

BNC Environmental Services, Inc.

SOIL SAMPLING REPORT

SHELL PIPELINE COMPANY, LP

GRIZZEL GATHERING CRUDE OIL RELEASE EUNICE, NEW MEXICO

BNC Job No. E58





AUSTIN | DALLAS | HOUSTON | MIDLAND



October 7, 2002

Mr. Lamar Stokes SHELL PIPELINE COMPANY, LP P. O. Box 3038 Pearland, Texas 77588-3038

SUBJECT: Soil Sampling Report Grizzell Gathering Crude Oil Release - LCW09 Eunice, New Mexico

Dear Mr. Stokes:

BNC Environmental Services, Inc. (BNC) is pleased to resent this soil sampling report for Shell Pipeline Company (Shell) at the above referenced site. BNC understands that information presented in this report may be included in a more comprehensive report prepared by Shell on the remedial activities performed at the Grizzell Gathering-LCW09 release site. The Grizzell Gathering crude oil release site is located approximately 2 miles southwest of Eunice, New Mexico. A crude oil release reportedly occurred on May 8, 2002. The release was reported to be 8 b arrels lost with 6 b arrels b eing r ecovered by v acuum truck. The cause of the release was overfilling of a sump due to a faulty drain valve. A release notification and corrective action form C-141 was submitted to the New Mexico Oil Conservation Division (NMOCD). Crude oil affected soils were excavated and soil samples of the walls and floors of the excavation were submitted for laboratory analysis of benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons (TPH). A Copy of NMOCD form C-141 is attached in APPENDIX A.

The site is specifically located in the NW/4 of the NW/4, Section 9, Township 22 South, Range 37 East, in Lea County, New Mexico. The site location and surrounding area is presented on the attached Jal Quadrangle U.S.G.S. topographic map (FIGURE 1).

This report summarizes soil sampling activities conducted by BNC and includes the following:

- Regulatory Framework and Site Classification
- Field Sampling and Laboratory Protocol
- Confirmation Soil Sampling Activities and Results



REGULATORY FRAMEWORK AND SITE CLASSIFICATION

The State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division (NMOCD) has regulatory jurisdiction over oil and gas production operations including crude oil pipeline spills and associated closure activities in the State of New Mexico. This soil assessment was conducted under the regulatory guidance of the NMOCD, which requires that soil affected by a crude oil spill be remediated in such a manner that the potential for future affects to groundwater or the environment are minimized. The NMOCD cleanup levels are determined on a site-by-site basis and are based on ranking criteria that is outlined in the NMOCD "Guidelines for Remediation of Spills, Leaks, and Releases" dated August 13, 1993. These ranking criteria guidelines are based on the following site characteristics: depth to groundwater, wellhead protection (useable water sources), and distance to surface water.

The Grizzell Gathering crude oil leak site consists of an injection pump, sump, activated custody transfer (ACT) unit and associated piping and valves. The release site is located in a rural setting approximately two miles southwest of Eunice New Mexico. The release occurred within the pipeline right of way which traverses north-south and runs parallel with Legion Road. Residential housing with a shallow water well exists within 1,000 feet of the release. The land surface within the area of the pipeline is relatively flat with undulating drift sand deposits resulting in a low relief, hilly, sandy, and dry topography. Land use in the immediate area surrounding the leak site is a combination of rangeland, farmland and oil leases, mostly vegetated by mesquite brush, cactus and native range grass. Surface water was not observed within 1,000 feet of the release site. The table below illustrates the criteria for site specific characteristics used by the NMOCD to provide ranking scores for individual sites:

Criteria	Site Characteristics	Ranking Score
Depth to Groundwater	< 50 feet	20
Wellhead Protection Area	<1000 feet	20
Distance to Surface Water	>1000 feet	0
	Total Ranking Score	40

Based on the Grizzell Gathering site characteristics and the NMOCD "Guidelines for Remediation of Spills, Leaks, and Releases", the site has a ranking score of >19. Consequently, the ranking criteria cleanup levels of 10 mg/kg benzene, 50 mg/kg total BTEX, and 100 mg/kg TPH are established for closure activities at the site.

FIELD SAMPLING AND LABORATORY PROTOCOL

Soil samples were obtained by personnel utilizing appropriate sampling tools and wearing clean, disposable gloves. The sampling equipment was cleaned with Alconox detergent and rinsed with distilled water between sample locations. E ach sample selected for laboratory analysis was placed in a new sterile glass container equipped with a teflon-lined lid furnished by the analytical laboratory. The containers were filled to capacity with soil limiting the amount of head-space present. Soil samples were submitted to TraceAnalysis for analysis. Each container was labeled, placed on ice in an insulated cooler, and chilled to a temperature of approximately 40° F (4° C). The cooler was sealed for shipment to the laboratory. Proper chain of custody documentation accompanied the samples to the laboratory.

The laboratory was responsible for proper analytical QA/QC procedures. These procedures are generally transmitted with the laboratory reports or a re on file at the laboratory. Soil samples were analyzed for TPH by EPA Modified Method 8015B (DRO-GRO) and for BTEX by EPA Method 8021B. Soil samples were analyzed within 14 days after their collection.

CONFIRMATION SOIL SAMPLING ACTIVITIES AND RESULTS

BNC conducted soil sampling activities at the Grizzell Gathering crude oil release site as directed by Shell. Excavation and remedial activities were managed by Shell and BNC understands that oil affected soils, resulting from the release were transported to Environmental Plus, Inc. (EPI), a State approved landfarm facility, located just outside Eunice.

Five separate soil sampling events were conducted at the site between May 17 and July 24, 2002. Analytical results of each soil sampling event dictated the path of further excavation activities. BTEX concentrations in all samples were below the NMOCD site specific cleanup standards of 50 mg/kg. Benzene concentrations in all samples were below the NMOCD clean up standards of 10 mg/kg.

TABLE I displays the analytical results of BTEX and TPH concentrations for soil samples collected in the five separate sampling events. Yellow highlighting designates TPH concentrations above the NMOCD site specific clean up levels of 100 mg/kg. FIGURES 2-5 display the excavation boundaries and floor depths as they existed on the sampling event date. The figures also display the location of each sample collected during each sampling event. Copies of the certified analytical reports and chain of custody documentation are attached in APPENDIX B.

SAMPLING EVENT # 1 – May 17, 2002

BNC collected a total of nine soil samples from the walls and floor of the excavated area affected by the crude oil release (FIGURE 2). These initial samples were obtained for the purpose of determining laboratory concentrations of hydrocarbons in the walls and floor of the current excavation and serve as base line information for continued excavation activities. Soil samples obtained from the Sump area, West Wall, North Wall, and NW Floor of the excavation exhibited TPH concentrations above the NMOCD site specific cleanup standards of 100 mg/kg. Soil samples obtained from the East Wall, NE floor, SE Floor, SW Floor and Pump Floor exhibited TPH concentrations below the NMOCD site specific cleanup standards of 100 mg/kg.

SAMPLING EVENT # 2 – May 23,2002

BNC collected a total of three soil samples from the NW Floor, NW-SW Floor and West Wall areas (FIGURE 3). These areas exhibited TPH concentrations above NMOCD cleanup levels from the initial sampling event and were further excavated prior to sampling on May 23, 2002. FIGURE 3 displays the expanded west wall, deepened floor of the excavation and sample locations on this day. The deepened NW Floor sample obtained from ten feet bgs still exhibited TPH concentrations above NMOCD cleanup standards. However, the West Wall and NW-SW Floor samples exhibited TPH concentrations below NMOCD site specific clean up standards.

Based on analytical results of sampling events one and two, confirmation samples obtained from the SE Floor, SW Floor, NW-SW Floor and East Wall #2, exhibited TPH concentrations below NMOCD clean up levels and the shallower south half of the excavation was backfilled with clean fill dirt. Backfilling of the southern half of the excavation was a targeted goal for re-locating the ACT unit and other associated equipment to the south and out of the northern leak source area. After backfilling the southern half of the excavation, further excavation of the northern half was performed. Excavation activities included deepening the northern portion of the excavation on both sides of the north-south traversing pipelines. The northeastern side of the excavation was deepened to approximately eight feet bgs and was the area at which the sump was located and the release occurred. Originally this area was excavated to five feet bgs and initial sampling of the sump area indicated TPH concentrations of 9,015 mg/kg. The northwestern portion of the excavation was deepened to approximately 11 feet bas due to TPH concentrations above regulatory clean up goals exhibited in the Northwest Floor samples obtained from nine and then ten feet bgs from sampling events one and two, respectively.

SAMPLING EVENT # 3 – June 22, 2002

BNC obtained three composite wall samples and a floor composite at a depth of 11 feet bgs from the northwestern portion of the excavation (FIGURE 4). These soil samples were identified as Excavation A (EA). The northeastern portion of the excavation was identified as

Excavation B (EB). Four composite wall samples and one composite floor sample from eight feet bgs was obtained for laboratory analysis in the Excavation B area. Analytical results for the EA wall and floor samples indicated TPH concentrations above NMOCD site specific clean up levels ranging from 189 mg/kg to 783 mg/kg. Analytical results for the EB wall samples indicated TPH concentrations above NMOCD site specific clean up levels ranging from 160 mg/kg to 1,352 mg/kg. The EB floor sample exhibited aTPH concentration of <50 mg/kg.

Based on the analytical results of sampling event #4, the excavation was deepened, widened and the wall existing under the pipelines that divided the northwest and northeast portions of the excavation was removed. The resulting excavation is displayed on FIGURE 5.

SAMPLING EVENT # 4 – July 11, 2002

BNC collected six confirmation grab soil samples from selected locations of the walls and floor of the excavation (FIGURE 5). Sampling activities were witnessed by NMOCD personnel and it was noted during sampling activities that the walls and floor of the current excavation appeared to be free of hydrocarbon staining and odor with the exception of a relatively small area at a depth of 11 feet bgs on the north wall. NMOCD personnel agreed upon selected grab sample locations on the walls and floor of the excavation and one sample collected from the stained area on the north wall (NWSW 11') was split between NMOCD and BNC for independent analysis by the NMOCD. Analytical results from sampling event #4 indicated that all wall and floor samples now exhibited TPH concentrations below NMOCD clean up levels with the exception of the north wall sample obtained at 11 feet bgs (NWSW 11'), which exhibited a TPH concentration of 5,475 mg/kg.

Based on the analytical results of sampling event #4, the area on the north wall exhibiting TPH concentrations above NMOCD site specific clean up goals was excavated to the north from ground surface to approximately 12 feet bgs.

SAMPLING EVENT # 5 – July 24, 2002

BNC collected one grab confirmation sample from the newly excavated north wall at a depth of 11 feet bgs (FIGURE 5). NMOCD was notified and was tentively scheduled to be onsite during this sampling event. Due to unknown reasons NMOCD personnel was not on site during the sampling event, however had previously directed BNC as to the location and depth to collect the sample. Analytical results from this sample (NSW2-11') indicated that TPH concentrations were below laboratory detection limits.

CONCLUSIONS

On May 8, 2002 a release of eight barrels of crude oil occurred at the Grizzell Gathering ACT site located approximately 2 miles southwest of Eunice New Mexico. Emergency abatement activities conducted on that day included removal of free liquids utilizing a

activities were conducted from early May to late July 2002. The progression of excavation boundaries and depth was based on analytical results derived from soil samples collected from the walls and floor of the excavation from five separate sampling events. Based on the analytical results of the five sampling events, horizontal and vertical delineation of the release area has been achieved and the Grizzell Gathering release area was backfilled with clean soil and is eligible for closure subject to the NMOCD "Guidelines for Remediation of Spills, Leaks, and Releases", dated August 13, 1993. BNC recommends that Shell request a "No Further Action" Letter from the NMOCD.

BNC appreciates the opportunity to provide Shell Pipeline Company with environmental services on this project. If you have any questions or comments concerning this report, please contact our Midland office at 915-686-0086.

Respectfully submitted, BNC Environmental Services, Inc.

Craig Eschberger Project Geologist C.P.G.

Tom Larson Senior Project Geologist

FIGURES

FIGURE 1 – Site Location Map FIGURE 2 –Excavation details and sample locations on May 17, 2002 FIGURE 3 – Excavation details and sample locations on May 23, 2002 FIGURE 4 – Excavation details and sample locations on June 22, 2002 FIGURE 5 – Excavation details and sample locations on July 11 & 24, 2002

TABLES

TABLE I – Analytical Results – Confirmation Soil Samples (5/17-7/24/2002)

APPENDICES

APPENDIX A – NMOCD Form C-141 APPENDIX B – Certified Analytical Reports and Chain of Custody Documentation SEMINOLE QUADRANGLE TEXAS- GAINES CO.

> LAT=32*42'19"N LONG=102*40'58"W

> > PHOTOREVISED 1992











TABLE I

SUMMARY OF ANALYTICAL RESULTS - EXCAVATION SOIL SAMPLES Grizzell Gathering System - LCW09 Lea County, New Mexico

SOIL BORING SAMPLES	SAMPLE DEPTH	DATE Sample	BENZENE	TOLUENE	ETHYL- Benzene	XYLENES	TOTAL BTEX	TPH DRO	TPH GRO	TOTAL TPH (8015B)
JARFLES	DEFTH	TAKEN	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
		Revie	the second s	addition	<u>Intoioile</u>	<u>le,effe,a</u>	the second s	38		
Ranking)Exclocip1	Ð	00 ក្រោះវិហា				60 mala_	. —	0	100 600
AMPLING EVEN	T#1 - Exca	vation - Wall	and Floor Sar	nples collect	ted on 5/17/02	2 - FIGURE 1				
Sump Area	5	5/17/2002	<0.020	0.0249	0.0276	0.2200	0.272	8970	45.2	9,015
West Wall	4	5/17/2002	<0.020	0.0224	<0.020	<0.020	0.0224	147	5.08	152
East Wall	4	5/17/2002	<0.010	<0.010	<0.010	0.0105	0.0105	66.8	<1.0	67
NE Floor	5	5/17/2002	<0.010	<0.010	<0.010	0.0133	0.0133	66.7	4.22	71
NW Floor	9	5/17/2002	<0.020	<0.020	<0.020	0.0515	0.0515	248	5.25	253
SE Floor	5	5/17/2002	<0.010	<0.010	0.0258	0.0373	0.0631	89.8	6.55	96
SW Floor	7	5/17/2002	<0.010	<0.010	<0.010	0.0303	0.0303	<50	<1.0	<50
North Wall	8	5/17/2002	0.136	4.480	7.450	7.530	19.596	522	154	676
Pump Floor 2.5'	3	5/17/2002	<0.010	<0.010	0.0162	0.0217	0.0379	72.6	<1.0	73
SAMPLING EV	ENT #2 - D	eepen main e	excavation an	additional 1	ft and widen	excavation to	the west - F	Resample	on 5/23/02	- FIGURE 2
NW Floor	10	5/23/02	<.050	0.055	0.165	0.127	0.347	132	<5	132
NW-SW Floor	6	5/23/02	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.0	<50
West Wall #2	4.5	5/23/02	<0.010	<0.010	<0.010	0.013	0.013	<50	<1.0	<50
AMPLING EVEN	T #3 - Back	fill south half	of excavation	, deepen and	d widen north	half of excava	ation -Colle	ct wall and	floor sam	oles on 6/22/0
EA E Wall Comp	8	6/22/2002	<0.020	<0.020	<0.020	<0.020	<0.020	778	4.99	783
EA W Wall Comp	8	6/22/2002	<0.010	0.0369	0.0102	0.0232	0.0703	186	2.71	189
EA N Wall Comp	8	6/22/2002	<0.020	0.109	0.0281	0.1638	0.301	722	30.7	753
EA Floor Comp	11	6/22/2002	<0.010	0.0147	0.0154	0.0257	0.0558	568	13.9	582
EB E Wall Comp	6	6/22/2002	<0.010	0.0153	0.017	0.0442	0.0765	973	7.18	980
EB W Wall Comp	6	6/22/2002	<0.010	0.154	0.0274	0.0701	0.252	1340	12.5	1352
EB N Wall Comp	6	6/22/2002	<0.010	0.236	<0.010	<0.010	0.236	374	7.75	382
EB S Wall Comp	6	6/22/2002	<0.020	0.203	<0.020	<0.020	0.203	160	<2.0	160
EB Floor Comp	8	6/22/2002	<0.010	0.0109	<0.010	0.0132	0.0241	<50	<1.0	<50
AMPLING EVEN /11/02 - FIGURE		avate north ha	alf of excavati	on to 12-14 1	t - Collect Wa	all and Floor g	rab sample	s as per N	MOCD pe	rsonnel on
UP 12'	12	7/11/2002	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.0	<50.0
ESW 10'	10	7/11/2002	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.0	<50.0
NWSW 11'	11	7/11/2002	<0.020	<0.020	<0.020	<0.020	<0.020	5,240	235	5,475
WSW 11'	11	7/11/2002	<0.010	<0.010	0.0125	0.0148	0.0273	<50.0	15	15
NC SW 9	9	7/11/2002	<0.010	<0.010	0.0135	0.094	0.0108	<50.0	3.57	4
SSW 9'	9	7/11/2002	<0.010	<0.010	0.0125	<0.010	0.0125	<50.0	<1.0	<50.0
AMPLING EVEN	T #5 - Exca	vate north wa	all area and co	bliect confirm	nation sample	on 7/24/02 -	FIGURE 4	-		
NSW2-11'	11	7/24/02	NA	NA	NA	NA	NA	<50.0	<1.0	<50.0
		معالمات المحالية	ation aphieur		oarbon affect	ed area excav	ated and h	actifilled wi	ith cloan e	nil

District !	5	State of	New N	lexico				
1625 N. French Dr., Hoobs, NM 88240 District II	Energy N	finerals ar Oil Conserva		Resources Dep	artment		-	orm C-141 arch 17, 1999
811 South First, Artasia, NM 88210		2040 South I	Pachaco Stree	t				
District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV		Santa Fe, Ne	w Mexico 875	05			District Office	a to appropriate in accordance lie 116 on back
2040 South Pacheco, Santa Fe, NM 87505								side of form
Ŕ	elease Noti	fication a	nd Correc	tive Action			, ,	
		OPE	RATOR		X Init	tial Report		Final Report
Name Shell Pipeline Company	. LP (SPL	C)	Contact		H. Lama	ar Stokes		
Address P. O. Box 3038 Pearlar			Telephone N			22-9085	····	
Facility Name Shell-Grizzell	Gathering S	System	Facility Type	•	Injection I	Pump, sum	p and ACT	Unit
Surface Owner . Bill P. Trull	· · · · · · · · · · · · · · · · · · ·	Mineral Own	er			Lease No.		
		L				J		
		TION OF						
Unit Letter Section Township Range NW/4 NW/4 225 East Sect 9	37 Feet from	Nor/So Line	Feet from	East/West Line	County	Lea		
	LATIN	RE OF RI					· · · · · · · · · · · · · · · · · · ·	·
Type of Release Crude Oil	NATU		Volume of R	elease	8 bbls	Volume Recovered		6 bbls
Source of Release 2" steel drain	valve	······	Date and Hour of Occurrence	5/8/02 8:00 PM	1	Date and Hour of Discovery	5/8/02 8:	30 PM
Was Immediate Notice Given?	No No	X N/R	HYES, TO	Vhom?				
By Whom?			Date and Hour					
Was a Watercourse reached?			If YES, Volu	me impacting the W	atercourse.			
No If a Water course was Impacted, Describe Ful	iy*							
Describe Cause of Problem and Remedial Ac position, causing the sump to overfill. T	llon Taken.* F he system wa	Release occ is isolated a	surred when and valve w	the 2" drain valve as replaced. Free	e to the sur liquid was	mp leaked b picked up	in the clovia vacuum	osed 1 truck.
Describe Area Affected and Cleanup Action T Inc. facility in Eunice, NM. Historical oc				d soil to be remov	ved and lan	nd farmed at	Environm	ental Plus,
Describe General Conditions Prevailing (Tem	perature, Precipi	tation, etc)."	Weather	conditions: dry,	clear, and	d ~85° F		
I here by certify that the information given abo my knowledge and belief.	ve is true and co	implete to the				ervation D	ivision	
Signature;								
Printed Name: H. Lamar Sto	Kes			Approved by District Supvsr:				
Title: Environmenta	Rep - Sou	thwest R	egion	Approval Date:			Expiration I	Date:
	Phone:	(281) 92	2-9085	Conditions of Appn	oval:		Attached	

*Attach Additional Sheets If Necessary

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Lenny Woods

Equiva Lenny Woods HCR 1 Box 89

Denver City, Tx. 79323

Report Date: May 23, 2002Order Number: A02052009 E-58 Shell # LCW09 Grizzel Gathering

Summary Report

Report Date:

May 23, 2002

Order ID Number: A02052009

Project:E-58TA Job Code:Grizzel GatheringCasualty Code:E-58 Shell # LCW09Project Location:Eunice, NMProject Address:BNC-Midland / Midland / Craig Eschberger

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
197398	Sump Area	Soil	5/17/02	10:30	5/18/02
197399	West Wall	Soil	5/17/02	10:35	5/18/02
197400	East Wall	Soil	5/17/02	10:40	5/18/02
197401	NE Floor	Soil	5/17/02	10:45	5/18/02
197402	NW Floor	Soil	5/17/02	10:50	5/18/02
197403	SE Floor	Soil	5/17/02	10:55	5/18/02
197404	SW Floor	Soil	5/17/02	11:00	5/18/02
197405	North Wall	Soil	5/17/02	11:05	5/18/02
197406	Pump Floor 2.5'	Soil	5/17/02	11:10	5/18/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

				BTEX			TPH DRO	TPH GRO
	Benzene	Toluene E	thylbenzene	M,P,O-Xylene	Total BTEX	Test Comments	DRO	GRO
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
197398 - Sump Area	< 0.020	0.0249	0.0276	0.22	0.272	* 1	8970	45.2
197399 - West Wall	< 0.020	0.0224	< 0.020	< 0.020	0.0224	* 2	147	5.08
197400 - East Wall	< 0.010	< 0.010	< 0.010	0.0105	0.0105	-	66.8	<1.00
197401 - NE Floor	< 0.010	< 0.010	< 0.010	0.0133	0.0133	-	66.7	4.22
197402 - NW Floor	< 0.020	< 0.020	< 0.020	0.0515	0.0515	* 3	248	5.25
197403 - SE Floor	< 0.010	< 0.010	0.0258	0.0373	0.0631	-	89.8	6.55
197404 - SW Floor	< 0.010	< 0.010	< 0.010	0.0303	0.0303	-	<50.0	<1.00
197405 - North Wall	0.136	4.48	7.45	7.53	19.596	-	522	154
197406 - Pump Floor 2.5'	< 0.010	< 0.010	0.0162	0.0217	0.0379	-	72.6	<1.00

¹Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of less than 0.00473 which is the MDL.

 2 Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0075 which is lower than the RDL but greater than the MDL of 0.00473.

³Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0049 which is lower than the RDL but greater than the MDL of 0.0047.

This is only a summary. Please, refer to the complete report package for quality control data.

Muluumunum TraceAnalysis, Inc.

6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com

806•794•1296 915•585•3443

FAX 806•794•1298 FAX 915•585•4944

Analytical and Quality Control Report

Lenny Woods Equiva Lenny Woods HCR 1 Box 89 Denver City, Tx. 79323 Report Date:

May 23, 2002

Order ID Number: A02052009

Project:E-58TA Job Code:Grizzel GatheringCasualty Code:E-58 Shell # LCW09Project Location:Eunice, NMBNC-Midland / Midland / Craig Eschberger

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
197398	Sump Area	Soil	5/17/02	10:30	5/18/02
197399	West Wall	Soil	5/17/02	10:35	5/18/02
197400	East Wall	Soil	5/17/02	10:40	5/18/02
197401	NE Floor	Soil	5/17/02	10:45	5/18/02
197402	NW Floor	Soil	5/17/02	10:50	5/18/02
197403	SE Floor	Soil	5/17/02	10:55	5/18/02
197404	SW Floor	Soil	5/17/02	11:00	5/18/02
197405	North Wall	Soil	5/17/02	11:05	5/18/02
197406	Pump Floor 2.5'	Soil	5/17/02	11:10	5/18/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Date: May 23, 2002 E-58 Shell # LCW09 Order Number: A02052009 Grizzel Gathering

Analytical Report

Sample: Analysis: Analyst:	197398 BTEX CG	- Sump Area Analytical Method: Preparation Method	S 8021B l: S 5035	QC Batch: Prep Batch:	QC20478 PB19551	Date Analyzed: Date Prepared:	5/20/02 5/20/02
Param		Flag	Result	Units	D	ilution	RDI
Benzene			<0.020	mg/Kg		20	0.001
Toluene			0.0249	mg/Kg		20	0.001
Ethylbenze	ne		0.0276	mg/Kg		20	0.001
M,P,O-Xyle	ene		0.22	mg/Kg		20	0.001
Total BTE	X		0.272	mg/Kg		20	0.00
Test Comm	ents	1	*	mg/Kg		1	
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	Tag		mg/Kg	20	1	<u>96</u>	70 - 130
4-BFB			mg/Kg	20	1	90 90	70 - 130
Sample:		- Sump Area					
Analysis:	TPH DRO	Analytical Metho	d: Mod. 80	015B QC Bate	h: QC20545	Date Analyzed:	5/21/0
Analyst:	MM	Preparation Meth	od: 3550 B	Prep Bat	ch: PB19602	Date Prepared:	5/21/0
Param	Flag	Result	Ur	nits 1	Dilution		RDI
DRO	····	8970	mg	/Kg	20		50
						_	_
			TT 4.		Spike	Percent	•
	Fle		Units	Dilution	Amount	Recovery	Limits
Surrogate n-Triaconta		ag Result 2 854	Units mg/Kg	Dilution 20	-		Recovery Limits 70 - 130
n-Triaconta Sample: Analysis:	ne	- Sump Area	mg/Kg .od: 8015B	20	Amount 150 QC20479	Recovery	Limits 70 - 130 5/20/02
n-Triaconta Sample: Analysis: Analyst:	ne 197398 TPH GRO	2 854 - Sump Area Analytical Meth	mg/Kg od: 8015B thod: 5035	20 QC Batch: Prep Batch:	Amount 150 QC20479	Recovery 569 Date Analyzed:	Limits
n-Triaconta Sample: Analysis: Analyst:	197398 TPH GRO CG	2 854 - Sump Area Analytical Meth Preparation Me	mg/Kg od: 8015B thod: 5035 Ur	20 QC Batch: Prep Batch:	Amount 150 QC20479 PB19551	Recovery 569 Date Analyzed:	Limits 70 - 130 5/20/02 5/20/02
n-Triaconta Sample: Analysis: Analyst: Param GRO	197398 TPH GRO CG Flag	2 854 - Sump Area Analytical Meth Preparation Me Result 45.2	mg/Kg od: 8015B thod: 5035 Ur mg,	20 QC Batch: Prep Batch: nits 1 /Kg	Amount 150 QC20479 PB19551 Dilution 20 Spike	Recovery 569 Date Analyzed: Date Prepared: Percent	Limits 70 - 130 5/20/03 5/20/03 RDI 0.10 Recovery
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate	197398 TPH GRO CG	2 854 - Sump Area Analytical Meth Preparation Meth Result 45.2	mg/Kg od: 8015B thod: 5035 Ur mg, Units	20 QC Batch: Prep Batch: nits 1 /Kg Dilution	Amount 150 QC20479 PB19551 Dilution 20 Spike Amount	Recovery 569 Date Analyzed: Date Prepared: Percent Recovery	Limits 70 - 130 5/20/05 5/20/05 RDI 0.10 Recovery Limits
n-Triaconta Sample: Analysis: Analyst: Param GRO	197398 TPH GRO CG Flag	2 854 - Sump Area Analytical Meth Preparation Meth Result 45.2 Result 1.22	mg/Kg od: 8015B thod: 5035 Ur mg,	20 QC Batch: Prep Batch: nits 1 /Kg	Amount 150 QC20479 PB19551 Dilution 20 Spike	Recovery 569 Date Analyzed: Date Prepared: Percent	Limits 70 - 130 5/20/0 5/20/0 RDI 0.10 Recover

¹Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of less than 0.00473 which is the MDL. ²Surrogate out of recovery limits due to high hydrocarbons. LCS, ICV, and CCV show the process is in control. ³High surrogate recovery due to peak interference.

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QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg 20		Date Analyzed: Date Prepared: Dilution 20 20 20 20 20 1 Percent	5/20/0 5/20/0 RDI 0.00 0.00 0.00 0.00
Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg Dilution	E E E E E E E E E E E E E E E E E E E	Dilution 20 20 20 20 20 20 1	RDI 0.00 0.00 0.00 0.00
mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	g g g g Spike	20 20 20 20 20 20 1	0.00 0.00 0.00 0.00
mg/Kg mg/Kg mg/Kg mg/Kg Dilution	g g g g Spike	20 20 20 20 1	0.00 0.00 0.00
mg/Kg mg/Kg mg/Kg mg/Kg Dilution	g g g Spike	20 20 20 1	0.00 0.00
mg/Kg mg/Kg mg/Kg Dilution	g g Spike	20 20 1	0.00
mg/Kg mg/Kg Dilution	g Spike	20 1	
mg/Kg Dilution	g Spike	1	0.00
Dilution	Spike		<u> </u>
	-	Percent	
	-	Percent	
	Amount		Recover
90		Recovery	Limits
	1	77	70 - 130
20	1	71	70 - 130
15B OC Bat	ah: 0C2054	5 Data Analyzada	5/21/0
•	•		5/21/0 5/21/0
its	Dilution		RD
/Kg	1		5
Dilution	Spike	Percent	Recover: Limits
·····			70 - 130
QC Batch: Prep Batch	-	Date Analyzed: Date Prepared:	5/20/0 5/20/0
its	Dilution		RDI
its /Kg	Dilution 20		RDI 0.10
		Percent Recovery 81	
	Prep Ba its 'Kg Dilution 1 QC Batch:	Prep Batch: PB19602 its Dilution Kg 1 Spike Dilution Amount 1 150 QC Batch: QC20479	Prep Batch: PB19602 Date Prepared: its Dilution Kg 1 Spike Percent Dilution Amount Recovery 1 150 103 QC Batch: QC20479 Date Analyzed:

 4 Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0075 which is lower than the RDL but greater than the MDL of 0.00473. $_{5*}^{5*}$

	# LCW09		Griz	mber: A0205200 zel Gathering	· · · · · · · · · · · · · · · · · · ·	Page Numl E	Eunice, N
Param		Flag	Result	Units	D	ilution	RI
Benzene			< 0.010	mg/Kg		10	0.0
Toluene			< 0.010	m mg/Kg		10	0.0
Ethylbenzer	ne		< 0.010	mg/Kg		10	0.0
M,P,O-Xyle	ne		0.0105	mg/Kg		10	0.0
Total BTEX			0.0105	mg/Kg		10	0.0
					Spike	Percent	Recove
Surrogate	Flag	Result	Units	Dilution-	Amount	Recovery	Limit
TFT	1 145	0.708	mg/Kg	10	1	71	70 - 13
4-BFB	6	0.622	mg/Kg	10	1	62	70 - 1
Sample: Analysis: Analyst:	197400 TPH DRO MM	- East Wall Analytical Me Preparation M)15B QC Batch Prep Bat	•	Ŭ	5/21/ 5/21/
Param	Flag	Resul	lt Ur	uits I	Dilution		RI
DRO		66.	8 mg	/Kg	1	·····	
Surrogate n-Triaconta	Fla ne	144	mg/Kg	Dilution 1	150	Recovery 96	Limit 70 - 13
Commles	107400	Fact Wall					
-		- East Wall			0.000.470		F (00 /
Analysis:	TPH GRO	Analytical M			QC20479	Date Analyzed:	• •
Analysis:				QC Batch: Prep Batch:	QC20479 PB19551	Date Analyzed: Date Prepared:	• •
Sample: Analysis: Analyst: Param	TPH GRO	Analytical M Preparation Resul	$\begin{array}{llllllllllllllllllllllllllllllllllll$	Prep Batch: uits I	PB19551 Dilution	•	5/20/ RI
Analysis: Analyst: Param	TPH GRO CG	Analytical M Preparation	$\begin{array}{llllllllllllllllllllllllllllllllllll$	Prep Batch:	PB19551	•	5/20/ RI
Analysis: Analyst: Param GRO	TPH GRO CG Flag	Analytical M Preparation Resul <1.0	Method: 5035 t Ur 0 mg,	Prep Batch: hits I /Kg	PB19551 Dilution 10 Spike	Date Prepared:	5/20/
Analysis: Analyst: Param GRO Surrogate	TPH GRO CG	Analytical M Preparation Resul <1.0 Result	Method: 5035 t Un 0 mg, Units	Prep Batch: htts I /Kg Dilution	PB19551 Dilution 10 Spike Amount	Date Prepared: Percent Recovery	5/20/ RI 0. Recove Limit
Analysis: Analyst: Param GRO Surrogate TFT	TPH GRO CG Flag	Analytical M Preparation Resul <1.0 Result 1.07	Method: 5035 t Ur 0 mg, Units mg/Kg	Prep Batch: hits I /Kg Dilution 10	PB19551 Dilution 10 Spike Amount 0.10	Date Prepared: Percent Recovery 107	5/20/ RI 0. Recove Limit 70 - 13
Analysis: Analyst:	TPH GRO CG Flag	Analytical M Preparation Resul <1.0 Result	Method: 5035 t Un 0 mg, Units	Prep Batch: htts I /Kg Dilution	PB19551 Dilution 10 Spike Amount	Date Prepared: Percent Recovery	5/20/ RI 0. Recove Limit 70 - 13
Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample:	TPH GRO CG Flag Flag 197401	Analytical M Preparation Result <1.0 Result 1.07 0.842 - NE Floor	Method: 5035 t Un 0 mg, Units mg/Kg mg/Kg	Prep Batch: https://kg Dilution 10 10	PB19551 Dilution 10 Spike Amount 0.10 0.10	Date Prepared: Percent Recovery 107 84	5/20/ RI 0. Recove Limit 70 - 13 70 - 13
Analysis: Analyst: Param GRO Surrogate TFT 4-BFB	TPH GRO CG Flag Flag 197401 - BTEX	Analytical M Preparation Resul <1.0 Result 1.07 0.842	Method: 5035 t Ur 0 mg, Units mg/Kg mg/Kg od: S 8021B	Prep Batch: hits I /Kg Dilution 10	PB19551 Dilution 10 Spike Amount 0.10	Date Prepared: Percent Recovery 107	5/20/ RI 0. Recove Limit 70 - 13 70 - 13 5/20/
Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param	TPH GRO CG Flag Flag 197401 - BTEX	Analytical M Preparation Result <1.0 Result 1.07 0.842 - NE Floor Analytical Meth	Method: 5035 t Un 0 mg, Units mg/Kg mg/Kg od: S 8021B hod: S 5035 Result	Prep Batch: iits I /Kg Dilution 10 10 QC Batch: Prep Batch: Units	PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551	Date Prepared: Percent Recovery 107 84 Date Analyzed: Date Prepared: ilution	5/20/ RI 0. Recove Limit 70 - 13 70 - 13 5/20/ 5/20/ RI
Analysis: Analysis: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Param Benzene	TPH GRO CG Flag Flag 197401 - BTEX	Analytical M Preparation Result <1.0 Result 1.07 0.842 - NE Floor Analytical Meth Preparation Met	Method: 5035 t Un 0 mg, Units mg/Kg mg/Kg od: S 8021B hod: S 5035 <u>Result</u> <0.010	Prep Batch: iits I /Kg Dilution 10 10 10 QC Batch: Prep Batch: Units mg/Kg	PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551	Date Prepared: Percent Recovery 107 84 Date Analyzed: Date Prepared: ilution 10	5/20/0 RI 0. Recove Limit: 70 - 13 70 - 13 70 - 13 5/20/0 5/20/0 RI 0.00
Analysis: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param Benzene Toluene	TPH GRO CG Flag Flag 197401 BTEX CG	Analytical M Preparation Result <1.0 Result 1.07 0.842 - NE Floor Analytical Meth Preparation Met	Method: 5035 t Ur 0 mg, Units mg/Kg mg/Kg od: S 8021B hod: S 5035 <u>Result</u> <0.010 <0.010	Prep Batch: iits I /Kg Dilution 10 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551	Date Prepared: Percent Recovery 107 84 Date Analyzed: Date Prepared: ilution 10 10	5/20/0 5/20/0 RI 0.: Recover Limit: 70 - 13 70 - 10 70
Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene	TPH GRO CG Flag Flag 197401 - BTEX CG	Analytical M Preparation Result <1.0 Result 1.07 0.842 - NE Floor Analytical Meth Preparation Met	Method: 5035 t Un 0 mg, Units mg/Kg mg/Kg od: S 8021B hod: S 5035 <u>Result</u> <0.010	Prep Batch: iits I /Kg Dilution 10 10 10 QC Batch: Prep Batch: Units mg/Kg	PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551	Date Prepared: Percent Recovery 107 84 Date Analyzed: Date Prepared: ilution 10	5/20/0 RI 0.: Recover Limit: 70 - 13 70 - 13 70 - 13 5/20/0 5/20/0 RI 0.00

⁶Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

Continued ...

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Report Date: May 23, 2002 E-58 Shell # LCW09			Order N Griz	zel Gathering	Page Number: 5 of 15 Eunice, NM		
Continue	ed Sample:	197401 Analysis:	BTEX				<u> </u>
Param	-	Flag	Result	Units	Dil	ution	RD
Fotal BTEX	ζ		0.0133	mg/Kg		10	0.00
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
<u>rfr</u>	7	0.685	mg/Kg	10	1	68	70 - 13
I-BFB	8	0.600	mg/Kg	10	1	60	70 - 13
Sample: Analysis:	TPH DRO	- NE Floor Analytical Meth		•		v	5/21/0
Analyst:	MM	Preparation Met	thod: 3550 B	Prep Bar	tch: PB19602	Date Prepared:	5/21/0
Param	Flag	Result	U	nits	Dilution		RD
DRO		66.7	mg	/Kg	1		Ę
					Spike	Percent	Recover
Surrogate	Fla		Units	Dilution	Amount	Recovery	Limits
				-		0.1	
n-Triacontar Sample: Analysis:	ne	141 - NE Floor Analytical Met	mg/Kg thod: 8015E	1 G QC Batch:	150 QC20479	94 Date Analyzed:	70 - 13 5/20/0
Sample: Analysis: Analyst:	ne 197401 - TPH GRO CG	- NE Floor Analytical Met Preparation M	thod: 8015E ethod: 5035	QC Batch: Prep Batch:	QC20479 PB19551		5/20/0 5/20/0
Sample: Analysis: Analyst: Param	ne 197401 - TPH GRO	- NE Floor Analytical Met Preparation M Result	thod: 8015E ethod: 5035 U	QC Batch: Prep Batch: nits	QC20479 PB19551 Dilution	Date Analyzed:	5/20/0 5/20/0 RD
Sample: Analysis: Analyst: Param	ne 197401 - TPH GRO CG	- NE Floor Analytical Met Preparation M	thod: 8015E ethod: 5035 U	QC Batch: Prep Batch:	QC20479 PB19551	Date Analyzed:	5/20/0 5/20/0 RD
Sample: Analysis: Analyst: Param GRO	ne 197401 - TPH GRO CG Flag	- NE Floor Analytical Me Preparation M Result 4.22	thod: 8015E ethod: 5035 U mg	G QC Batch: Prep Batch: nits /Kg	QC20479 : PB19551 Dilution 10 Spike	Date Analyzed: Date Prepared: Percent	5/20/0 5/20/0 RD 0.1 Recover
Sample: Analysis: Analyst: Param GRO Surrogate	ne 197401 - TPH GRO CG	- NE Floor Analytical Met Preparation M Result 4.22 Result	thod: 8015E ethod: 5035 U mg Units	QC Batch: Prep Batch: nits /Kg Dilution	QC20479 PB19551 Dilution 10 Spike Amount	Date Analyzed: Date Prepared: Percent Recovery	5/20/0 5/20/0 RD 0.1 Recover Limits
Sample: Analysis: Analyst: Param GRO GRO Surrogate FFT	ne 197401 - TPH GRO CG Flag	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08	thod: 8015E ethod: 5035 U <u>U</u> nits mg/Kg	QC Batch: Prep Batch: /Kg Dilution 10	QC20479 PB19551 Dilution 10 Spike Amount 0.10	Date Analyzed: Date Prepared: Percent Recovery 108	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13
Sample: Analysis: Analyst: Param GRO GRO Surrogate FFT I-BFB	ne 197401 - TPH GRO CG Flag Flag	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862	thod: 8015E ethod: 5035 U mg Units	QC Batch: Prep Batch: nits /Kg Dilution	QC20479 PB19551 Dilution 10 Spike Amount	Date Analyzed: Date Prepared: Percent Recovery	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13
Sample: Analysis: Analyst: Param GRO Gurrogate FFT 4-BFB Sample:	ne 197401 - TPH GRO CG Flag Flag 197402 -	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor	thod: 8015E ethod: 5035 U mg Units mg/Kg mg/Kg	QC Batch: Prep Batch: /Kg Dilution 10 10	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10	Date Analyzed: Date Prepared: Percent Recovery 108 86	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 130 70 - 130
Sample: Analysis: Analyst: Param GRO Surrogate FFT 4-BFB Sample: Analysis:	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method	thod: 8015E ethod: 5035 U units mg/Kg mg/Kg H: S 8021B	QC Batch: Prep Batch: /Kg Dilution 10 10 QC Batch:	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 QC20478	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed:	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 13 70 - 13
Sample: Analysis: Analyst: Param GRO Surrogate FFT I-BFB Sample: Analysis:	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor	thod: 8015E ethod: 5035 U units mg/Kg mg/Kg H: S 8021B	QC Batch: Prep Batch: /Kg Dilution 10 10	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10	Date Analyzed: Date Prepared: Percent Recovery 108 86	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 13 70 - 13
Sample: Analysis: Analyst: Param GRO Surrogate FFT I-BFB Sample: Analysis: Analysis: Param	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method	thod: 8015E ethod: 5035 U Units mg/Kg mg/Kg d: S 8021B od: S 5035 Result	QC Batch: Prep Batch: /Kg Dilution 10 10 QC Batch: Prep Batch: Units	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551 D	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed: Date Prepared: ilution	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 13 5/20/0 5/20/0 RD
Sample: Analysis: Analyst: Param GRO Surrogate FFT 4-BFB Sample: Analysis: Analyst: Param Benzene	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method Preparation Method	thod: 8015E ethod: 5035 U <u>mg</u> Units mg/Kg mg/Kg d: S 8021B od: S 5035 <u>Result</u> <0.020	QC Batch: Prep Batch: /Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551 D	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed: Date Prepared: ilution 20	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 13 70 - 13 5/20/0 5/20/0 RD 0.00
Sample: Analysis: Analyst: Param GRO Surrogate FFT 4-BFB Sample: Analysis: Analyst: Param Benzene Foluene	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX CG	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method Preparation Method	thod: 8015E ethod: 5035 U mg Units mg/Kg mg/Kg d: S 8021B od: S 5035 Result <0.020 <0.020	QC Batch: Prep Batch: /Kg Dilution 10 10 QC Batch: Prep Batch: Units mg/Kg mg/Kg	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20478 PB19551 D	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed: Date Prepared: ilution 20 20	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 13 70 - 13 5/20/0 5/20/0 RD 0.00 0.00
Sample: Analysis: Analyst: Param GRO Surrogate FFT 4-BFB Sample: Analysis: Analyst: Param Benzene Foluene Ethylbenzen	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX CG	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method Preparation Method	thod: 8015E ethod: 5035 U mg Units mg/Kg mg/Kg d: S 8021B od: S 5035 Result <0.020 <0.020 <0.020	QC Batch: Prep Batch: /Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 QC20478 PB19551 D	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed: Date Prepared: ilution 20 20 20	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 10 70
Sample: Analysis: Analyst: Param GRO Burrogate FFT 4-BFB Sample: Analysis: Analyst: Param Benzene Foluene Ethylbenzen M,P,O-Xyler	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX CG ne ne	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method Preparation Method	thod: 8015E ethod: 5035 U mg Units mg/Kg mg/Kg d: S 8021B od: S 5035 Result <0.020 <0.020 <0.020 <0.020 0.0515	QC Batch: Prep Batch: /Kg Dilution 10 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 QC20478 PB19551 D	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed: Date Prepared: ilution 20 20 20 20	5/20/0 5/20/0 RD 0.1 Recover Limits 70 - 13 70 - 10 5/20/0 5/20/0
Sample: Analysis: Analyst: Param GRO GRO Gurrogate FFT 4-BFB	ne 197401 · TPH GRO CG Flag Flag 197402 · BTEX CG ne ne	- NE Floor Analytical Met Preparation M Result 4.22 Result 1.08 0.862 - NW Floor Analytical Method Preparation Method	thod: 8015E ethod: 5035 U mg Units mg/Kg mg/Kg d: S 8021B od: S 5035 Result <0.020 <0.020 <0.020	QC Batch: Prep Batch: /Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	QC20479 PB19551 Dilution 10 Spike Amount 0.10 0.10 QC20478 PB19551 D	Date Analyzed: Date Prepared: Percent Recovery 108 86 Date Analyzed: Date Prepared: ilution 20 20 20	5/20/0

⁷Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ⁸Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ⁹Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of 0.0049 which is lower than the RDL but greater than the MDL of 0.0047.

E-58 Shell 7	e: May 23, 2 # LCW09	002		umber: A020520 zzel Gathering		Page Numł E	Cunice, NN
Surrogate	$\mathbf{F}\mathbf{lag}$	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	10	0.633	mg/Kg	20	1	63	70 - 130
4-BFB	11	0.591	mg/Kg	20	1	59	70 - 130
Sample:		- NW Floor					- /
Analysis: Analyst:	TPH DRO MM	Analytical Met Preparation M		015B QC Bate Prep Ba	•	Date Analyzed: Date Prepared:	5/21/0 5/21/0
Param	Flag	Resul	t. U	nits	Dilution		RDI
DRO		248		;/Kg	1	······	5
				<u>6/6</u>		- <u> </u>	
Currageta	Fla	ng Result	Units	Dilution	Spike Amount	Percent	Recover
Surrogate n-Triacontai	Fla	156 result	mg/Kg	1	150	Recovery 104	Limits 70 - 130
n-macontai		100	mg/ ng	L	100	104	10 - 150
Sample: Analysis: Analyst:	197402 TPH GRO CG	- NW Floor Analytical M Preparation 1		9 QC Batch: Prep Batch	QC20479 : PB19551	Date Analyzed: Date Prepared:	5/20/0 5/20/0
	00	r reparation .	Memou. 5055	r rep Daten	. 1010001	Date 1 repared.	0/20/0
Param	Flag	Resul	t U	nits	Dilution		RD
Param		-	t U	-			RD
Param		Resul	t U	nits	Dilution		RD
Param GRO Surrogate		Resul	t U	nits	Dilution	Percent Recovery	RD 0.1 Recover
Param GRO Surrogate	Flag	Resul	t U 5 mg	nits ;/Kg	Dilution 20 Spike	Percent	RD 0.1 Recover Limits
Param GRO Surrogate TFT	Flag	Resul 5.2 Result	t U 5 mg Units	nits ;/Kg Dilution	Dilution 20 Spike Amount	Percent Recovery	RD 0.1 Recover Limits 70 - 130
Param GRO Surrogate TFT 4-BFB	Flag	Result 1.13 0.841	t U 5 mg Units mg/Kg	nits ;/Kg Dilution 20	Dilution 20 Spike Amount 0.10	Percent Recovery 113	RD 0.1 Recover Limits 70 - 130
Param GRO Surrogate TFT 4-BFB Sample:	Flag Flag 197403	Result 1.13 0.841 - SE Floor	t U 5 mg Units mg/Kg mg/Kg	nits ;/Kg Dilution 20 20	Dilution 20 Spike Amount 0.10 0.10	Percent Recovery 113 84	RD 0.1 Recover Limits 70 - 130 70 - 130
Param GRO Surrogate TFT 4-BFB Sample: Analysis:	Flag Flag 197403 BTEX	Result 1.13 0.841	t U 5 mg Units mg/Kg mg/Kg od: S 8021B	nits ;/Kg Dilution 20	Dilution 20 Spike Amount 0.10	Percent Recovery 113	RD 0.1 Recover Limits 70 - 130 70 - 130 5/20/0
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Param	Flag Flag 197403 BTEX	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho	t U 5 mg Units mg/Kg mg/Kg od: S 8021B hod: S 5035 Result	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution	RD 0.1 Recover Limits 70 - 130 70 - 130 5/20/0 5/20/0 RD
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene	Flag Flag 197403 BTEX	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Metho	t U 5 mg Units mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010	nits <u>Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10	RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130 5/20/0 5/20/0 RD 0.00
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene	Flag Flag 197403 BTEX CG	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Metho	t U 5 mg Units mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010 <0.010	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10	RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130 5/20/0 5/20/0 RD 0.00 0.00
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzen	Flag Flag 197403 BTEX CG	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Metho	t U 5 mg Units mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010 <0.010 0.0258	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10 10	RD 0.1 Recover Limits 70 - 130 70 - 130 5/20/0 5/20/0 5/20/0 RD 0.00 0.00 0.00
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Foluene Ethylbenzen M,P,O-Xyle	Flag Flag 197403 BTEX CG	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Metho	t U 5 mg 5 mg/Kg mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010 <0.010 <0.0258 0.0373	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10 10 10	RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130 5/20/0 5/20/0 5/20/0 RD 0.00 0.00 0.00 0.00
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	Flag Flag 197403 BTEX CG	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Metho	t U 5 mg Units mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010 <0.010 0.0258	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10 10	RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130 5/20/0 5/20/0 5/20/0 RD 0.00 0.00 0.00 0.00
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle Total BTEX	Flag Flag 197403 BTEX CG	Result 5.21 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Met Flag	t U 5 mg Units mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010 <0.010 <0.010 <0.010 0.0258 0.0373 0.0631	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil Spike	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 Percent	RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130 5/20/0 5/20/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenzer M,P,O-Xyle	Flag Flag 197403 BTEX CG	Result 5.2 Result 1.13 0.841 - SE Floor Analytical Metho Preparation Metho	t U 5 mg 5 mg/Kg mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result <0.010 <0.010 <0.0258 0.0373	nits <u>;/Kg</u> Dilution 20 20 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	Dilution 20 Spike Amount 0.10 0.10 QC20478 PB19551 Dil	Percent Recovery 113 84 Date Analyzed: Date Prepared: ution 10 10 10	. ,

¹⁰Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ¹¹Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ¹²Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

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Report Dat E-58 Shell =	e: May 23, 2 # LCW09	002		Number: A020520 izzel Gathering		Page Num E	ber: 7 of Eunice, N
					Spike	Percent	Recove
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
4-BFB	13	0.483	mg/Kg	10	1	48	70 - 13
Sample: Analysis:	197403 TPH DRO	- SE Floor Analytical Met	hod: Mod.	8015B QC Bat	tch: QC2054	5 Date Analyzed:	5/21/
Analyst:	MM	Preparation M		•	•		5/21/
Param	Flag	Resul	t I	Units	Dilution		RI
DRO		89.8	8 m	ng/Kg	1		
					Cmiles	Democrat	Deesse
Surrogate ·	Fla	g Result	Units	Dilution	Spike Amount	Percent Recovery	Recove Limit
n-Triaconta		140	mg/Kg	1	150	93	70 - 13
Sample: Analysis: Analyst:	TPH GRO CG	- SE Floor Analytical M Preparation 1		•	•	Date Analyzed: Date Prepared:	5/20/ 5/20/
Param	Flag	Resul	t I	Units	Dilution		RI
GRO		6.5	5 n	ıg/Kg	10		0.
					Q., :1	Percent	Deces
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Recovery	Recove Limit
TFT		0.785	mg/Kg	10	0.10	78	70 - 13
4-BFB		0.760	mg/Kg	10	0.10	76	70 - 13
Sample: Analysis: Analyst:	BTEX	- SW Floor Analytical Metho Preparation Met		QC Batch: Prep Batch	QC20478 : PB19551	Date Analyzed: Date Prepared:	5/20/ 5/20/
Param		Flag	Result	Units		ilution	RI
Benzene			<0.010	mg/Kg		10	0.0
Toluene			< 0.010	mg/Kg		10	0.0
Ethylbenzer			< 0.010 0.0303	mg/Kg		10	0.0
M,P,O-Xyle Total BTEX			0.0303	mg/Kg mg/Kg		10 10	0.0 0.0
	L		0.0303	iiig/ ĸg	·		0.0
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recove Limit
TFT	14	0.692	mg/Kg	10	1	69	70 - 13
4-BFB	15	0.554	m mg/Kg	10	1	55	70 - 13

¹³Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ¹⁴Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ¹⁵Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

Param DRO DRO Surrogate n-Triacontane	Flag Flag	Resul <50.0		T *4			5/21/0 5/21/0
Surrogate	Flag	<50.0	······································	Units Dilution			RD
	Flag		J m	g/Kg	1		Ę
n-Triacontane	<u>* •46</u>		Units	Dilution	Spike Amount	Percent Recovery	Recover Limits
		144	mg/Kg	1	150	96	70 - 13
Analysis: TPH (Analyst: CG	GRO	SW Floor Analytical M Preparation 1		Prep Batch		Date Analyzed: Date Prepared:	5/20/0 5/20/0
	Flag	Resul			Dilution	<u> </u>	RD
GRO		<1.00	J m	g/Kg	10		0.1
	Flag	Result	Units	Dilution	Spike	Percent Recovery	Recover Limits
TFT					Amount		
4-BFB		0.926 0.752	mg/Kg mg/Kg	10 10	Amount 0.10 0.10	93 75	70 - 13 70 - 13
Sample: 1974 Analysis: BTEX Analyst: CG	X A	0.752 North Wall Analytical Metho Preparation Met	mg/Kg mg/Kg od: S 8021B hod: S 5035	10 10 QC Batch: Prep Batch:	0.10 0.10 QC20478 PB19551	93 75 Date Analyzed: Date Prepared:	70 - 13 70 - 13 5/20/0 5/20/0
Sample: 1974 Analysis: BTEX Analyst: CG Param	X A	0.752 North Wall	mg/Kg mg/Kg od: S 8021B hod: S 5035 Result	10 10 QC Batch: Prep Batch: Units	0.10 0.10 QC20478 PB19551 Dil	93 75 Date Analyzed: Date Prepared: ution	70 - 13 70 - 13 5/20/0 5/20/0 RD
Sample: 1974 Analysis: BTEX Analyst: CG Param Benzene Toluene	X A	0.752 North Wall Analytical Metho Preparation Met	mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result 0.136 4.48	10 10 QC Batch: Prep Batch: Units mg/Kg mg/Kg	0.10 0.10 QC20478 PB19551 Dil	93 75 Date Analyzed: Date Prepared: ution 50 50	70 - 13 70 - 13 5/20/0 5/20/0 RD 0.00 0.00
Sample: 1974 Analysis: BTEX Analyst: CG Param Benzene Toluene Ethylbenzene	X A	0.752 North Wall Analytical Metho Preparation Met	mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result 0.136 4.48 7.45	10 10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg	0.10 0.10 QC20478 PB19551 Dil	93 75 Date Analyzed: Date Prepared: ution 50 50	70 - 13 70 - 13 5/20/0 5/20/0 RD 0.00 0.00 0.00
Sample: 1974 Analysis: BTEX Analyst: CG Param Benzene Toluene	X A	0.752 North Wall Analytical Metho Preparation Met	mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result 0.136 4.48	10 10 QC Batch: Prep Batch: Units mg/Kg mg/Kg	0.10 0.10 QC20478 PB19551 Dil	93 75 Date Analyzed: Date Prepared: ution 50 50	70 - 13 70 - 13 5/20/0 5/20/0 RD 0.00 0.00 0.00 0.00
Sample: 1974 Analysis: BTEX Analyst: CG Param Benzene Toluene Ethylbenzene M,P,O-Xylene Total BTEX	X A	0.752 North Wall Analytical Metho Preparation Met	mg/Kg mg/Kg bd: S 8021B hod: S 5035 Result 0.136 4.48 7.45 7.53	10 10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	0.10 0.10 QC20478 PB19551 Dil	93 75 Date Analyzed: Date Prepared: ution 50 50 50	70 - 13 70 - 13 5/20/0 5/20/0 RD 0.00

May 23, 2003 LCW09	2	Order G	2009	Page Number: 9 of Eunice, N			
Flag	Result		Units	Dilution		RDL	
	522 mg/Kg 5			50			
Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
18	253	mg/Kg	5	150	168	70 - 130	
CG	*		•	•	Date Prepared:		
Flag	Result		Units	Dilution		5/20/02 5/20/02 RDL	
Flag	-		-			5/20/02	
Flag	Result		Units	Dilution	Percent Recovery	5/20/02 RDL	
	LCW09 Flag Flag 18 197405 - I TPH GRO	LCW09 Flag Result 522 Flag Result 18 253 197405 - North Wall FPH GRO Analytical Met	LCW09 G Flag Result 522 r Flag Result Units 18 253 mg/Kg 197405 - North Wall TPH GRO Analytical Method: 801	LCW09 Grizzel Gathering Flag Result Units 522 mg/Kg Flag Result Units Flag Result Units Dilution 18 253 197405 - North Wall Flag Grizzel Gathering TPH GRO Analytical Method: 8015B QC Batch	LCW09 Grizzel Gathering Flag Result Units Dilution 522 mg/Kg 5 Flag Result Units Dilution Flag Result Units Dilution Amount 18 253 mg/Kg 5 197405 - North Wall Flag Result 8015B QC Batch: QC20479	LCW09 Grizzel Gathering Flag Result Units Dilution 522 mg/Kg 5 Flag Result Units Dilution Amount Recovery 18 253 mg/Kg 5 150 168 197405 - North Wall 197405 - North Wall 1000000000000000000000000000000000000	

Sample: 197406 - Pump Floor 2.5'

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method		QC Batch: Prep Batch:	QC20478 PB19551	Date Analyzed: Date Prepared:	5/20/02 5/20/02
Param		Flag	Result	Units	D	ilution	RDL
Benzene			< 0.010	mg/Kg		10	0.001
Toluene			< 0.010	mg/Kg		10	0.001
Ethylbenze	ene		0.0162	mg/Kg		10	0.001
M,P,O-Xyl	ene		0.0217	mg/Kg		10	0.001
Total BTE	X		0.0379	mg/Kg		10	0.001

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		0.784	mg/Kg	10	1	78	70 - 130
4-BFB	21	0.650	mg/Kg	10	1	65	70 - 130

Sample: 197406 - Pump Floor 2.5'

Analysis: Analyst:	TPH DRO MM	Analytical Method: Preparation Method:	Mod. 8015B 3550 B	QC Batch: Prep Batch:	QC20545 PB19602	Date Analyzed: Date Prepared:	5/21/02 5/21/02
Param	Flag	Result	Units	Dilu	tion		RDL
DRO		72.6	mg/Kg	1			50

¹⁸Surrogate out of recovery limits due to high hydrocarbons. LCS, ICV, and CCV show the process is in control.

¹⁹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

²⁰High surrogate recovery due to peak interference.

²¹Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control.

Report Date E-58 Shell #	e: May 23, 200 # LCW09	2		umber: A02052009 zel Gathering)	Page Number: 10 of 15 Eunice, NM		
Surrogate Flag		Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
n-Triacontar	-Triacontane		mg/Kg	1	150	95	70 - 130	
Sample: Analysis:	197406 - 1 TPH GRO	Pump Floor		005.1				
Analyst:	CG	Analytical Met Preparation Me	ethod: 5035	Prep Batch:		Date Analyzed: Date Prepared:	5/20/02 5/20/02	
Analyst: Param		Preparation Me Result	ethod: 5035 U	Prep Batch: nits I	PB19551 Dilution		5/20/02 RDL	
Analyst: Param	CG	Preparation Me	ethod: 5035 U	Prep Batch:	PB19551		5/20/02	
Analyst: Param GRO	CG Flag	Preparation Me Result <1.00	ethod: 5035 U mg	Prep Batch: nits I /Kg	PB19551 Dilution 10 Spike	Date Prepared:	5/20/02 RDL 0.10 Recovery	
Analyst: Param GRO Surrogate	CG	Preparation Me Result <1.00 Result	ethod: 5035 U: mg Units	Prep Batch: nits I /Kg Dilution	PB19551 Dilution 10 Spike Amount	Date Prepared: Percent Recovery	5/20/02 RDL 0.10 Recovery Limits	
Analyst:	CG Flag	Preparation Me Result <1.00	ethod: 5035 U mg	Prep Batch: nits I /Kg	PB19551 Dilution 10 Spike	Date Prepared:	5/20/02 RDL 0.10 Recovery	

Quality Control Report Method Blank

							Poportina
Param		Flag	I	Results	Units	3	Reporting Limit
Benzene				< 0.010	mg/K		0.001
Toluene				<0.010	mg/K		0.001
Ethylbenzene				<0.010	mg/K	g	0.001
M,P,O-Xylene				<0.010	mg/K		0.001
Total BTEX			• 	<0.010	mg/K	g	0.001
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.864	mg/Kg	10	1	86	70 - 130
4-BFB		0.766	mg/Kg	10	1	77	70 - 130
Method Bl	ank	QCBatch:	QC20479				
Param		Flag	Results		Units		Reporting Limit
GRO		r lag	<pre> Results Units </pre> <pre></pre>				0.10
				<u> </u>		······································	0.10
a	~1		TT 1 .		Spike	Percent	Recovery
Surrogate TFT	Flag	Result 0.958	Units	Dilution	Amount	Recovery	Limits
4-BFB		0.958	mg/Kg mg/Kg	10 10	0.10 0.10	96 97	70 - 130 70 - 130
Method Bl	ank	QCBatch:	QC20545				
Param		Flag	Resu	lts	Units		Reporting Limit
DRO			<5	0.0	mg/Kg		50
					0 11	Deces	ъ
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	riag	143	mg/Kg	1	150	95	70 - 130

Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

· · ·	Report Date: May 23, 2002 E-58 Shell # LCW09				Number: A0: izzel Gather	Page Number: 12 of 15 Eunice, NM				
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.910	0.926	mg/Kg	10	1	< 0.010	91	1	70 - 130	20
Benzene	0.897	0.919	mg/Kg	10	1	< 0.010	89	2	70 - 130	20
Toluene	0.91	0.92	mg/Kg	10	1	< 0.010	91	1 -	70 - 130	20
Ethylbenzene	0.898	0.896	mg/Kg	10	1	< 0.010	89	0	70 - 130	20
M,P,O-Xylene	2.89	2.88	mg/Kg	10	3	< 0.010	96	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.830	0.864	mg/Kg	10	1	83	86	70 - 130
4-BFB	0.809	0.796	mg/Kg	10	1	80	79	70 - 130

Laboratory Control Spikes

QCBatch: QC20479

					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
GRO	10.3	10.6	mg/Kg	10	1	<1	103	2	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	$\% { m Rec}$	$\% \mathrm{Rec}$	Limits
TFT	0.963	0.984	mg/Kg	10	0.10	96	98	70 - 130
4-BFB	1.03	1.05	mg/Kg	10	0.10	103	105	70 - 130

Laboratory Control Spikes

QCBatch: QC20545

					Spike					
	LCS	LCSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	\mathbf{Result}	% Rec	RPD	Limit	Limit
DRO	251	235	mg/Kg	1	250	<50.0	100	6	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	\mathbf{Result}	Units	Dilution	Amount	$\% { m Rec}$	% Rec	Limits
n-Triacontane	149	139	mg/Kg	1	150	99	93	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC20478

Report Date: M E-58 Shell # L	. ,	2	_		Number: A02 izzel Gather			Pa	ge Number: Eur	13 of 15 nice, NM
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.783	0.756	mg/Kg	10	1	< 0.010	78	3	70 - 130	20
Toluene	0.8	0.764	mg/Kg	10	1	< 0.010	80	4	70 - 130	20
Ethylbenzene	0.806	0.755	mg/Kg	10	1	< 0.010	80	6	70 - 130	20
M,P,O-Xylene	2.54	2.44	mg/Kg	10	3	0.0148	84	4	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.760	0.779	mg/Kg	10	1	76	77	70 - 130
4-BFB	0.747	0.736	mg/Kg	10	1	74	73	70 - 130

Matrix Spikes QCBatch: QC20479

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% \ { m Rec}$	RPD	\mathbf{Limit}	\mathbf{Limit}
GRO	9.61	9.71	mg/Kg	10	1	<1.00	96	1	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	% Rec	% Rec	Limits
TFT	0.994	1.01	mg/Kg	10	0.10	99	101	70 - 130
4-BFB	0.944	0.957	mg/Kg	10	0.10	94	96	70 - 130

Matrix Spikes QCBatch: QC20545

						Spike					
_		MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
	Param	Result	Result	Units	Dil.	Added	\mathbf{Result}	$\% { m Rec}$	RPD	Limit	Limit
ŀ	DRO	265	294	mg/Kg	1	250	72.6	77	14	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	133	140	mg/Kg	1	150	89	93	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC20478

Report Date: Ma E-58 Shell # LC	• •			ımber: A02052 zel Gathering	2009	Page Nu	mber: 14 of 15 Eunice, NM
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0892	89	85 - 115	5/20/02
Benzene		mg/L	0.10	0.0875	88	85 - 115	5/20/02
Toluene		mg/L	0.10	0.085	85	85 - 115	5/20/02
Ethylbenzene	22	mg/L	0.10	0.0833	83	85 - 115	5/20/02
M,P,O-Xylene		mg/L	0.30	0.269	90	85 - 115	5/20/02

CCV(2) Q

QCBatch: QC20478

QC20478

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.0894	89	85 - 115	5/20/02
Benzene		mg/L	0.10	0.0889	88	85 - 115	5/20/02
Toluene		mg/L	0.10	0.0871	87	85 - 115	5/20/02
Ethylbenzene	23	mg/L	0.10	0.0837	83	85 - 115	5/20/02
M,P,O-Xylene		mg/L	0.30	0.277	92	85 - 115	5/20/02

ICV (1) QCBatch:

CCVs CCVs CCVs Percent True Found Percent Recovery Date Flag Param Units Conc. Conc. Recovery Limits Analyzed MTBE 0.10 0.0917 92 85 - 115 5/20/02 mg/L 89 85 - 115 Benzene mg/L 0.100.08865/20/02 Toluene 0.10 88 85 - 115 5/20/02 mg/L 0.087724 Ethylbenzene mg/L0.100.084484 85 - 115 5/20/02M,P,O-Xylene 0.30 0.27291 85 - 115 5/20/02 mg/L

CCV(1)

QCBatch: QC20479

-			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	0.893	89	85 - 115	5/20/02

CCV(2)

QCBatch: QC20479

Continued ...

 $^{22}\mathrm{Ethylbenzene}$ outside normal limits. Average of CCV components within acceptable range.

²³Ethylbenzene outside normal limits. Average of CCV components within acceptable range.

²⁴Ethylbenzene outside normal limits. Average of CCV components within acceptable range.

aber: 15 of Eunice, N	Page Nu		Number: A020 rizzel Gatherin				Report Date: E-58 Shell #
Date	Percent Recovery	CCVs Percent	CCVs Found	CCVs True			Continued
Analyze	Limits	Recovery	Conc.	Conc.	Units	Flag	Param
	Demonst	001-	001/-	OOM-			
D-4-	Percent	CCVs Percent	CCVs Found	CCVs True			
Date Analyz	Recovery Limits	Recovery	Conc.	Conc.	Units	Ella m	Damama
$\frac{\text{Allary2}}{5/20/0}$	85 - 115	91	0.911	1	mg/Kg	Flag	Param GRO
0/20/0			0.911	<u>1</u>	mg/Kg		GRO
				C20479	QCBatch: QC	·	ICV (1)
	Percent	CCVs	CCVs	CCVs			
Date	Recovery	Percent	Found	True			
Analyz	Limits	Recovery	Conc.	Conc.	Units	Flag	Param
5/20/0	85 - 115	104	1.04	1	mg/Kg	0	GRO
				QC20545	QCBatch: Q		CCV (1)
	Percent	CCVs	CCVs	CCVs			
Date	Recovery	Percent	Found	True			
Analyz	Limits	Recovery	Conc.	Conc.	Units	Flag	Param
5/21/0	75 - 125	108	272	250	mg/Kg		DRO
				QC20545	QCBatch: Q	-	CCV (2)
	Percent	CCVs	CCVs	CCVs			
Date	Recovery	Percent	Found	True			
Analyze	Limits	Recovery	Conc.	Conc.	Units	Flag	Param
5/21/0	75 - 125	96	242	250	mg/Kg		DRO
				QC20545	QCBatch: Q		CCV (3)
	Percent	CCVs	$\rm CCVs$	CCVs			
Date	Recovery	Percent	Found	True			
Analyze	Limits	Recovery	Conc.	Conc.	Units	Flag	Param
5/21/0	75 - 125	102	257	250	mg/Kg	0	DRO
	· <u>, , , , , , , , , , , , , , , , , , ,</u>						· · ·
				C20545	QCBatch: QC		ICV (1)
	Percent	CCVs	CCVs	CCVs			
	Recovery	Percent	Found	True			
Date				-			
Date Analyze	Limits	Recovery	Conc.	Conc.	Units	Flag	Param

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Lanny Woods

Equiva Lanny Woods HCR 1 Box 89

Denver City, Tx. 79323

Report Date: June 4, 2002Order Number: A02052419 E-58 LCW09 Grizzel Gathering

Summary Report

Report Date: June 4, 2002

Order ID Number: A02052419

Project:E-58TA Job Code:Grizzel GatheringCasualty Code:E-58 LCW09Project Location:Eunice,NMProject Address:BNC-Midland / Midland / Craig Eschberger

			Date	Time	Date
Sample	Description 4	Matrix	Taken	Taken	Received
197863	NW Floor 90'	Soil	5/23/02	15:45	5/24/02
197864	NW-SW Floor	Soil	5/23/02	15:50	5/24/02
197865	West Wall #2	Soil	5/23/02	15:55	5/24/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

	· · · · · · · · · · · · · · · · · · ·		BTEX	ζ		TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	DRO	GRO
Sample - Field Code 🚀	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
197863 - NW Floor 90'	< 0.050	0.0546	0.165	0.127	0.347	132	< 5.00
197864 - NW-SW Floor	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	<50.0	<1.00
197865 - West Wall #2	<0.010	< 0.010	<0.010	0.0133	0.0133	<50.0	<1.00

This is only a summary. Please, refer to the complete report package for quality control data.



6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com 806●794●1296 915●585●3443

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944

Analytical and Quality Control Report

Lanny Woods Equiva Lanny Woods HCR 1 Box 89 Denver City, Tx. 79323 Report Date:

June 4, 2002

Order ID Number: A02052419

Project:E-58TA Job Code:Grizzel GatheringCasualty Code:E-58 LCW09Project Location:Eunice,NMBNC-Midland / Midland / Craig Eschberger

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
197863	NW Floor 90'	Soil	5/23/02	15:45	5/24/02
197864	NW-SW Floor	Soil	5/23/02	15:50	5/24/02
197865	West Wall $#2$	Soil	5/23/02	15:55	5/24/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 9 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Analysis: Analyst:		Analytical Method: Preparation Method	S 8021B : S 5035	QC Batch: Prep Batch:	QC20479 PB19550	Date Analyzed: Date Prepared:	5/24/02 5/24/02
Param	*	Flag	Result	Units	Dilt	ution	RDL
Benzene			< 0.050	mg/Kg		50	0.001
Toluene			0.0546	mg/Kg		50	0.001
Ethylbenze			0.165	mg/Kg		50	0.001
M,P,O-Xyle			0.127	mg/Kg		50	0.001
Total BTE	X		0.347	mg/Kg		50	0.001
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT			mg/Kg	50	1	91	70 - 130
4-BFB	·	0.941	mg/Kg	50	1	94	70 - 130
Analysis: Analyst: Param DRO	TPH DRO MM Flag	Analytical Methor Preparation Meth Result 132	od: 3550 B Ur	Prep Bat	•	Date Analyzed: Date Prepared:	5/28/02 5/24/02
				/ **8			
~		D	.	D .1	Spike	Percent	Recovery
Surrogate	Flag		Units	Dilution	Amount	Recovery	Limits
n-Triaconta	ine	149	mg/Kg	1	150	99	70 - 130
Sample:		- NW Floor 90					
Analysis: Analyst:	TPH GRO CG	Analytical Meth Preparation Met		QC Batch: Prep Batch:	QC20478 PB19548	Date Analyzed: Date Prepared:	5/24/02 5/24/02
Param	Flag	Result	Ur	nits	Dilution		RDL
GRO		<5.00	mg	/Kg	50		0.10
_					Spike	Percent	Recovery
Surrogate TFT	Flag	Result	Units	Dilution	Amount	Recovery	Limits
· I · L º I ·			mg/Kg mg/Kg	50 50	0.10 0.10	94 110	70 - 130 70 - 130
4-BFB							

Analysis:BTEXAnalytical Method:S 8021BQC Batch:QC20479Date Analyzed:5/24/02Analyst:CGPreparation Method:S 5035Prep Batch:PB19550Date Prepared:5/24/02

Report Date: June 4, 2002 E-58 LCW09				umber: A020524 zzel Gathering	19	Page Number: 3 of 9 Eunice,NM		
Param		Flag	Result	Units	Dil	ution	RDL	
Benzene			<0.010	mg/Kg		10	0.001	
Toluene			< 0.010	mg/Kg	10		0.001	
Ethylbenzen	P		< 0.010	mg/Kg		10	0.001	
M,P,O-Xyler			<0.010	mg/Kg		10		
Total BTEX			<0.010	-, -		10	0.001	
				mg/Kg		10	0.001	
					Spike	Percent	Recovery	
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits	
TFT T		0.857	mg/Kg	10	1	85	70 - 130	
4-BFB		0.811	mg/Kg	10	1	81	70 - 130	
Sample: Analysis: Analyst:	197864 - TPH DRO MM	NW-SW FI Analytical Met Preparation M	thod: Mod. 8		•	5	5/28/02 5/24/02	
Param	Flag	Resul	t U	nits	Dilution		RDL	
DRO	······································	<50.	0 mg	g/Kg	1	······	50	
					Spike	Percent	Recovery	
	Flag ne	g Result 136	Units mg/Kg	Dilution 1	Amount 150	Recovery 91	Limits 70 - 130	
n-Tríacontar Sample: Analysis: Analyst:	ne 197864 - TPH GRO CG	136 NW-SW FI Analytical M Preparation 1	mg/Kg oor ethod: 8015I Method: 5035	1 B QC Batch: Prep Batch:	150 QC20478 PB19548	the second se	70 - 130 5/24/02 5/24/02	
n-Triacontan Sample: Analysis: Analyst: Param	ne 197864 - TPH GRO	136 NW-SW FI Analytical M Preparation I Resul	mg/Kg oor ethod: 8015I Method: 5035 t U	1 B QC Batch: Prep Batch: nits	150 QC20478 PB19548 Dilution	91 Date Analyzed:	70 - 130 5/24/02 5/24/02 RDL	
n-Triacontan Sample: Analysis: Analyst: Param	ne 197864 - TPH GRO CG	136 NW-SW FI Analytical M Preparation 1	mg/Kg oor ethod: 8015I Method: 5035 t U	1 B QC Batch: Prep Batch:	150 QC20478 PB19548	91 Date Analyzed:		
n-Triacontan Sample: Analysis: Analyst: Param GRO	ne 197864 - TPH GRO CG Flag	136 NW-SW FI Analytical M Preparation I Resul <1.00	mg/Kg oor ethod: 8015I Method: 5035 t U D mg	1 B QC Batch: Prep Batch: nits g/Kg	150 QC20478 PB19548 Dilution 10 Spike	91 Date Analyzed: Date Prepared: Percent	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery	
n-Triacontar Sample: Analysis: Analyst: Param GRO Surrogate	ne 197864 - TPH GRO CG	136 NW-SW FI Analytical M Preparation I Result Result	mg/Kg oor ethod: 8015I Method: 5035 t U 0 ma	1 B QC Batch: Prep Batch: g/Kg Dilution	150 QC20478 PB19548 Dilution 10 Spike Amount	91 Date Analyzed: Date Prepared: Percent Recovery	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits	
n-Triacontar Sample: Analysis: Analyst: Param GRO Surrogate TFT	ne 197864 - TPH GRO CG Flag	136 NW-SW FI Analytical M Preparation I Resul <1.00	mg/Kg oor ethod: 8015I Method: 5035 t U D mg	1 B QC Batch: Prep Batch: nits g/Kg	150 QC20478 PB19548 Dilution 10 Spike	91 Date Analyzed: Date Prepared: Percent	70 - 130 5/24/02 5/24/02 RDI 0.10 Recovery Limits 70 - 130	
n-Triacontan Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis:	197864 - TPH GRO CG Flag Flag 197865 - BTEX A	136 NW-SW FI Analytical M Preparation I Result <1.00 Result 0.905	<u>mg/Kg</u> oor ethod: 80151 Method: 5035 t U <u>Units</u> <u>mg/Kg</u> <u>mg/Kg</u> <u>mg/Kg</u> <u>#2</u> od: S 8021B	1 B QC Batch: Prep Batch: g/Kg Dilution 10	150 QC20478 PB19548 Dilution 10 Spike Amount 0.10	91 Date Analyzed: Date Prepared: Percent Recovery 90	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits 70 - 130 70 - 130 5/24/02	
n-Triacontar Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param	197864 - TPH GRO CG Flag Flag 197865 - BTEX A	136 NW-SW FI Analytical M Preparation I Result <1.00 Result 0.905 0.784 West Wall Analytical Metho	<u>mg/Kg</u> ethod: 8015I Method: 5035 t U D mg Units mg/Kg mg/Kg mg/Kg d: S 8021B hod: S 5035 Result	1 3 QC Batch: Prep Batch: nits g/Kg Dilution 10 10 10 QC Batch: Prep Batch: Prep Batch: Units	150 QC20478 PB19548 Dilution 10 Spike Amount 0.10 0.10 0.10 QC20479 PB19550 Dil	91 Date Analyzed: Date Prepared: Percent Recovery 90 78 Date Analyzed: Date Prepared: ution	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 5/24/02 5/24/02 RDL	
n-Triacontar Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param Benzene	197864 - TPH GRO CG Flag Flag 197865 - BTEX A	136 NW-SW FI Analytical M Preparation I Result <1.00 Result 0.905 0.784 West Wall Analytical Metho Preparation Met	mg/Kg oor ethod: 8015I Method: 5035 t U 0 mg/Kg mg/Kg mg/Kg #2 0 od: S 8021B hod: S 5035 Result <0.010	1 B QC Batch: Prep Batch: nits g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg	150 QC20478 PB19548 Dilution 10 Spike Amount 0.10 0.10 QC20479 PB19550 Dil	91 Date Analyzed: Date Prepared: Percent Recovery 90 78 Date Analyzed: Date Prepared: ution 10	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 5/24/02 5/24/02 RDL 0.001	
n-Triacontan Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene	197864 - TPH GRO CG Flag Flag 197865 - BTEX CG F	136 NW-SW FI Analytical M Preparation I Result <1.00 Result 0.905 0.784 West Wall Analytical Metho Preparation Met	<u>mg/Kg</u> ethod: 8015I Method: 5035 t U D mg Units mg/Kg mg/Kg mg/Kg d: S 8021B hod: S 5035 Result	1 3 QC Batch: Prep Batch: nits g/Kg Dilution 10 10 10 QC Batch: Prep Batch: Prep Batch: Units	150 QC20478 PB19548 Dilution 10 Spike Amount 0.10 0.10 QC20479 PB19550 Dil	91 Date Analyzed: Date Prepared: Percent Recovery 90 78 Date Analyzed: Date Prepared: ution	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 5/24/02 5/24/02 RDL 0.001	
Surrogate n-Triacontar Analysis: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzene	197864 - TPH GRO CG Flag Flag 197865 - BTEX CG F	136 NW-SW FI Analytical M Preparation I Result <1.00 Result 0.905 0.784 West Wall Analytical Methor	mg/Kg oor ethod: 8015I Method: 5035 t U 0 mg/Kg mg/Kg mg/Kg #2 0 od: S 8021B hod: S 5035 Result <0.010	1 B QC Batch: Prep Batch: g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	150 QC20478 PB19548 Dilution 10 Spike Amount 0.10 0.10 QC20479 PB19550 Dil-	91 Date Analyzed: Date Prepared: Percent Recovery 90 78 Date Analyzed: Date Prepared: ution 10	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 70 - 130	
n-Triacontan Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param Benzene Toluene	197864 - TPH GRO CG Flag Flag 197865 - BTEX CG F	136 NW-SW FI Analytical M Preparation I Result <1.00 Result 0.905 0.784 West Wall Analytical Methor	mg/Kg oor ethod: 80151 Method: 5035 t U 0 mg Units mg/Kg mg/Kg mg/Kg #2	1 B QC Batch: Prep Batch: nits g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg	150 QC20478 PB19548 Dilution 10 Spike Amount 0.10 0.10 QC20479 PB19550 Dil	91 Date Analyzed: Date Prepared: Percent Recovery 90 78 Date Analyzed: Date Prepared: ution 10 10	70 - 130 5/24/02 5/24/02 RDL 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 70 - 130 5/24/02 5/24/02 RDL 0.001 0.001	

Report Date: June 4, 2002 E-58 LCW09			0	rder Numb Grizzel (Page Number: 4 of 9 Eunice,NM			
Surrogate	Flag	Result	Units		lution	Spike Amount	Percent Recovery	Recovery Limits
TFT	1	0.568	mg/K	÷	10	1	56	70 - 130
4-BFB	2	0.537	mg/K	g	10	1	53	70 - 130
Sample:	197865 -	West Wall <i>‡</i>	#2					
Analysis:	TPH DRO	Analytical Meth	10d: N	Mod. 8015E	QC Bate	ch: QC20535	Date Analyzed:	5/28/02
Analyst:	MM	Preparation Me	thod: 3	3550 B	Prep Ba	tch: PB19603	Date Prepared:	5/24/02
Param	Flag	Result		Units		Dilution		RDL
DRO		<50.0		mg/Kg		1		50
Surrogate n-Triaconta	Flag	Result 148	Un mg/		Dilution	Spike Amount 150	Percent Recovery 99	Recovery Limits 70 - 130
			0,			·····		
a 1	105005	*** , *** 11						
-		West Wall #		901 5 D	OC Batala	0.000470		5/04/00
Analysis:	TPH GRO	Analytical Me	thod:	8015B	QC Batch:	QC20478	Date Analyzed:	5/24/02
Analysis:		,	thod:	8015B 5035	QC Batch: Prep Batch	•	Date Analyzed: Date Prepared:	5/24/02 5/24/02
Sample: Analysis: Analyst: Param	TPH GRO CG	Analytical Me	ethod: Iethod:		Prep Batch	•	•	
Analysis: Analyst: Param	TPH GRO	Analytical Me Preparation M	ethod: Iethod:	5035	Prep Batch	: PB19548	•	5/24/02
Analysis: Analyst:	TPH GRO CG	Analytical Me Preparation M Result	ethod: Iethod:	5035 Units	Prep Batch	: PB19548 Dilution 10	Date Prepared:	5/24/02 RDL 0.10
Analysis: Analyst: Param GRO	TPH GRO CG Flag	Analytical Me Preparation M Result	ethod: Iethod:	5035 Units mg/Kg	Prep Batch	: PB19548 Dilution	Date Prepared:	5/24/02 RDL 0.10 Recovery
Analysis: Analyst: Param	TPH GRO CG	Analytical Me Preparation M Result <1.00	ithod: Iethod:	5035 Units mg/Kg	Prep Batch	: PB19548 Dilution 10 Spike	Date Prepared:	5/24/02 RDL 0.10

¹Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ²Low surrogate recovery due to matrix interference. ICV, CCV, CCV show the method to be in control. ³Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

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Quality Control Report Method Blank

Param		Flag	Resu	lta	Units		Reporting Limit
GRO	·····	<u> 1 145 </u>	<1		mg/Kg	· · · · · · · · · · · · · · · · · · ·	0.10
<u> </u>	<u></u>						
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT 4-BFB		$1.05 \\ 0.924$	mg/Kg mg/Kg	10 10	0.10 0.10	105 92	70 - 130 70 - 130
Method Bl	ank	QCBatch:	QC20479				
Param		Flag	·	Results	Units	3	Reporting Limit
Benzene				< 0.010	mg/K	g	0.001
Toluene				<0.010	mg/K		0.001
Ethylbenzene			<0.010		mg/Kg		0.001
M,P,O-Xylene			<0.010		mg/K	-	0.001
Total BTEX			•	<0.010	mg/K	g	0.001
Sumerata	Flog	Result	Units	Dilution	Spike	Percent	Recovery
Surrogate TFT	Flag	0.98		10	Amount	Recovery 98	Limits 70 - 130
4-BFB		0.98	mg/Kg mg/Kg	10	1 1	98 94	70 - 130 70 - 130
Method Bl	ank	QCBatch:	QC20535				
Param		Flag	Resu	lts	Units		Reporting Limit
DRO	t		<5		mg/Kg		50
	,			<u></u>	5, -6	••••••••••••••••••••••••••••••••••••••	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		19.4	mg/Kg	1	150	102	70 - 130

Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QC20478

Report Date: June 4, 2002 E-58 LCW09				Order Number: A02052419 Grizzel Gathering					Page Number: 6 of 9 Eunice,NM	
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.28	9.57	mg/Kg	10	1	<1	93	3	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.951	.966	mg/Kg	10	0.10	95	97	70 - 130
4-BFB	0.953	0.969	mg/Kg	10	0.10	95	97	70 - 130

Laboratory Control Spikes

QCBatch: QC20479

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.16	1.19	mg/Kg	10	1	. <0.010	116	2	70 - 130	20
Benzene	0.968	1.01	mg/Kg	10	1	< 0.010	96	4	70 - 130	20
Toluene	1	1.01	mg/Kg	10	1	< 0.010	100	0	70 - 130	20
Ethylbenzene	1.01	1.04	mg/Kg	10	1	< 0.010	101	2	70 - 130	20
M,P,O-Xylene	3.06	3.13	mg/Kg	10	3	< 0.010	102	2	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	0.983	0.979	mg/Kg	10	1	98	97	70 - 130
4-BFB	1	0.991	mg/Kg	10	1	100	99	70 - 130

Laboratory Control Spikes

Spike LCS LCSD Amount Matrix % Rec RPD Param Result Result Units Dil. Added Result % Rec RPD Limit Limit DRO 233 255 mg/Kg 250 <50.0 93 9 70 - 130 20 1

QC20535

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

QCBatch:

	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	$\% { m Rec}$	% Rec	Limits
n-Triacontane	136	142	mg/Kg	1	150	91	95	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC20479

Report Date: Ju E-58 LCW09			Number: A0 rizzel Gather	Page Number: 7 of 9 Eunice,NM						
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.836	0.828	mg/Kg	10	1	<0.010	83	0	70 - 130	20
Toluene	0.865	0.852	mg/Kg	10	1	< 0.010	86	1	70 - 130	20
Ethylbenzene	0.86	0.847	mg/Kg	10	1	< 0.010	86	1	70 - 130	20
M,P,O-Xylene	2.66	2.62	mg/Kg	10	3	0.01	88	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	${ m MS}$ Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.879	0.849	mg/Kg	10	1	87	84	70 - 130
4-BFB	0.912	0.881	mg/Kg	10	1	91	88	70 - 130

Matrix Spikes QCBatch: QC20535

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	\mathbf{Limit}	Limit
DRO	224	227	mg/Kg	1	250	<50.0	90	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	134	132	mg/Kg	1	150	89	88	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1) QCBatch: QC20478

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date
1 ai ai ii	Fiag	Onts	Conc.	Conc.	necovery	Limits	Analyzed
GRO		mg/Kg	1	1.08	108	85 - 115	5/24/02

ICV(1)	QCBatch:	QC20478
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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	0.958	95	85 - 115	5/24/02

Report Date: Jun E-58 LCW09	le 4, 2002			umber: A0205 zzel Gathering		Page N	Number: 8 of 9 Eunice,NM
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	\mathbf{F} lag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.113	113	85 - 115	5/24/02
Benzene		mg/L	0.10	0.0988	98	85 - 115	5/24/02
Toluene		mg/L	0.10	0.0998	99	85 - 115	5/24/02
Ethylbenzene		mg/L	0.10	0.0979	97	85 - 115	5/24/02
M,P,O-Xylene		mg/L	0.30	0.3	100	85 - 115	5/24/02

CCV (2)	QCBa	tch: QC20)479				
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	- · · · · · · · · · · · · · · · · · · ·	mg/L	0.10	0.11	110	85 - 115	5/24/02
Benzene		mg/L	0.10	0.0959	95	85 - 115	5/24/02
Toluene		mg/L	0.10	0.0979	97	85 - 115	5/24/02
Ethylbenzene		mg/L	0.10	0.095	95	85 - 115	5/24/02
M,P,O-Xylene		mg/L	0.30	0.289	96	85 - 115	5/24/02

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ICV (1) QCBatch: QC20479
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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.108	108	85 - 115	5/24/02
Benzene		$\mathrm{mg/L}$	0.10	0.0961	96	85 - 115	5/24/02
Toluene		m mg/L	0.10	0.0988	98	85 - 115	5/24/02
Ethylbenzene		m mg/L	0.10	0.0993	99	85 - 115	5/24/02
M,P,O-Xylene		$\mathrm{mg/L}$	0.30	0.308	102	85 - 115	5/24/02

CCV (1) QCBatch: QC20535

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	232	93	75 - 125	5/28/02

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CCV (2)
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QCBatch: QC20535

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO	······································	mg/Kg	250	229	91	75 - 125	5/28/02

Report Date E-58 LCW09		, 2002		er Number: A02 Grizzel Gatheri		Page I	Number: 9 of 9 Eunice,NM
ICV (1)		QCBatch:	QC20535				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	232	93	75 - 125	5/28/02

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<u></u>				MAT	<u>ر</u> RIX		1		SERV		E	SAM	PLING	8		1020 00	As Ba C	As Ba (tiles		109/00	00/024 01. 8270C/625		4/608					ie if diffe	
LAB # FIELD CODE	CONTAINERS	Volume/Amount	α		ш									MTBE 8021B/602	BTEX 8021B/802	PAH 8270C	Total Metals Ag As	TCLP Metals Ag As Ba	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Semi. Vol.	PCB's 8082/608	Pesticides 8081A/608	TSS, pH				Turn Around Time if different from standard	
(LAB USE) ONLY	40 00 #	Volum	WATER	AIR	SLUDGE	j T	DH NH	H ₂ SO ₄	NaOH	ĒCĦ	NONE	DATE	TIME		BTEX	PAH 8270C	Total M	TCLPA	TCLPS	TCLP F	RCI CCA16	GC/MS	PCB's 8	Pesticio	BOD. T				Turn Ar	РЮН
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TraceAnalysis, Inc.

Report Date: June 26, 2002Order Number: A02062410 E-58 LCW09 Grizzel Gathering Page Number: 1 of 1 Eunice,NM

Summary Report

Report Date:

June 26, 2002

Order ID Number:

A02062410

Lanny Woods Equiva Lanny Woods HCR 1 Box 89 Denver City, Tx. 79323

Project:E-58TA Job Code:Grizzel GatheringCasualty Code:E-58 LCW09Project Location:Eunice,NMProject Address:BNC-Midland / Midland / Craig Eschberger

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
199910	EA E Wall Comp	Soil	6/22/02	13:35	6/22/02
199911	EA W Wall Comp.	Soil	6/22/02	13:40	6/22/02
199912	EA N Wall Comp.	Soil	6/22/02	13:45	6/22/02
199913	EA Floor Comp.	Soil	6/22/02	13:50	6/22/02
199914	EB E Wall Comp	Soil	6/22/02	14:00	6/22/02
199915	EB W Wall Comp	Soil	6/22/02	14:05	6/22/02
199916	EB N Wall Comp	Soil	6/22/02	14:10	6/22/02
199917	EB S Wall Comp	Soil	6/22/02	14:15	6/22/02
. 199918	EB Floor Comp	Soil	6/22/02	14:20	6/22/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

	·			BTEX			TPH DRO	TPH GRO
	Benzene ⁷	FolueneE	thylbenzene	eM,P,O-Xylene	Total BTEX	Fest Comments	DRO	GRO
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
199910 - EA E Wall Comp	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	* 1	778	4.99
199911 - EA W Wall Comp.	< 0.010	0.0369	0.0102	0.0232	0.0703	· _	186	2.71
199912 - EA N Wall Comp.	<0.020	0.109	0.0281	0.1638	0.301	* 2	722	30.7
199913 - EA Floor Comp.	< 0.010	0.0147	0.0154	0.0257	0.0558	-	568	13.9
199914 - EB E Wall Comp	<0.010	0.0153	0.017	0.0442	0.0765	-	. 973.	7.18
199915 - EB W Wall Comp	< 0.010	0.154	0.0274	0.0701	0.252	-	1340	12.5
199916 - EB N Wall Comp	< 0.010	0.236	< 0.010	< 0.010	0.236	· _	374	7.75
199917 - EB S Wall Comp	<0.020	0.203	< 0.020	< 0.020	0.203	* 3	160	<2.00
199918 - EB Floor Comp	<0.010	0.0109	< 0.010	0.0132	0.0241	-	<50.0	<1.00

¹Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL. ²Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL. ³Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL.

This is only a summary. Please, refer to the complete report package for quality control data.



155 McCutcheon, Suite H

El Paso. Texas 79932 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

888 • 588 • 3443

FAX 915•585•4944

Report Date:

June 26, 2002

Lanny Woods Equiva Lanny Woods HCR 1 Box 89 Denver City, Tx. 79323

Order ID Number: A02062410

Project: E-58 TA Job Code: Grizzel Gathering Casualty Code: E-58 LCW09 Project Location: Eunice,NM BNC-Midland / Midland / Craig Eschberger

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
199910	EA E Wall Comp	Soil	6/22/02	13:35	6/22/02
199911	EA W Wall Comp.	Soil	6/22/02	13:40	6/22/02
199912	EA N Wall Comp.	Soil	6/22/02	13:45	6/22/02
199913	EA Floor Comp.	Soil	6/22/02	13:50	6/22/02
199914	EB E Wall Comp	Soil	6/22/02	14:00	6/22/02
199915	EB W Wall Comp	Soil	6/22/02	14:05	6/22/02
199916	EB N Wall Comp	Soil	6/22/02	14:10	6/22/02
199917	EB S Wall Comp	Soil	6/22/02	14:15	6/22/02
199918	EB Floor Comp	Soil	6/22/02	14:20	6/22/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 15 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Analysis: Analyst:	BTEX CG	Analytical Method: Preparation Method	S 8021B : S 5035	QC Batch: Prep Batch:	QC21329 PB20269	Date Analyzed: Date Prepared:	6/24/02 6/24/02
rmary 50.	00		. 00000	Ĩ	1 D20205	Date Prepared.	, ,
Param		Flag	Result	Units		Dilution	RDI
Benzene			< 0.020	mg/Kg		20	0.00
Toluene			< 0.020	mg/Kg		20	0.00
Ethylbenze			$< 0.020 \\ < 0.020$	mg/Kg		20	0.00
M,P,O-Xyle Total BTE			< 0.020 < 0.020	mg/Kg mg/Kg		20 20	0.00 0.00
Test Comm		1	<0.020 *	mg/Kg		1	0.00
					~		_
O	ורד	D	T.T		Spike	Percent	Recover
Surrogate TFT	Flag	Result	Units	Dilution	Amount	Recovery	Limits
4-BFB			mg/Kg mg/Kg	20 20	· 1 1	99 93	70 - 130
Analysis:	TPH DRO			· · · · · · · · · · · · · · · · · · ·	•	•	6/25/0
Analyst:	MM	Preparation Meth	od: 3550 B	Prep Bat	tch: PB2030	1 Date Prepared:	6/25/0
-	MM Flag	-			tch: PB2030 Dilution	1 Date Prepared:	, ,
Param		-	U			1 Date Prepared:	RD
		gResult	U	nits	Dilution	1 Date Prepared:	RD
Param		gResult	U	nits	Dilution	1 Date Prepared:	RD 5
Param DRO	Flag	gResult	U	nits	Dilution 10		RD 5 Recover
Param DRO Surrogate	Flag	g Result 778	U: mg	nits /Kg	Dilution 10 Spike	Percent	6/25/0 RD 5 Recover Limits 70 - 130
Param DRO Surrogate	Flag	g Result 778 lag Result	U: mg Units	nits 5/Kg Dilution	Dilution 10 Spike Amount	Percent Recovery	RD 5 Recover Limits
Param DRO Surrogate n-Triaconta	Flag F ane	g Result 778 lag Result	Units mg/Kg	nits 5/Kg Dilution	Dilution 10 Spike Amount	Percent Recovery	RD 5 Recover Limits
Param DRO Surrogate n-Triacont: Sample:	Flag F ane 19991 0 TPH GR0	g Result 778 lag Result 195) - EA E Wall C	Units mg/Kg omp nod: 8015E	nits 5/Kg Dilution 10	Dilution 10 Spike Amount 150 QC21330	Percent Recovery	RD 5 Recover Limits 70 - 130
Param DRO Surrogate n-Triaconta Sample: Analysis:	Flag F ane 19991(g Result 778 lag Result 195) - EA E Wall C	Units mg/Kg omp nod: 8015E	nits 5/Kg Dilution 10	Dilution 10 Spike Amount 150 QC21330	Percent Recovery 130	RD 5 Recover Limits 70 - 130 6/24/0
Param DRO Surrogate n-Triaconta Sample: Analysis: Analysis: Param	Flag F ane 19991 0 TPH GR0	g Result 778 lag Result 195) - EA E Wall C O Analytical Meth Preparation Meth g Result	Units mg/Kg omp nod: 8015E thod: 5035	nits <u>j/Kg</u> <u>Dilution</u> 10 3 QC Batch: Prep Batch nits	Dilution 10 Spike Amount 150 QC21330 : PB20269 Dilution	Percent Recovery 130 Date Analyzed:	RD 5 Recover Limits 70 - 130 6/24/0 6/24/0 RD
Param DRO Surrogate n-Triaconta Sample: Analysis: Analysis: Param	Flag F ane 199910 TPH GRO CG	2 Result 778 lag Result 195) - EA E Wall C O Analytical Meth Preparation Me	Units mg/Kg omp nod: 8015E thod: 5035	nits J/Kg Dilution 10 B QC Batch: Prep Batch	Dilution 10 Spike Amount 150 QC21330 : PB20269	Percent Recovery 130 Date Analyzed:	RD 5 Recover Limits 70 - 130 6/24/0 6/24/0 RD
Param DRO Surrogate n-Triaconta Sample: Analysis: Analyst:	Flag F ane 199910 TPH GRO CG	g Result 778 lag Result 195) - EA E Wall C O Analytical Meth Preparation Meth g Result	Units mg/Kg omp nod: 8015E thod: 5035	nits <u>j/Kg</u> <u>Dilution</u> 10 3 QC Batch: Prep Batch nits	Dilution 10 Spike Amount 150 QC21330 : PB20269 Dilution	Percent Recovery 130 Date Analyzed:	RD 5 Recover Limits 70 - 13 6/24/0 6/24/0 RD
Param DRO Surrogate n-Triaconta Sample: Analysis: Analyst: Param GRO	Flag F ane 199910 TPH GRO CG Flag	g Result 778 lag Result 195) - EA E Wall C O Analytical Meth Preparation Me g Result 4.99	Units mg/Kg omp nod: 8015E thod: 5035 U mg	nits J/Kg Dilution 10 B QC Batch: Prep Batch nits g/Kg	Dilution 10 Spike Amount 150 QC21330 : PB20269 Dilution 20 Spike	Percent Recovery 130 Date Analyzed: Date Prepared: Percent	RD 5 Recover Limits 70 - 130 6/24/0 6/24/0 6/24/0 RD 0.1 Recover
Param DRO Surrogate n-Triaconta Sample: Analysis: Analysis: Param GRO Surrogate	Flag F ane 199910 TPH GRO CG	<u>g Result</u> 778 lag Result 195) - EA E Wall C O Analytical Meth Preparation Meth <u>g Result</u> 4.99	Units mg/Kg omp nod: 8015E thod: 5035 U mg	nits Jilution Dilution 10 B QC Batch: Prep Batch nits g/Kg Dilution	Dilution 10 Spike Amount 150 QC21330 : PB20269 Dilution 20 Spike Amount	Percent Recovery 130 Date Analyzed: Date Prepared: Percent Recovery	RD 5 Recover Limits 70 - 130 6/24/0 6/24/0 6/24/0 RD 0.1 Recover Limits
Param DRO Surrogate n-Triaconta Sample: Analysis: Analysis: Param GRO	Flag F ane 199910 TPH GRO CG Flag	g Result 778 lag Result 195) - EA E Wall C O Analytical Meth Preparation Me g Result 4.99	Units mg/Kg omp nod: 8015E thod: 5035 U mg	nits J/Kg Dilution 10 B QC Batch: Prep Batch nits g/Kg	Dilution 10 Spike Amount 150 QC21330 : PB20269 Dilution 20 Spike	Percent Recovery 130 Date Analyzed: Date Prepared: Percent	RD 5 Recover Limits 70 - 13 6/24/0 6/24/0 RD 0.1 Recover

¹Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL.

E-58 LCW(mber: A0206241 el Gathering	10	Page Numb I	Eunice,NM
Sample:	199911	- EA W Wall C	omp.				
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC21329	Date Analyzed:	6/24/02
Analyst:	CG	Preparation Method		Prep Batch:	PB20269	Date Prepared:	6/24/02
Param		Flag	Result	Units		ution	RDL
Benzene			< 0.010	mg/Kg		10	0.001
Toluene			0.0369	m mg/Kg		10	0.001
Ethylbenzei			0.0102	mg/Kg		10	0.001
M,P,O-Xyle			0.0232	mg/Kg		10	0.00
Total BTE	<u>X</u>		0.0703	mg/Kg	·	10	0.00
				x	Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT			mg/Kg	10	1	91	70 - 130
4-BFB		0.839	mg/Kg	10	1	84	70 - 130
			2				
Sample:	199911	- EA W Wall C	lomp.				
Analysis:	TPH DRO		*	15B QC Bate	h: QC21368	Date Analyzed:	6/25/0
Analyst:	MM	Preparation Meth		Prep Bar	•	Date Prepared:	6/25/0
Param	Flag	Result	Un	its	Dilution		RD
DRO		186	mg	/Kg	1		5
					Spike	Percent	Recovery
Surrogate	Fl	ag Result	Units	Dilution	Amount	Recovery	Limits
-		ag Result 157	Units mg/Kg	Dilution 1	-		Limits
n-Triaconta Sample: Analysis:	ine	- EA W Wall C	mg/Kg Comp. od: 8015B		Amount 150 QC21330	Recovery	Limits 70 - 130 6/24/0
n-Triaconta Sample: Analysis: Analyst:	199911 TPH GRO CG	- EA W Wall C Analytical Meth Preparation Met	mg/Kg Comp. od: 8015B thod: 5035	1 QC Batch: Prep Batch	Amount 150 QC21330 : PB20269	Recovery 105 Date Analyzed:	Limits 70 - 130 6/24/0 6/24/0
n-Triaconta Sample: Analysis: Analyst: Param	une 199911 TPH GRO	157 - EA W Wall C Analytical Meth Preparation Met Result	mg/Kg Comp. od: 8015B chod: 5035 Ur	1 QC Batch: Prep Batch its	Amount 150 QC21330 PB20269 Dilution	Recovery 105 Date Analyzed:	Limits 70 - 130 6/24/0 6/24/0 RDJ
n-Triaconta Sample: Analysis: Analyst: Param	199911 TPH GRO CG	- EA W Wall C Analytical Meth Preparation Met	mg/Kg Comp. od: 8015B chod: 5035 Ur	1 QC Batch: Prep Batch	Amount 150 QC21330 : PB20269	Recovery 105 Date Analyzed:	Limits 70 - 130 6/24/0 6/24/0 RD
n-Triaconta Sample: Analysis: Analyst: Param GRO	ne 199911 TPH GRO CG Flag	157 - EA W Wall C Analytical Meth Preparation Met Result 2.71	mg/Kg Comp. od: 8015B chod: 5035 Ur mg,	1 QC Batch: Prep Batch its /Kg	Amount 150 QC21330 PB20269 Dilution 10 Spike	Recovery 105 Date Analyzed: Date Prepared: Percent	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate	199911 TPH GRO CG	157 - EA W Wall C Analytical Meth Preparation Met Result 2.71	mg/Kg Comp. od: 8015B chod: 5035 Ur mg, Units	1 QC Batch: Prep Batch its /Kg Dilution	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover Limits
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate TFT	ne 199911 TPH GRO CG Flag	157 - EA W Wall C Analytical Meth Preparation Met Result 2.71 Result 0.787	mg/Kg Comp. od: 8015B thod: 5035 Ur mg, Units mg/Kg	1 QC Batch: Prep Batch its /Kg Dilution 10	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount 0.10	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery 79	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover Limits 70 - 130
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate TFT	ne 199911 TPH GRO CG Flag	157 - EA W Wall C Analytical Meth Preparation Met Result 2.71 Result 0.787	mg/Kg Comp. od: 8015B chod: 5035 Ur mg, Units	1 QC Batch: Prep Batch its /Kg Dilution	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover Limits 70 - 130
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample:	199911 TPH GRO CG Flag Flag 199912	- EA W Wall C Analytical Meth Preparation Met Result 2.71 Result 0.787 0.768	mg/Kg Comp. od: 8015B chod: 5035 Ur mg, Units mg/Kg mg/Kg mg/Kg mg/Kg	1 QC Batch: Prep Batch its /Kg Dilution 10 10	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount 0.10 0.10	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery 79 77	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover Limits 70 - 130 70 - 130
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis:	ne 199911 TPH GRO CG Flag	157 - EA W Wall C Analytical Meth Preparation Met Result 2.71 Result 0.787 0.768	mg/Kg od: 8015B chod: 5035 Ur mg/Kg mg/Kg mg/Kg omp. S 8021B	1 QC Batch: Prep Batch its /Kg Dilution 10	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount 0.10	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery 79	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130
n-Triaconta Sample: Analysis: Analyst: Param	199911 TPH GRO CG Flag Flag 199912 BTEX	- EA W Wall C Analytical Meth Preparation Met Result 2.71 Result 0.787 0.768 - EA N Wall C Analytical Method:	mg/Kg od: 8015B chod: 5035 Ur mg/Kg mg/Kg mg/Kg omp. S 8021B	1 QC Batch: Prep Batch its /Kg Dilution 10 10 QC Batch:	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount 0.10 0.10 0.10 QC21329 PB20269	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery 79 77 77 Date Analyzed:	Limits 70 - 130 6/24/0 6/24/0 RDI 0.1
n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst:	199911 TPH GRO CG Flag Flag 199912 BTEX	- EA W Wall C Analytical Meth Preparation Met Result 2.71 Result 0.787 0.768 - EA N Wall C Analytical Method: Preparation Method	mg/Kg comp. od: 8015B chod: 5035 Ur mg, Units mg/Kg mg/Kg mg/Kg omp. S 8021B d: S 5035	1 QC Batch: Prep Batch its /Kg Dilution 10 10 QC Batch: Prep Batch:	Amount 150 QC21330 PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269 L	Recovery 105 Date Analyzed: Date Prepared: Percent Recovery 79 77 Date Analyzed: Date Prepared:	Limits 70 - 130 6/24/0 6/24/0 RD 0.1 Recover Limits 70 - 130 70 - 130 70 - 130

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E-58 LCW	e: June 26, 2)9	002		mber: A0206241 zel Gathering	0	Page Numb	er: 4 of 15 Eunice,NM
Continue	ed Sample:	199912 Analysis:	BTEX				
Param		Flag	Result	Units	D	ilution	RDL
Ethylbenzer			0.0281	mg/Kg		20	0.001
M,P,O-Xyle			0.1638	mg/Kg		20	0.001
Total BTEX		_	0.301	mg/Kg		20	0.001
Test Comm	ents	2	*	mg/Kg		1	
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	¥	0.928	mg/Kg	20	1	93	70 - 130
4-BFB		0.938	mg/Kg	20.	1	94	70 - 130
Sample: Analysis: Analyst: Param	199912 TPH DRO MM Flag	- EA N Wall Analytical Meth Preparation Me Result	od: Mod. 80 thod: 3550 B	Prep Bat	•	• ·	6/25/02 6/25/02 RDI
DRO	I 105	722		/Kg	10		50
Surrogate n-Triaconta	Fla	3 340	mg/Kg	10	150	Recovery 226	70 - 130
Sample:	199912	- EA N Wall	Comn				
Analysis:	TPH GRO	Analytical Me	4		QC21330	Data Analasadi	
Analyst:			SHOOL AVIAD	UUG Barch		Date Analyzed:	6/24/02
v	CG	Preparation M		QC Batch: Prep Batch:	•	Date Analyzed: Date Prepared:	
Param	CG Flag	Preparation M Result	lethod: 5035 Ur	Prep Batch:	PB20269 Dilution	5	6/24/02 6/24/02 RDI
·		Preparation M	lethod: 5035 Ur	Prep Batch:	PB20269	5	6/24/02 RDI
Param GRO	Flag	Preparation M Result 30.7	lethod: 5035 Ur mg	Prep Batch: hits /Kg	PB20269 Dilution 20 Spike	Date Prepared: Percent	6/24/02 RDI 0.10 Recovery
Param GRO Surrogate		Preparation M Result 30.7 Result	lethod: 5035 Ur mg Units	Prep Batch: its /Kg Dilution	PB20269 Dilution 20 Spike Amount	Date Prepared: Percent Recovery	6/24/02 RDI 0.10 Recovery Limits
Param GRO Surrogate TFT	Flag	Preparation M Result 30.7 Result 0.934	lethod: 5035 Ur mg Units mg/Kg	Prep Batch: hits /Kg Dilution 20	PB20269 Dilution 20 Spike Amount 0.10	Date Prepared: Percent Recovery 93	6/24/02 RDI 0.10 Recovery Limits 70 - 130
Param GRO Surrogate	Flag	Preparation M Result 30.7 Result	lethod: 5035 Ur mg Units	Prep Batch: its /Kg Dilution	PB20269 Dilution 20 Spike Amount	Date Prepared: Percent Recovery	6/24/02 RDI 0.10 Recover: Limits 70 - 130
Param GRO Surrogate TFT 4-BFB	Flag Flag 4	Preparation M Result 30.7 Result 0.934 1.85	lethod: 5035 Ur mg, Units mg/Kg mg/Kg	Prep Batch: hits /Kg Dilution 20	PB20269 Dilution 20 Spike Amount 0.10	Date Prepared: Percent Recovery 93	6/24/02 RDI 0.10 Recover: Limits 70 - 130
Param GRO Surrogate TFT 4-BFB Sample:	Flag Flag 4 199913	Preparation M Result 30.7 Result 0.934 1.85 - EA Floor C	lethod: 5035 Ur mg Units mg/Kg mg/Kg omp.	Prep Batch: hits /Kg Dilution 20 20	PB20269 Dilution 20 Spike Amount 0.10 0.10	Date Prepared: Percent Recovery 93 185	6/24/02 <u>RDI</u> 0.10 Recovery Limits 70 - 130 70 - 130
Param GRO Surrogate TFT 4-BFB	Flag Flag 4	Preparation M Result 30.7 Result 0.934 1.85	lethod: 5035 Ur mg Units mg/Kg mg/Kg omp. d: S 8021B	Prep Batch: hits /Kg Dilution 20	PB20269 Dilution 20 Spike Amount 0.10	Date Prepared: Percent Recovery 93	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 6/24/02
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Param	Flag Flag 4 199913 BTEX	Preparation M Result 30.7 Result 0.934 1.85 - EA Floor Co Analytical Method	lethod: 5035 Ur mg, Units mg/Kg mg/Kg omp. d: S 8021B od: S 5035 Result	Prep Batch: iits /Kg Dilution 20 20 QC Batch: Prep Batch: Prep Batch: Units	PB20269 Dilution 20 Spike Amount 0.10 0.10 0.10 QC21329 PB20269	Date Prepared: Percent Recovery 93 185 Date Analyzed: Date Prepared: lution	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 6/24/02 6/24/02 RDI
Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst:	Flag Flag 4 199913 BTEX	Preparation M Result 30.7 Result 0.934 1.85 - EA Floor C Analytical Method Preparation Meth	Iethod: 5035 Ur mg, Units mg/Kg mg/Kg Mg/Kg omp. d: S 8021B od: S 5035	Prep Batch: hits /Kg Dilution 20 20 QC Batch: Prep Batch:	PB20269 Dilution 20 Spike Amount 0.10 0.10 0.10 QC21329 PB20269	Date Prepared: Percent Recovery 93 185 Date Analyzed: Date Prepared:	6/24/0 RDJ 0.1 Recover Limits 70 - 130 70 - 130 6/24/0 6/24/0

Continued ...

²Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL. ³Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control. ⁴High surrogate recovery due to peak interference.

	9)02	-	umber: A0206241 zzel Gathering		Page Numb	Eunice,NM
Continued	d Sample: 1	199913 Analysis:	BTEX				
Param	-	Flag	Result	Units	Dil	ution	RDL
Ethylbenzen	e		0.0154	mg/Kg	<u></u>	10	0.001
M,P,O-Xylen			0.0257	mg/Kg		10	0.001
Total BTEX		,	0.0558	mg/Kg		10	0.001
		·		6/8	······		0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
<u>FFT</u>		0.925	mg/Kg	10	1	92	70 - 130
4-BFB		0.848	mg/Kg	10	1	85	70 - 130
Sample: Analysis: Analyst:	199913 - TPH DRO MM	EA Floor Co Analytical Meth Preparation Met	od: Mod. 8	•		Date Analyzed: Date Prepared:	6/25/02 6/25/02
v	Flor	Dooult	T	-		1	, ,
Param DRO	Flag	Result 568		g/Kg	Dilution 10		
						· ·	
7		- Decelt	TT :+-		Spike	Percent	Recovery
Surrogate n-Triacontar	Flag	g Result 190	Units mg/Kg	Dilution 10	Amount 150	Recovery 127	Limits 70 - 130
Analysis:	TPH GRO	EA Floor Co Analytical Met	hod: 80151	•	QC21330	Date Analyzed:	, ,
Analysis:			hod: 80151	3 QC Batch: Prep Batch:	-	Date Analyzed: Date Prepared:	, ,
Analysis: Analyst: Param	TPH GRO	Analytical Met Preparation M Result	hod: 80151 ethod: 5035 U	Prep Batch:	PB20269 Dilution	•	6/24/02 RDI
Analysis: Analyst: Param	TPH GRO CG	Analytical Met Preparation M	hod: 80151 ethod: 5035 U	Prep Batch:	PB20269	•	6/24/02 RDI
Analysis: Analyst: Param GRO	TPH GRO CG Flag	Analytical Met Preparation M Result 13.9	hod: 80151 ethod: 5035 U	Prep Batch: Inits g/Kg	PB20269 Dilution 10 Spike	Date Prepared:	6/24/02 6/24/02 RDI 0.10 Recovery
Analysis: Analyst: Param GRO Surrogate	TPH GRO CG	Analytical Met Preparation M Result 13.9 Result	hod: 80151 ethod: 5035 Umits	Prep Batch: nits g/Kg Dilution	PB20269 Dilution 10 Spike Amount	Date Prepared: Percent Recovery	6/24/02 RDL 0.10 Recovery Limits
Analysis: Analyst: Param GRO Surrogate TFT	TPH GRO CG Flag	Analytical Met Preparation M Result 13.9 Result 0.965	hod: 80151 ethod: 5035 Units mg/Kg	Prep Batch: g/Kg Dilution 10	PB20269 Dilution 10 Spike Amount 0.10	Date Prepared: Percent Recovery 96	6/24/02 RDI 0.10 Recovery Limits 70 - 130
Analysis: Analyst: Param GRO Surrogate TFT	TPH GRO CG Flag	Analytical Met Preparation M Result 13.9 Result	hod: 80151 ethod: 5035 U m	Prep Batch: nits g/Kg Dilution	PB20269 Dilution 10 Spike Amount	Date Prepared: Percent Recovery	6/24/02 RDI 0.10 Recovery Limits 70 - 130
Sample: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis:	TPH GRO CG Flag Flag 199914 -	Analytical Met Preparation M Result 13.9 Result 0.965 1.10	hod: 80151 ethod: 5035 U U units mg/Kg mg/Kg	Prep Batch: g/Kg Dilution 10 10	PB20269 Dilution 10 Spike Amount 0.10 0.10	Date Prepared: Percent Recovery 96 110	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130
Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis:	TPH GRO CG Flag Flag 199914 - BTEX	Analytical Met Preparation M Result 13.9 Result 0.965 1.10	hod: 80151 ethod: 5035 U Units mg/Kg mg/Kg Comp I: S 8021B	Prep Batch: g/Kg Dilution 10	PB20269 Dilution 10 Spike Amount 0.10	Date Prepared: Percent Recovery 96	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130
Analysis: Analyst: Param GRO Surrogate FFT 4-BFB Sample: Analysis: Analyst:	TPH GRO CG Flag Flag 199914 - BTEX	Analytical Met Preparation M Result 13.9 Result 0.965 1.10 • EB E Wall C Analytical Method	hod: 80151 ethod: 5035 U Units mg/Kg mg/Kg Comp I: S 8021B	Prep Batch: g/Kg Dilution 10 10 QC Batch:	PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269	Date Prepared: Percent Recovery 96 110 Date Analyzed:	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 6/24/02 6/24/02
Analysis: Analysis: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Param	TPH GRO CG Flag Flag 199914 - BTEX	Analytical Met Preparation M Result 13.9 Result 0.965 1.10 EB E Wall C Analytical Method Preparation Method	hod: 80151 ethod: 5035 U Units mg/Kg mg/Kg Comp I: S 8021B od: S 5035	Prep Batch: <u>Inits</u> <u>g/Kg</u> <u>Dilution</u> 10 10 QC Batch: Prep Batch:	PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269 Dil	Date Prepared: Percent Recovery 96 110 Date Analyzed: Date Prepared:	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 6/24/02 6/24/02 RDI
Analysis: Analysis: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene	TPH GRO CG Flag Flag 199914 - BTEX	Analytical Met Preparation M Result 13.9 Result 0.965 1.10 EB E Wall C Analytical Method Preparation Method	hod: 80151 ethod: 5035 U U mg/Kg mg/Kg Comp I: S 8021B od: S 5035 Result	Prep Batch: g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg	PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269 Dil	Date Prepared: Percent Recovery 96 110 Date Analyzed: Date Prepared: ution	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 6/24/02 6/24/02 RDI 0.001
Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene	TPH GRO CG Flag Flag 199914 - BTEX CG	Analytical Met Preparation M Result 13.9 Result 0.965 1.10 EB E Wall C Analytical Method Preparation Method	hod: 80151 ethod: 5035 U Units mg/Kg mg/Kg comp I: S 8021B od: S 5035 Result <0.010 0.0153	Prep Batch: g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269 Dil	Date Prepared: Percent Recovery 96 110 Date Analyzed: Date Prepared: ution 10 10	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 6/24/02 6/24/02 RDI 0.007 0.001
Analysis: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenzen	TPH GRO CG Flag Flag 199914 - BTEX CG	Analytical Met Preparation M Result 13.9 Result 0.965 1.10 EB E Wall C Analytical Method Preparation Method	hod: 80151 ethod: 5035 U Units mg/Kg mg/Kg Comp I: S 8021B od: S 5035 Result <0.010 0.0153 0.017	Prep Batch: g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg	PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269 Dil	Date Prepared: Percent Recovery 96 110 Date Analyzed: Date Prepared: ution 10 10 10	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 6/24/02 6/24/02 6/24/02 RDI 0.001 0.001 0.001
Analysis: Analysis: Analyst: Param GRO Surrogate TFT 4-BFB Sample: Analysis: Analysis: Analyst: Param Benzene Toluene	TPH GRO CG Flag Flag 199914 - BTEX CG	Analytical Met Preparation M Result 13.9 Result 0.965 1.10 EB E Wall C Analytical Method Preparation Method	hod: 80151 ethod: 5035 U Units mg/Kg mg/Kg comp I: S 8021B od: S 5035 Result <0.010 0.0153	Prep Batch: g/Kg Dilution 10 10 QC Batch: Prep Batch: Prep Batch: Units mg/Kg mg/Kg	PB20269 Dilution 10 Spike Amount 0.10 0.10 QC21329 PB20269 Dil	Date Prepared: Percent Recovery 96 110 Date Analyzed: Date Prepared: ution 10 10	6/24/02 RDI 0.10 Recovery Limits 70 - 130 70 - 130 70 - 130 6/24/02 6/24/02 RDI 0.007 0.007 0.007

E-58 LCW0)9	002		Number: A02062 izzel Gathering	Page Number: 6 of 15 Eunice,NM		
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
FFT	5	0.681	mg/Kg	10	1	68.	70 - 130
4-BFB	6	0.660	mg/Kg	10	1	66	70 - 130
Sample:	199914 -		•				
Analysis: Analyst:	TPH DRO MM	Analytical Me Preparation M		v	•	U	6/25/02 6/25/02
Param	Flag	Resu	lt U	Jnits	Dilution		RDI
DRO		97		ig/Kg	10		50
	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·					
Surrogate	Fla	g Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triaconta		353	mg/Kg	10	150	235	70 - 130
Sample:		- EB E Wall	-		<u> </u>		
Analysis: Analyst:	TPH GRO CG	Analytical M Preparation		•	•	Date Analyzed: Date Prepared:	$\frac{6}{24}$ $\frac{6}{24}$
Param	Flag	Resu		Units	Dilution		RD
GRO		7.1	.8 <u>n</u>	ng/Kg	10		0.1
~	~				Spike	Percent	
	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	Flag 8	0.576	mg/Kg	10	Amount 0.10	Recovery 58	70 - 130
Surrogate TFT 4-BFB	Flag 8				Amount	Recovery	Limits
TFT 4-BFB Sample:	8 199915	0.576 0.732 - EB W Wa	mg/Kg mg/Kg	10 10	Amount 0.10 0.10	Recovery 58 73	Limits 70 - 130 70 - 130
TFT 4-BFB Sample: Analysis:	8 199915 BTEX	0.576 0.732 - EB W Wa Analytical Meth	mg/Kg mg/Kg Il Comp tod: S 8021B	10 10 QC Batch:	Amount 0.10 0.10 QC21329	Recovery 58 73 Date Analyzed:	Limits 70 - 130 70 - 130 6/24/0
TFT 4-BFB Sample: Analysis:	8 199915 BTEX	0.576 0.732 - EB W Wa	mg/Kg mg/Kg Il Comp tod: S 8021B	10 10	Amount 0.10 0.10 QC21329	Recovery 58 73	Limits 70 - 130 70 - 130 6/24/0
TFT 4-BFB Sample: Analysis: Analyst:	8 199915 BTEX	0.576 0.732 - EB W Wa Analytical Meth	mg/Kg mg/Kg Il Comp Iod: S 8021B thod: S 5035 Result	10 10 QC Batch:	Amount 0.10 0.10 QC21329 n: PB20269	Recovery 58 73 Date Analyzed:	Limits 70 - 130 70 - 130 6/24/0 6/24/0
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene	8 199915 BTEX	0.576 0.732 - EB W Wa Analytical Meth Preparation Me	mg/Kg mg/Kg Il Comp tod: S 8021B thod: S 5035 Result <0.010	10 10 QC Batch: Prep Batch Units mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di	Recovery 58 73 Date Analyzed: Date Prepared: lution 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 RDD 0.00
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene	8 199915 BTEX CG	0.576 0.732 - EB W Wa Analytical Meth Preparation Me	mg/Kg mg/Kg ll Comp tod: S 8021B thod: S 5035 Result <0.010 0.154	10 10 QC Batch: Prep Batch Units mg/Kg mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di	Recovery 58 73 Date Analyzed: Date Prepared: ution 10 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 RD2 0.00 0.00
TFT 4-BFB Analysis: Analysis: Analyst: Param Benzene Toluene Ethylbenze:	8 199915 BTEX CG ne	0.576 0.732 - EB W Wa Analytical Meth Preparation Me	mg/Kg mg/Kg ll Comp tod: S 8021B thod: S 5035 Result <0.010 0.154 0.0274	10 10 QC Batch: Prep Batch Units mg/Kg mg/Kg mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di	Recovery 58 73 Date Analyzed: Date Prepared: ution 10 10 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 6/24/0 RDD 0.00 0.00 0.00
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	8 199915 BTEX CG ne ene	0.576 0.732 - EB W Wa Analytical Meth Preparation Me	mg/Kg mg/Kg ll Comp tod: S 8021B thod: S 5035 Result <0.010 0.154 0.0274 0.0701	10 10 QC Batch: Prep Batch Units mg/Kg mg/Kg mg/Kg mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di	Recovery 58 73 Date Analyzed: Date Prepared: lution 10 10 10 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 6/24/0 RDD 0.00 0.00 0.00 0.00
TFT	8 199915 BTEX CG ne ene	0.576 0.732 - EB W Wa Analytical Meth Preparation Me	mg/Kg mg/Kg ll Comp tod: S 8021B thod: S 5035 Result <0.010 0.154 0.0274	10 10 QC Batch: Prep Batch Units mg/Kg mg/Kg mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di	Recovery 58 73 Date Analyzed: Date Prepared: ution 10 10 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 6/24/0 RDI 0.00 0.00 0.00 0.00
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE2	8 199915 BTEX CG ne ene X	0.576 0.732 - EB W Wa Analytical Meth Preparation Me Flag	mg/Kg mg/Kg ll Comp tod: S 8021B thod: S 5035 Result <0.010 0.154 0.0274 0.0701 0.252	10 10 QC Batch: Prep Batch Units mg/Kg mg/Kg mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di g g g g g g g g g g g g g	Recovery 58 73 Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 RDD 0.00 0.00 0.00 0.00 0.00 0.00
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	8 199915 BTEX CG ne ene	0.576 0.732 - EB W Wa Analytical Meth Preparation Me	mg/Kg mg/Kg ll Comp tod: S 8021B thod: S 5035 Result <0.010 0.154 0.0274 0.0701	10 10 QC Batch: Prep Batch Units mg/Kg mg/Kg mg/Kg mg/Kg	Amount 0.10 0.10 QC21329 n: PB20269 Di	Recovery 58 73 Date Analyzed: Date Prepared: ution 10 10 10 10 10	Limits 70 - 130 70 - 130 6/24/0 6/24/0 RDJ 0.00 0.00 0.00 0.00 0.00 0.00

⁵Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control. ⁶Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁷Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control. ⁸Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Report Dat E-58 LCW(e: June 26, 2)9	2002		umber: A020624 zzel Gathering	10	Page Num	per: 7 of 18 Eunice,NM
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-BFB		0.810	mg/Kg	10	1	81	70 - 130
Sample: Analysis: Analyst:	199915 TPH DRO MM	- EB W Wall (Analytical Metho Preparation Method	d: Mod. 8	015B QC Bat Prep Ba	-	•	6/25/02 6/25/02
Param	Flag	Result	TI	nits	Dilution		RDI
DRO	1 lag	1340		g/Kg	10	·····	50
		1340	1118	5/ Kg		· · · · · · · · · · · · · · · · · · ·	
Cumanata	Fla	ag Result	Units	Dilution	Spike Amount	Percent	Recovery Limits
Surrogate n-Triaconta	Fla		mg/Kg	10	150	Recovery 262	$\frac{1.111113}{70 - 130}$
Sampla	100015	- EB W Wall (Comp			T	
Sample: Analysis:	TPH GRO	Analytical Met	-	3 QC Batch:	QC21330	Date Analyzed:	6/24/0
Analysis. Analyst:	CG	Preparation Me		Prep Batch	•	Date Prepared:	6/24/0
Analyst.	UG	I reparation with	5000. 0000	r lep batel	I. FD20209	Date I Tepareu.	0/24/0
Param	Flag	Result		nits	Dilution		RD
GRO		12.5	mį	g/Kg	10	<u> </u>	0.10
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.11	mg/Kg	10	0.10	111	70 - 130
4-BFB		1.15	mg/Kg	10	0.10	115	70 - 130
Sample: Analysis: Analyst: Param	199916 BTEX CG	- EB N Wall C Analytical Method Preparation Metho Flag	$:$ \hat{S} 8021B	QC Batch: Prep Batch: Units		Date Analyzed: Date Prepared: ilution	6/24/0 6/24/0 RDI
Benzene		1 10g	<0.010	mg/Kg	U	10	0.00
Toluene			0.236	mg/Kg		10	0.00
Ethylbenze	ne		< 0.010	mg/Kg	÷	10	0.00
M,P,O-Xyle			< 0.010	mg/Kg		10	0.00
Total BTE			0.236	mg/Kg		10	0.00
					Spike	Percent	Recover
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
		0.801	mg/Kg	10	1	80	70 - 130
TFT 4-BFB	10	0.663	mg/Kg	10	1	66	70 - 130

⁹Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control. ¹⁰Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

E-58 LCW(te: June 26, 20 09)02		mber: A020624 zel Gathering	10	Page Numb I	per: 8 of 1 Eunice,NN
Sample:	199916 -	EB N Wall C	omp				
Analysis:	TPH DRO	Analytical Metho	-	015B QC Bate	h: QC21368	Date Analyzed:	6/25/02
Analyst:	MM	Preparation Meth		Prep Bat	•	Date Prepared:	6/25/02
v				I I I I I I I I I I I I I I I I I I I			- / /
Param	Flag	Result			Dilution	·	RDI
DRO		374	mg	/Kg	5		5(
~			TT		Spike	Percent	Recovery
Surrogate	Flag		Units	Dilution	Amount	Recovery	Limits
n-Triaconta	ine II	234	mg/Kg	5	150	156	70 - 130
Sample:	199916 -	EB N Wall C	omp				
Analysis:	TPH GRO	Analytical Meth	*	QC Batch:	QC21330	Date Analyzed:	6/24/0
Analyst:	CG	Preparation Me	thod: 5035	Prep Batch	-	Date Prepared:	6/24/0
Param	Flag	Result	1 Ir	nits	Dilution		RD
GRO	1 14g	7.75		/Kg	10		0.1
					G . 11		Ð
Sumarata	Flor	Result	Units	Dilution	Spike Amount	Percent	Recover
Surrogate	Flag 12	0.586				Recovery	Limits
TTT	14				0.10	50	70 120
		0.714	mg/Kg mg/Kg	10 10	0.10 0.10	59 71	70 - 130 70 - 130
4-BFB Sample: Analysis:	199917 - BTEX	0.714 • EB S Wall Co Analytical Method:	mg/Kg omp S 8021B	10 QC Batch:	0.10 QC21329	71 Date Analyzed:	70 - 130 6/24/0
4-BFB Sample: Analysis:	199917 - BTEX	0.714 • EB S Wall Co Analytical Method: Preparation Method	mg/Kg omp S 8021B	10	0.10 QC21329 PB20269	71 Date Analyzed: Date Prepared:	70 - 130 6/24/0
4-BFB Sample: Analysis: Analyst: Param	199917 - BTEX	0.714 • EB S Wall Co Analytical Method:	mg/Kg omp S 8021B d: S 5035 Result	10 QC Batch: Prep Batch: Units	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution	70 - 130 6/24/0 6/24/0 RD
4-BFB Sample: Analysis: Analyst: Param Benzene	199917 - BTEX	0.714 • EB S Wall Co Analytical Method: Preparation Method	mg/Kg omp S 8021B d: S 5035 Result <0.020	10 QC Batch: Prep Batch: Units mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20	70 - 130 6/24/0 6/24/0 RD 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene	199917 - BTEX CG	0.714 • EB S Wall Co Analytical Method: Preparation Method	mg/Kg S 8021B d: S 5035 <u>Result</u> <0.020 0.203	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20	70 - 130 6/24/0 6/24/0 RD2 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze	199917 - BTEX CG	0.714 • EB S Wall Co Analytical Method: Preparation Method	mg/Kg S 8021B d: S 5035 <u>Result</u> <0.020 0.203 <0.020	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20	70 - 130 6/24/0 6/24/0 RD2 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle	199917 - BTEX CG	0.714 • EB S Wall Co Analytical Method: Preparation Method	mg/Kg omp S 8021B d: S 5035 <u>Result</u> <0.020 0.203 <0.020 <0.020	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20 20 20	70 - 130 6/24/0 6/24/0 RD2 0.00 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE	199917 - BTEX CG ene ene X	0.714 • EB S Wall Co Analytical Method: Preparation Method	mg/Kg S 8021B d: S 5035 Result <0.020 0.203 <0.020 <0.020 0.203	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20 20 20 20	70 - 130 6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE	199917 - BTEX CG ene ene X	0.714 • EB S Wall Co Analytical Method: Preparation Method Flag	mg/Kg omp S 8021B d: S 5035 Result <0.020 0.203 <0.020 <0.020 <0.020	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20 20 20	70 - 130 6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00
TFT 4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE: Test Comm	199917 - BTEX CG ene ene X	0.714 • EB S Wall Co Analytical Method: Preparation Method Flag	mg/Kg S 8021B d: S 5035 Result <0.020 0.203 <0.020 <0.020 0.203	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20 20 20 1	70 - 130 6/24/0 6/24/0 RD2 0.00 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE: Test Comm	199917 - BTEX CG ene ene X hents	0.714 • EB S Wall Co Analytical Method: Preparation Method Flag 13	mg/Kg S 8021B d: S 5035 Result <0.020 0.203 <0.020 <0.020 0.203 *	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20 20 20 20 20 20 20 20 20 20 20	70 - 130 6/24/0 6/24/0 RD2 0.00 0.00 0.00 0.00 0.00 0.00
4-BFB Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze M,P,O-Xyle Total BTE	199917 - BTEX CG ene ene X	0.714 • EB S Wall Co Analytical Method: Preparation Method Flag	mg/Kg S 8021B d: S 5035 Result <0.020 0.203 <0.020 <0.020 0.203	10 QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	0.10 QC21329 PB20269 D	71 Date Analyzed: Date Prepared: ilution 20 20 20 20 20 1	

Sample: 199917 - EB S Wall Comp

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC21368	Date Analyzed:	6/25/02
Analyst:	MM	Preparation Method:	3550 B	Prep Batch:	PB20301	Date Prepared:	6/25/02

¹¹Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control. ¹²Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

¹³Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL.

E-58 LCW(Grizzel Gathering						
Param	Flag	Result	;	Unit	S	Dilution		RDI
DRO		160)	mg/ł	ζg	1		50
						Q- 11-	Descent	D
Surrogate	Flag	Result	Un	lits	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triaconta	-	160		/Kg	1	150	107	70 - 130
Sample:		EB S Wall	-					
Analysis:	TPH GRO	Analytical M		8015B	QC Batch:	QC21330	Date Analyzed:	6/24/0
Analyst:	CG	Preparation 1	vletnod:	5035	Prep Batch:	PB20269	Date Prepared:	6/24/0
Param	Flag	Result		Unit		Dilution		RD
GRO		<2.00)	mg/ł	Kg	20		0.1
						Spike	Percent	Recover
Surrogate	Flag	Result	Units	s	Dilution	Amount	Recovery	Limits
rfr.	14	0.674	mg/K	g	20	0.10	67	70 - 13
4-BFB	15	0.625						
Sample:	199918 -	EB Floor C	mg/K Comp	g	20	0.10	62	70 - 130
Sample: Analysis:	199918 - BTEX A		comp od: S a	g 8021B 5035	QC Batch: Prep Batch:	0.10 QC21329 PB20269	62 Date Analyzed: Date Prepared:	6/24/0
Sample: Analysis: Analyst: Param	199918 - BTEX A	EB Floor C	comp od: S & hod: S & Resu	8021B 5035 ılt	QC Batch: Prep Batch: Units	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution	6/24/0 6/24/0 RD
Sample: Analysis: Analyst: Param Benzene	199918 - BTEX A	EB Floor C Analytical Metho Preparation Met	comp od: S & hod: S & Resu <0.02	8021B 5035 Ilt 10	QC Batch: Prep Batch: Units mg/Kg	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution 10	6/24/0 6/24/0 RD 0.00
Sample: Analysis: Analyst: Param Benzene Toluene	199918 - BTEX A CG H	EB Floor C Analytical Metho Preparation Met	20mp od: S 2 hod: S 2 Resu <0.01 0.010	8021B 5035 Ilt 10 09	QC Batch: Prep Batch: Units mg/Kg mg/Kg	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution 10 10	6/24/0 6/24/0 RD 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze:	199918 - BTEX A CG F	EB Floor C Analytical Metho Preparation Met	20mp od: S 2 hod: S 2 <0.01 0.010 <0.02	8021B 5035 ilt 10 09 10	QC Batch: Prep Batch: Units mg/Kg	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution 10 10 10	6/24/0 6/24/0 RD 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	199918 - BTEX A CG F ne ene	EB Floor C Analytical Metho Preparation Met	Somp bd: S is hod: S is <0.01	8021B 5035 ilt 10 09 10 32	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution 10 10 10 10	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle	199918 - BTEX A CG F ne ene	EB Floor C Analytical Metho Preparation Met	20mp od: S 2 hod: S 2 <0.01 0.010 <0.02	8021B 5035 ilt 10 09 10 32	QC Batch: Prep Batch: Units mg/Kg mg/Kg	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution 10 10 10	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE:	199918 - BTEX <i>A</i> CG F ne ene X	EB Floor C Analytical Metho Preparation Met Flag	Comp od: S & hod: S & <0.01 0.010 (0.01 0.024	8021B 5035 ilt 10 09 10 32 41	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	QC21329 PB20269 Dil	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 Percent	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyla Total BTE2 Surrogate	199918 - BTEX A CG F ne ene	EB Floor C Analytical Metho Preparation Met Flag Result	Comp od: S & hod: S & (0.01 (0.01) 0.01 (0.02) 0.024	8021B 5035 1lt 10 09 10 32 41	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	QC21329 PB20269 Dil Spike Amount	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 Percent Recovery	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 Recover Limits
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE2 Surrogate TFT	199918 - BTEX <i>A</i> CG F ne ene X	EB Floor C Analytical Metho Preparation Metho Flag Result 0.958	Comp od: S & hod: S & Resu <0.01 0.01 0.02 Unit mg/K	8021B 5035 1lt 10 09 10 32 41 s 5g	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg 10	QC21329 PB20269 Dil Spike Amount 1	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 Percent Recovery 96	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 Recover Limits 70 - 13
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE: Surrogate TFT 4-BFB	199918 - BTEX A CG F ne ene X Flag	EB Floor C Analytical Metho Preparation Metho Flag Result 0.958 0.859	20mp od: S 8 hod: S 8 <0.01 0.010 <0.02 0.024 Unit mg/K mg/K	8021B 5035 1lt 10 09 10 32 41 s 5g	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg	QC21329 PB20269 Dil Spike Amount	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 Percent Recovery	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE: Surrogate TFT 4-BFB Sample:	199918 - BTEX A CG H ne ene X Flag 199918 -	EB Floor C Analytical Metho Preparation Metho Flag Result 0.958 0.859 EB Floor C	Comp bd: S & Resu <0.07 0.010 <0.01 0.024 Unit mg/K mg/K	8021B 5035 ilt 10 32 41 s 5 g 5 g	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg 10	QC21329 PB20269 Dil Spike Amount 1 1	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 10 10 96 86	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyle Total BTE:	199918 - BTEX A CG F ne ene X Flag	EB Floor C Analytical Metho Preparation Metho Flag Result 0.958 0.859	Comp bod: S & hod: S & end: S	8021B 5035 1lt 10 09 10 32 41 s 5g	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg 10	QC21329 PB20269 Dil Spike Amount 1 1	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 10 10 10 20 86 86 86 86 86	6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Sample: Analysis: Analyst: Param Benzene Toluene Ethylbenze: M,P,O-Xyla Total BTE2 Surrogate TFT 4-BFB Sample: Analysis:	199918 - BTEX A CG H ne ene X Flag 199918 - TPH DRO	EB Floor C Analytical Metho Preparation Metho Flag Result 0.958 0.859 EB Floor C Analytical Method	Comp bod: S & Resu <0.01 0.010 <0.02 Unit mg/K mg/K Mg/K Comp thod: ethod:	8021B 5035 1lt 10 29 10 32 41 s 5 5 g 5 g 5 g 5 g 5 g 5 g 5 g 5 g 5 g	QC Batch: Prep Batch: Units mg/Kg mg/Kg mg/Kg mg/Kg mg/Kg Dilution 10 10 10	QC21329 PB20269 Dil Spike Amount 1 1	Date Analyzed: Date Prepared: ution 10 10 10 10 10 10 10 10 20 86 86 86 86 86	70 - 130 6/24/0 6/24/0 RD 0.00 0.00 0.00 0.00 0.00 0.00 0.00

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14,14,14,14,14,14,14,14,14

¹⁴Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control. ¹⁵Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Report Dat E-58 LCW	te: June 26, 200 09)2	Order Number: A02062410 Grizzel Gathering				Page Number: 10 of 15 Eunice,NM		
Surrogate	Flag	Result	Unit	s	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
n-Triaconta	ne	145	mg/ŀ	ζg	1	150	97	70 - 130	
Sample: Analysis: Analyst:	199918 - TPH GRO CG	EB Floor Com Analytical Metho Preparation Metho	od: 8	8015B 5035	QC Batch: Prep Batch:	QC21330 PB20269	Date Analyzed: Date Prepared:	6/24/02 6/24/02	
Param	Flag	Result		Units	I	Dilution		RDL	
GRO		<1.00		mg/K	g	10	· · · · · · · · · · · · · · · · · · ·	0.10	
						Spike	Percent	Recovery	
Surrogate	Flag	Result	Units		Dilution	Amount	Recovery	Limits	
TFT			mg/Kg		10	0.10	81	70 - 130	
4-BFB		0.822 1	mg/Kg		10	0.10	82	70 - 130	

Order Number: A02062410 Grizzel Gathering

Quality Control Report Method Blank

Method Bl	ank	QCBatch:	QC21329				、
Param		Flag]	Results	Units	5	Reporting Limit
Benzene				< 0.010	mg/K		0.001
Toluene				< 0.010	mg/K		0.001
Ethylbenzene				< 0.010	mg/K		0.001
M,P,O-Xylene				<0.010	mg/K		0.001
Total BTEX	<u></u>		, 	<0.010	mg/K	-	0.001
					Spike	$\mathbf{Percent}$	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.10	mg/Kg	10	1	110	70 - 130
4-BFB		1.01	mg/Kg	10	1	101	70 - 130
Method Bl	lank	QCBatch:	QC21330				
Param		Flag	Rest	ılts	Units		Reporting Limit
GRÓ				<1	mg/Kg		0.10
		·····					
Company	Els -	Result	Units	Dilution	Spike	Percent	Recovery
Surrogate TFT	Flag	1.07			Amount	Recovery	Limits
4-BFB		0.943	mg/Kg mg/Kg	10 10	0.10	107	70 - 130
<u>4-Dr D</u>		0.943	mg/Kg	10	0.10	94	70 - 130
Method B	lank	QCBatch:	QC21368				
Param		Flag	Res	ulto.	Unite		Reporting
DRO		riag		60.0	Units mg/Kg		Limit 50
	<u> </u>		<u> </u>	······	mg/ Kg	-	00
	-				Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontane		152	mg/Kg	1	150	101	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

QCBatch: QC21329

Report Date: June 26, 2002 E-58 LCW09				Order Number: A02062410 Grizzel Gathering					Page Number: 12 of 15 Eunice,NM			
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit		
MTBE	1.12	1.1	mg/Kg	10	1	< 0.010	112	1	70 - 130	20		
Benzene	1.06	1.04	mg/Kg	10	1	< 0.010	106	1	70 - 130	20		
Toluene	1.03	1.02	mg/Kg	10	1	< 0.010	103	0	70 - 130	20		
Ethylbenzene				10	1	< 0.010	100	0	70 - 130	20		
M,P,O-Xylene				10	3	< 0.010	97	0	70 - 130	20		

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
$\overline{\mathrm{TF}}\overline{\mathrm{T}}$	1.07	1.07	mg/Kg	10	1	107	107	70 - 130
4-BFB	1.01	1.01	mg/Kg	10	1	101	101	70 - 130

Laboratory Control Spikes Q

QCBatch: QC21330

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	\mathbf{Result}	Result	Units	Dil.	Added	\mathbf{Result}	$\% { m Rec}$	RPD	Limit	Limit
GRO	< 1	< 1	mg/Kg	10	1	<1	91	0	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	$\begin{array}{c} \mathrm{LCS} \\ \mathrm{Result} \end{array}$	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{\%} \ \mathrm{Rec} \end{array}$	Recovery Limits
$\overline{\mathrm{TFT}}$	0.91	1.03	mg/Kg	10	0.10	91	103	70 - 130
4-BFB	0.918	0.918	mg/Kg	10	0.10	92	92	70 - 130

Laboratory Control Spikes QCBatch: QC21368

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
DRO	241	232	mg/Kg	1	250	<50.0	96	3	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

•	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	\mathbf{Result}	Units	Dilution	Amount	% Rec	% Rec	Limits
n-Triacontane	143	145	mg/Kg	1	150	95	97	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC21330

Report Date: June 26, 2002 E-58 LCW09				Order Number: A02062410 Grizzel Gathering					Page Number: 13 of 15 Eunice,NM		
Banam	MS Result	MSD Result	Units	D:1	Spike Amount Added	Matrix	07 Dec	חממ	% Rec	RPD Limit	
Param	nesun	Result	Omts	Dil.	Added	Result	% Rec	RPD	Limit	Limit	
$\frac{\text{GRO}}{1.03} < 1 \text{mg/Kg} 10$			10	1	<1.00	103	11	80 - 120	20		

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	$\% { m Rec}$	$\% { m Rec}$	Limits
TFT	16 0.323	1.03	mg/Kg	10	0.10	32	103	70 - 130
4-BFB	17 0.368	0.754	mg/Kg	10	0.10	37	75	70 - 130

Matrix Spikes QCBatch: QC21368

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
DRO	¹⁸ <500	¹⁹ <500	mg/Kg	10	250	160	-64	-200	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	$\% { m Rec}$	$\% { m Rec}$	Limits
n-Triacontane	166	314	mg/Kg	10	150	11	21	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV	(1)	
UUV I	1)	

QCBatch: QC21329

			CCVs True	CCVs Found	CCVs	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	·····	mg/L	0.10	0.107	107	85 - 115	6/24/02
Benzene		mg/L	0.10	0.105	105	85 - 115	6/24/02
Toluene		mg/L	0.10	0.103	103	85 - 115	6/24/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	6/24/02
M,P,O-Xylene		mg/L	0.30	0.294	98	85 - 115	6/24/02

CCV(2)

QCBatch: QC21329

¹⁶Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

¹⁷Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

¹⁸MS and MSD out of recovery limits due to matrix interference. LCS and LCSD show the process is in control.

¹⁹MS and MSD out of recovery limits due to matrix interference. LCS and LCSD show the process is in control.

Report Date: June 26, 2002 E-58 LCW09				umber: A02062 zel Gathering	Page Number: 14 of 15 Eunice,NM		
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.103	103	85 - 115	6/24/02
Benzene		mg/L	0.10	0.102	102	85 - 115	6/24/02
Toluene		mg/L	0.10	0.0993	99	85 - 115	6/24/02
Ethylbenzene		mg/L	0.10	0.098	98	85 - 115	6/24/02
M,P,O-Xylene		mg/L	0.30	0.284	94	85 - 115	6/24/02

ICV (1) QCBatch: QC21329

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{F} lag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.106	106	85 - 115	6/24/02
Benzene		m mg/L	0.10	0.105	105	85 - 115	6/24/02
Toluene		m mg/L	0.10	0.102	102	85 - 115	6/24/02
Ethylbenzene		$\mathrm{mg/L}$	0.10	0.099	99	85 - 115	6/24/02
M,P,O-Xylene		mg/L	0.30	0.288	96	85 - 115	6/24/02

CCV (1) QCBatch:

and second states of a

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ch: QC21330

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	0.931	93	85 - 115	6/24/02

CCV (2) QCBatch: QC21330

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	1.15	115	85 - 115	6/24/02

ICV (1) QCBatch: QC21330

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.14	114	85 - 115	6/24/02

CCV (1) QCBatch: QC21368

Report Date: E-58 LCW09		6, 2002		Number: A020 Grizzel Gatherir		Page Nu	mber: 15 of 15 Eunice,NM
_			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	256	102	75 - 125	6/25/02
CCV (2)		QCBatch:	QC21368				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	279	111	75 - 125	6/25/02
CCV (3)		QCBatch:	QC21368				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	239	95	75 - 125	6/25/02
ICV (1)		QCBatch:	QC21368				
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	231	92	75 - 125	6/25/02

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TraceAnalysis, Inc.

Report Date: July 16, 2002Order Number: A02071234 E-58 LCW09 Grizzel Gathering Page Number: 1 of 1 Eunice,NM

Summary Report

Craig Eschberger BNC-Midland P.O. Box 1271 Midland, Tx. 79702 Report Date: July 16, 2002

Order ID Number: A02071234

Project Number:	E-58 LCW09
Project Name:	Grizzel Gathering
Project Location:	Eunice,NM

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
201498	LIP 12'	Soil	7/11/02	;	7/12/02
201499	ESW 10'	Soil	7/11/02	:	7/12/02
201500	NWSW 11'	Soil	7/11/02	:	7/12/02
201501	WSW 11'	Soil	7/11/02	•	7/12/02
201502	NC SW 9'	Soil	7/11/02	:	7/12/02
201503	SSW 9'	Soil	7/11/02	. :	7/12/02
201504	Duplicate	Soil	7/11/02	:	7/12/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

			BTEX	<u> </u>		TPH DRO	TPH GRO
	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	DRO	GRO
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
201498 - LIP 12'	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	<50.0	<1
201499 - ESW 10'	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	<50.0	<1
201500 - NWSW 11'	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	5240	235
201501 - WSW 11'	< 0.010	< 0.010	0.0125	0.0148	0.0273	<50.0	15.3
201502 - NC SW 9'	< 0.010	< 0.010	0.0135	0.0943	0.108	<50.0	3.57
201503 - SSW 9'	< 0.010	< 0.010	0.0125	< 0.010	0.0125	<50.0	<1
201504 - Duplicate	< 0.020	< 0.020	0.723	1.28	2.00	2940	187

This is only a summary. Please, refer to the complete report package for quality control data.

MULTRACEANALYSIS, INC. MULTULA MULTULA

6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com 806•794•1296 915•585•3443

FAX 806•794•1298 FAX 915•585•4944

Analytical and Quality Control Report

Craig Eschberger BNC-Midland P.O. Box 1271 Midland, Tx. 79702 Report Date:

July 16, 2002

Order ID Number: A02071234

Project Number:E-58 LCW09Project Name:Grizzel GatheringProject Location:Eunice,NM

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
201498	LIP 12'	Soil	7/11/02	:	7/12/02
201499	ESW 10'	Soil	7/11/02	:	7/12/02
201500	NWSW 11'	Soil	7/11/02	:	7/12/02
201501	WSW 11'	Soil	7/11/02	:	7/12/02
201502	NC SW 9'	Soil	7/11/02	:	7/12/02
201503	SSW 9'	Soil	7/11/02	:	7/12/02
201504	Duplicate	Soil	7/11/02	:	7/12/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 13 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Dat E-58 LCW()9		Griz	zel Gathering		Eunice,NN	
<u>.</u>			Analyti	cal Report	;		<u> </u>
Sample:	201498	- LIP 12'					
Analysis: Analyst:		Analytical Method Preparation Metho		QC Batch: Prep Batch:	QC21860 PB20692	Date Analyzed: Date Prepared:	7/12/02 7/12/02
Param		Flag	Result	Units	D	ilution	RDI
Benzene			< 0.010	mg/Kg		10	0.00
Toluene			< 0.010	mg/Kg		10	0.00
Ethylbenzer			< 0.010	mg/Kg		10	0.00
M,P,O-Xyle			< 0.010	mg/Kg		10	,0.00
Total BTEX	<u> </u>		<0.010	mg/Kg		10	0.00
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.14	mg/Kg	10	1	114	70 - 130
4-BFB		1.06	mg/Kg	10	1	106	70 - 130
		- LIP 12'	od Mod 8	015B OC Bate		4 Date Analyzed	7/15/0
Analysis: Analyst:	TPH DRO MM	Analytical Meth Preparation Met	thod: 3550 B	Prep Ba	tch: PB2074	•	7/15/0
Analysis: Analyst: Param	TPH DRO	Analytical Meth Preparation Met Result	bod: 3550 B	Prep Ba	tch: PB2074 Dilution	•	7/15/0 RDI
Analysis: Analyst: Param	TPH DRO MM	Analytical Meth Preparation Met	bod: 3550 B	Prep Ba	tch: PB2074	•	7/15/0 RDI
Analysis: Analyst: Param	TPH DRO MM	Analytical Meth Preparation Met Result	bod: 3550 B	Prep Ba	tch: PB2074 Dilution	•	7/15/0 RDI
Sample: Analysis: Analyst: Param DRO	TPH DRO MM Flag	Analytical Meth Preparation Met Result <50.0	hod: 3550 B	Prep Ba nits /Kg	tch: PB2074 Dilution 1 Spike	9 Date Prepared: Percent	7/15/0 7/15/0 RDI 50 Recover
Analysis: Analyst: Param DRO Surrogate	TPH DRO MM Flag Fla	Analytical Meth Preparation Met <u>Result</u> <50.0	hod: 3550 B Units	Prep Ba hits /Kg Dilution	tch: PB2074 Dilution 1 Spike Amount	9 Date Prepared: Percent Recovery	7/15/0 RDJ 5 Recover Limits
Analysis: Analyst: Param DRO	TPH DRO MM Flag Fla	Analytical Meth Preparation Met Result <50.0	hod: 3550 B	Prep Ba nits /Kg	tch: PB2074 Dilution 1 Spike	9 Date Prepared: Percent	7/15/0 RDI 50 Recover
Analysis: Analyst: Param DRO Surrogate n-Triaconta Sample: Analysis:	TPH DRO MM Flag Fla	Analytical Meth Preparation Met <u>Result</u> <50.0	chod: 3550 B Un Units mg/Kg	Prep Ba hits /Kg Dilution 1	tch: PB2074 Dilution 1 Spike Amount 150 QC21861	9 Date Prepared: Percent Recovery	7/15/0 RDJ 5 Recover Limits
Analysis: Analyst: Param DRO Surrogate n-Triacontai Sample: Analysis: Analyst:	TPH DRO MM Flag Fla re 201498 TPH GRO CG	Analytical Meth Preparation Met Result <50.0 ag Result 154 - LIP 12' Analytical Met Preparation M	chod: 3550 B Units mg/Kg chod: 8015B ethod: 5035	Prep Ba hits /Kg Dilution 1 QC Batch: Prep Batch	tch: PB2074 Dilution 1 Spike Amount 150 QC21861 : PB20692	9 Date Prepared: Percent Recovery 103 Date Analyzed:	7/15/0 RDI 5 Recover Limits 70 - 130 7/12/0 7/12/0
Analysis: Analyst: Param DRO Surrogate n-Triacontat Sample: Analysis: Analysis: Param	TPH DRO MM Flag Fla Fla PH GRO	Analytical Meth Preparation Met Result <50.0 og Result 154 - LIP 12' Analytical Met	chod: 3550 B Units mg/Kg chod: 8015B ethod: 5035 Un	Prep Ba hits /Kg Dilution 1 QC Batch: Prep Batch	tch: PB2074 Dilution 1 Spike Amount 150 QC21861	9 Date Prepared: Percent Recovery 103 Date Analyzed:	7/15/0 RDI 5 Recover Limits 70 - 130 7/12/0 7/12/0 RDI
Analysis: Analyst: Param DRO Surrogate n-Triacontat Sample: Analysis: Analysis: Param	TPH DRO MM Flag Fla re 201498 TPH GRO CG	Analytical Meth Preparation Met Result <50.0 ag Result 154 - LIP 12' Analytical Met Preparation M Result	chod: 3550 B Units mg/Kg chod: 8015B ethod: 5035 Un	Prep Ba hits /Kg Dilution 1 QC Batch: Prep Batch hits	tch: PB2074 Dilution 1 Spike Amount 150 QC21861 : PB20692 Dilution	9 Date Prepared: Percent Recovery 103 Date Analyzed:	7/15/0 RDI 5 Recover Limits 70 - 130 7/12/0 7/12/0 RDI
Analysis: Analyst: Param DRO Surrogate n-Triaconta Sample: Analysis: Analyst: Param GRO	TPH DRO MM Flag Fla Plag TPH GRO CG Flag	Analytical Meth Preparation Met <u>Result</u> <50.0 bg Result 154 - LIP 12' Analytical Met Preparation M <u>Result</u> <1	hod: 3550 B Units mg/Kg thod: 8015B ethod: 5035 Un mg	Prep Bannits /Kg Dilution 1 QC Batch: Prep Batch hits /Kg	tch: PB2074 Dilution 1 Spike Amount 150 QC21861 PB20692 Dilution 10 Spike	9 Date Prepared: Percent Recovery 103 Date Analyzed: Date Prepared: Percent	7/15/0 RDI 5 Recover Limits 70 - 130 7/12/0 7/12/0 RDI 0.10 Recover
Analysis: Analyst: Param DRO Surrogate n-Triaconta Sample: Analysis: Analyst: Param GRO Surrogate	TPH DRO MM Flag Fla re 201498 TPH GRO CG	Analytical Meth Preparation Met <u>Result</u> 					

Report Dat E-58 LCW	te: July 17, 5 09	2002		mber: A0207123 zel Gathering	34	Page Num	per: 3 of 13 Eunice,NM
Sample: Analysis: Analyst:	201499 BTEX CG	- ESW 10' Analytical Method: Preparation Method	S 8021B l: S 5035	QC Batch: Prep Batch:	QC21860 PB20692	Date Analyzed: Date Prepared:	7/12/02 7/12/02
Param		Flag	Result	Units	Dil	ution	RDL
Benzene			< 0.010	mg/Kg		10	0.001
Toluene			< 0.010	mg/Kg		10	0.001
Ethylbenzer	ne		< 0.010	mg/Kg		10	0.001
M,P,O-Xyle			< 0.010	mg/Kg		10	0.001
Total BTE			< 0.010	mg/Kg		10	. 0.001
					A 11	D	
~				D 11	Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.08	mg/Kg	10	1	108	70 - 130
4-BFB		1.01	mg/Kg	10	1	101	70 - 130
Sample: Analysis: Analyst:	201499 TPH DRC MM	- ESW 10' Analytical Metho Preparation Meth		15B QC Bate Prep Bat	•	Date Analyzed: Date Prepared:	7/15/02 7/15/02
Param	Flag		Un	lits	Dilution		RDL
DRO		<50.0	mg	/Kg		·	50
Surrogate n-Triaconta		ag Result	Units mg/Kg	Dilution	Spike Amount 150	Percent Recovery 101	Recovery Limits 70 - 130
					100		
Sample: Analysis: Analyst:	201499 TPH GRO CG	- ESW 10' Analytical Meth Preparation Met		QC Batch: Prep Batch:	QC21861 PB20692	Date Analyzed: Date Prepared:	7/12/02 7/12/02
Param	Flag	Result	Un	its	Dilution		RDL
GRO		<1	mg	/Kg	10		0.10
	·····	<u></u>	# <u></u>				
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	2	1.41	mg/Kg	10	0.10	141	70 - 130
<u>4-BFB</u>		0.821	mg/Kg	10	0.10	82	70 - 130
Sample:		- NWSW 11'					
Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC21860	Date Analyzed:	7/12/02
Analyst:	CG	Preparation Method	l: S 5035	Prep Batch:	PB20692	Date Prepared:	7/12/02
Analyst.		·····		Trop Baton.	1 220002		tinued

²High TFT due to peak interference.

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Report Date E-58 LCW0		2002		umber: A0207123 zzel Gathering	4	Page Num	per: 4 of 1 Eunice,NN
Continued	d Sample:		sis: BTEX				
'aram		Flag	Result	Units	D	ilution	RDI
aram		Flag	Result	Units	D	ilution	RDI
enzene			< 0.020	mg/Kg		20	0.00
oluene			<0.020	mg/Kg		20	0.00
thylbenzene	0		< 0.020	mg/Kg		20	0.00
I,P,O-Xylen			< 0.020	mg/Kg		20	0.00
otal BTEX			< 0.020	mg/Kg		20	0.00
est Comme		3	<0.020 *	mg/Kg		1	0.00
		. <u></u>			<u> </u>	·	<u> </u>
					Spike	Percent	Recover
urrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
FT		0.918	mg/Kg	20	1	92	70 - 130
BFB	4	6.73	mg/Kg	20	1	673	70 - 130
ample: nalysis:	201500 TPH DRO			015B QC Bate	h: QC21924	Date Analyzed:	7/15/0
nalyst:	MM	Preparation 1	Method: 3550 B	Prep Bat	ch: PB20749	Date Prepared:	7/15/0
aram	Flag	Resi			Dilution		RD
RO		52	40 mg	g/Kg	10		5
					Spike	Percent	Recover
urrogate	Fla	ag Result	Units	Dilution	Amount	Recovery	Limits
Triacontan	ie	⁵ 464	mg/Kg	10	150	309	70 - 130
	201500 TPH GRO CG Flag	Preparation Resu	Method: 8015E Method: 5035 Ilt U	Prep Batch:	QC21861 PB20692 Dilution 20	Date Analyzed: Date Prepared:	7/12/0 7/12/0
no		<u> </u>	50 IIIE	5/ ILB	20		0.1
					Spike	Percent	Recover
urrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
FT	6	0.636	mg/Kg	20	0.10	Recovery 64	Limits 70 - 130
FT						· · · · · · · · · · · · · · · · · · ·	70 - 130
FT -BFB Sample:	6	0.636 16.8	mg/Kg	20	0.10	64	

⁴High surrogate recovery due to peak interference. ⁵Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control. ⁶Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁷High surrogate recovery due to peak interference.

RD 0.00 0.00 0.00 0.00 Lecover Limits 70 - 13 70 - 13 70 - 13
0.00 0.00 0.00 Lecover Limits 0 - 13 0 - 13 7/15/0
0.00 0.00 0.00 Lecover Limits 0 - 13 70 - 13
0.00 0.00 Lecover Limits 0 - 13 70 - 13
0.00 Lecover Limits 0 - 13 70 - 13
0.00 Lecover Limits 0 - 13 70 - 13
Lecover Limits 70 - 13 70 - 13 7/15/0
Limits 70 - 13 70 - 13 7/15/0
70 - 13 70 - 13 7/15/0
70 - 13 7/15/0
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7/12/0
7/12/0
RD
0.1
ecover
Limits
0 - 13
0 - 13
Zec Lin 7/1 7/1

⁸High surrogate due to peak interference.

Report Date E-58 LCW09		002		umber: A020712 zzel Gathering	34	Page Numl	per: 6 of 13 Eunice,NM
Continued	d Sample:	201502 Analysis	: BTEX				
Param		Flag	Result	Units	Dilı	ition	RDL
Total BTEX			0.108	mg/Kg]	.0	0.001
	**			0/_0			
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.983	mg/Kg	10	1	98	70 - 130
4-BFB		0.948	mg/Kg	10	1	95	70 - 130
Sample:	201502 -	- NC SW 9'					
	TPH DRO	Analytical Met	nod: Mod. 8	015B QC Bate	ch: QC21924	Date Analyzed:	7/15/02
•	MM	Preparation Me		•	•	Date Prepared:	7/15/02
Param	Flag	Result	U	nits	Dilution		RDL
DRO		<50.0	mg	g/Kg	1		50
					Spike	Percent	Recovery
Surrogate	Fla	g Result	Units	Dilution	Amount	Recovery	Limits
n-Triacontan		152	mg/Kg	1	150	101	70 - 130
v	TPH GRO CG Flag	- NC SW 9' Analytical Me Preparation M Result 3.57	fethod: 5035 U	B QC Batch: Prep Batch nits g/Kg	QC21861 : PB20692 Dilution 10	Date Analyzed: Date Prepared:	7/12/02 7/12/02 <u>RDL</u> 0.10
				5/0			
Surrogate	Flag 9	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	9	1.35	mg/Kg	10	0.10	135	70 - 130
<u>4-BFB</u>		0.810	mg/Kg	10	0.10	81	70 - 130
	BTEX	- SSW 9' Analytical Metho Preparation Meth		QC Batch: Prep Batch:	QC21860 PB20692	Date Analyzed: Date Prepared:	7/12/02 7/12/02
		-		-		-	
Param		Flag	Result	Units		ition	RDL
Benzene			< 0.010	mg/Kg		0	0.001
Toluene Ethylbonzon	.		< 0.010	mg/Kg mg/Kg		.0	0.001
Ethylbenzene M,P,O-Xylen			0.0125 < 0.010	mg/Kg mg/Kg		.0	0.001
	ie		< 0.010	mg/Kg	j	.0	0.001
Total BTEX			0.0125	mg/Kg		.0	0.001

⁹High surrogate due to peak interference.

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Report Dat E-58 LCW	te: July 17, 2 09			umber: A020712 zel Gathering		Page Num	ber: 7 of 13 Eunice,NM
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
r FT	<u>v</u>	0.984	mg/Kg	10	1	98	70 - 130
4-BFB			mg/Kg	10	. 1	88	70 - 130
Sample: Analysis: Analyst:	201503 TPH DRO MM	- SSW 9' Analytical Method Preparation Meth		015B QC Bat Prep Ba	•	•	7/15/02 7/15/02
Param	Flag	Result	U	nits	Dilution		RDL
DRO		<50.0	mg	/Kg	1		50
						· · · · · · · · · · · · · · · · · · ·	
Surrogate	Fla	ng Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triaconta		154	mg/Kg	1	150	103	70 - 130
Sample:		- SSW 9'					
Analysis:	TPH GRO	Analytical Meth	od: 8015B	QC Batch:	QC21861	Date Analyzed:	7/12/02
Analyst:	CG	Preparation Met	hod: 5035	Prep Batch	1: PB20692	Date Prepared:	7/12/02
_							
Param	Flag	Result		nits	Dilution		RDL
GRO	·	<1	mg	/Kg	10		0.10
						~	
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT	10	1.34	mg/Kg	10	0.10	134	70 - 130
4-BFB		0.748	mg/Kg	10	0.10	75	70 - 130
Sample: Analysis: Analyst:	201504 BTEX CG	- Duplicate Analytical Method: Preparation Method	S 8021B : S 5035	QC Batch: Prep Batch:	QC21860 PB20692	Date Analyzed: Date Prepared:	7/12/02 7/12/02
-	00	-				_	
Param Benzene		Flag	Result <0.020	Units		Pilution 20	RDL 0.001
Benzene Toluene			<0.020 <0.020	mg/Kg mg/Kg		20 20	0.001
Toluene Ethylbenzei	na		< 0.020 0.723			20 20	0.001
M,P,O-Xyle			1.28	mg/Kg		20 20	0.001
Total BTE			1.28 2.00	mg/Kg		20 20	
Test Comm		11	2.00	mg/Kg mg/Kg		20 1	0.001
					<u>,</u>		····
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	T. TOR		mg/Kg	20	1 Amount	100	70 - 130
T BULL							

¹⁰High surrogate due to peak interference. ¹¹Sample diluted due to hydrocarbons beyond xylenc. Sample has a Benzene concentration of less than 0.01183 which is the MDL.

E-58 LCW	te: July 17, 200 09)2	Oı		er: A0207123 Gathering	4	Page Number: 8 of 1 Eunice,NN		
		_		_		Spike	Percent	Recovery	
Surrogate	Flag	Result	Units		vilution	Amount	Recovery	Limits	
4-BFB	BFB ¹² 5.		mg/Kg	5	20	1	541	70 - 130	
Sample: Analysis:	TPH DRO	Duplicate Analytical Metho		Aod. 8015		-	v	7/15/02	
Analyst:	MM	Preparation Met	nod: 3	550 B	Prep Bat	ch: PB20749	Date Prepared:	7/15/02	
Param	Flag	Result	sult Units			Dilution		RDL	
DRO		2940	2940 mg/Kg			10		50	
Surrogate	Flag		Uni	its	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
						-			
Surrogate n-Triaconta		Result 407	Uni mg/		Dilution 10	-			
n-Triaconta Sample: Analysis:	ne ¹³		mg/ hod:			Amount 150 QC21861	Recovery	Limits 70 - 130 7/12/02	
	ne 13 201504 - TPH GRO	407 Duplicate Analytical Met	mg/ hod:	Kg 8015B	10 QC Batch: Prep Batch:	Amount 150 QC21861	Recovery 271 Date Analyzed:		
n-Triaconta Sample: Analysis: Analyst: Param	ne 13 201504 - TPH GRO CG	407 Duplicate Analytical Met Preparation Me	mg/ hod:	Kg 8015B 5035	10 QC Batch: Prep Batch:	Amount 150 QC21861 PB20692	Recovery 271 Date Analyzed:	Limits 70 - 130 7/12/02 7/12/02 RDL	
n-Triaconta Sample: Analysis: Analyst: Param GRO	ne 13 201504 - TPH GRO CG Flag	407 Duplicate Analytical Met Preparation Me Result 187	mg/ hod: ethod:	Kg 8015B 5035 Units mg/Kg	10 QC Batch: Prep Batch:	Amount 150 QC21861 PB20692 Dilution 20 Spike	Recovery 271 Date Analyzed: Date Prepared: Percent	Limits 70 - 130 7/12/02 7/12/02 RDL 0.10 Recovery	
n-Triaconta Sample: Analysis: Analyst: Param	ne 13 201504 - TPH GRO CG	407 Duplicate Analytical Met Preparation Me Result	mg/ hod:	Kg 8015B 5035 Units mg/Kg	10 QC Batch: Prep Batch:	Amount 150 QC21861 PB20692 Dilution 20	Recovery 271 Date Analyzed: Date Prepared:	Limits 70 - 130 7/12/02 7/12/02	

¹²High surrogate recovery due to peak interference. ¹³Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control. ¹⁴High surrogate recovery due to peak interference.

Quality Control Report Method Blank

Method B	lank	QCBatch:	QC21860				
							Reporting
Param		Flag		Results	Units		Limit
Benzene				<0.010	mg/K		0.001
Toluene				<0.010	mg/K	g	0.001
Ethylbenzene				< 0.010	mg/K	g	0.001
M,P,O-Xylene				< 0.010	mg/K	g	0.001
Total BTEX				<0.010	mg/K	g	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.10	mg/Kg	10	1	110	70 - 130
4-BFB		1.04	mg/Kg	10	1	104	70 - 130
Method B	lank	QCBatch:	QC21861				
							Reporting
Param		Flag	Rest	ılts	Units		Limit
GRO	· · · · · · · · · · · · · · · · · · ·			<1	mg/Kg		0.10
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
TFT		1.02	mg/Kg	10	0.10	102	70 - 130
4-BFB		0.844	mg/Kg	10	0.10	84	70 - 130
Method B	lank	QCBatch:	QC21924				
Param		Flag	Rest	ilte	Units		Reporting Limit
DRO	······································	1 105		0.0	mg/Kg		<u> </u>
	<u> </u>						
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
		157	mg/Kg	1	150	104	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

Report Date: J E-58 LCW09			Number: A02 izzel Gather	Page Number: 10 of 13 Eunice,NM						
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.06	0.797	mg/Kg	10	1	< 0.010	106	28	70 - 130	20
Benzene	1.05	1.05	mg/Kg	10	1	< 0.010	105	0	70 - 130	20
Toluene	1.04	1.04	mg/Kg	10	1	< 0.010	104	0	70 - 130	20
Ethylbenzene	1.04	1.02	mg/Kg	10	1	< 0.010	104	1	70 - 130	20
M,P,O-Xylene	3.01	2.87	mg/Kg	10	3	< 0.010	100	4	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	$\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
TFT	1.04	1.06	mg/Kg	10	1	104	106	70 - 130
4-BFB	1.02	0.7	mg/Kg	10	1	102	70	70 - 130

Laboratory Control Spikes

QCBatch: QC21861

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% \mathrm{Rec}$	RPD	Limit	Limit
GRO	10.4	9.42	mg/Kg	10	1	<1	104	9	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	% Rec	$\% { m Rec}$	Limits
TFT	1.07	0.968	mg/Kg	10	0.10	107	97	70 - 130
4-BFB	0.848	0.832	mg/Kg	10	0.10	85	83	70 - 130

Laboratory Control Spikes QCBatch: QC21924

					Spike					
	\mathbf{LCS}	LCSD			Amount	Matrix			$\% \mathrm{Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	Result	$\% { m Rec}$	RPD	Limit	Limit
DRO	278	279	mg/Kg	1	250	<50.0	111	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
n-Triacontane	162	162	mg/Kg	1	150	108	108	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC21860

Report Date: Ju E-58 LCW09	2			Number: A02 izzel Gather	Page Number: 11 of 13 Eunice,NM					
Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.934	0.935	mg/Kg	10	1	< 0.010	93	0	70 - 130	20
Toluene	0.936	0.947	mg/Kg	10	1	< 0.010	93	1 .	70 - 130	20
Ethylbenzene	0.959	0.97	mg/Kg	10	1	0.0102	94	1	70 - 130	20
M,P,O-Xylene	2.75	2.78	mg/Kg	10	3	0.0124	91	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.94	0.944	mg/Kg	10	1	94	94	70 - 130
4-BFB	0.916	0.928	mg/Kg	10	1	91	92	70 - 130

Matrix Spikes QCBatch: QC21861

					Spike					
	MS	MSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	Units	Dil.	Added	Result	% Rec	RPD	Limit	Limit
GRŌ	10.9	11.5	mg/Kg	10	1	<1	109	5	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD	_		Spike	MS	MSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	% Rec	% Rec	Limits
TFT	1.17	1.17	mg/Kg	10	0.10	117	117	70 - 130
4-BFB	0.805	0.864	mg/Kg	10	0.10	80	86	70 - 130

Matrix Spikes QCBatch:

					Spike					
	MS	MSD			Amount	Matrix			$\% { m Rec}$	RPD
Param	Result	Result	Units	Dil.	Added	\mathbf{Result}	$\% \ { m Rec}$	RPD	Limit	Limit
DRO	236	184	mg/Kg	1	250	<50.0	94	25	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

QC21924

	MS	MSD			Spike	MS	MSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	% Rec	$\% { m Rec}$	Limits
n-Triacontane	145	153	mg/Kg	1	150	97	102	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV(1)

QCBatch: QC21860

Report Date: Ju E-58 LCW09	ly 16, 2002			umber: A02072 zel Gathering		Page Nu	mber: 12 of 13 Eunice,NM
			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	\mathbf{F} lag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE		mg/L	0.10	0.104	104	85 - 115	7/12/02
Benzene		mg/L	0.10	0.105	105	85 - 115	7/12/02
Toluene		mg/L	0.10	0.105	105	85 - 115	7/12/02
Ethylbenzene		mg/L	0.10	0.104	104	85 - 115	7/12/02
M,P,O-Xylene		mg/L	0.30	0.298	99	85 - 115	7/12/02

CCV (2) QCBatch: QC21860

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	<u></u>	mg/L	0.10	0.102	102	85 - 115	7/12/02
Benzene		$\mathrm{mg/L}$	0.10	0.103	103	85 - 115	7/12/02
Toluene		mg/L	0.10	0.102	102	85 - 115	7/12/02
Ethylbenzene		mg/L	0.10	0.102	102	85 - 115	7/12/02
M,P,O-Xylene		mg/L	0.30	0.293	97	85 - 115	7/12/02

ICV (1) QCBatch:

h: QC21860

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
MTBE	· · ·	mg/L	0.10	0.0764	76	85 - 115	7/12/02
Benzene		mg/L	0.10	0.105	105	85 - 115	7/12/02
Toluene		mg/L	0.10	0.104	104	85 - 115	7/12/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	7/12/02
M,P,O-Xylene		mg/L	0.30	0.280	93	85 - 115	7/12/02

CCV (1) QCBatch: QC21861

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	1.08	108	85 - 115	7/12/02

ICV (1)

QCBatch: QC21861

		· ·	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	0.886	88	85 - 115	7/12/02

Eunice,NM	Page Nur		Number: A020 rizzel Gatherin	, 2002		Report Date: July 16, 2002 E-58 LCW09 CCV (1) QCBatch:			
				QC21924	QCBatch:		CCV (1)		
	Percent	CCVs	CCVs	CCVs					
Date	Recovery	Percent	Found	True					
Analyzeo	Limits	Recovery	Conc.	Conc.	\mathbf{Units}	Flag	aram		
7/15/02	75 - 125	108	269	250	mg/Kg		ORO		
	·								
				QC21924	QCBatch:		CCV(2)		
	Percent	CCVs	CCVs	CCVs					
Date	Recovery	Percent	Found	True					
Analyzeo	Limits	Recovery	Conc.	Conc.	Units	Flag	Param		
7/15/02	75 - 125	106	265	250	mg/Kg	·	DRO		
	Percent Recovery Limits 75 - 125	CCVs Percent Recovery 106	CCVs Found Conc. 267	QC21924 CCVs True Conc. 250	QCBatch: Units mg/Kg	Flag	CCV (3)		
Analyzed	Recovery	Percent	Found	CCVs True	Units mg/Kg		()		
Analyzec 7/15/02	Recovery Limits 75 - 125 Percent	Percent Recovery 106 CCVs	Found Conc. 267 CCVs	CCVs True Conc. 250 QC21924 CCVs	Units mg/Kg		Param DRO		
Analyzed 7/15/02 Date	Recovery Limits 75 - 125 Percent Recovery	Percent Recovery 106 CCVs Percent	Found Conc. 267 CCVs Found	CCVs True Conc. 250 QC21924 CCVs True	Units mg/Kg QCBatch:	Flag	Param DRO ICV (1)		
Analyzec 7/15/02	Recovery Limits 75 - 125 Percent	Percent Recovery 106 CCVs	Found Conc. 267 CCVs	CCVs True Conc. 250 QC21924 CCVs	Units mg/Kg		Param DRO		

BNC ENVIRONMENTIK 915/686-0086 Sulting Company Address: MINLANID Sulting Company Address: MINLANID Sulting Contact: CAPAILO ESCHBERCOLL Incident # CPIZECI CONTHEBING Incident # NA- Sulting Contact: Corcle or Specify Method No.) Sulting Contact: Corcle of Specify Method No.) Sulting Contact: Sulting Contact: Corcle of Specify Method No.) Sulting Contact: Sulting Contact: Sulting Contact: Sulting Conta	Tranches		T	C					Lu	lbbock	, Texas i					. (CHA										2	RE	QUE	ST	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	
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TraceAnalysis, Inc.

Report Date: June 26, 2002Order Number: A02062410 E-58 LCW09 Grizzel Gathering

Summary Report

Report Date:

June 26, 2002

Order ID Number:

A02062410

Lanny Woods Equiva Lanny Woods HCR 1 Box 89 Denver City, Tx. 79323

Project: E-58 TA Job Code: Grizzel Gathering E-58 LCW09 Casualty Code: Project Location: Eunice,NM Project Address: BNC-Midland / Midland / Craig Eschberger

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
199910	EA E Wall Comp	Soil	6/22/02	13:35	6/22/02
199911	EA W Wall Comp.	Soil	6/22/02	13:40	6/22/02
199912	EA N Wall Comp.	Soil	6/22/02	13:45	6/22/02
199913	EA Floor Comp.	Soil	6/22/02	13:50	6/22/02
199914	EB E Wall Comp	Soil	6/22/02	14:00	6/22/02
199915	EB W Wall Comp	Soil	6/22/02	14:05	6/22/02
199916	EB N Wall Comp	Soil	6/22/02	14:10	6/22/02
199917	EB S Wall Comp	Soil	6/22/02	14:15	6/22/02
199918	EB Floor Comp	Soil	6/22/02	14:20	6/22/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

				· · · · · · · · · · · · · · · · · · ·	TPH DRO	TPH GRO		
	Benzene	TolueneE	thylbenzene	Fest Comments	DRO	GRO		
Sample - Field Code	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)
199910 - EA E Wall Comp	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	* 1	778	4.99
199911 - EA W Wall Comp.	< 0.010	0.0369	0.0102	0.0232	0.0703	-	186	2.71
199912 - EA N Wall Comp.	< 0.020	0.109	0.0281	0.1638	0.301	* 2	722	30.7
199913 - EA Floor Comp.	< 0.010	0.0147	0.0154	0.0257	0.0558	-	568	13.9
199914 - EB E Wall Comp	< 0.010	0.0153	0.017	0.0442	0.0765	-	973	7.18
199915 - EB W Wall Comp	<0.010	0.154	0.0274	0.0701	0.252	-	1340	12.5
199916 - EB N Wall Comp	< 0.010	0.236	< 0.010	< 0.010	0.236	-	374	7.75
199917 - EB S Wall Comp	< 0.020	0.203	< 0.020	< 0.020	0.203	* 3	160	<2.00
199918 - EB Floor Comp	< 0.010	0.0109	< 0.010	0.0132	0.0241		<50.0	<1.00

¹Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concentration of less than 0.00473 which is the MDL. ²Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL. ³Sample diluted due to hydrocarbons beyond xylene. Sample has a Benzene concenntration of less than 0.00473 which is the MDL.

Lubbock, TX 79424-1515

Report Date: July 26, 2002Order Number: A02072510 E-58 LCW09 Grizzel Gathering

Summary Report

Craig Eschberger BNC-Midland P.O. Box 1271 Midland, Tx. 7970	2		Report Date: Order ID Number:	July 26, 2002 A02072510
Project Number: Project Name: Project Location:	E-58 LCW09 Grizzel Gathering Eunice,NM	Date	Time	Date

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
202709	NSW2 @ 11'	Soil	7/24/02	11:00	7/25/02

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

	TPH DRO	TPH GRO
	DRO	GRO
Sample - Field Code	(ppm)	(ppm)
202709 - NSW2 @ 11'	<50.0	<1



6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H Lubbock, Texas 79424 800•378•1296 El Paso, Texas 79932 888•588•3443 E-Mail: lab@traceanalysis.com

806•794•1296 915•585•3443 FAX 806•794•1298 FAX 915•585•4944

Analytical and Quality Control Report

Craig Eschberger BNC-Midland P.O. Box 1271 Midland, Tx. 79702 Report Date:

July 26, 2002

Order ID Number: A02072510

Project Number:E-58 LCW09Project Name:Grizzel GatheringProject Location:Eunice,NM

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
202709	NSW2 @ 11'	Soil	7/24/02	11:00	7/25/02

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 4 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample:	202709 - 1	NSW2 @ 11'					
Analysis:	TPH DRO	Analytical Method:	Mod. 80151	B QC Batch	: QC22256	Date Analyzed:	7/25/02
Analyst:	MM	Preparation Method	: 3550 B	Prep Batc	h: PB21023	Date Prepared:	7/25/02
Param	Flag	Result	Units	D	ilution		RDL
DRO		<50.0	mg/Kg	5	1		50
_					Spike	Percent	Recovery
Surrogate	Flag	Result		Dilution	Amount	Recovery	Limits
n-Triaconta	ine	162	mg/Kg	1	150	108	70 - 130
	202700	NSW2 @ 11'					
Analysis:	TPH GRO	NSW2 @ 11' Analytical Method Propagation Method		QC Batch:	QC22240	Date Analyzed:	
Analysis:				QC Batch: Prep Batch:	QC22240 PB21008	Date Analyzed: Date Prepared:	
Analysis: Analyst:	TPH GRO	Analytical Method		Prep Batch:	•	•	7/25/02
Analysis: Analyst:	TPH GRO CG	Analytical Method Preparation Method	od: 5035	Prep Batch: D	PB21008	•	7/25/02 7/25/02 RDL 0.10
Analysis: Analyst: Param	TPH GRO CG	Analytical Method Preparation Metho Result	od: 5035 Units	Prep Batch: D	PB21008 Pilution 10	Date Prepared:	7/25/02 RDI 0.10
Analysis: Analyst: Param GRO	TPH GRO CG Flag	Analytical Method Preparation Method Result <1	od: 5035 Units mg/K _f	Prep Batch: D	PB21008 vilution 10 Spike	Date Prepared:	7/25/02 RDI 0.10 Recovery
Surrogate	TPH GRO CG	Analytical Method Preparation Method Result <1	od: 5035 Units mg/Kg Units D	Prep Batch: D S	PB21008 vilution 10 Spike Amount	Date Prepared: Percent Recovery	7/25/02 RDI 0.10 Recovery Limits
Analysis: Analyst: Param GRO	TPH GRO CG Flag	Analytical Method Preparation Method Result <1 Result U 0.71 m	od: 5035 Units mg/K _f	Prep Batch: D	PB21008 vilution 10 Spike	Date Prepared:	7/25/02 RDL 0.10 Recovery

Order Number: A02072510 Grizzel Gathering

Quality Control Report Method Blank

Method 1	Blank	QCBatch:	QC22240				
Param	····	Flag	Resi		Units	<u></u>	Reporting Limit
GRO				<1	mg/Kg		0.10
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.949	mg/Kg	10	0.10	95	70 - 130
4-BFB		0.975	mg/Kg	10	0.10	97	70 - 130
Method	Blank	QCBatch:	QC22256				
							Reporting
Param		Flag	Rest	ults	Units		Limit
DRO	-		<5	0.0	mg/Kg		50
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontan	.e	170	mg/Kg	1	150	113	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC22240

					Spike					
	LCS	LCSD			Amount	Matrix			% Rec	RPD
Param	Result	Result	\mathbf{Units}	Dil.	Added	Result	% Rec	RPD	Limit	Limit
GRO	11.1	10.4	mg/Kg	10	1	<1	111	6	80 - 120	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

-	LCS	LCSD			Spike	LCS	LCSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	% Rec	$\% \mathrm{Rec}$	Limits
TFT	1.03	1.04	mg/Kg	10	0.10	103	104	70 - 130
4-BFB	1.07	1.07	mg/Kg	10	0.10	107	107	70 - 130

Laboratory Control Spikes

QCBatch: QC

QC22256

-	Report Date: July 26, 2002 E-58 LCW09			Order Number: A02072510 Grizzel Gathering					Page Number: 4 of 4 Eunice,NM		
Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit	
DRO	312	300	mg/Kg	1	250	<50.0	125	4	70 - 130	20	

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

_	LCS	LCSD	.		Spike	LCS	LCSD	Recovery
Surrogate	Result	Result	Units	Dilution	Amount	% Rec	% Rec	Limits
n-Triacontane	170	162	mg/Kg	1	150	1133	1080	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1	L)	QCBatch:	QC22240			,	
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	0.991	99	85 - 115	7/25/02

ICV(1)	QCBatch:	QC22240
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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1	1.08	108	85 - 115	7/25/02

CCV(1)	QCBatch:
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			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	297	119	75 - 125	7/25/02

QC22256

ICV(1)	QCBatch:	QC22256
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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	301	120	75 - 125	7/25/02

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