

January 12, 2011

Mr. Mike Bratcher **Environmental Engineer Specialist** Oil Conservation Division, District 2 1301 West Grand Avenue Artesia, New Mexico 88210

Work Plan for the COG Operating LLC., Big George 8" Line, Unit Re: N, Section 8, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Big George 8" Line, Unit N. Section 8, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.84204°, W 104.09789°. The site location is shown on Figures 1 and 2.

## Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on June 10, 2010, and released approximately eighty (80) barrels of produced water due to a plugged 8" SWD line rupturing. To alleviate the problem, COG personnel repaired the line and returned the ine to service. Twenty (20) barrels of standing fluids were recovered from the spill area. The spill initiated from the SWD line impacting an area approximately 50' x 350' along a lease road. The initial C-141 form is enclosed in Appendix A.

#### Groundwater

No water wells were listed within Section 8. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 80' below surface. The water report data is shown in Appendix B.



## Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

## Soil Assessment and Analytical Results

Prior to sampling, the impacted area had been scraped by COG and the soil hauled to proper disposal. On June 22, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for all auger holes (AH-1 through AH-6), with chloride concentrations ranging from <200 mg/kg to 18,400 mg/kg. Auger holes (AH-1, AH-4 and AH-6) were vertically defined and AH-2, AH-3 and AH-5 bottom hole samples at 5-5.5' showed chloride concentrations of 892 mg/kg, 982 mg/kg, and 812 mg/kg, respectively.

### Work Plan

In order to remediate the site, COG proposes to excavate the impacted soils. The proposed excavation depths are highlighted (green) in Table 1 and shown in Figure 4. In order to remediate the site, COG proposes to excavate the impacted soils. The goal of the remediation is to establish surface growth and to reduce the environmental liabilities for the protection of the groundwater. Concerns exist regarding the excavation plan. Since the impacted area is in the native sand dunes, the proposed



excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the depths are not reached, a 40 mil liner will be installed at depth of 4' to 5' below surface to cap the impacted area.

The deepest impact was encountered near AH-1 and will be excavated to an approximate depth of 6' below surface. The remaining areas will be excavated to depths from 1' to 4' below surface. Once excavated to the appropriate depths, the areas of AH-2, AH-3, and AH-5 will be trenched with a backhoe to define the chloride vertical extents.

All excavated material will be transported to proper disposal. Once excavation is complete, the site will be backfilled with clean material. Upon completion a final report will be submitted to the NMOCD.

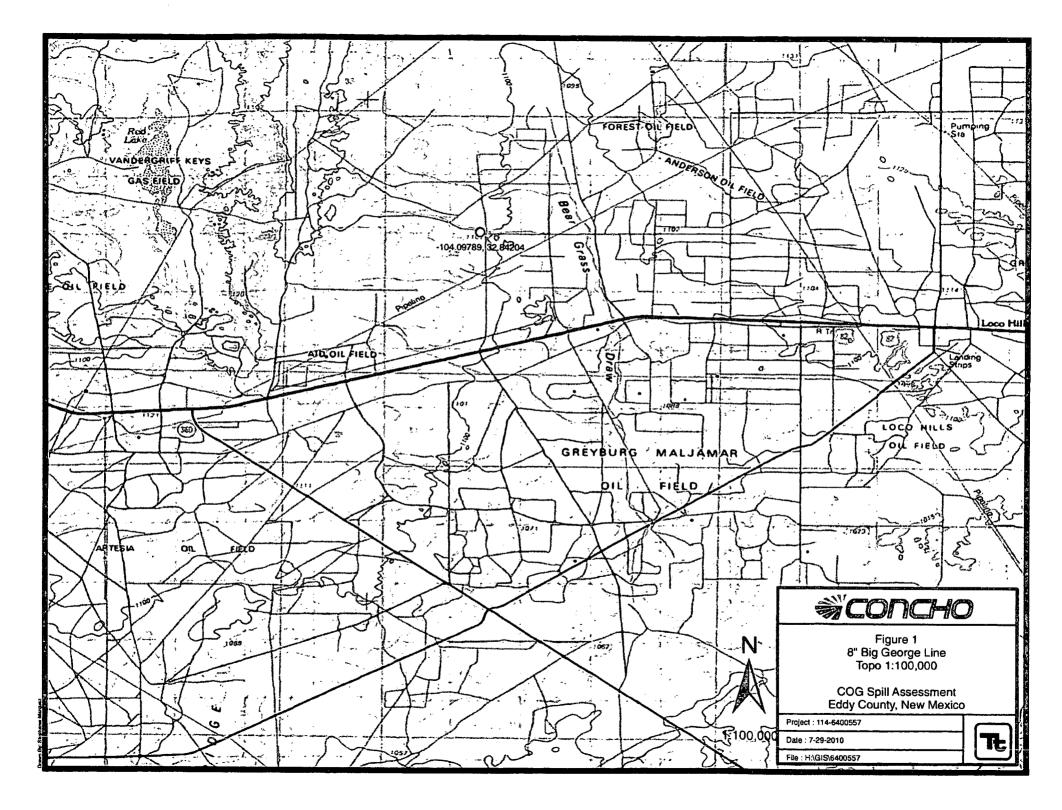
If you have any questions or require any additional information regarding this work plan proposal, please call me at (432) 682-4559.

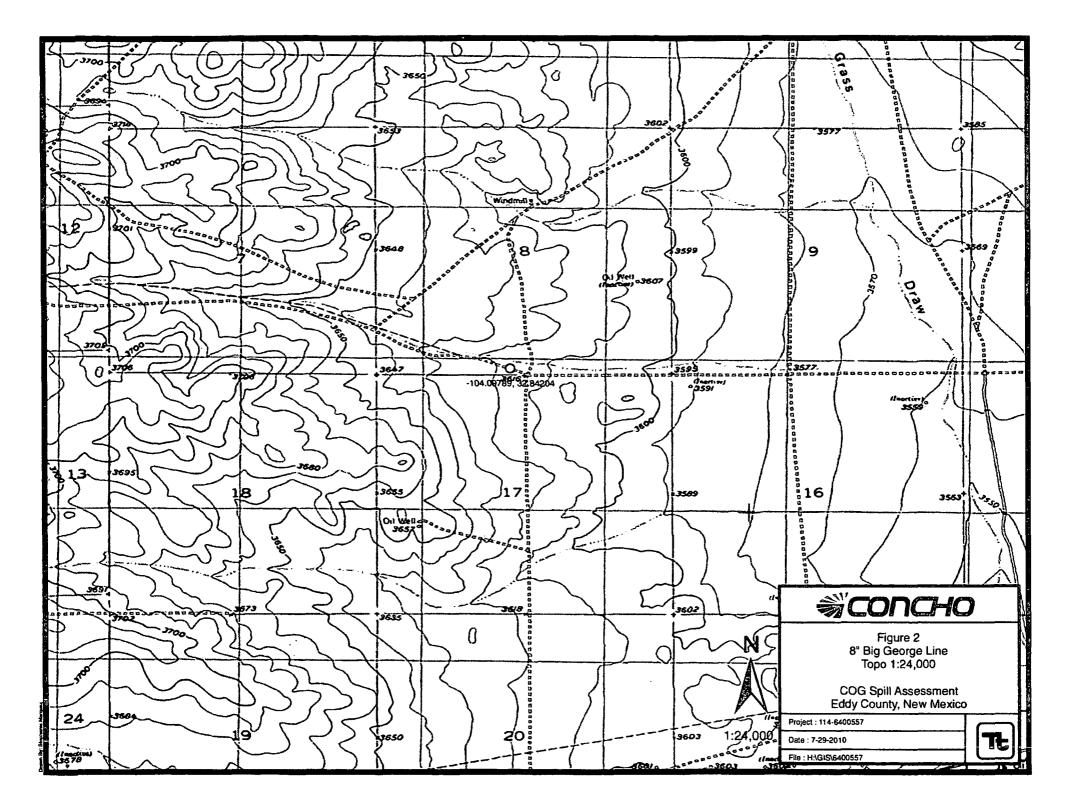
Respectfully submitted,

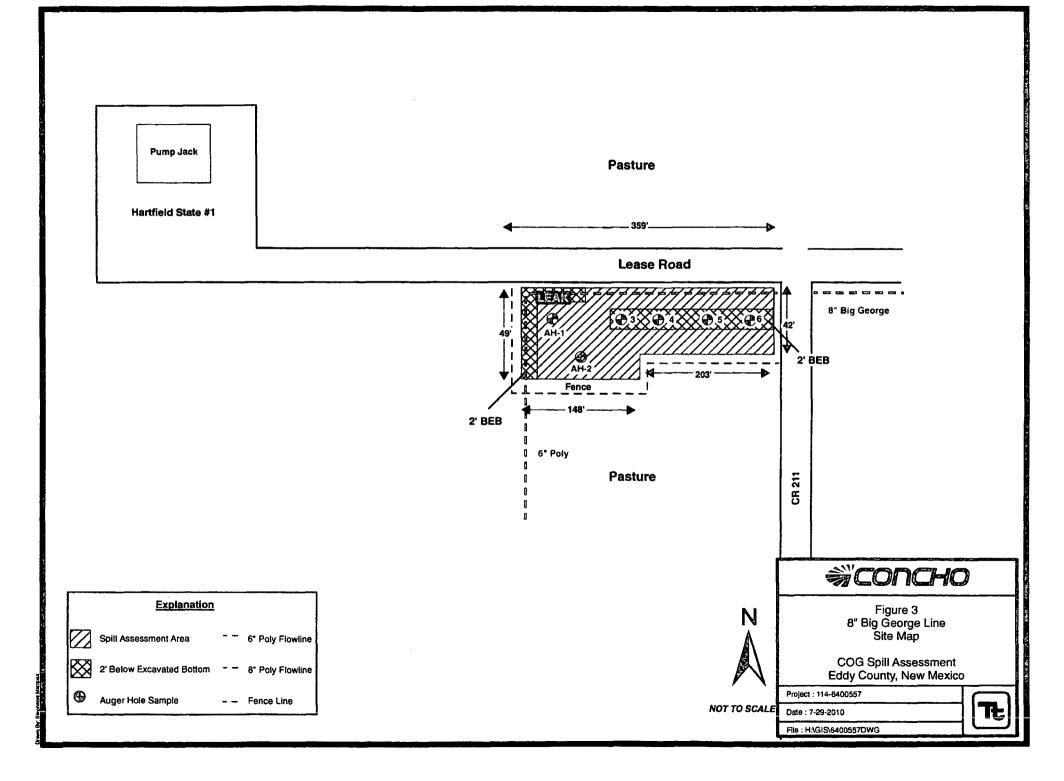
**TETRA TECH** 

Kim Dorey Staff Geologist

cc: Pat Ellis - COG







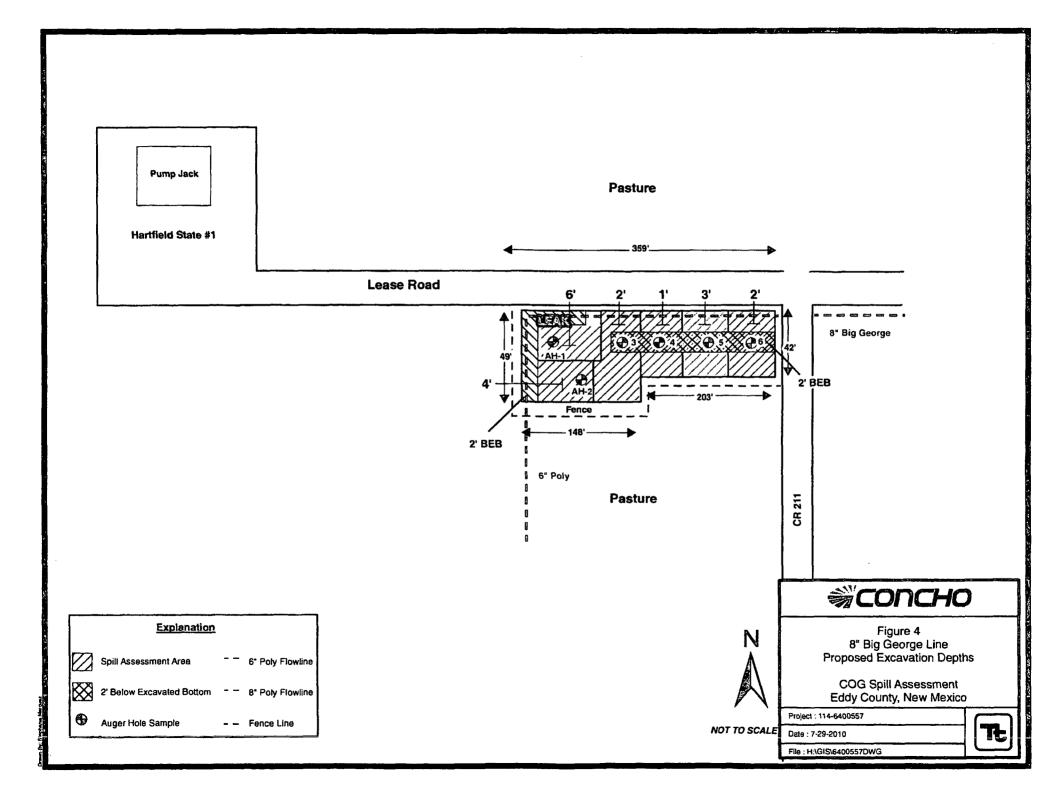


Table 1
COG Operating LLC.
Big George Line Leak
Eddy COUNTY, NEW MEXICO

Sample	Sample	Sample	Depth	Soi	Status	TF	PH (mg/	kg)	Benzene	Toluene	Ethlybenzene	Xylene	BTEX	Chloride
ID	Date	Depth (ft)	(BEB)	In-Situ	Removed	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Total	(mg/kg)
AH-1	6/22/10	0-1'	1'	Х		<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	11800
	н	1-1.5'	1'	Х	•	-	-	-	•	-	-	-		14500
	. a	2-2.5'	1'	Х		-	-	-	-	•	-	-	-	18400
	и	3-3.5	1' '	Х		-	-	•		-	-	-	•	17900
	ь	4-4.5'	1'	Х		-	-	-	•	-		-	÷	15000
	U	5-5.5'	1'	Х		-	•	-	-		-	-	•	14200
	и	6-6.5'	. 1'	Х		-	,	-	-	•	-	•		13200
	u	7-7.5'	1'	Х		-		-	-	-	-	-	•	914
	н	8-8.5'	1'	Х		-	-	-	-	•	-	•	-	485
	н	9-9.5'	1'	Х		-	-	-	•	-	<u>-</u>	-	-	257
AH-2	6/22/10	0-1'	1'	×		<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	17100
	u	1-1.5'	1'	Х		-	-	-	-	-	-	-	•	16200
	п	2-2.5'	1'	Х		-	-	-	-	-	-	-	•,	13300
	и	3-3.5'	1'	Х		-	-	-	-	•	-	•	-	10100
	а	4-4.5	1'	Х		-	-	-	-	-	-	-	•	6470
	"	5 <b>-</b> 5.5'	1'	Х		-	-	-	-	-	-	-	*	892
АН-3	6/22/10	0-1'	2'	Х		<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	5480
	11	1-1.5'	2'	X		-	-	-	-	•	-	-	-	1290
	и	2-2.5'	2'	Х		-	-	-	-	-	-	-	-	1780
		3-3.5	2'	X		-	-	-	•	-	-	-	-	<400
	u	4-4.5'	2'	Х		-		-	-	-	-	-		<400
	11	5-5.5'	2'	Х		-	-	*	-	-	-	-	-	982

Table 1
COG Operating LLC.
Big George Line Leak
Eddy COUNTY, NEW MEXICO

Sample	Sample	Sample	Depth	Soi	Status	TI	PH (mg/	/kg)	Benzene	Toluene	Ethlybenzene	Xylene	BTEX	Chloride
ID	Date	Depth (ft)		In-Situ	Removed	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Total	(mg/kg)
AH-4	6/22/10	0-1'	2'	Х		<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	3970
	а	1-1.5'	2'	Х		-	-	-	-	-	-	-	-	<200
	1)	2-2.5'	2'	Х		-	-	-	-		•	-	-	<200
	n	3-3.5'	2'	Х		-		-	-	-	•	-	-	213
	n	4-4.5'	2'	Х	<del></del> -	-	-	-	-	-	-	-	•	<200
	ls .	5-5.5'	2'	Х		-	-	-	-	-	•	-	-	<200
	ti	6-6.5'	2'	Х		-		-	-	-	-	-	-	594
	я	7-7.5'	2'	Х			-	-	-	-	-	-	-	<200
AH-5	6/22/10	0-1'	2'	Х		<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	13100
	ti	1-1.5'	2'	Х	-	-	-	-	•	-	-	-	-	13200
	11	2-2.5'	2'	Х		-	-	-			-	-	•	13300
	н	3-3.5'	2'	Х		-	-	-	-	-	-	-	-	7790
	п	4-4.5'	2'	Х		-	-	-	-	-	-	-	-	495
	Ħ	5-5.5'	2'	Х		-	-		-	•	-	-	-	812
AH-6	6/22/10	0-1'	2'	Х		<50.0	<2.00	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.02	12500
	0	1-1.5'	2'	Х		-	-	-	-	•	-	-	•	5940
	В	2-2.5'	2'	Х		-	-	-	-	•	•	-	_	792
	ıt	3-3.5'	2'	Х		-	-	-	-	-	-	-	•	401

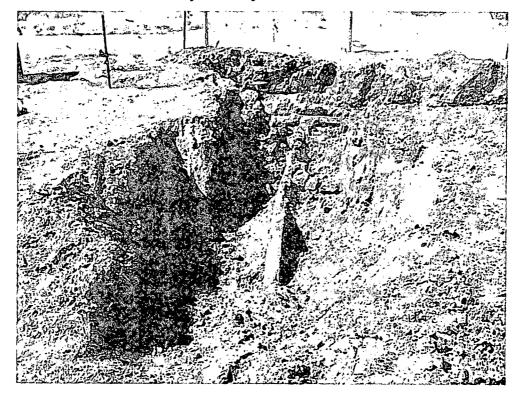
BEB Below Excavation Bottom

(--) Not Analyzed

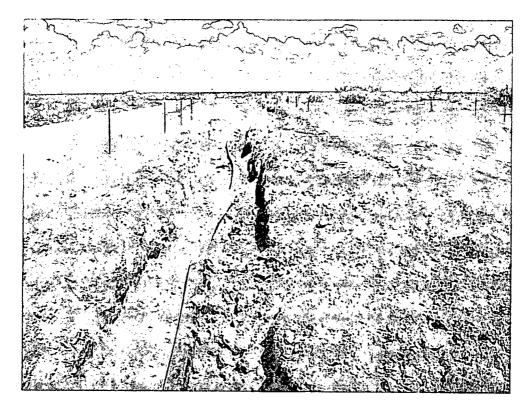
Proposed excavated material

## COG Operating LLC Big George 8" Line Eddy County, New Mexico





View north - source 6/22/10

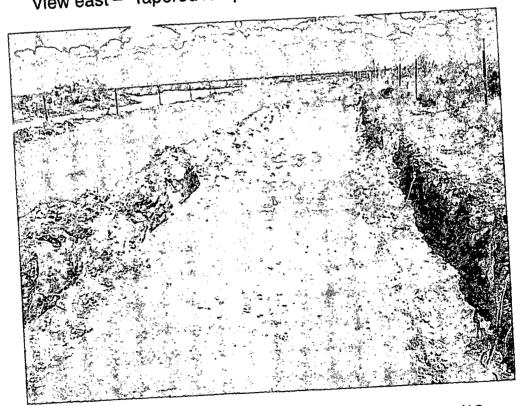


View west - 8" line exposed for repairs 6/22/10

## COG Operating LLC Big George 8" Line Eddy County, New Mexico



View east - Tapered ramp of initial excavation clean up



View east - 2' excavation from initial cleanup 6/22/10

District 1
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe. NM 87505 Form C-141 Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

7220 D. D. TIAN				Sa	unta F	e, NM 875	05				3746 07 101111
	10 1 20 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Rele	ease Notific	atio	n and Co	rrective A	ction			##************************************
						OPERA'	ГOR	⊠ Init	ial Report		Final Repor
Name of Co	עוומטווע	COG OP	ERATIN	G LLC	T	Contact	Pa	at Ellis	<u> </u>		<u> </u>
Address				dland, TX 7970	1	Telephone 1		230-0077			
Facility Nat			EORGE			Facility Typ		WD			
						- 11-11-11					
Surface Ow	ner S	tate	<del></del>	Mineral (	Owner		<del></del>	Lease	No. API#	30-01	5-28759
				LOCA	ATIO	N OF RE	LEASE				
Unit Letter	Section	Township	Range	Feet from the	North	/South Line	Feet from the	East/West Line	County	17.1.1.	
N	8	178	29E		ļ					Eddy	
	<u>-1 </u>			Latitude 32	50 544	Longit	ide 104 05.886	L			
						J					
Type of Rele	no ca D	roduced Wate	or	NAT	URE	OF REL	EASE Release 80bbls	Volume	Recovered	20bb	.le
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Source of Re	.ica.ic	o men me				06/10/201		06/10/20		:00 a.r	~
Was Immedi	ate Notice (					If YES, To					
Į		$\boxtimes$	Yes	No 🗌 Not R	equired	-		Mike Bratcher—	OCD		
By Whom?	Josh R	usso				Date and I	Hour 06/11/2010	9:22	a.m.		
Was a Water	course Read			-	·	If YES, V	olume Impacting t	he Watercourse.			
		L	Yes 🗵	3 No							
If a Waterco	urse was lm	pacted, Desci	ribe Fully.	*					·····		
		•	·								
	<u> </u>			77 1					····		
Describe Car	use of Probl	em and Remo	edial Actic	n laken.*							
The S inch B	lig George S	SWD line was	nlugged.	causing it to rupt	ure. Th	e line was imi	nediately repaired	and put back into	service.		
	.6		11-831								
Describe Are	ea Affected	and Cleanup	Action Ta	ken.*							
1-1-1-10-10-10-1	المسالم معالما		a mulanua f	irom tha O inah Di	a C	na lina 11/a		2066		774	i
							ere able to recover #1, Unit N, Sec. 8-				
							Il site area to delin				
							significant remedi				
								***************************************			
							knowledge and u				
regulations a	iii operators	ropmont Th	to report a	nd/or the certain	reicase	houncations a	ind perform correct narked as "Final R	ctive actions for re	diana tha an	n may	endanger of liability
should their	operations l	have failed to	adequatel	v investigate and	remedi:	ite contaminat	ion that pose a th	eat to ground wat	er surface w	eater F	uman health
							ve the operator of				
		ws and/or reg						,			
							OIL CON	SERVATION	I DIVISI	ON	
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Signature:				$\leftarrow$							
Printed Nam	ie:	Josi	h Russo			Approved by	y District Supervis	sor:			
						Amanaral D		Euminut'-	. Dota:		
Title:		FISE	Coordinate	<sup>11</sup>		Approval Da	nc.	Expiration	i Date:		
E-mail Addr	ess:	jrusso@con	choresour	ces.com		Conditions of	of Approval;		Auache	d m	

Phone:

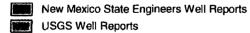
432-212-2399

Date: 06/17/2010

<sup>\*</sup> Attach Additional Sheets If Necessary

# Water Well Data Average Depth to Groundwater (ft) COG - Big George Eddy County, New Mexico

	16	South	:	28 East			16	South		29 East			16	South	3	30 East	
i	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14	13
9	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
0	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
1	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	36
	17 9	South	<u></u> .	28 East		<u> </u>	17 5	South		9 East		<u> </u>	17	South		30 East	
,	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
	В	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
8	17	16	15	14	13	18	SITE 17	16	15	14	13	18	17	16	15	14	13
9	20	21	22 79	23	24	19	20	21	22	23	24	19	20	21	22	23	24
0	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
1	32	33	34 53	35	36	31	32	33	34	35	36	31	32	33	34	35	36
	18.9	South		28 East	<del></del>	<u> </u>	18 9	South		9 East		<del></del>	1.0	South		30 East	
1	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
-	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14	13
9	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
0	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
1	32	33	34	35 65	36	31	32	33	34	35	36	31	32	33	34	35	36



Report Date: July 2, 2010 Work Order: 10062809 Page Number: 1 of 7

## **Summary Report**

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

Report Date: July 2, 2010

Work Order: 10062809

Project Location: Eddy County, NM

Project Name: COG/Big George Line Leaf

Project Number: 114-6400557

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
235970	AH-1 0-1'	soil	2010-06-22	00:00	2010-06-25
235971	AH-1 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235972	AH-1 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235973	AH-1 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235974	AH-1 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235975	AH-1 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235976	AH-1 6-6.5'	soil	2010-06-22	00:00	2010-06-25
235977	AH-1 7-7.5'	soil	2010-06-22	00:00	2010-06-25
235978	AH-1 8-8.5'	soil	2010-06-22	00:00	2010-06-25
235979	AH-1 9-9.5'	soil	2010-06-22	00:00	2010-06-25
235980	AH-2 0-1'	soil	2010-06-22	00:00	2010-06-25
235981	AH-2 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235982	AH-2 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235983	AH-2 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235984	AH-2 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235985	AH-2 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235986	AH-3 0-1'	soil	2010-06-22	00:00	2010-06-25
235987	AH-3 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235988	AH-3 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235989	AH-3 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235990	AH-3 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235991	AH-3 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235992	AH-4 0-1'	soil	2010-06-22	00:00	2010-06-25
235993	AH-4 1-1.5'	soil	2010-06-22	00:00	2010-06-25
235994	AH-4 2-2.5'	soil	2010-06-22	00:00	2010-06-25
235995	AH-4 3-3.5'	soil	2010-06-22	00:00	2010-06-25
235996	AH-4 4-4.5'	soil	2010-06-22	00:00	2010-06-25
235997	AH-4 5-5.5'	soil	2010-06-22	00:00	2010-06-25
235998	AH-4 6-6.5'	soil	2010-06-22	00:00	2010-06-25
235999	AH-4 7-7.5'	soil	2010-06-22	00:00	2010-06-25

Report Date: July 2, 2010 Work Order: 10062809 Page Number: 2 of 7

			Date	Time	Date
Sample	Description	Matrix	$\mathbf{Taken}$	Taken	Received
236000	AH-5 0-1'	soil	2010-06-22	00:00	2010-06-25
236001	AH-5 1-1.5'	soil	2010-06-22	00:00	2010-06-25
236002	AH-5 2-2.5'	soil	2010-06-22	00:00	2010-06-25
236003	AH-5 3-3.5'	soil	2010-06-22	00:00	2010-06-25
236004	AH-5 4-4.5'	soil	2010-06-22	00:00	2010-06-25
236005	AH-5 5-5.5'	soil	2010-06-22	00:00	2010-06-25
236006	AH-6 0-1'	soil	2010-06-22	00:00	2010-06-25
236007	AH-6 1-1.5'	soil	2010-06-22	00:00	2010-06-25
236008	AH-6 2-2.5'	soil	2010-06-22	00:00	2010-06-25
236009	AH-6 3-3.5	soil	2010-06-22	00:00	2010-06-25

			BTEX		TPH DRO - NEW	TPH GRO
	Benzene	Xylene	DRO	GRO		
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
235970 - AH-1 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
235980 - AH-2 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
235986 - AH-3 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
235992 - AH-4 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
236000 - AH-5 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
236006 - AH-6 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00

Sample: 235970 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		 11800	mg/Kg	4.00

Sample: 235971 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		14500	mg/Kg	4:00

Sample: 235972 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		18400	mg/Kg	4.00

Sample: 235973 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		17900	mg/Kg	4.00

Sample: 235974 - AH-1 4-4.5'

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

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

Report Date: July	2, 2010	Work Order: 10062809	Page	Number: 3 of 7
Param	$\mathbf{Flag}$	Result	Units	RL
Chloride		15000	mg/Kg	4.00
Sample: 235975 -	- AH-1 5-5.5'			
Param	Flag	Result	Units	RL
Chloride		14200	mg/Kg	4.00
Sample: 235976 -	- AH-1 6-6.5'			
Param	Flag	Result	Units	RL
Chloride		13200	mg/Kg	4.00
Sample: 235977 -	- AH-1 7-7.5'	, ·		
Param	Flag	$\mathbf{Result}$	Units	RL
Chloride		914	mg/Kg	4.00
Sample: 235978 -	- AH-1 8-8.5'			
Param	Flag	Result	Units	RL
Chloride		485	mg/Kg	4.00
Sample: 235979 -	- AH-1 9-9.5'			
Param	Flag	Result	Units	RL
Chloride		257	mg/Kg	4.00
Sample: 235980	- AH-2 0-1'			
Param	Flag	Result	Units	RL
Chloride		17100	mg/Kg	4.00
Sample: 235981	- AH-2 1-1.5'			
Param	Flag	Result	Units	RL
Chloride		16200	mg/Kg	4.00

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Sample: 235982 - A	AH-2 2-2.5'			•
Param	Flag	Result	Units	RL
Chloride		13300	mg/Kg	4.00
Sample: 235983 - A	AH-2 3-3.5'			
Param	Flag	Result	Units	RL
Chloride		10100	mg/Kg	4.00
Sample: 235984 - A	AH-2 4-4.5'			ı
Param	Flag	Result	Units	RL
Chloride		6470	mg/Kg	4.00
Sample: 235985 - A	AH-2 5-5.5'			
Param	Flag	Result	Units	RL
Chloride		892	mg/Kg	4.00
Sample: 235986 - A	AH-3 0-1'			
Param	Flag	Result	Units	RL
Chloride		5480	mg/Kg	4.00
Sample: 235987 - A	AH-3 1-1.5'			
Param	Flag	Result	Units	RL
Chloride		1290	mg/Kg	4.00
Sample: 235988 - A	AH-3 2-2.5'			
Param	Flag	Result	Units	RL
Chloride		1780	mg/Kg	4.00
Sample: 235989 - A	AH-3 3-3.5'			
Param	Flag	Result	Units	RL
Chloride		<400	mg/Kg	4.00

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Sample: 235990 - AH	I-3 4-4.5'			
Param	Flag	Result	Units	RL
Chloride		<400	mg/Kg	. 4.00
Sample: 235991 - AH	I-3 5-5.5'			
Param	Flag	Result	Units	RL
Chloride		982	mg/Kg	4.00
Sample: 235992 - AF	H-4 0-1'			
Param	Flag	Result	Units	RL
Chloride		3970	mg/Kg	4.00
Sample: 235993 - AF	H-4 1-1.5'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00
Sample: 235994 - AF	H-4 2-2.5'			
Param	Flag	Result	Units	RL
Chloride ·		<200	mg/Kg	4.00
Sample: 235995 - AF	H-4 3-3.5'			
Param	Flag	Result	Units	RL
Chloride		213	mg/Kg	4.00
Sample: 235996 - AI	I-4 4-4.5'		•	
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00
Sample: 235997 - AF	H-4 5-5.5'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

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Sample: 235998 - AH-4 6-6.5'				
Param Flag	Result	Units	RL	
Chloride	594	mg/Kg	4.00	
Sample: 235999 - AH-4 7-7.5'				
Param Flag	Result	Units	RL	
Chloride	<200	mg/Kg	4.00	
Sample: 236000 - AH-5 0-1'				
Param Flag	Result	Units	RL	
Chloride	13100	mg/Kg	4.00	
Sample: 236001 - AH-5 1-1.5'				
Param Flag	Result	Units	RL	
Chloride	13200	mg/Kg	4.00	
Sample: 236002 - AH-5 2-2.5'				
Param Flag	Result	Units	RL	
Chloride	13300	mg/Kg	4.00	
Sample: 236003 - AH-5 3-3.5'			,	
Param Flag	Result	Units	RL	
Chloride	7790	mg/Kg	4.00	
Sample: 236004 - AH-5 4-4.5'				
Param Flag	Result	Units	RL	
Chloride	495	mg/Kg	4.00	
Sample: 236005 - AH-5 5-5.5'				
Param Flag	Result	Units	RL	
Chloride	812	mg/Kg	4.00	

Sample: 236006 - AH-6 0-1'         Param       Flag       Result       Units         Chloride       12500       mg/Kg         Sample: 236007 - AH-6 1-1.5'       Param       Flag       Result       Units         Chloride       5940       mg/Kg         Sample: 236008 - AH-6 2-2.5'       Param       Flag       Result       Units         Chloride       792       mg/Kg	Page Number: 7 of 7		Work Order: 10062809	Report Date: July 2, 2010	
Chloride       12500       mg/Kg         Sample: 236007 - AH-6 1-1.5'       Param       Flag       Result       Units         Chloride       5940       mg/Kg         Sample: 236008 - AH-6 2-2.5'         Param       Flag       Result       Units         Chloride       792       mg/Kg				AH-6 0-1'	Sample: 236006
Chloride       12500       mg/Kg         Sample: 236007 - AH-6 1-1.5'       Param       Flag       Result       Units         Chloride       5940       mg/Kg         Sample: 236008 - AH-6 2-2.5'         Param       Flag       Result       Units         Chloride       792       mg/Kg	RL	Units	Result	Flag	Param
Param         Flag         Result         Units           Chloride         5940         mg/Kg           Sample: 236008 - AH-6 2-2.5'         Param         Flag         Result         Units           Chloride         792         mg/Kg	4.00	mg/Kg	12500		Chloride
Chloride         5940         mg/Kg           Sample: 236008 - AH-6 2-2.5'         Param         Flag         Result         Units           Chloride         792         mg/Kg	,			AH-6 1-1.5'	Sample: 236007
Chloride         5940         mg/Kg           Sample: 236008 - AH-6 2-2.5'         Param         Flag         Result         Units           Chloride         792         mg/Kg	RL	Units	Result	Flag	Param
Param Flag Result Units Chloride 792 mg/Kg	4.00	mg/Kg	5940		Chloride
Chloride 792 mg/Kg				AH-6 2-2.5'	Sample: 236008
Chloride 792 mg/Kg	RL	Units	Result	Flag	Param
Sample: 236009 - AH-6 3-3.5'	4.00	mg/Kg	792		Chloride
				AH-6 3-3.5'	Sample: 236009
Param Flag Result Units	RL	Units	Result	Flag	Param
Chloride 401 mg/Kg	4.00	mg/Kg	401		Chloride