimit HighLimit %RPD RPDLlimit Qual Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18*-20' Batch ID: 35250 RunNo: 47.477 SeqNo: 1516131 Units: mg/Kg Analyte Result POL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample ID 1711E00-002AMS SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Sample ID 1711E00-002AMS SampType: MSD TestCode: EPA Method 801	Gasoline Rang	e Organics (GRO)	ND	5.0							
Client ID: LCSS Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516121 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sasoline Range Organics (GRO) 26 5.0 25.00 0 105 75.9 131 Sum BFB 1200 1000 123 15 316	Surr: BFB		1100	10	00	110	15	316			
Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516121 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sami BFB 1200 1000 123 15 316	Sample ID	LCS-35250	SampType	e: LCS	Tes	stCode: El	PA Method	8015D: Gaso	line Rang	е	
Analyte Result PQL SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Basoline Range Organics (GRO) 26 5.0 25.00 0 105 75.9 131 Surr. BFB 1200 1000 123 15 316 Sample ID T11E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18*-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516131 Units: mg/Kg Analyte Result PQL SPK xel/val/val/Val/Val/Val/Val/Val/Val/Val/Val/Val/V	Client ID:	LCSS	Batch ID	35250	F	RunNo: 4	7477				
Basoline Range Organics (GRO) 26 5.0 25.00 0 105 75.9 131 Surr. BFB 1200 1000 123 15 316 Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID. BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516131 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sasoline Range Organics (GRO) 32 4.7 23.74 0 134 77.8 128 S Surr. BFB 1200 949.7 127 15 316 S Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18'-20' Batch ID: 35250 RunNo:	Prep Date:	11/30/2017	Analysis Date	12/1/2017	:	SeqNo: 1	516121	Units: mg/K	g		
Surr: BFB 120 1000 123 15 316 Sample ID 1711E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Image: Client ID: BH-118'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516131 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample ID 1711E00-002AMSD SampType: MSJ TestCode: EPA Method 8015D: Gasoline Range S Sample ID 1711E00-002AMSD SampType: MSJ TestCode: EPA Method 8015D: Gasoline Range S Sample ID 1711E00-002AMSD SampType: MSJ TestCode: EPA Method 8015D: Gasoline Range S Glient ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample ID RH-1 18'-20' Batch ID: G47528	Analyte		Result P	QL SPK va	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID 1711 E00-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18*-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516131 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sasoline Range Organics (GRO) 32 4.7 23.74 0 134 77.8 128 S Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18*20' Batch ID: 35250 RunNo: 47477 Vistor Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Glient ID: BH-1 18*20' Batch ID: S456 22.96 0 137 7	Gasoline Rang	e Organics (GRO)	26	5.0 25	00 0	105	75.9	131			
Client ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516131 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample Organics (GRO) 32 4.7 23.74 0 134 77.8 128 S Sum: BFB 1200 949.7 127 15 316 S S Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline	Surr: BFB		1200	10	00	123	15	316			
Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516131 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample ID 1200 - 23.74 0 134 77.8 128 S Sample ID 1711E00-002AMSD SampType: MSZ TestCode: EPA Method 3015D: Gasoline Range Client ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual asoline Range Organics (GRO) 32 4.6 22.96 0 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 129 15	Sample ID	1711E00-002AMS	SampType	e: MS	Tes	stCode: El	PA Method	8015D: Gaso	line Rang	e	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual assoline Range Organics (GRO) 32 4.7 23.74 0 134 77.8 128 S Surr: BFB 1200 949.7 127 15 316 S Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual asoline Range Organics (GRO) 32 4.6 22.96 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 129 15 316 0 0 <tr< td=""><td>Client ID:</td><td>BH-1 18'-20'</td><td>Batch ID</td><td>35250</td><td>F</td><td>RunNo: 4</td><td>7477</td><td></td><td></td><td></td><td></td></tr<>	Client ID:	BH-1 18'-20'	Batch ID	35250	F	RunNo: 4	7477				
Basoline Range Organics (GRO) 32 4.7 23.74 0 134 77.8 128 S Surr: BFB 1200 949.7 127 15 316 S Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18*-20* Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual assoline Range Organics (GRO) 32 4.6 22.96 0 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 129 15 316 0 0 Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PB	Prep Date:	11/30/2017	Analysis Date	12/1/2017	5	SeqNo: 1	516131	Units: mg/K	g		
Surr. BFB 120 949.7 127 15 316 Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18*-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Gasoline Range Organics (GRO) 32 4.6 22.96 0 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 129 15 316 0 0 0 Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: G47528 RunNo: 47528 Analysis Date: 12/5/2017 SeqNo: <	Analyte		Result P	QL SPK va	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID 1711E00-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range Client ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual aasoline Range Organics (GRO) 32 4.6 22.96 0 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 129 15 316 0 0 Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qu	Gasoline Rang	e Organics (GRO)	32	4.7 23	74 0	134	77.8	128			S
Client ID: BH-1 18'-20' Batch ID: 35250 RunNo: 47477 Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Aaalyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Aaalyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Aaalyte Result PQL SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range <td< td=""><td>Surr: BFB</td><td></td><td>1200</td><td>949</td><td>9.7</td><td>127</td><td>15</td><td>316</td><td></td><td></td><td></td></td<>	Surr: BFB		1200	949	9.7	127	15	316			
Prep Date: 11/30/2017 Analysis Date: 12/1/2017 SeqNo: 1516132 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val % REC LowLimit HighLimit % RPD RPDLimit Qual Analyte Result PQL SPK value SPK Ref Val % REC LowLimit HighLimit % RPD RPDLimit Qual Gasoline Range Organics (GRO) 32 4.6 22.96 0 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: % RPD RPDLimit Qual Surr: BFB 1100 1000 114 15 316 20 20 20 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range	Sample ID	1711E00-002AMS	D SampType	MSD	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
AnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualGasoline Range Organics (GRO)324.622.96013777.81281.1820SSurr: BFB1200918.312915316000Sample IDRBSampType:MBLKTestCode:EPA Method 8015D:Gasoline RangeClient ID:PBSBatch ID:G47528RunNo:47528Prep Date:Analysis Date:12/5/2017SeqNo:1518203Units:%RecAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQualSurr: BFB1100100011415316316316316316Gample ID2.5UG GRO LCSSampType:LCSTestCode:EPA Method 8015D:Gasoline RangeClient ID:LCSSBatch ID:G47528RunNo:47528Prep Date:Analysis Date:12/5/2017SeqNo:1518204Units:%RecAnalyteResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimit%RPDRPDLimitQual	Client ID:	BH-1 18'-20'	Batch ID	35250	F	RunNo: 4	7477				
Basoline Range Organics (GRO) 32 4.6 22.96 0 137 77.8 128 1.18 20 S Surr: BFB 1200 918.3 129 15 316 0 0 0 Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Surr: BFB 1100 1000 114 15 316 316 316 316 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 <td>Prep Date:</td> <td>11/30/2017</td> <td>Analysis Date</td> <td>12/1/2017</td> <td>S</td> <td>SeqNo: 1</td> <td>516132</td> <td>Units: mg/K</td> <td>g</td> <td></td> <td></td>	Prep Date:	11/30/2017	Analysis Date	12/1/2017	S	SeqNo: 1	516132	Units: mg/K	g		
Surr: BFB 1200 918.3 129 15 316 0 0 Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: G47528 RunNo: 47528 Vinits: % Rec Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: % RPD RPDLimit Qual Surr: BFB 1100 1000 114 15 316 2 2 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Sample ID 2.5UG GRO LCS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value <td>Analyte</td> <td></td> <td>Result P</td> <td>QL SPK val</td> <td>ue SPK Ref Val</td> <td>%REC</td> <td>LowLimit</td> <td>HighLimit</td> <td>%RPD</td> <td>RPDLimit</td> <td>Qual</td>	Analyte		Result P	QL SPK val	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sur: BFB 1100 1000 114 15 316 316 316 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual		e Organics (GRO)									S
Client ID: PBS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sum: BFB 1100 1000 114 15 316 316 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Surr: BFB		1200	918	3.3	129	15	316	0	0	
Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518203 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Sum: BFB 1100 1000 114 15 316 316 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Sample ID	RB	SampType	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Analyte Result PQL SPK value SPK ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Surr: BFB 1100 1000 114 15 316 316 316 316 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range 5 5 100 114 15 316 100 100 100 100 100 100 100 100 114 15 316 100	Client ID:	PBS	Batch ID	G47528	F	RunNo: 4	7528				
Surr. BFB 1100 1000 114 15 316 Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Prep Date:		Analysis Date	12/5/2017	S	SeqNo: 1	518203	Units: %Rec	:		
Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Analyte		Result P	QL SPK val	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Client ID: LCSS Batch ID: G47528 RunNo: 47528 Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Surr: BFB		1100	10	00	114	15	316			
Prep Date: Analysis Date: 12/5/2017 SeqNo: 1518204 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Sample ID	2.5UG GRO LCS	SampType	LCS	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual	Client ID:	LCSS	Batch ID	G47528	F	RunNo: 4	7528				
	Prep Date:		Analysis Date:	12/5/2017	S	SeqNo: 1	518204	Units: %Rec			
	Analyte		Result P	QL SPK val	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Surr: BFB		1200	10	00	123	15	316			

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

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WO#: 1711E00

06-Dec-17

Client: Williams Four Corners Project: Hargrave RP F 2

Sample ID RB	Samp	Туре: М	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBW	Batc	h ID: GV	N47528	F	RunNo: 4	7528				
Prep Date:	Analysis [Date: 12	2/5/2017	S	SeqNo: 1	518208	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	23		20.00		114	69.3	150			
Sample ID 2.5UG GRO LCS	Samp	Type: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSW	Batc	h ID: GV	N47528	F	RunNo: 4	7528				
Prep Date:	Analysis [Date: 12	2/5/2017	S	SeqNo: 1	518209	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.51	0.050	0.5000	0	103	75.8	123			
Surr: BFB	25		20.00		123	69.3	150			

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

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WO#: 1711E00

06-Dec-17

Williams Four Corners **Client:**

Project: Hargrave RP F 2

Sample ID MB-3525	So Samp	SampType: MBLK TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Bate	ch ID: 35	250	F	RunNo: 4	7477				
Prep Date: 11/30/2	017 Analysis	Date: 12	2/1/2017	5	SeqNo: 1	516154	Units: mg/K	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTI	BE) ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenz	zene 1.1		1.000		105	80	120			
Sample ID LCS-352	50 Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Bate	ch ID: 35	250	F	RunNo: 4	7477				
Prep Date: 11/30/2	017 Analysis	Date: 12	2/1/2017	S	SeqNo: 1	516155	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTI	BE) 0.99	0.10	1.000	0	98.6	70.1	121			
Benzene	1.0	0.025	1.000	0	104	77.3	128			
Toluene	1.0	0.050	1.000	0	104	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	101	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	100	81.6	129			
Surr: 4-Bromofluorobenz	zene 1.1		1.000	~	110	80	120			
Surr: 4-Bromofluorobenz Sample ID 1711E00		Type: MS		Tes			120 8021B: Volat	tiles		
	-001AMS Samp	Type: MS	3			PA Method		tiles		
Sample ID 1711E00	-001AMS Samp 5' Bate		3 250	R	tCode: El	PA Method 7477				
Sample ID 1711E00 Client ID: BH-1 4'-5	-001AMS Samp 5' Bate	ch ID: 35	S 250 2/1/2017	R	tCode: El RunNo: 4	PA Method 7477	8021B: Volat		RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte	-001AMS Samp 5' Bate 017 Analysis Result	ch ID: 352 Date: 12	S 250 2/1/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 7477 516164	8021B: Volat	(g	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT	-001AMS Samp 5' Bate 017 Analysis Result	ch ID: 35 Date: 12 PQL	250 2/1/2017 SPK value	R S SPK Ref Val	tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 7477 516164 LowLimit	8021B: Volat Units: mg/K HighLimit	(g	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MTE Benzene	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1	ch ID: 352 Date: 12 PQL 0.097	250 2/1/2017 SPK value 0.9737	SPK Ref Val	tCode: El RunNo: 4 SeqNo: 1 %REC 117	PA Method 7477 516164 LowLimit 72.5	8021B: Volat Units: mg/K HighLimit 138	(g	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MTE Benzene Toluene	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1	ch ID: 352 Date: 12 PQL 0.097 0.024	250 2/1/2017 SPK value 0.9737 0.9737	R S SPK Ref Val 0 0	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117	PA Method 7477 516164 LowLimit 72.5 80.9	8021B: Volat Units: mg/K HighLimit 138 132	(g	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT6 Benzene Toluene Ethylbenzene	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1 1.2	ch ID: 352 Date: 12 PQL 0.097 0.024 0.049	250 2/1/2017 SPK value 0.9737 0.9737 0.9737	R S SPK Ref Val 0 0 0	tCode: El RunNo: 4 SeqNo: 1: %REC 117 117 119	PA Method 7477 516164 LowLimit 72.5 80.9 79.8	8021B: Volat Units: mg/K HighLimit 138 132 136	(g	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT6 Benzene Toluene Ethylbenzene	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.2 1.1 3.4	ch ID: 35 Date: 12 PQL 0.097 0.024 0.049 0.049	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 0.9737	SPK Ref Val 0 0 0 0 0	tCode: El RunNo: 4 SeqNo: 1: %REC 117 117 119 117	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.8 79.4	8021B: Volat Units: mg/K HighLimit 138 132 136 140	(g	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MTE Benzene Toluene Ethylbenzene Xylenes, Total	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.2 1.1 3.4 tene 1.1	ch ID: 35 Date: 12 PQL 0.097 0.024 0.049 0.049	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 0.9737 2.921 0.9737	R S SPK Ref Val 0 0 0 0 0	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 119 117 116 110	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.8 79.4 78.5 80	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142	(g %RPD	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MTE Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenz	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1 1.2 1.1 3.4 tene 1.1	Ch ID: 352 Date: 12 PQL 0.097 0.024 0.049 0.049 0.097	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 0.9737 2.921 0.9737 5D	R SPK Ref Val 0 0 0 0 0 0 Test	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 119 117 116 110	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.8 79.4 78.5 80 PA Method	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142 120	(g %RPD	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MTB Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenz Sample ID 1711E00	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1 1.2 1.1 3.4 tene 1.1 -001AMSD Samp 5' Bate	Ch ID: 352 Date: 12 PQL 0.097 0.024 0.049 0.049 0.049 0.097	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 0.9737 2.921 0.9737 2.921 0.9737	R SPK Ref Val 0 0 0 0 0 0 Tesl R	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 117 119 117 116 110 tCode: El	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.4 78.5 80 PA Method 7477	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142 120	(g %RPD	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT6 Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenz Sample ID 1711E00 Client ID: BH-1 4'-5	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1 1.2 1.1 3.4 tene 1.1 -001AMSD Samp 5' Bate	ch ID: 353 Date: 12 PQL 0.097 0.024 0.049 0.049 0.049 0.097 Type: MS	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 2.921 0.9737 2.921 0.9737 2.9250 2/1/2017	R SPK Ref Val 0 0 0 0 0 0 Tesl R	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 117 119 117 116 110 tCode: El RunNo: 4	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.4 78.5 80 PA Method 7477	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142 120 8021B: Volat	(g %RPD	RPDLimit	Qual
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MTB Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenz Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1 1.2 1.1 3.4 tene 1.1 -001AMSD Samp 5' Bate 017 Analysis Result	ch ID: 352 Date: 12 PQL 0.097 0.024 0.049 0.049 0.049 0.049 0.097 Type: MS ch ID: 352 Date: 12	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 2.921 0.9737 2.921 0.9737 2.9250 2/1/2017	R SPK Ref Val 0 0 0 0 0 0 Test	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 117 116 110 tCode: El RunNo: 4 SeqNo: 1	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.4 78.5 80 PA Method 7477 516165	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142 120 8021B: Volat Units: mg/K	(g %RPD tiles		
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT6 Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Bromofluorobenz Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT6	-001AMS Samp 5' Bate 017 Analysis Result BE) 1.1 1.1 1.2 1.1 3.4 tene 1.1 -001AMSD Samp 5' Bate 017 Analysis Result	ch ID: 35 Date: 12 PQL 0.097 0.024 0.049 0.049 0.049 0.049 0.097 Type: MS ch ID: 35 Date: 12 PQL	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 2.921 0.9737 2.921 0.9737 2.9250 250 2/1/2017 SPK value	R SPK Ref Val 0 0 0 0 0 Test R SPK Ref Val	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 117 117 116 110 tCode: El RunNo: 4 SeqNo: 1 %REC	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.4 78.5 80 PA Method 7477 516165 LowLimit	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142 120 8021B: Volat Units: mg/K HighLimit	(g %RPD tiles (g %RPD	RPDLimit	
Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20 Analyte Methyl tert-butyl ether (MT6 Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenz Sample ID 1711E00 Client ID: BH-1 4'-5 Prep Date: 11/30/20	-001AMS Samp 5' Bate 017 Analysis BE) 1.1 1.1 1.2 1.1 3.4 tene 1.1 -001AMSD Samp 5' Bate 017 Analysis Result BE) 1.1	ch ID: 35 Date: 12 PQL 0.097 0.024 0.049 0.049 0.049 0.097 Type: MS ch ID: 35 Date: 12 PQL 0.093	250 2/1/2017 SPK value 0.9737 0.9737 0.9737 0.9737 2.921 0.9737 2.921 0.9737 2.921 0.9737 2.921 0.9737 2.921 0.9737 2.921 0.9737	R SPK Ref Val 0 0 0 0 0 0 Test R SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 %REC 117 117 117 116 110 tCode: El RunNo: 4 SeqNo: 1 %REC 117	PA Method 7477 516164 LowLimit 72.5 80.9 79.8 79.4 78.5 80 PA Method 7477 516165 LowLimit 72.5	8021B: Volat Units: mg/K HighLimit 138 132 136 140 142 120 8021B: Volat Units: mg/K HighLimit 138	(g %RPD tiles (g %RPD 5.17	RPDLimit 20	

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
- % Recovery outside of range due to dilution or matrix S
- 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
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

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06-Dec-17

WO#: 1711E00

Client: Williams Four Corners

Project: Hargrave RP F 2

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Sample ID 1711E00-001AMS	D SampType	MSD	TestCode	EPA Method	8021B: Volatile	es		
Client ID: BH-1 4'-5'	Batch ID:	35250	RunNo	47477				
Prep Date: 11/30/2017	Analysis Date:	12/1/2017	SeqNo	1516165	Units: mg/Kg			
Analyte	Result P	QL SPK value	SPK Ref Val %RE	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	3.1 0.	093 2.783	0 1	12 78.5	142	7.90	20	
Surr: 4-Bromofluorobenzene	1.0	0.9276	10	9 80	120	0	0	
Sample ID RB	SampType	MBLK	TestCode	EPA Method	8021B: Volatile	es		
Client ID: PBS	Batch ID:	B47528	RunNo	47528				
Prep Date:	Analysis Date:	12/5/2017	SeqNo	1518237	Units: %Rec			
Analyte	Result P	QL SPK value	SPK Ref Val %RE	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1	1.000	10	80 80	120			
Sample ID 100NG BTEX LCS	SampType	LCS	TestCode	EPA Method	8021B: Volatile	s		
Client ID: LCSS	Batch ID:	B47528	RunNo:	47528				
Prep Date:	Analysis Date:	12/5/2017	SeqNo	1518238	Units: %Rec			
Analyte	Result P	QL SPK value	SPK Ref Val %RE	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1	1.000	11	0 80	120			

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

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WO#: **1711E00** *06-Dec-17*

Client: Williams Four Corners

Hargrave RP F 2 **Project:**

Sample ID 100ng Ics	Samp	Type: LC	S	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batc	h ID: R4	7456	F	RunNo: 4	7456				
Prep Date:	Analysis [Date: 12	2/1/2017	0	SeqNo: 1	516015	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.0	70	130			
Toluene	19	1.0	20.00	0	95.7	70	130			
Surr: 1,2-Dichloroethane-d4	8.6		10.00		85.6	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.5	70	130			
Surr: Toluene-d8	9.7		10.00		96.9	70	130			
Sample ID rb	Samp	Туре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batc	h ID: R4	7456	F	RunNo: 4	7456				
Prep Date:	Analysis [Date: 12	2/1/2017	5	SeqNo: 1	516017	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	8.4		10.00		84.2	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.5	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.7		10.00		97.3	70	130			
Sample ID 1711e00-011ams	SampT	Гуре: МЗ	3	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: BH-6	Batch	h ID: R4	7456	F	RunNo: 4	7456				
Prep Date:	Analysis D	Date: 12	2/1/2017	5	SeqNo: 1	516279	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0.3100	93.6	70	130			
Toluene	20	1.0	20.00	0.1000	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.7		10.00		86.6	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.4	70	130			
Surr: Dibromofluoromethane	9.8		10.00		97.6	70	130			
Surr: Toluene-d8	9.7		10.00		97.1	70	130			
Sample ID 1711e00-011ams	d SampT	Type: MS	D	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: BH-6	Batch	h ID: R4	7456	R	RunNo: 4	7456				
Prep Date:	Analysis D	Date: 12	2/1/2017	S	SeqNo: 1	516280	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0.3100	93.9	70	130	0.304	20	
Toluene	20	1.0	20.00	0.1000	98.8	70	130	0.191	20	

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

- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank

Value above quantitation range E

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified W

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WO#: 1711E00

06-Dec-17

Client: Williams Four Corners

Project: Hargrave RP F 2

Sample ID 1711e00-011ams	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: BH-6	Batch	ID: R4	7456	F	RunNo: 4	7456				
Prep Date:	Analysis D	ate: 12	2/1/2017	S	SeqNo: 1	516280	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	8.6		10.00		86.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.7		10.00		96.8	70	130	0	0	
Surr: Dibromofluoromethane	9.9		10.00		99.2	70	130	0	0	
Surr: Toluene-d8	9.8		10.00		97.9	70	130	0	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

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WO#: 1711E00 06-Dec-17

Client Name: WILLIAMS FOUR CORN Work Order Number: 1711E00 RcptNo: 1 Received By: Anne Thorne 11/30/2017 7:40:00 AM Anne Anne Anne Anne Completed By: Sophia Campuzano 11/30/2017 8:12:24 AM Anne Anne Anne Reviewed By: DDS M/36/17 M/36/17 Anne Anne Anne Chain of Custody	st
Completed By: Sophia Campuzano 11/30/2017 8:12:24 AM induction Reviewed By: DDS $M/30/17$ induction Chain of Custody 1. Custody seals intact on sample bottles? Yes No Not Present Image: Not Present Imag	
1. Custody seals intact on sample bottles? Yes No Not Present ✓ 2. Is Chain of Custody complete? Yes ✓ No Not Present ✓ 3. How was the sample delivered? Courier ✓ ✓ ✓ ✓ 4. Was an attempt made to cool the samples? Yes ✓ No NA ✓	
2. Is Chain of Custody complete? Yes ♥ No Not Present 3. How was the sample delivered? Courier 4. Was an attempt made to cool the samples? Yes ♥ No NA	
2. Is Chain of Custody complete? Yes ♥ No Not Present 3. How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? Yes ♥ No NA	
Log In 4. Was an attempt made to cool the samples? Yes ✓ No	
4. Was an attempt made to cool the samples? Yes ✓ No No NA	
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No □ NA □	
6. Sample(s) in proper container(s)? Yes 🖌 No	
7. Sufficient sample volume for indicated test(s)? Yes 🗹 No	
8. Are samples (except VOA and ONG) properly preserved? Yes 🗹 No	
9. Was preservative added to bottles? Yes No 🗹 NA	
10.VOA vials have zero headspace? Yes 🗹 No 🗌 No VOA Vials 🗌	
11. Were any sample containers received broken? Yes No 🗹	
12. Does paperwork match bottle labels? Yes ✓ No bottles checked for pH: (Note discrepancies on chain of custody) (<2 or >12 unless n	oted)
13. Are matrices correctly identified on Chain of Custody? Yes 🗹 No 🗌 Adjusted?	_
14. Is it clear what analyses were requested? Yes 🗹 No	
15. Were all holding times able to be met? Yes ✓ No Checked by: (If no, notify customer for authorization.)	_
Special Handling (if applicable)	
16. Was client notified of all discrepancies with this order? Yes No No NA	
Person Notified: Date:	
By Whom: Via: eMail Phone Fax In Person	
Regarding: Client Instructions:	
17. Additional remarks:	
18. Cooler Information	
Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By 1 1.3 Good Yes Image: Signed By Image: Signe: Signed By Image: Signed By	

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Chain-of-Custody Record	Turn-Around	Time:								_								
Client: Williams Four Carners	Standard	🗆 Rush			-										1EI RA			
Aaron Galer	Project Name	e:													R.A	10	The second	
Mailing Address: 295 ChiPeta Way	Hargro	Hargrave RP FR-2			www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109													
Calt Later in alling	Project #:			-														
Salt Lake city, Ut. 84108 Phone #: 801-584-6746	03	3401700	3		le	1. 50	0-34	5-39		-			uest	-4107 t				
email or Fax#: aaron, sale @ will i ams, cor	Project Mana	ager:			()	Ô											T	
QA/QC Package:	W		ron Galer	021)	uo s	MR					SO,	PCB's						
Standard Level 4 (Full Validation	LT	E: Dann	y Burns	TMB's (8021)	TPH (Gas only)	DRO / MRO)			SIMS)		PO4		-					
Accreditation	Sampler:	Eric Con	1011	MB	H	~	E	=	20 S		10 ₂ ,	082	TEX					
NELAP Other	On Ice:	V Yes	2 No	+	+	(GRO	418.1)	504.1)	82		0 ₃ ,N	s / 8	20	(A)				or N)
X EDD (Type) PDF	Sample Tem	perature:	1. Bet mission	BE	MTBE	2	pd 4	g po	0 or	etals	N'I'N	side	(A)	-10				
Date Time Matrix Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE	BTEX + MT	TPH 8015B	PH (Method	EDB (Method	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,Cl,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y
11/27/17 09:30 Soil BH-1 4'-5'	1402	6001	-001	X	۵	X		ш	ш	UĽ.	A	00	00	8		+	+	A
1 10:00 BH-1 18'- 20'	1	1	-002	X		x	1									+	+	
10:30 BH-2 4'-5'			-003	X		X									\vdash	+	+	
10:50 BH-2 18'-20'			-004	X		X										+	+	+
11:00 BH-3 8'-10'			- 005	X		X										+	+	+
11:30 BH-3 18'-20'			-006	×		×										+	+	-
12:00 BH-4 13'-15'			-007	V		×										1		+
V 12:30 × BH-423'-25'	1	Y	-008	X		X												1
11/28/17 15:10 Soil BH-8 3'-5'	1402	Cool	-009	X		5												
11/28/17 15-35 Soil BH-8 24-25'	1402	eogl	-010	X		X												
11/28/17 16:00 GW BH-G	6 VOAA	HCI	-011			X							X					
									۹.	1								
Date: Time: Relinquished by:	Received by:		Date Time		mark	s:	D	1			00	1			<i>m</i> ,	+		,
11/29/17 14:30 Etit Carcol		alt	11/29/17 1430				PI	CO	50	(CC				СL			
Date: Time: Relinquished by: 11/29/17 2016 Math Walt	Received by:	A	Date Time ///30//7 ()740									d	ы	rns	OP L	Teri	1. 00	om

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

December 06, 2017

Aaron Galer Williams Four Corners 188 CR 4900 Bloomfield, NM 87413 TEL: (505) 632-4442 FAX

RE: Hargrave RPF2

OrderNo.: 1711E30

Dear Aaron Galer:

Hall Environmental Analysis Laboratory received 12 sample(s) on 11/30/2017 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 #NM0190

Sincerely,

and

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Lab Order 1711E30

Date Reported: 12/6/2017

1 12/4/2017 3:16:37 PM 35264

1 12/4/2017 3:16:37 PM 35264

Hall Environmental Analysis Laboratory, Inc.

Xylenes, Total

Surr: 4-Bromofluorobenzene

CLIENT: Williams Four Corners Project: Hargrave RP F 2			Client Sampl Collection I		V-1 /28/2017 10:30:00 AM	1			
Lab ID: 1711E30-001	Matrix: S	Received I	Received Date: 11/30/2017 7:40:00 AM						
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst	том			
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/5/2017 4:32:15 AM	35273			
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/5/2017 4:32:15 AM	35273			
Surr: DNOP	94.5	70-130	%Rec	1	12/5/2017 4:32:15 AM	35273			
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB			
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/4/2017 3:16:37 PM	35264			
Surr: BFB	111	15-316	%Rec	1	12/4/2017 3:16:37 PM	35264			
EPA METHOD 8021B: VOLATILES					Analyst	NSB			
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	12/4/2017 3:16:37 PM	35264			
Benzene	ND	0.024	mg/Kg	1	12/4/2017 3:16:37 PM	35264			
Toluene	ND	0.048	mg/Kg	1	12/4/2017 3:16:37 PM	35264			
Ethylbenzene	ND	0.048	mg/Kg	1	12/4/2017 3:16:37 PM	35264			

0.097

80-120

mg/Kg

%Rec

ND

106

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Williams Four CornersProject:Hargrave RP F 2Lab ID:1711E30-002	Client Sample ID: SW-2 Collection Date: 11/28/2017 10:50:00 AM Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM					l
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analyst	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/5/2017 5:38:55 AM	35273
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/5/2017 5:38:55 AM	35273
Surr: DNOP	88.9	70-130	%Rec	1	12/5/2017 5:38:55 AM	35273
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	14	4.7	mg/Kg	1	12/5/2017 12:49:28 PM	35264
Surr: BFB	101	15-316	%Rec	1	12/5/2017 12:49:28 PM	35264
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	12/4/2017 6:02:50 PM	35264
Benzene	0.024	0.024	mg/Kg	1	12/4/2017 6:02:50 PM	35264
Toluene	0.49	0.047	mg/Kg	1	12/4/2017 6:02:50 PM	35264
Ethylbenzene	0.10	0.047	mg/Kg	1	12/4/2017 6:02:50 PM	35264
Xylenes, Total	1.3	0.095	mg/Kg	1	12/4/2017 6:02:50 PM	35264
Surr: 4-Bromofluorobenzene	111	80-120	%Rec	1	12/4/2017 6:02:50 PM	35264

*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	Е	Value above quantitation range
Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 17
ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified
	ND	 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 	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPPQLPractical Quanitative LimitRL

Analytical Report Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Project: Hargrave RP F 2

Lab ID: 1711E30-003

Client Sample ID: EW-1 Collection Date: 11/28/2017 11:10:00 AM Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	5			Analyst	TOM
Diesel Range Organics (DRO)	33	9.9	mg/Kg	1	12/5/2017 6:00:58 AM	35273
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/5/2017 6:00:58 AM	35273
Surr: DNOP	89.1	70-130	%Rec	1	12/5/2017 6:00:58 AM	35273
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	680	96	mg/Kg	20	12/5/2017 1:12:50 PM	35264
Surr: BFB	178	15-316	%Rec	20	12/5/2017 1:12:50 PM	35264
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	1.9	mg/Kg	20	12/4/2017 11:18:22 AM	35264
Benzene	0.78	0.48	mg/Kg	20	12/4/2017 11:18:22 AM	35264
Toluene	15	0.96	mg/Kg	20	12/4/2017 11:18:22 AM	35264
Ethylbenzene	4.3	0.96	mg/Kg	20	12/4/2017 11:18:22 AM	35264
Xylenes, Total	44	1.9	mg/Kg	20	12/4/2017 11:18:22 AM	35264
Surr: 4-Bromofluorobenzene	117	80-120	%Rec	20	12/4/2017 11:18:22 AM	35264

Matrix: SOIL

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Williams Four CornersProject:Hargrave RP F 2Lab ID:1711E30-004	Client Sample ID: EW-2 Collection Date: 11/28/2017 11:30:00 AM Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM						
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	5			Analyst	TOM	
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/5/2017 6:22:46 AM	35273	
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/5/2017 6:22:46 AM	35273	
Surr: DNOP	89.6	70-130	%Rec	1	12/5/2017 6:22:46 AM	35273	
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB	
Gasoline Range Organics (GRO)	6.0	4.9	mg/Kg	1	12/5/2017 1:36:10 PM	35264	
Surr: BFB	97.4	15-316	%Rec	1	12/5/2017 1:36:10 PM	35264	
EPA METHOD 8021B: VOLATILES					Analyst	NSB	
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	12/4/2017 6:26:36 PM	35264	
Benzene	0.065	0.025	mg/Kg	1	12/4/2017 6:26:36 PM	35264	
Toluene	0.65	0.049	mg/Kg	1	12/4/2017 6:26:36 PM	35264	
Ethylbenzene	0.092	0.049	mg/Kg	1	12/4/2017 6:26:36 PM	35264	
Xylenes, Total	0.88	0.099	mg/Kg	1	12/4/2017 6:26:36 PM	35264	
Surr: 4-Bromofluorobenzene	109	80-120	%Rec	1	12/4/2017 6:26:36 PM	35264	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 4 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Re	port
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Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners	Client Sample ID: NW-1								
Project: Hargrave RP F 2	Collection Date: 11/28/2017 12:00:00 PM								
Lab ID: 1711E30-005	Matrix:	Received	Received Date: 11/30/2017 7:40:00 AM						
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analyst	том			
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/5/2017 6:44:53 AM	35273			
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/5/2017 6:44:53 AM	35273			
Surr: DNOP	90.5	70-130	%Rec	1	12/5/2017 6:44:53 AM	35273			
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst:	NSB			
Gasoline Range Organics (GRO)	160	24	mg/Kg	5	12/5/2017 1:59:32 PM	35264			
Surr: BFB	142	15-316	%Rec	5	12/5/2017 1:59:32 PM	35264			
EPA METHOD 8021B: VOLATILES					Analyst:	NSB			
Methyl tert-butyl ether (MTBE)	ND	0.47	mg/Kg	5	12/4/2017 11:42:14 AM	35264			
Benzene	1.9	0.12	mg/Kg	5	12/4/2017 11:42:14 AM	35264			
Toluene	16	0.24	mg/Kg	5	12/4/2017 11:42:14 AM	35264			
Ethylbenzene	2.3	0.24	mg/Kg	5	12/4/2017 11:42:14 AM	35264			
Xylenes, Total	20	0.47	mg/Kg	5	12/4/2017 11:42:14 AM	35264			
Surr: 4-Bromofluorobenzene	119	80-120	%Rec	5	12/4/2017 11:42:14 AM	35264			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 5 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Williams Four CornersProject:Hargrave RP F 2Lab ID:1711E30-006	Client Sample ID: NW-2 Collection Date: 11/28/2017 12:30:00 PM Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM						
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	;			Analyst	том	
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/5/2017 7:06:50 AM	35273	
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/5/2017 7:06:50 AM	35273	
Surr: DNOP	92.2	70-130	%Rec	1	12/5/2017 7:06:50 AM	35273	
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB	
Gasoline Range Organics (GRO)	90	24	mg/Kg	5	12/5/2017 2:22:52 PM	35264	
Surr: BFB	118	15-316	%Rec	5	12/5/2017 2:22:52 PM	35264	
EPA METHOD 8021B: VOLATILES					Analyst:	NSB	
Methyl tert-butyl ether (MTBE)	ND	0.48	mg/Kg	5	12/4/2017 12:05:58 PM	35264	
Benzene	0.55	0.12	mg/Kg	5	12/4/2017 12:05:58 PM	35264	
Toluene	5.8	0.24	mg/Kg	5	12/4/2017 12:05:58 PM	35264	
Ethylbenzene	1.1	0.24	mg/Kg	5	12/4/2017 12:05:58 PM	35264	
Xylenes, Total	11	0.48	mg/Kg	5	12/4/2017 12:05:58 PM	35264	
Surr: 4-Bromofluorobenzene	116	80-120	%Rec	5	12/4/2017 12:05:58 PM	35264	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 6 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical	Report
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Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Project: Hargrave RP F 2				Date: 11	/28/2017 9:30:00 AM	
Lab ID: 1711E30-007	Matrix: SOIL			Received Date: 11/30/2017 7:40:00 AM		
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	12/5/2017 7:28:54 AM	35273
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/5/2017 7:28:54 AM	35273
Surr: DNOP	87.2	70-130	%Rec	1	12/5/2017 7:28:54 AM	35273
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/4/2017 6:50:20 PM	35264
Surr: BFB	112	15-316	%Rec	1	12/4/2017 6:50:20 PM	35264
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	12/4/2017 6:50:20 PM	35264
Benzene	ND	0.025	mg/Kg	1	12/4/2017 6:50:20 PM	35264
Toluene	ND	0.049	mg/Kg	1	12/4/2017 6:50:20 PM	35264
Ethylbenzene	ND	0.049	mg/Kg	1	12/4/2017 6:50:20 PM	35264
Xylenes, Total	ND	0.099	mg/Kg	1	12/4/2017 6:50:20 PM	35264
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	12/4/2017 6:50:20 PM	35264

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 7 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Client Sample ID: BH-5 23'-25' Project: Hargave RP F 2 Collection Date: 11/28/2017 9:50:00 AM Lab ID: 1711E30-008 Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	5			Analyst	том
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/5/2017 7:50:57 AM	35273
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/5/2017 7:50:57 AM	35273
Surr: DNOP	87.9	70-130	%Rec	1	12/5/2017 7:50:57 AM	35273
EPA METHOD 8015D: GASOLINE RANG	ε				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/4/2017 7:13:54 PM	35264
Surr: BFB	112	15-316	%Rec	1	12/4/2017 7:13:54 PM	35264
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	12/4/2017 7:13:54 PM	35264
Benzene	ND	0.024	mg/Kg	1	12/4/2017 7:13:54 PM	35264
Toluene	ND	0.048	mg/Kg	1	12/4/2017 7:13:54 PM	35264
Ethylbenzene	ND	0.048	mg/Kg	1	12/4/2017 7:13:54 PM	35264
Xylenes, Total	ND	0.097	mg/Kg	1	12/4/2017 7:13:54 PM	35264
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	12/4/2017 7:13:54 PM	35264

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Client Sample ID: BH-6 13'-15' Project: Hargrave RP F 2 Collection Date: 11/28/2017 1:10:00 PM Lab ID: 1711E30-009 Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM Analyses Result POL Qual Units DE Date Analyzed Batch

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	5			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/5/2017 8:13:05 AM	35273
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/5/2017 8:13:05 AM	35273
Surr: DNOP	90.6	70-130	%Rec	1	12/5/2017 8:13:05 AM	35273
EPA METHOD 8015D: GASOLINE R	ANGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	12/4/2017 7:37:35 PM	35264
Surr: BFB	111	15-316	%Rec	1	12/4/2017 7:37:35 PM	35264
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	12/4/2017 7:37:35 PM	35264
Benzene	ND	0.025	mg/Kg	1	12/4/2017 7:37:35 PM	35264
Toluene	ND	0.049	mg/Kg	1	12/4/2017 7:37:35 PM	35264
Ethylbenzene	ND	0.049	mg/Kg	1	12/4/2017 7:37:35 PM	35264
Xylenes, Total	ND	0.099	mg/Kg	1	12/4/2017 7:37:35 PM	35264
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	12/4/2017 7:37:35 PM	35264

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 9 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners **Project:** Hargrave RP F 2

Lab ID: 1711E30-010

Client Sample ID: BH-6 23'-25' Collection Date: 11/28/2017 1:25:00 PM Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/5/2017 8:34:50 AM	35273
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/5/2017 8:34:50 AM	35273
Surr: DNOP	89.0	70-130	%Rec	1	12/5/2017 8:34:50 AM	35273
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	II NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	12/4/2017 8:01:13 PM	35264
Surr: BFB	110	15-316	%Rec	1	12/4/2017 8:01:13 PM	35264
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	12/4/2017 8:01:13 PM	35264
Benzene	ND	0.024	mg/Kg	1	12/4/2017 8:01:13 PM	35264
Toluene	ND	0.048	mg/Kg	1	12/4/2017 8:01:13 PM	35264
Ethylbenzene	ND	0.048	mg/Kg	1	12/4/2017 8:01:13 PM	35264
Xylenes, Total	ND	0.096	mg/Kg	1	12/4/2017 8:01:13 PM	35264
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	12/4/2017 8:01:13 PM	35264

Matrix: SOIL

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 limit Page 10 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

CLIENT: Williams Four Corners Project: Hargrave RP F 2	Client Sample ID: BH-7 8'-10' Collection Date: 11/28/2017 2:30:00 PM						
Lab ID: 1711E30-011	Matrix:	SOIL	Received	Received Date: 11/30/2017 7:40:00 AM			
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analyst	том	
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/5/2017 8:56:55 AM	35273	
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/5/2017 8:56:55 AM	35273	
Surr: DNOP	89.5	70-130	%Rec	1	12/5/2017 8:56:55 AM	35273	
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	12/4/2017 8:24:39 PM	35264	
Surr: BFB	109	15-316	%Rec	1	12/4/2017 8:24:39 PM	35264	
EPA METHOD 8021B: VOLATILES					Analyst	NSB	
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	12/4/2017 8:24:39 PM	35264	
Benzene	ND	0.024	mg/Kg	1	12/4/2017 8:24:39 PM	35264	
Toluene	ND	0.047	mg/Kg	1	12/4/2017 8:24:39 PM	35264	
Ethylbenzene	ND	0.047	mg/Kg	1	12/4/2017 8:24:39 PM	35264	
Xylenes, Total	ND	0.095	mg/Kg	1	12/4/2017 8:24:39 PM	35264	
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	12/4/2017 8:24:39 PM	35264	

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 11 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 1711E30

Date Reported: 12/6/2017

Analytical	Report

Lab Order 1711E30

Date Reported: 12/6/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT:Williams Four CornersProject:Hargrave RP F 2Lab ID:1711E30-012	Client Sample ID: BH-7 18'-20' Collection Date: 11/28/2017 2:50:00 PM Matrix: SOIL Received Date: 11/30/2017 7:40:00 AM										
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch					
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analyst	том					
Diesel Range Organics (DRO)	11	9.9	mg/Kg	1	12/5/2017 9:18:53 AM	35273					
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/5/2017 9:18:53 AM	35273					
Surr: DNOP	89.3	70-130	%Rec	1	12/5/2017 9:18:53 AM	35273					
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB					
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	12/4/2017 8:48:22 PM	35264					
Surr: BFB	110	15-316	%Rec	1	12/4/2017 8:48:22 PM	35264					
EPA METHOD 8021B: VOLATILES					Analyst	NSB					
Methyl tert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	12/4/2017 8:48:22 PM	35264					
Benzene	ND	0.024	mg/Kg	1	12/4/2017 8:48:22 PM	35264					
Toluene	ND	0.047	mg/Kg	1	12/4/2017 8:48:22 PM	35264					
Ethylbenzene	ND	0.047	mg/Kg	1	12/4/2017 8:48:22 PM	35264					
Xylenes, Total	ND	0.095	mg/Kg	1	12/4/2017 8:48:22 PM	35264					
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	12/4/2017 8:48:22 PM	35264					

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 limit Page 12 of 17
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Client:Williams Four CornersProject:Hargrave RP F 2

Sample ID 1711E30-001AMS	S SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: SW-1	Batch ID: 35273	RunNo: 47491
Prep Date: 12/1/2017	Analysis Date: 12/5/2017	SeqNo: 1517248 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	46 10 50.81	0 90.1 55.8 125
Surr: DNOP	4.4 5.081	87.3 70 130
Sample ID 1711E30-001AMS	SD SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: SW-1	Batch ID: 35273	RunNo: 47491
Prep Date: 12/1/2017	Analysis Date: 12/5/2017	SeqNo: 1517249 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	44 9.3 46.73	0 93.6 55.8 125 4.60 20
Surr: DNOP	4.1 4.673	88.1 70 130 0 0
Sample ID LCS-35273	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 35273	RunNo: 47491
Prep Date: 12/1/2017	Analysis Date: 12/5/2017	SeqNo: 1517262 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	45 10 50.00	0 90.7 73.2 114
Surr: DNOP	4.2 5.000	84.5 70 130
Sample ID MB-35273	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 35273	RunNo: 47491
Prep Date: 12/1/2017	Analysis Date: 12/5/2017	SeqNo: 1517264 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10	
Motor Oil Range Organics (MRO) Surr: DNOP	ND 50 9.4 10.00	93.9 70 130
Suit. DINOP	9.4 10.00	33.3 10 130
Sample ID LCS-35318	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 35318	RunNo: 47518
Prep Date: 12/5/2017	Analysis Date: 12/5/2017	SeqNo: 1517359 Units: %Rec
Analyte		SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	4.7 5.000	93.1 70 130
Sample ID MB-35318	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 35318	RunNo: 47518
Prep Date: 12/5/2017	Analysis Date: 12/5/2017	SeqNo: 1517361 Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

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

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WO#: 1711E30

06-Dec-17

Client:Williams Four CornersProject:Hargrave RP F 2

							and the second se	and the same of th				
Sample ID	MB-35318	SampTy	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	PBS	Batch	ID: 35	318	F	RunNo:	47518					
Prep Date:	12/5/2017	Analysis Da	te: 12	2/5/2017	S	SeqNo:	1517361	Units: %Rec	:			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	C LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP		9.8		10.00		98.0) 70	130				

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

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WO#: **1711E30** *06-Dec-17*

Client: Williams Four Corners **Project:** Hargrave RP F 2

Sample ID MB-35264	SampT	ype: MI	BLK	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch	1D: 35	264	F	RunNo: 47502						
Prep Date: 12/1/2017	Analysis D	ate: 1	2/4/2017	S	SeqNo: 1	517155	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	1100		1000		110	15	316				
Sample ID LCS-35264	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e		
Client ID: LCSS	Batch	ID: 35	264	F	RunNo: 4	7502					
Prep Date: 12/1/2017	Analysis D	ate: 1	2/4/2017	S	SeqNo: 1	517156	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	75.9	131				
Gasoline Range Organics (GRO) Surr: BFB	26 1200	5.0	25.00 1000	0	103 122	75.9 15	131 316				

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
- E 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

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WO#:

1711E30 06-Dec-17

Williams Four Corners **Client: Project:** Hargrave RP F 2

Troject. Thaigh												
Sample ID MB-35264	Samp	Туре: МІ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles				
Client ID: PBS	Batc	h ID: 35	264	F	RunNo: 4	7502						
Prep Date: 12/1/2017	Analysis [Date: 1	2/4/2017	S	SeqNo: 1	517210	Units: mg/M	٢g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Methyl tert-butyl ether (MTBE)	ND	0.10										
Benzene	ND	0.025										
Foluene	ND	0.050										
Ethylbenzene	ND	0.050										
Xylenes, Total	ND	0.10										
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120					
Sample ID LCS-35264	Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles				
Client ID: LCSS	Batc	h ID: 35	264	F	RunNo: 4	7502						
Prep Date: 12/1/2017	Analysis [Date: 12	2/4/2017	S	SeqNo: 1	517211	Units: mg/K	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Methyl tert-butyl ether (MTBE)	0.91	0.10	1.000	0	90.9	70.1	121					
Benzene	1.0	0.025	1.000	0	99.7	77.3	128					
Toluene	1.0	0.050	1.000	0	99.8	79.2	125					
Ethylbenzene	0.96	0.050	1.000	0	96.2	80.7	127					
Kylenes, Total	2.9	0.10	3.000	0	96.2	81.6	129					
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120					
Sample ID 1711E30-001A	MS Samp	Type: MS	6	Tes	tCode: El	PA Method	8021B: Volat	tiles				
Client ID: SW-1	Batc	h ID: 35	264	R	RunNo: 4	7502						
Prep Date: 12/1/2017	Analysis [Date: 12	2/4/2017	S	SeqNo: 1	517217	Units: mg/K	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Methyl tert-butyl ether (MTBE)	0.93	0.098	0.9766	0	95.5	72.5	138					
Benzene	0.97	0.024	0.9766	0.01971	97.5	80.9	132					
Toluene	1.0	0.049	0.9766	0.04497	99.7	79.8	136					
Ethylbenzene	0.95	0.049	0.9766	0.01639	95.6	79.4	140					
Kylenes, Total	2.8	0.098	2.930	0.05713	95.1	78.5	142					
Surr: 4-Bromofluorobenzene	1.1		0.9766		109	80	120					
Sample ID 1711E30-001A	MSD Samp	Гуре: МЗ	D	Test	tCode: EF	PA Method	8021B: Volat	iles				
Client ID: SW-1	Batc	h ID: 35	264	R	unNo: 4	7502						
Prep Date: 12/1/2017	Analysis [Date: 12	2/4/2017	S	eqNo: 1	517218	Units: mg/K	g				
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
	0.91	0.094	0.9381	0	97.4	72.5	138	2.10	20			
Methyl tert-butyl ether (MTBE)			0 0001	0.01071	97.9	00.0	132	3.50	20			
	0.94	0.023	0.9381	0.01971		80.9						
Methyl tert-butyl ether (MTBE) Benzene Toluene	0.94 0.97	0.023 0.047	0.9381 0.9381	0.01971 0.04497	97.9 98.6	79.8	136	4.90	20			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

- % Recovery outside of range due to dilution or matrix S
- 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 16 of 17

WO#: 06-Dec-17

1711E30

Client: Williams Four Corners Project: Hargrave RP F 2

Sample ID 1711E30-001AMS	SD SampT	ype: MS	SD.	Test	Code: El	PA Method	8021B: Volat	tiles		
Client ID: SW-1	Batch	ID: 35	264	R	unNo: 4	7502				
Prep Date: 12/1/2017	Analysis D	ate: 12	2/4/2017	S	eqNo: 1	517218	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total	2.8	0.094	2.814	0.05713	95.9	78.5	142	3.15	20	
Surr: 4-Bromofluorobenzene	1.0		0.9381		110	80	120	0	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

WO#: 1711E30 06-Dec-17

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3	ntal Analysis Labora 4901 Hawkins Albuquerque, NM 87 975 FAX: 505-345-4 v.hallenvironmental	NE 109 Sam	ple Log-In Check List
Client Name: WILLIAMS FOUR CO	N Work Order Num	ber: 1711E30		RcptNo: 1
Received By: Anne Thorne	11/30/2017 7:40:00	AM	anne Am	-
Completed By: Sophia Campuzano	11/30/2017 12:45:0	5 PM	in her is sen-	
Reviewed By:	11/30/17			
Chain of Custody				
1. Custody seals intact on sample bottle	es?	Yes	No 🗌	Not Present
2. Is Chain of Custody complete?		Yes 🔽	No 🗌	Not Present
3. How was the sample delivered?		Courier		
Log In				
4. Was an attempt made to cool the sa	mples?	Yes 🗸	No 🗌	NA 🗔
5. Were all samples received at a temp	erature of >0° C to 6.0°C	Yes 🗸	No 🗌	
6. Sample(s) in proper container(s)?		Yes 🖌	No	
7. Sufficient sample volume for indicate	d test(s)?	Yes 🖌	No	
8. Are samples (except VOA and ONG)	properly preserved?	Yes 🗹	No 🗌	
9. Was preservative added to bottles?		Yes	No 🖌	NA 🗔
10.VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials 🗹
11. Were any sample containers receive	d broken?	Yes —	No 🔽	# of preserved bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custo		Yes 🔽	No	for pH: (<2 or >12 unless noted)
3 Are matrices correctly identified on C		Yes 🗸	No	Adjusted?
4. Is it clear what analyses were reques	ted?	Yes 🖌	No	
15. Were all holding times able to be mere (If no, notify customer for authorization)		Yes 🗹	No 🗌	Checked by:
pecial Handling (if applicable)	e with this order?	Yes	No	NA 🗹
6. Was client notified of all discrepancie		presenter		
Person Notified: By Whom:	Date Via:	,	hone Fax	In Person
Regarding:	Via:			
Client Instructions:		an a tha an a sa	en lana met i tore de Bitt till den då de de det i til	
17. Additional remarks:				
8. Cooler Information				
Cooler No Temp °C Conditio	n Seal Intact Seal No	Seal Date	Signed By	
	Not Present			

	hain-	of-Cu	stody Record	Turn-/	Around	Time:] •	-					-			0	D.I.B				
Client:	Will	iams	Faur corners		andard					H	_						_					(
	Aara	Ga	ler	Projec	ct Name	<u>}:</u>				and the		ww	v.hal	env	ironr	ment	alco	om				
Mailing	Address		5 Chipeta Way	Har	grave	RPF	-2		49	01 H									7109			
501	t Lat	e Cit	Y, Ut 84108	Projec	ct #:			Tel. 505-345-3975 Fax 505-345-4107														
Phone #	t: 2	301-5	84-6746	1	034017003			Analysis Request														
email or	Fax#: c	aren.	opter @ Williams. com	Project Manager:			ina Caler	()	nly)	RO)					0 ⁴)							
	Package:				Williams: Garen Galer			802	as o	DRO / MRO)			ŝ		04.S	PCB's						
🖈 Stand			□ Level 4 (Full Validation)		LTE: Danny Burns) s,s	0	R0			SIMS)		PO	2 P						
Accredit			25	Sampler: Eric Carrol			TMB's (8021)	TPH (Gas only)		÷.	(F.)	270		NO	Pesticides / 8082						Î	
		PDF	1	On Ice: X≤Yes □ No Sample Temperature: 1.3			+	+	(GRO /	418	504	or 8	5	NO.	es /		NOA				Y. or	
4 200	(Type)_	INF		Gamp	ne rem			ITB	MTBE -	B	poq	had	310	Vete	Ľ,	ticid	(VOA)	ni-V				Y) SE
Date	Time	Matrix	Sample Request ID		tainer and #	Preservative Type	HEAL NO.	BTEX + MTBE	BTEX + N	TPH 8015B	PH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Arrions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)	8081 Pes	8260B (V	8270 (Semi-VOA)				Air Bubbles
11/28/17	11:20	Seil	SW-1	14	0z	COOL	-001	X		×	-	ш	₫.	œ	A	80	89	\$		-	+	4
" and	10:50)	5W-2	1	1		- 002	X		×										+	+	
	11:10		EW-1				-003	x		X												+
	11:30		EW-2				- 004	X		X											1	
	12:00		NW-1				-005	X		X												
	12:30		NW-2				-006	×		×												
	09:30		BH-5 8'-10'				-007	×		×												
	09:50		BH-5 23-25'				-008	×		×												
	13:10		BH-6 13'-15'				-009	X		×												
	13:25		BH-6 23'-25'				-010	X		×												
1	14:30		BH-7 81-10'				-011	Y		×												
-	14:50	-	BH-7 18'-20'	-	Y	V	-012	×		X												
Date: /1/29/17 Date:	Time: 14:30 Time:	Relinquist	is lacesoft	Receiv	1ª	Walt	Date Time 11/29/17 1430 Date Time		nark	s:	lec	350	6	21						env.		
11/29/12	2010		and yout	6	10	mh	1//30//1 0146								d	Бил	ins	@	LTC	nv, c	om	\$

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

November 08, 2017

Kijun Hong Williams Field Services 188 Co. Rd 4900 Bloomfield, NM 87413 TEL: FAX

RE: Hargrave RP F-2

OrderNo.: 1711227

Dear Kijun Hong:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/4/2017 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 #NM0190

Sincerely,

ander

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Williams Field Services Project: Hargrave RP F-2			C			rgrave RP F-2 Exc GW /3/2017 9:30:00 AM	/
Lab ID: 1711227-001	Matrix: GROUNDWA			Received			
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst:	DJF
Gasoline Range Organics (GRO)	14	2.5	Ρ	mg/L	50	11/6/2017 12:08:50 PM	G46900
Surr: BFB	101	70-130	Ρ	%Rec	50	11/6/2017 12:08:50 PM	G46900
EPA METHOD 8015M/D: DIESEL RAN	IGE					Analyst:	том
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/6/2017 12:30:13 PM	34823
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/6/2017 12:30:13 PM	34823
Surr: DNOP	105	77.5-161		%Rec	1	11/6/2017 12:30:13 PM	34823
EPA METHOD 8260: VOLATILES SHO	ORT LIST					Analyst:	DJF
Benzene	400	50	Ρ	µg/L	50	11/6/2017 12:08:50 PM	SL46900
Toluene	1600	50	Ρ	µg/L	50	11/6/2017 12:08:50 PM	SL46900
Ethylbenzene	81	50	Ρ	µg/L	50	11/6/2017 12:08:50 PM	SL46900
Xylenes, Total	1100	75	Ρ	µg/L	50	11/6/2017 12:08:50 PM	SL46900
Surr: 1,2-Dichloroethane-d4	98.4	70-130	Ρ	%Rec	50	11/6/2017 12:08:50 PM	SL46900
Surr: 4-Bromofluorobenzene	112	70-130	Ρ	%Rec	50	11/6/2017 12:08:50 PM	SL46900
Surr: Dibromofluoromethane	99.1	70-130	Ρ	%Rec	50	11/6/2017 12:08:50 PM	SL46900
Surr: Toluene-d8	101	70-130	Ρ	%Rec	50	11/6/2017 12:08:50 PM	SL46900

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

7	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method 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 Page 1 of 9
ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified
	PQL	D Sample Diluted Due to Matrix	DSample Diluted Due to MatrixEHHolding times for preparation or analysis exceededJNDNot Detected at the Reporting LimitPPQLPractical Quanitative LimitRL

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1711227 Date Reported: 11/8/2017

Lab Order 1711227

Date Reported: 11/8/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services

Project: Hargrave RP F-2

Lab ID: 1711227-002

Client Sample ID: Hargrave RP F-2 Bottom NW Co Collection Date: 11/3/2017 10:25:00 AM Received Date: 11/4/2017 12:20:00 PM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analyst	MAB
Petroleum Hydrocarbons, TR	ND	19	mg/Kg	1	11/6/2017 10:00:00 AM	34825
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	ND	30	mg/Kg	20	11/6/2017 11:12:53 AM	34835
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.020	mg/Kg	1	11/6/2017 10:28:11 AM	34792
Toluene	ND	0.040	mg/Kg	1	11/6/2017 10:28:11 AM	34792
Ethylbenzene	ND	0.040	mg/Kg	1	11/6/2017 10:28:11 AM	34792
Xylenes, Total	ND	0.080	mg/Kg	1	11/6/2017 10:28:11 AM	34792
Surr: 4-Bromofluorobenzene	88.7	80-120	%Rec	1	11/6/2017 10:28:11 AM	34792

Matrix: SOIL

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 2 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified
	5	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specif

Lab Order **1711227** Date Reported: **11/8/2017**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Field Services

Project: Hargrave RP F-2

Lab ID: 1711227-003

Client Sample ID: Hargrave RP F-2 Wall Rock and Collection Date: 11/3/2017 10:40:00 AM Received Date: 11/4/2017 12:20:00 PM

Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 418.1: TPH					Analys	MAB
Petroleum Hydrocarbons, TR	49	20	mg/Kg	1	11/6/2017 10:00:00 AM	34825
EPA METHOD 300.0: ANIONS					Analys	CJS
Chloride	ND	30	mg/Kg	20	11/6/2017 11:25:17 AN	34835
EPA METHOD 8021B: VOLATILES					Analys	NSB
Benzene	3.6	0.026	mg/Kg	1	11/6/2017 10:51:43 AN	34792
Toluene	18	1.1	mg/Kg	20	11/6/2017 12:01:56 PM	34792
Ethylbenzene	2.6	0.053	mg/Kg	1	11/6/2017 10:51:43 AN	34792
Xylenes, Total	25	2.1	mg/Kg	20	11/6/2017 12:01:56 PM	34792
Surr: 4-Bromofluorobenzene	138	80-120	S %Rec	1	11/6/2017 10:51:43 AN	34792

Matrix: SOIL

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 3 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Client: Williams Field Services Project: Hargrave RP F-2

Sample ID MB-34835	SampType: mblk	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 34835	RunNo: 46894		
Prep Date: 11/6/2017	Analysis Date: 11/6/2017	SeqNo: 1497224	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Chloride	ND 1.5			
Sample ID LCS-34835	SampType: Ics	TestCode: EPA Method	300.0: Anions	
Sample ID LCS-34835 Client ID: LCSS	SampType: Ics Batch ID: 34835	TestCode: EPA Method RunNo: 46894	300.0: Anions	
			300.0: Anions Units: mg/Kg	
Client ID: LCSS	Batch ID: 34835 Analysis Date: 11/6/2017	RunNo: 46894		RPDLimit Qual

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

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WO#: 1711227 08-Nov-17

Client: Williams Field Services

Project: Hargrave RP F-2

			The second s
Sample ID MB-34825	SampType: MBLK	TestCode: EPA Method 418.1	1: TPH
Client ID: PBS	Batch ID: 34825	RunNo: 46890	
Prep Date: 11/6/2017	Analysis Date: 11/6/2017	SeqNo: 1495909 Unit	s: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit Hig	hLimit %RPD RPDLimit Qual
Petroleum Hydrocarbons, TR	ND 20		
Sample ID LCS-34825	SampType: LCS	TestCode: EPA Method 418.1	I: TPH
Client ID: LCSS	Batch ID: 34825	RunNo: 46890	
Prep Date: 11/6/2017	Analysis Date: 11/6/2017	SeqNo: 1495910 Units	s: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit Hig	hLimit %RPD RPDLimit Qual
Petroleum Hydrocarbons, TR	82 20 100.0	0 82.5 80.5	126
Sample ID LCSD-34825	SampType: LCSD	TestCode: EPA Method 418.1	I: ТРН
Client ID: LCSS02	Batch ID: 34825	RunNo: 46890	
Prep Date: 11/6/2017	Analysis Date: 11/6/2017	SeqNo: 1495911 Units	s: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit Hig	hLimit %RPD RPDLimit Qual
Petroleum Hydrocarbons, TR	87 20 100.0	0 87.4 80.5	126 5.83 20

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

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WO#: 1711227 08-Nov-17

Williams Field Services **Client:**

Project: Hargrave RP F-2

Sample ID LCS-34823	SampType:	LCS	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	Ð	
Client ID: LCSW	Batch ID:	34823	F	RunNo: 46	5891				
Prep Date: 11/6/2017	Analysis Date:	11/6/2017	5	SeqNo: 14	196021	Units: mg/L			
Analyte	Result PQI	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.2 1	.0 5.000	0	104	92.3	135			
Surr: DNOP	0.49	0.5000		97.7	77.5	161			
Sample ID LCSD-34823	SampType:	LCSD	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	9	
Client ID: LCSS02	Batch ID:	34823	F	RunNo: 46	6891				
Prep Date: 11/6/2017	Analysis Date:	11/6/2017	S	SeqNo: 14	196022	Units: mg/L			
Analyte	Result PQI	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.3 1	.0 5.000	0	106	92.3	135	1.16	20	
Surr: DNOP	0.51	0.5000		103	77.5	161	0	0	
Sample ID MB-34823	SampType: I	MBLK	Tes	tCode: EP	A Method	8015M/D: Die	sel Range	9	
Client ID: PBW	Batch ID:	34823	F	RunNo: 46	6891				
Prep Date: 11/6/2017	Analysis Date:	11/6/2017	S	SeqNo: 14	96023	Units: mg/L			
Analyte	Result PQI	_ SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 1	.0							
Motor Oil Range Organics (MRO)	ND 5	.0							
Surr: DNOP	1.0	1.000		101	77.5	161			

Qualifiers:

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

WO#:

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Client: Williams Field Services

Project: Hargrave RP F-2

							the second se	the second second second second second		
Sample ID MB-34792	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batc	h ID: 34	792	F	RunNo: 4	6898				
Prep Date: 11/3/2017	Analysis E	Date: 11	1/6/2017	S	SeqNo: 1	496451	Units: mg/k	(g		
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								
		0.10								
Xylenes, Total	ND	0.10								
Xylenes, Total Surr: 4-Bromofluorobenzene	ND 0.93	0.10	1.000		92.7	80	120			
	0.93	б. 10 Гуре: LC		Tes			120 8021B: Volat	tiles		
Surr: 4-Bromofluorobenzene	0.93 Samp1		S			PA Method		tiles		
Surr: 4-Bromofluorobenzene Sample ID LCS-34792	0.93 Samp1	Гуре: LC h ID: 34	:S 792	F	tCode: El	PA Method 6898				
Surr: 4-Bromofluorobenzene Sample ID LCS-34792 Client ID: LCSS	0.93 SampT Batcl	Гуре: LC h ID: 34	:S 792 1/6/2017	F	tCode: ER	PA Method 6898	8021B: Volat		RPDLimit	Qual
Surr: 4-Bromofluorobenzene Sample ID LCS-34792 Client ID: LCSS Prep Date: 11/3/2017	0.93 Samp1 Batcl Analysis D	Type: LC h ID: 34 Date: 11	:S 792 1/6/2017	F	tCode: EF RunNo: 40 SeqNo: 14	PA Method 6898 496452	8021B: Volat	(g	RPDLimit	Qual
Surr: 4-Bromofluorobenzene Sample ID LCS-34792 Client ID: LCSS Prep Date: 11/3/2017 Analyte	0.93 SampT Batcl Analysis D Result	Fype: LC h ID: 34 Date: 1 1 PQL	:S 792 1/6/2017 SPK value	F S SPK Ref Val	tCode: EF RunNo: 4 SeqNo: 14 %REC	PA Method 6898 496452 LowLimit	8021B: Volat Units: mg/K HighLimit	(g	RPDLimit	Qual
Surr: 4-Bromofluorobenzene Sample ID LCS-34792 Client ID: LCSS Prep Date: 11/3/2017 Analyte Benzene	0.93 SampT Batcl Analysis D Result 0.91	Fype: LC h ID: 34 Date: 11 PQL 0.025	5 792 1/6/2017 SPK value 1.000	F SPK Ref Val 0	tCode: EF RunNo: 44 SeqNo: 14 %REC 90.8	PA Method 6898 496452 LowLimit 77.3	8021B: Volat Units: mg/K HighLimit 128	(g	RPDLimit	Qual
Surr: 4-Bromofluorobenzene Sample ID LCS-34792 Client ID: LCSS Prep Date: 11/3/2017 Analyte Benzene Toluene	0.93 SampT Batcl Analysis D Result 0.91 0.92	Type: LC h ID: 34 Date: 11 PQL 0.025 0.050	S 792 1/6/2017 SPK value 1.000 1.000	F S SPK Ref Val 0 0	tCode: EF RunNo: 4 SeqNo: 14 %REC 90.8 91.5	PA Method 6898 496452 LowLimit 77.3 79.2	8021B: Volat Units: mg/K HighLimit 128 125	(g	RPDLimit	Qual

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

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WO#: 1711227 08-Nov-17

Client: Williams Field Services

Project: Hargrave RP F-2

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260: Volatile	es Short I	_ist	
Client ID: PBW	Batch	n ID: SL	46900	F	RunNo: 4	46900				
Prep Date:	Analysis D	ate: 1	1/6/2017	5	SeqNo: 1	1496591	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.8	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	9.7		10.00		96.8	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			
Sample ID 100ng Ics	SampT	ype: LC	s	Tes	tCode: E	PA Method	8260: Volatile	es Short L	_ist	
Client ID: LCSW	Batch	n ID: SL	46900	F	RunNo: 4	46900				
Prep Date:	Analysis D	ate: 11	1/6/2017	S	SeqNo: 1	496592	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.5	70	130			
Toluene	20	1.0	20.00	0	102	70	130			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		92.6	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		105	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.9	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			

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

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WO#: 1711227 08-Nov-17

Client: Williams Field Services

Project: Hargrave RP F-2

	and the second se	And the second s									
Sample ID	rb	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	PBW	Batch	ID: G4	46900	F	RunNo: 4	6900				
Prep Date:		Analysis D	ate: 1	1/6/2017	S	SeqNo: 1	496595	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	0.050								
Surr: BFB		10		10.00		100	70	130			
Sample ID	2.5ug gro lcs	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	LCSW	Batch	ID: G4	6900	R	RunNo: 4	6900				
Prep Date:		Analysis D	ate: 1*	1/6/2017	S	SeqNo: 1	496596	Units: mg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range	e Organics (GRO)	0.51	0.050	0.5000	0	102	70	130			
Surr: BFB		9.8		10.00		98.2	70	130			
Sample ID	1711227-001a ms	SampT	ype: MS	6	Test	tCode: El	PA Method	8015D: Gasol	ine Range	9	
Client ID:	Hargrave RP F-2	Ex Batch	ID: G4	6900	R	RunNo: 4	6900				
Prep Date:		Analysis Da	ate: 11	1/6/2017	q		406509	Units: mg/L			
				1/0/2017		SeqNo: 1	490390	ormor mgr=			
Analyte		Result	PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
,	e Organics (GRO)	Result 40						0	%RPD	RPDLimit	Qual P
,	e Organics (GRO)		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	-
Gasoline Range Surr: BFB	e Organics (GRO) 1711227-001a ms	40 500	PQL 2.5	SPK value 25.00 500.0	SPK Ref Val 14.27	%REC 101 101	LowLimit 70 70	HighLimit 130			Р
Gasoline Range Surr: BFB Sample ID		40 500 sd SampTy	PQL 2.5	SPK value 25.00 500.0	SPK Ref Val 14.27 Test	%REC 101 101	LowLimit 70 70 PA Method	HighLimit 130 130			Р
Gasoline Range Surr: BFB Sample ID	1711227-001a ms	40 500 sd SampTy	PQL 2.5 ype: MS ID: G4	SPK value 25.00 500.0 SD 6900	SPK Ref Val 14.27 Tesl R	%REC 101 101 tCode: E	LowLimit 70 70 PA Method 6900	HighLimit 130 130			Р
Gasoline Range Surr: BFB Sample ID Client ID:	1711227-001a ms	40 500 ed SampTy Ex Batch	PQL 2.5 ype: MS ID: G4	SPK value 25.00 500.0 6900 1/6/2017	SPK Ref Val 14.27 Tesl R	%REC 101 101 tCode: El RunNo: 4 SeqNo: 14	LowLimit 70 70 PA Method 6900	HighLimit 130 130 8015D: Gasol			Р
Gasoline Range Surr: BFB Sample ID Client ID: Prep Date: Analyte	1711227-001a ms	40 500 Sd SampTy Ex Batch Analysis Da	PQL 2.5 ype: MS ID: G4 ate: 11	SPK value 25.00 500.0 6900 1/6/2017	SPK Ref Val 14.27 Test R S	%REC 101 101 tCode: El RunNo: 4 SeqNo: 14	LowLimit 70 70 PA Method 6900 496599	HighLimit 130 130 8015D: Gasol Units: mg/L	ine Range)	P

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

WO#: 1711227 08-Nov-17

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HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental A Albuc TEL: 505-345-3975 I Website: www.hal	4901 Hawkins N guerque, NM 8710 FAX: 505-345-410	^{7E} 99 Sam	ole Log-In Check List
Client Name: WILLIAMS FIELD SERVI	Work Order Number:	1711 227		RcptNo: 1
Received By: Andy Freeman	11/4/2017 12:20:00 PM		andy	
Completed By: Anne Thorne	11/6/2017 7:24:12 AM		and Arm	_
Reviewed By: 22	11/6/17			-
Chain of Custody				
1. Custody seals intact on sample bottles?		Yes	No	Not Present
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present
3. How was the sample delivered?		Courier		
Log In				
4. Was an attempt made to cool the samples	?	Yes 🗹	No 🗌	NA 🗌
5. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes 🖌	No	
6. Sample(s) in proper container(s)?		Yes 🖌	No 🗌	
7. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌	
8. Are samples (except VOA and ONG) prope	rly preserved?	Yes 🗹	No 🗌	
9. Was preservative added to bottles?		Yes	No 🗸	NA
10. VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials 🗹
11. Were any sample containers received brok	en?	Yes	No 🗹	# of preserved
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	bottles checked for pH: (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of	f Custody?	Yes 🗹	No	Adjusted?
14. Is it clear what analyses were requested?		Yes 🗹	No 🗌	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No	Checked by:
Special Handling (if applicable)				

NA 🖌

16.	Was client notified of all	discrepancies with this order?		Yes	No 🗌	N
	Person Notified:		Date	T	ananan anan anan ang ang ang ang ang ang	
	By Whom:		Via:	eMail	Phone Fax	In Person

17. Additional remarks:

Regarding: Client Instructions:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.3	Good	Yes			

$\frac{1}{2} \frac{1}{2} \frac{1}$	Date: Time:				Ohje/ 11/.	3.17 1025	3/17 4:30	Date Time	EDD (Type)	NELAP	□ Standard	QA/QC Package:	email or Fax#	Phone #: 5		Mailing Addre		Chai
Religionshed by: Religionshed by: 2 Religionshed by: ary, samples submitted	Relinguished by:				0 50:1	5011	20	e Matrix	(9)	Other		je:	K. IVN	265-632	11/5		53	n-of-Cu
15.16 MBY CLOUD Muthullound 11/3/17 1710 Andre valed for BTEX (GM in , No. 116) (in Time: Relinguished by: Received by: Date Time II Andre valed for BTEX (GM in , No. 116) (in 1816 Muthullound by: Received by: Date Time II in 1/4/17 12 to II in 1/4/17 1/4/17 12 to II in 1/4/17	ed by:				Hargiave KP F-2	Bottom Nu conve	TXC- GW	equest		97	Level 4 (Full Validation)		11	57 hh 72	55 AKKOYD DK			Chain-of-Custody Record
ontracted to other action	Received by:				neutort	incenter 1-402	3 - Home Ha	Type and #	Sample Temps	Sampler: Morgen On loe Serves	KIJUN		Project Manager:		Hard-rovo		Standard Droiect Name	Turn-Around Time:
Indicute							LHCL	Preservative Type	Sample Temperature: S./ *C	Morgen Kill	HONG		er.		JCRP		BRush 1	
Date Time Date Time $\frac{11/3}{\sqrt{122}}$ This serves as notice of this	Date Time				203	202	20	HEAL NO. 7/1227	\$C+0,2 8230	id al					E-2		1-6-17	Scac der
possib	Ren			1,	4	×	×	BTEX + MF	ÐE		s' (8	021)						-
And And	Remarks							BTEX + MT	BE	+ TPH	(Ga	s on	ly)	Te	490			-
turly 2 a			+				-	TPH 8015B						1. 50)1 Ha			-
kijun Kijun					×`	\times	\times	H (Metho			1100		2	5-34	awkir	~	> 3	2
i k	,			_				EDB (Metho						Tel. 505-345-3975	4901 Hawkins NE	VWW.	ANALYSIS	
for Bring	·	+ +		 _				PAH's (831)			SIMS	3)	_	An An	1	halle	55	-
BIE 6		+						RCRA 8 Me Anions (F,C	_		PO	80		Fa	Albuc	nviro	S	2
X/6			+-+-	 					_				4)	× 50	quer	onme	S S	5
BTEX (G(D) M				 				8081 Pestic 8260B (VOA		67808	2 PC	BS	-	Analysis Request	que,	www.hallenvironmental.com	52	j
on the		+-+			_			8270 (Semi-		Δ)			-	Fax 505-345-4107	Albuquerque, NM 87109	.com	B	2
, NC		*			×	×		Chloride	-	(1)				70	8710			
Y/S,					-			///0// 2	<u> </u>						9			2
Kil an hat																	YSIS LABORATORY	
ha																	RYF	-
200	~							Air Bubbles	(Y c	or N)								



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

December 14, 2017

Danny Burns Williams Four Corners 188 CR 4900 Bloomfield, NM 87413 TEL: (505) 632-4442 FAX

RE: Hargrave RP F 2

OrderNo.: 1712524

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 3 sample(s) on 12/8/2017 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 #NM0190

Sincerely,

and

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Williams Four Corners	Client Sample ID: GW-1											
Project: Hargrave RP F 2	Collection Date: 12/6/2017 11:00:00 AM											
Lab ID: 1712524-001	Matrix:	GROUNDWA	Received	Date: 12/	8/2017 7:55:00 AM							
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch						
EPA METHOD 8015M/D: DIESEL RAN	GE				Analy	st: TOM						
Diesel Range Organics (DRO)	1.8	1.0	mg/L	1	12/12/2017 12:20:13	PM 35444						
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	12/12/2017 12:20:13	PM 35444						
Surr: DNOP	104	77.5-161	%Rec	1	12/12/2017 12:20:13	PM 35444						
EPA METHOD 8015D: GASOLINE RAM	NGE				Analy	st: NSB						
Gasoline Range Organics (GRO)	3.4	0.050	mg/L	1	12/11/2017 11:58:33	AM GW4767						
Surr: BFB	131	69.3-150	%Rec	1	12/11/2017 11:58:33	AM GW4767						
EPA METHOD 8260B: VOLATILES					Analy	st: RAA						
Benzene	310	10	µg/L	10	12/12/2017 7:19:00 A	M B47690						
Toluene	600	10	µg/L	10	12/12/2017 7:19:00 A	M B47690						
Ethylbenzene	21	10	µg/L	10	12/12/2017 7:19:00 A	M B47690						
Xylenes, Total	250	15	µg/L	10	12/12/2017 7:19:00 A	M B47690						
Surr: 1,2-Dichloroethane-d4	105	70-130	%Rec	10	12/12/2017 7:19:00 A	M B47690						
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	10	12/12/2017 7:19:00 A	M B47690						
Surr: Dibromofluoromethane	102	70-130	%Rec	10	12/12/2017 7:19:00 A	M B47690						
Surr: Toluene-d8	98.5	70-130	%Rec	10	12/12/2017 7:19:00 A	M B47690						

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method 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 Page 1 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Analytical Report Lab Order 1712524 Date Reported: 12/14/2017

Hall Environmental Analysis Laboratory, Inc.

Analytical	Report
Lab Order 1'	712524

Date Reported: 12/14/2017

12/12/2017 11:16:13 AM 35436

5 12/12/2017 11:16:13 AM 35436

Analyst: NSB

9

Hall Environmental Analysis Laboratory, Inc.

Gasoline Range Organics (GRO)

Methyl tert-butyl ether (MTBE)

Surr: 4-Bromofluorobenzene

EPA METHOD 8021B: VOLATILES

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: Williams Four Corners Project: Hargrave RP F 2	Client Sample ID: WW-1 Collection Date: 12/6/2017 12:00:00 PM								
Lab ID: 1712524-002	Matrix:	SOIL	Received	Date: 12	/8/2017 7:55:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RAM	NGE ORGANICS	5			Analyst	том			
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/12/2017 7:49:30 PM	35433			
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/12/2017 7:49:30 PM	35433			
Surr: DNOP	urr: DNOP 95.3 70-				12/12/2017 7:49:30 PM	35433			
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB			

24

15-316

0.48

0.12

0.24

0.24

0.48

80-120

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

5

5

5

5

5

5

5

100

148

ND

ND

1.1

0.68

6.9

114

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

Qualifiers :	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank	
Quantitation of	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 Page 2 of	of
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specific	ed

Analytical	Report
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Lab Order 1712524

Date Reported: 12/14/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Williams Four Corners Project: Hargrave RP F 2			Client Sampl		W-2 /6/2017 12:20:00 PM	
Lab ID: 1712524-003	Matrix: S	SOIL			/8/2017 7:55:00 AM	
Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst	том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/12/2017 8:11:44 PM	35433
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/12/2017 8:11:44 PM	35433
Surr: DNOP	99.7	70-130	%Rec	1	12/12/2017 8:11:44 PM	35433
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	13	5.0	mg/Kg	1	12/12/2017 9:58:50 PM	35436
Surr: BFB	141	15-316	%Rec	1	12/12/2017 9:58:50 PM	35436
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	12/12/2017 9:58:50 PM	35436
Benzene	ND	0.025	mg/Kg	1	12/12/2017 9:58:50 PM	35436
Toluene	0.63	0.050	mg/Kg	1	12/12/2017 9:58:50 PM	35436
Ethylbenzene	0.19	0.050	mg/Kg	1	12/12/2017 9:58:50 PM	35436
Xylenes, Total	2.0	0.099	mg/Kg	1	12/12/2017 9:58:50 PM	35436
Surr: 4-Bromofluorobenzene	115	80-120	%Rec	1	12/12/2017 9:58:50 PM	35436

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Me

- 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
- ciated Method Blank В Analyte detected in the asso
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Client: Williams Four Corners Project: Hargrave RP F 2

Sample ID LCS-35433	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch	ID: 35	433	R	RunNo: 4	7696				
Prep Date: 12/11/2017	Analysis Da	ate: 12	2/12/2017	S	SeqNo: 1	524952	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.7	73.2	114			
Surr: DNOP	4.4		5.000		88.8	70	130			
Sample ID MB-35433	SampTy	/pe: ME	BLK	Test	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: DDC			422	D	unNo: 4	7606				
Client ID: PBS	Batch	ID: 35	433	P.		1090				
Prep Date: 12/11/2017	Batch Analysis Da		433 2/12/2017		SeqNo: 1		Units: mg/K	g		
			2/12/2017				Units: mg/K HighLimit	g %RPD	RPDLimit	Qual
Prep Date: 12/11/2017	Analysis Da	ate: 12	2/12/2017	S	SeqNo: 1	524953	0		RPDLimit	Qual
Prep Date: 12/11/2017 Analyte	Analysis Da Result	PQL	2/12/2017	S	SeqNo: 1	524953	0		RPDLimit	Qual

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

ue above quantitation range

WO#:

14-Dec-17

1712524

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Client: Williams Four Corners

Project: Hargrave RP F 2

Sample ID LCS-35444	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	sel Range	9	
Client ID: LCSW	Batch	ID: 35	444	F	RunNo: 4	7698				
Prep Date: 12/11/2017	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	524686	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.6	1.0	5.000	0	112	92.3	135			
Surr: DNOP	0.51		0.5000		102	77.5	161			
Sample ID MB-35444	SampT	vpe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	sel Range)	
Client ID: PBW	Batch	ID: 35	444	F	RunNo: 4	7698				
Prep Date: 12/11/2017	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	524687	Units: mg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0								
Motor Oil Range Organics (MRO)	ND	5.0								
Surr: DNOP	0.95		1.000		95.4	77.5	161			

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
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

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14-Dec-17

WO#: 1712524

Client: Williams Four Corners

Project: Hargrave RP F 2

Sample ID MB-35436	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	n ID: 35	436	F	RunNo: 4	7705				
Prep Date: 12/11/2017	Analysis D	ate: 12	2/12/2017	5	SeqNo: 1	525397	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1200		1000		115	15	316			
							1990 A. 1990			
Sample ID LCS-35436	SampT	ype: LC		Tes			8015D: Gaso	line Rang	9	
Sample ID LCS-35436 Client ID: LCSS		ype: LC	S			PA Method		line Rang	e	
		n ID: 354	S 436	F	tCode: El	PA Method 7705		5	9	
Client ID: LCSS	Batch	n ID: 354	S 436 2/12/2017	F	tCode: El	PA Method 7705	8015D: Gaso	5	e RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017	Batch Analysis D	n ID: 354 Pate: 12	S 436 2/12/2017	F	tCode: El RunNo: 4 SeqNo: 1	PA Method 7705 525398	8015D: Gaso Units: mg/K	g		Qual

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
- % Recovery outside of range due to dilution or matrix S
- 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
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

WO#: 1712524 14-Dec-17

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Client: Williams Four Corners

Project: Hargrave RP F 2

SampT	Гуре: МВ	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	9	
Batch	h ID: GV	N47673	F	RunNo: 4	7673				
Analysis D	Date: 12	2/11/2017	S	SeqNo: 1	523826	Units: mg/L			
Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
ND	0.050								
20		20.00		98.1	69.3	150			
SampT	Type: LC	s	Tes	tCode: El	PA Method	8015D: Gasol	ine Range	9	
	Type: LC h ID: GV			tCode: El		8015D: Gasol	line Range	9	
	h ID: GV	N47673	F		7673	8015D: Gasol Units: mg/L	line Range	e	
Batch	h ID: GV	W 47673 2/11/2017	F	RunNo: 4	7673		ine Rango %RPD	e RPDLimit	Qual
Batch Analysis D	h ID: GV Date: 12	W 47673 2/11/2017	F	RunNo: 4 SeqNo: 1	7673 523827	Units: mg/L			Qual
	Batc Analysis [Result ND	Batch ID: GN Analysis Date: 1: Result PQL ND 0.050	Result PQL SPK value ND 0.050	Batch ID: GW47673 F Analysis Date: 12/11/2017 S Result PQL SPK value SPK Ref Val ND 0.050 S	Batch ID: GW47673 RunNo: 4' Analysis Date: 12/11/2017 SeqNo: 1: Result PQL SPK value SPK Ref Val %REC ND 0.050 0.050 0.050 0.050	Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Result PQL SPK value SPK Ref Val %REC LowLimit ND 0.050	Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit ND 0.050 <td< td=""><td>Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD ND 0.050 <td< td=""><td>Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit ND 0.050</td></td<></td></td<>	Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD ND 0.050 <td< td=""><td>Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit ND 0.050</td></td<>	Batch ID: GW47673 RunNo: 47673 Analysis Date: 12/11/2017 SeqNo: 1523826 Units: mg/L Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit ND 0.050

Oualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- E 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

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1712524 14-Dec-17

WO#:

Client: Williams Four Corners

Project: Hargrave RP F 2

Sample ID MB-35436	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	ID: 354	436	F	RunNo: 4	7705				
Prep Date: 12/11/2017	Analysis Da	ate: 12	2/12/2017	S	SeqNo: 1	525426	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			
Sample ID LCS-35436	SampTy	pe: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Sample ID LCS-35436 Client ID: LCSS		pe: LC			tCode: El RunNo: 4		8021B: Volat	iles		
		ID: 354	436	R		7705	8021B: Volat			
Client ID: LCSS	Batch	ID: 354	436 2/12/2017	R	anNo: 4	7705			RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017	Batch I Analysis Da	ID: 354 Ite: 12	436 2/12/2017	R	tunNo: 4 SeqNo: 1	7705 525427	Units: mg/K	g	RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017 Analyte	Batch I Analysis Da Result 0.95	ID: 35 4 Ite: 12 PQL	436 2/12/2017 SPK value	R S SPK Ref Val	RunNo: 4 SeqNo: 1 %REC	7705 525427 LowLimit	Units: mg/K HighLimit	g	RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017 Analyte Methyl tert-butyl ether (MTBE) Benzene	Batch I Analysis Da Result 0.95 1.0	ID: 35 4 Ite: 12 PQL 0.10	436 2/12/2017 SPK value 1.000	SPK Ref Val	RunNo: 4 GeqNo: 1 %REC 95.5	7705 525427 LowLimit 70.1	Units: mg/K HighLimit 121	g	RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017 Analyte Methyl tert-butyl ether (MTBE) Benzene Toluene	Batch I Analysis Da Result 0.95 1.0 1.0	ID: 35 4 ite: 12 PQL 0.10 0.025	436 2/12/2017 SPK value 1.000 1.000	R S SPK Ref Val 0 0	RunNo: 4 SeqNo: 1 %REC 95.5 100	7705 525427 LowLimit 70.1 77.3	Units: mg/K HighLimit 121 128	g	RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017 Analyte Methyl tert-butyl ether (MTBE)	Batch I Analysis Da Result 0.95 1.0 1.0	ID: 35 4 nte: 12 PQL 0.10 0.025 0.050	436 2/12/2017 SPK value 1.000 1.000 1.000	R S SPK Ref Val 0 0 0	RunNo: 4 BeqNo: 1 <u>%REC</u> 95.5 100 102	7705 525427 LowLimit 70.1 77.3 79.2	Units: mg/K HighLimit 121 128 125	g	RPDLimit	Qual
Client ID: LCSS Prep Date: 12/11/2017 Analyte Methyl tert-butyl ether (MTBE) Benzene Foluene Ethylbenzene	Batch I Analysis Da Result 0.95 1.0 1.0 0.99	ID: 35 4 Ite: 12 PQL 0.10 0.025 0.050 0.050	436 2/12/2017 SPK value 1.000 1.000 1.000 1.000	R S SPK Ref Val 0 0 0 0	RunNo: 4 SeqNo: 1 %REC 95.5 100 102 99.3	7705 525427 LowLimit 70.1 77.3 79.2 80.7	Units: mg/K HighLimit 121 128 125 127	g	RPDLimit	Qual

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

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WO#:

Client: Williams Four Corners

Project: Hargrave RP F 2

Sample ID 100ng lcs2	SampT	ype: LC	S	Tes	tCode: E	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	n ID: B4	7690	F	RunNo: 4	7690				
Prep Date:	Analysis D	ate: 12	2/12/2017	5	SeqNo: 1	524100	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	111	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.9		10.00		98.5	70	130			
Sample ID rb2	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8260B: VOLA	ATILES		
Client ID: PBW	Batch	n ID: B4	7690	R	aunNo: 4	7690				
Prep Date:	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	524108	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
	10		10.00		400	70	120			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: 4-Bromofluorobenzene Surr: Dibromofluoromethane	10 11		10.00		100	70	130			

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 9 of 9

WO#: 1712524 14-Dec-17

Client Name:	WILLIAMS FOUR CORN	Work Order Number:	1712	524		RcptNo	: 1
Received By:	Anne Thorne	12/8/2017 7:55:00 AM			anne Hum	-	
Completed By:	Sophia Campuzano	12/8/2017 2:08:55 PM			miles inger -		
Reviewed By:	JNO	18 68 17					
<u>Chain</u> of Cus	tody						
1. Custody sea	ils intact on sample bottles'	?	Yes		No 🗌	Not Present V	
2. Is Chain of C	Custody complete?		Yes	\checkmark	No 🗌	Not Present	
3. How was the	e sample delivered?		Cour	ier			
Log In							
4. Was an atte	empt made to cool the same	bles?	Yes	\checkmark	No	NA	
5. Were all san	nples received at a tempera	ature of >0° C to 6.0°C	Yes	\checkmark	No		
6. Sample(s) in	n proper container(s)?		Yes	\checkmark	No		
7. Sufficient sa	mple volume for indicated t	est(s)?	Yes	~	No		
8. Are samples	(except VOA and ONG) pr	operly preserved?	Yes	~	No		
9. Was preserv	ative added to bottles?		Yes		No 🗸	NA	
10.VOA vials ha	we zero headspace?		Yes	✓	No 🗌	No VOA Vials	
11. Were any sa	ample containers received t	proken?	Yes		No 🖌	# of preserved bottles checked	
	vork match bottle labels? pancies on chain of custody	()	Yes	✓	No 🗌	for pH:	or >12 unless not
13. Are matrices	correctly identified on Cha	in of Custody?	Yes		No 🗌	Adjusted?	
	at analyses were requested	1?	Yes		No 🗌		
	ding times able to be met? customer for authorization.)		Yes	\checkmark	No	Checked by:	
Special Hand	ling (if applicable)						
	otified of all discrepancies v	with this order?	Yes		No	NA 🗹	
Person	Notified	Date:			Notice in the second system of the second		
By Who	om:	Via:	eMa	il 🗌 P	hone 🗌 Fax	In Person	
Regard	ling:						
Client	nstructions:						
17. Additional re	marks:						
18. Cooler Infor							

Chain-of-Custody Record				Turn-Around Time: HALL ENVIRONMENTAL															
Client:	Willi	ams	Four corners	Rush			ANALYSIS LABORATORY												
Aaron Galer				Project Name:				www.hallenvironmental.ccm											
Mailing Address: 17755 Arrayo Dr.				Hargrave RP F-2			4901 Hawkins NE - Albuquerque, NM 87109												
Bioomfield, NM 87413				Project #:			Tel. 505-345-3975 Fax 505-345-4107												
Phone #:										1		the second s	naly	sis	Req	lues	t		
email or Fax#: charen . galer @ Williams. com				Project Manager: Danny Burns - LTE			1)	TPH (Gas only)	RO / MRO)	8.1)				Anions (F,CI,NO ₃ ,NO ₂ ,PO ₄ ,SO ₄)					
QA/QC Package:			TMB's (8021)				SIMS)					2 PCB's			×				
Accreditation INELAP Other		Sampler: E. Carroll On Ice: DYes DNo			TMB	TPH	D/D	1)	8270 :		/ 808	BTEX			1		(N)		
B EDD (Type) PDI		PDF		Sample Temperature: 7.0			BE +	BE +	(GR	d 41	od 50	0 or	tais	ON.I	ides	2	a		(Y 0
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE	BTEX + MTBE +	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,C	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)		Air Bubblos (Y or N)
DIGIT	11:00	Gw	GW-1	G VOAA	HC1	-001			x							X			
	10:00	Soil	ww-1	1402	C001	-002	X		x										
	17:20	Soil	ww-2	1402	COPI	-003	X		×										
			ed by: ed by: VAL	Received by:	har	Date Time 12 17 11 1130 Date Time 12 108/17 (7 50		mark	s:										

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analys	sis Labora	Date Reported:							
CLIENT:Williams Field ServicesProject:Hargrave RP F2Lab ID:1801819-001	Matrix:	SOIL	Collection	Date: 1/1	st Area 6 Point 6/2018 10:00:00 AM 7/2018 7:10:00 AM				
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 300.0: ANIONS					Analyst:	MRA			
Chloride	ND	30	mg/Kg	20	1/17/2018 11:39:00 AM	36067			
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	5			Analyst:	том			
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/17/2018 11:06:27 AM	36064			
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/17/2018 11:06:27 AM	36064			
Surr: DNOP	94.0	70-130	%Rec	1	1/17/2018 11:06:27 AM	36064			
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst:	NSB			
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	1/17/2018 10:29:54 AM	R48506			
Surr: BFB	86.3	15-316	%Rec	1	1/17/2018 10:29:54 AM	R48506			
EPA METHOD 8021B: VOLATILES					Analyst:	NSB			
Benzene	ND	0.019	mg/Kg	1	1/17/2018 10:29:54 AM	R48506			
Toluene	ND	0.039	mg/Kg	1	1/17/2018 10:29:54 AM	R48506			
Ethylbenzene	ND	0.039	mg/Kg	1	1/17/2018 10:29:54 AM	R48506			
Xylenes, Total	ND	0.077	mg/Kg	1	1/17/2018 10:29:54 AM	R48506			
Surr: 4-Bromofluorobenzene	96.0	80-120	%Rec	1	1/17/2018 10:29:54 AM	R48506			

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

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

Analytical Report Lab Order 1801819

Lab Order 1801819

Date Reported:

CLIENT: Williams Field Services	Client Sample ID: North West 6 Point										
Project: Hargrave RP F2		Collection Date: 1/16/2018 10:10:00 AM									
Lab ID: 1801819-002	Matrix:	Received I									
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch					
EPA METHOD 300.0: ANIONS					Analyst	MRA					
Chloride	ND	30	mg/Kg	20	1/17/2018 11:51:00 AM	36067					
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analyst	TOM					
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/17/2018 11:30:55 AM	36064					
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/17/2018 11:30:55 AM	36064					
Surr: DNOP	95.4	70-130	%Rec	1	1/17/2018 11:30:55 AM	36064					
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB					
Gasoline Range Organics (GRO)	62	4.0	mg/Kg	1	1/17/2018 10:53:34 AM	R48506					
Surr: BFB	106	15-316	%Rec	1	1/17/2018 10:53:34 AM	R48506					
EPA METHOD 8021B: VOLATILES					Analyst	NSB					
Benzene	0.41	0.020	mg/Kg	1	1/17/2018 10:53:34 AM	R48506					
Toluene	1.7	0.040	mg/Kg	1	1/17/2018 10:53:34 AM	R48506					
Ethylbenzene	0.15	0.040	mg/Kg	1	1/17/2018 10:53:34 AM	R48506					
Xylenes, Total	1.3	0.080	mg/Kg	1	1/17/2018 10:53:34 AM	R48506					
Surr: 4-Bromofluorobenzene	99.2	80-120	%Rec	1	1/17/2018 10:53:34 AM	R48506					

Hall Environmental Analysis Laboratory, Inc.

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

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