l		S	ITE INFORMA	ATION		
		Repor	t Type: Clos	ure Report		
General Site In	formation.			the state of the s	The second of th	Salah Marin
Site:		Empire Federal S\				
Company:		COG Operating LI	_C	·		,
	ship and Range		Sec 10	T17S	R29E	
Lease Number	:	API-30-015-37831				
County:		Eddy County	•		<u> </u>	
GPS:			32.84720° N		104.064	56° W
Surface Owner		Federa		•		
Mineral Owner		· · · · · · · · · · · · · · · · · · ·				
Directions:			the intersection of Hw nd travel 0.1 miles, tu		arnival Draw), travel nort	h on CR 214 for
					4th Spill	
Date Released:		11/25/2012	12/12/2012	12/14/2012	12/18/2012	
Date Released: Type Release:		11/25/2012 Produced Water	12/12/2012 Produced Water	12/14/2012 Produced Water	12/18/2012 Produced Water	
Date Released: Type Release: Source of Conta	amination:	11/25/2012 Produced Water Load Line	12/12/2012 Produced Water Load Line	12/14/2012 Produced Water Load Line	12/18/2012 Produced Water Load Line	
Date Released: Type Release:	amination:	11/25/2012 Produced Water Load Line 25 bbls	12/12/2012 Produced Water Load Line 15 bbls	12/14/2012 Produced Water Load Line 15 bbls	12/18/2012 Produced Water Load Line 15 bbls	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovere	amination: ed:	11/25/2012 Produced Water Load Line 25 bbls 20 bbls	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovere	amination: ed:	11/25/2012 Produced Water Load Line 25 bbls 20 bbls	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovere Official Comm	amination: ed: unication:	11/25/2012 Produced Water Load Line 25 bbls 20 bbls	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovere Official Commi Name:	amination: ed: unication:	11/25/2012 Produced Water Load Line 25 bbls 20 bbls	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls like Tavarez Tetra Tech	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovera Official Common Name: Company:	amination: ed: unication:	11/25/2012 Produced Water Load Line 25 bbls 20 bbls	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovera Official Common Name: Company:	amination: ed: unication: Robert McNeill COG Operating, One Concho Ce	11/25/2012 Produced Water Load Line 25 bbls 20 bbls LLC nter	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls like Tavarez Tetra Tech	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovere Official Commi Name: Company: Address:	amination: ed: unication: Robert McNeill COG Operating, One Concho Ce 600 W. Illinois A Midland Texas,	11/25/2012 Produced Water Load Line 25 bbls 20 bbls LLC nter	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls lke Tavarez Tetra Tech 1910 N. Big Spring	
Date Released: Type Release: Source of Conta Fluid Released: Fluids Recovere Official Common Name: Company: Address: City:	amination: ed: unication: Robert McNeill COG Operating, One Concho Ce 600 W. Illinois A Midland Texas,	11/25/2012 Produced Water Load Line 25 bbls 20 bbls LLC nter	12/12/2012 Produced Water Load Line 15 bbls 12 bbls	12/14/2012 Produced Water Load Line 15 bbls 12 bbls	12/18/2012 Produced Water Load Line 15 bbls 12 bbls lke Tavarez Tetra Tech 1910 N. Big Spring Midland, Texas	

Depth to Groundwater:	Ranking Score	· · · · · · · · · · · · · · · · · · ·	Site Data
<50 ft	20		
50-99 ft	10		10
>100 ft.	0		
WellHead Protection:	Ranking Score		Site Data
Water Source <1,000 ft., Private <200 ft.	20		
Water Source >1,000 ft., Private >200 ft.	0		0
Surface Body of Water:	Ranking Score		Site Data
<200 ft.	20		
200 ft - 1,000 ft.	10		
>1,000 ft.	0		O
Total Ranking Score:	Acceptable Soil RRAL (m	g/kǧ)	JAN 94 2014
Benzen		TPH	
			MAYOOD APLES:



August 30, 2013

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
811 S. First Street
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Empire Federal SWD #3 Releases, Unit K, Section 10, 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 four (4) spills from the Empire Federal SWD #3 located in Unit K, Section 10, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.84720°, W 104.06456°. The site location is shown on Figures 1 and 2.

Background

1st Spill 11/25/12

According to the State of New Mexico C-141 Initial Report, the leak was discovered on November 25, 2012, and released approximately twenty five (25) barrels of produced water from the SWD load line, due to it being left open. To alleviate the problem, COG personnel closed the valve on the load line. Twenty (20) barrels of standing fluids were recovered. The spill initiated at the load line and stayed on the pad affecting an area 40' X 40' around the well head. The initial C-141 form is enclosed in Appendix A.

2nd Spill 12/12/12

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 12, 2012, and released approximately fifteen (15) barrels of produced water from the SWD load line, due to it being left open. To alleviate the problem, COG personnel closed the valve on the load line. Twelve (12) barrels of standing fluids were recovered. The spill initiated at the load line and stayed on the

Tel 432.682,4559



pad. The initial C-141 form is enclosed in Appendix A.

3rd Spill 12/14/12

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 14, 2012, and released approximately fifteen (15) barrels of produced water from the SWD load line, due to it being left open. To alleviate the problem, COG personnel closed the valve on the load line. Twelve (12) barrels of standing fluids were recovered. The spill initiated at the load line and stayed on the pad. The initial C-141 form is enclosed in Appendix A.

4th Spill 12/18/12

According to the State of New Mexico C-141 Initial Report, the leak was discovered on December 18, 2012, and released approximately fifteen (15) barrels of produced water from the SWD load line, due to it being left open. To alleviate the problem, COG personnel closed the valve on the load line. Twelve (12) barrels of standing fluids were recovered. The spill initiated at the load line and stayed on the pad. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 10. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 75' to 100' below surface. The groundwater 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

On January 23, 2013, Tetra Tech personnel inspected and sampled the spill area. Five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Selected 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 sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples exceeded the RRAL for TPH and BTEX. A shallow chloride impact was detected in the areas of AH-1, AH-2 and AH-4, with concentrations at 0-1' of 4,910 mg/kg, 10,700 mg/kg and 3,990 mg/kg, respectively. The deeper samples significantly declined with depth at 1-1.5' below surface and were all vertically defined. The areas of AH-3 and AH-5 showed a deeper impact to the soils. Auger hole (AH-3) detected elevated chlorides from surface to 3.0' below surface and declined to 624 mg/kg at 4.0' below surface. However, AH-5 was not vertically defined, with a bottom auger hole sample of 2,360 mg/kg at 3-3.5' below surface.

Site Remediation and Conclusion

On June 19, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. In order to remove the chloride impacts, the excavation depths ranged from 1.0' to 5.0' below surface. Once excavated, Tetra Tech collected confirmation samples from the excavation sidewalls and bottoms. The sampling results are shown in Table 1.

Referring to Table 1, the confirmation samples did not show any elevated remaining chlorides in the soils, except for the areas of AH-1 and AH-2 (south sidewalls) showed chlorides of 2,810 mg/kg and 5,120 mg/kg, respectively. These areas were not excavated due to facility or lines in the area. In addition, AH-1 (north sidewall) did show a chloride concentrations slightly above are target level of 1,000 mg/kg.

Approximately 490 cubic yards³ of soil were removed and transported to R360 facility for proper disposal. Once approved by the BLM, the site was then backfilled with clean material to surface grade.

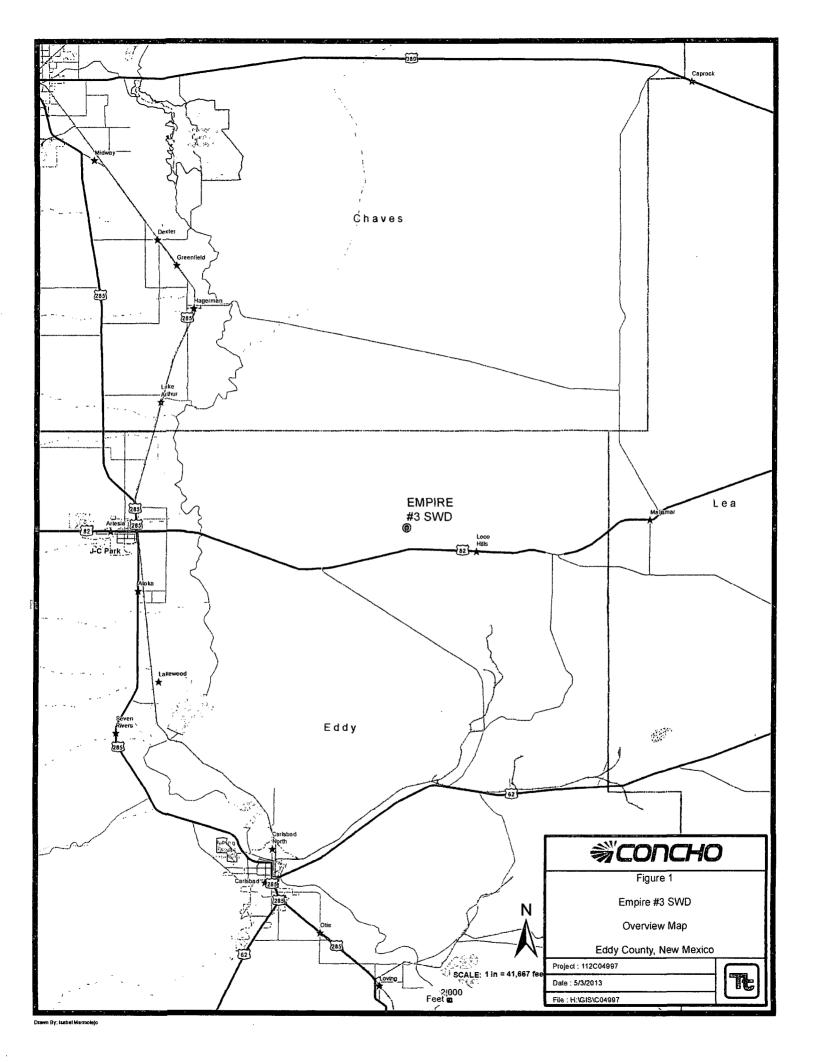
Based on the remediation activities performed at this location, COG requests closure for this site. The C-141's (Finals) are included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

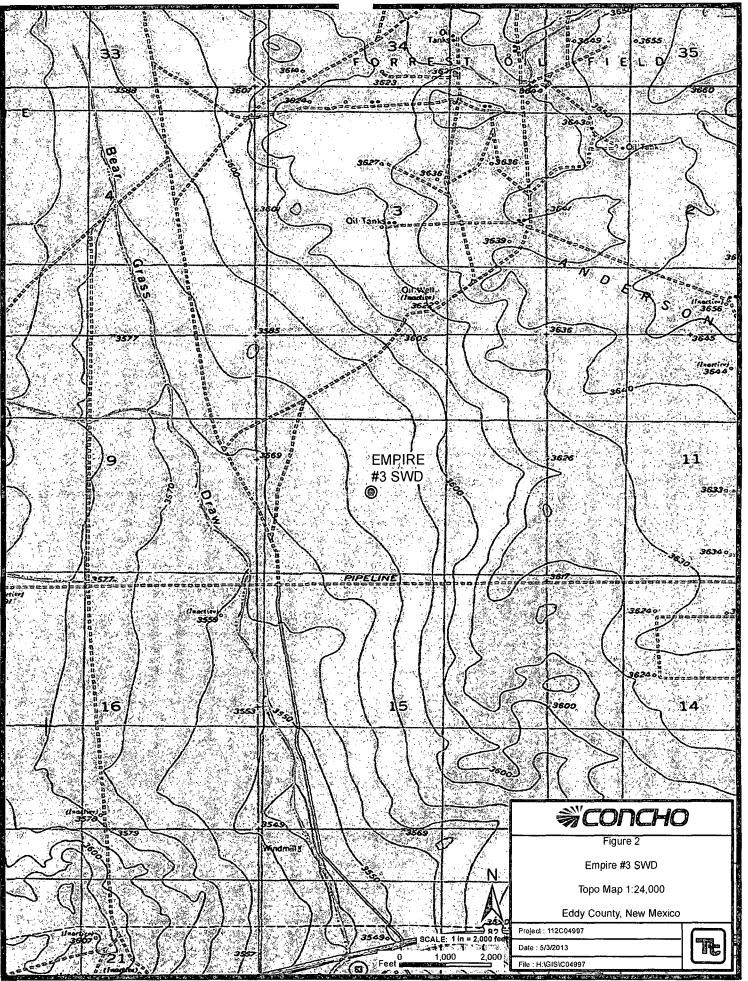
Respectfully submitted,

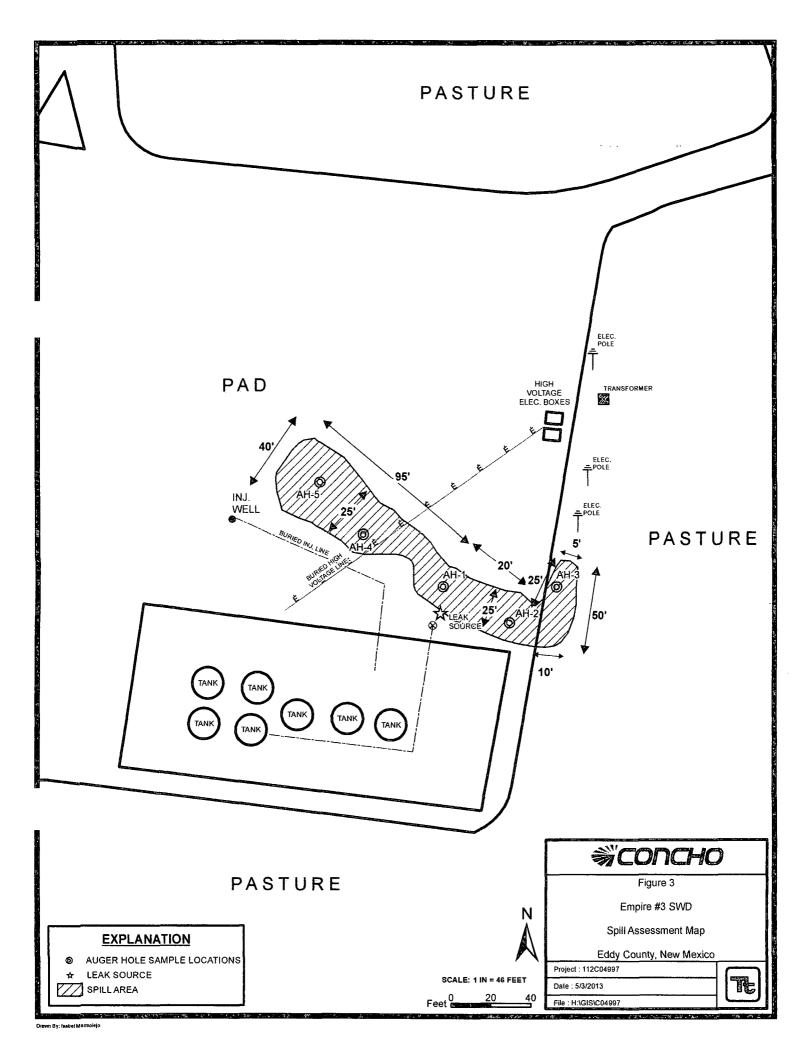
Ike Tavarez, PG

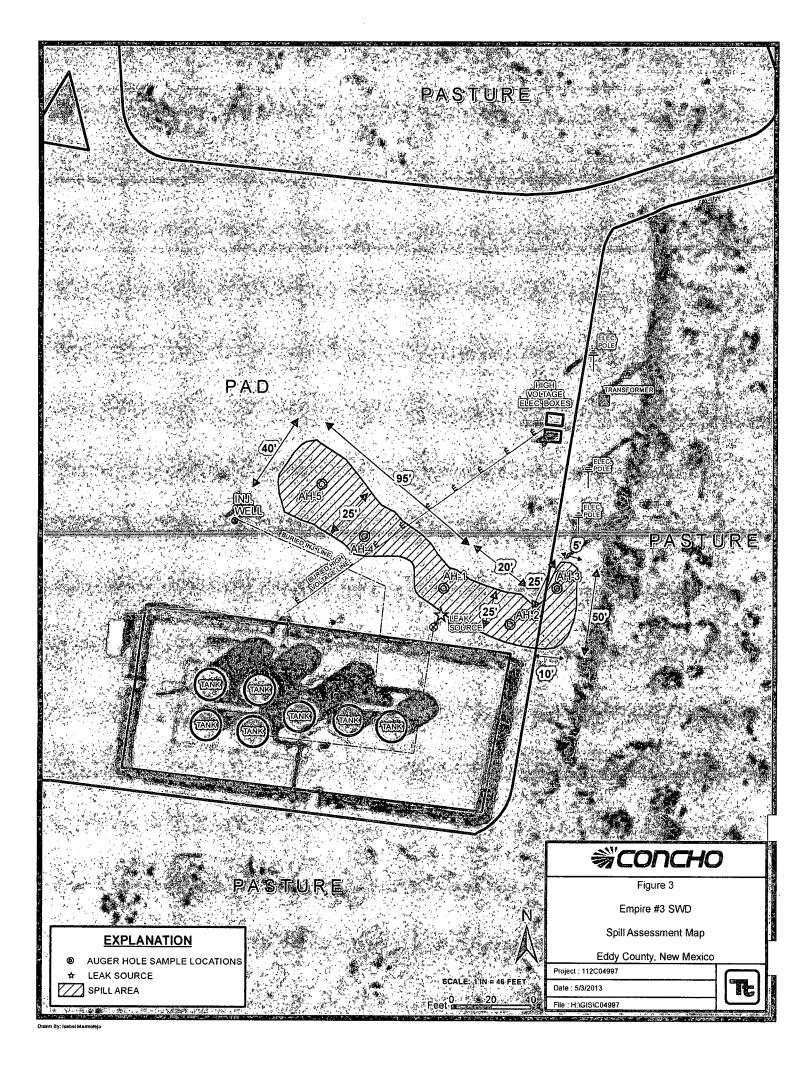
Senior Project Manager

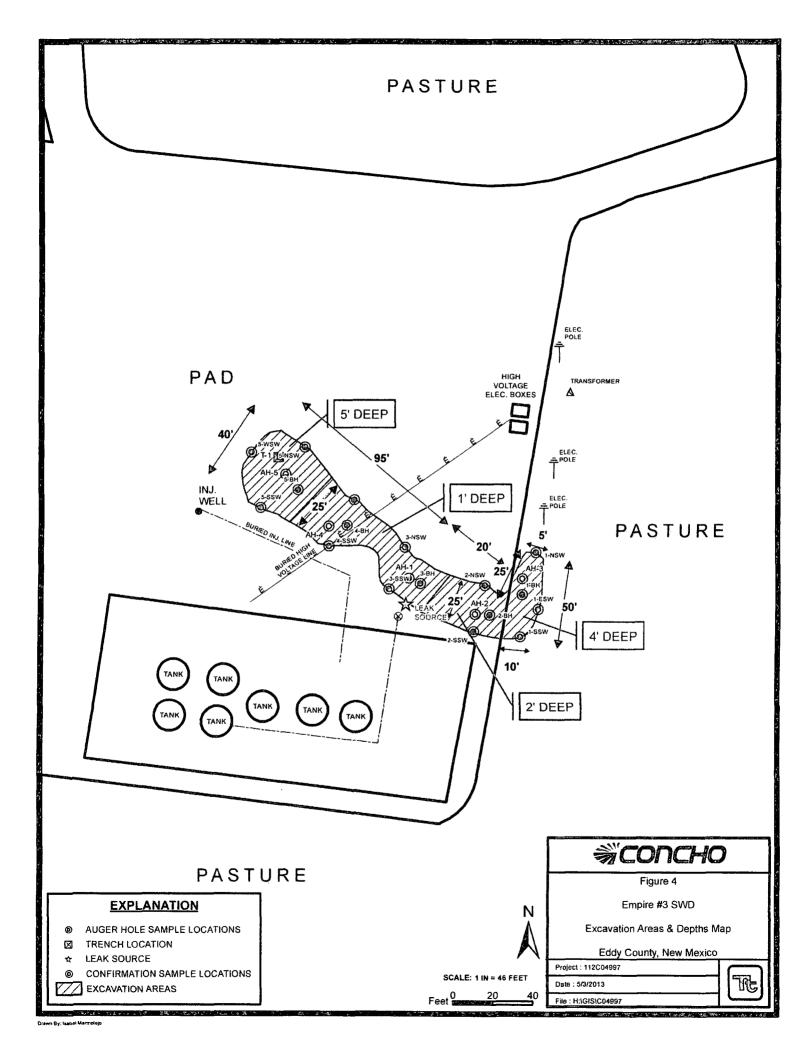
Figures











Tables

Table 1
COG Operating LLC.
Empire Federal Salt Water Disposal #3
Eddy County, New Mexico

Sample ID	Sample	Sample	Soil :	Status		ГРН (mg/k	g)	Benzene	Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride
ouripie ib	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	1/23/2013	0-1	次数	X	4.00	÷<50:0 [‡]	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	4,910
	"	1-1.5	Х		-	-	-	-	-	-	-	-	<20.0
	11	2-2.5	Х		-	-	-	-	-	-	-		<20.0
	11	3-3.5	Х		-	-	-	-	-	-	-	-	<20.0
	11	4-4.5	Х			-	-		-		-	-	36.8
CS-3 NSW	6/25/2013	1	X		-	-	-	-	-	-	-	-	1,670
CS-3 SSW	11	1	Х		-	-	-	-	-	-	-	_	2,810
CS-3 Bottom Hole	11	1	Х		-	-	-	-	-	-	-	-	49.4
AH-2	1/23/2013	0-1	145.	X.	<4.00	<50.0	* <50:0 *	"≲0.0200 ·	<0.0200	<0.0200	<0.0200	<0.0200	£10,700
	ŧı	7-1-1.5°¢	A CO	X							第二章:	學信念關	ું308.0ેૄ
	"	2-2.5	Х		-	-	-	-	-	-	-	-	152
<u></u>	11	3-3.5	Х		-	-	-	-			-	-	<20.0
CS-2 NSW	6/25/2013	2	Х		-	_	-	-		-	-	-	<20.0
CS-2 SSW	11	2	Х		-	-	-	-	-	•	-		5,120
CS-2 Bottom Hole	**	2	Х		-	-	-	-	-	-	_	-	202
AH-3	1/23/2013	- 0-1		X	<4.00	<50.0	\$<50.0°	<0.0200	<0.0200.	<0.0200_ >	<0.0200	.≤0:0200	4,200
	11	1-1.5		X								1.57 A.S.	13,900
	"	2-2.5	以为 选	X	Part and	深起强			推动的			A PARTY OF THE PAR	10,900
	11	3-3.5		* X		海水源	11 14 14 14 14 14 14 14 14 14 14 14 14 1	0.464 314	公司 的				5,450
	11	4-4.5	Х		-	-	-	-	-	-	-	-	624
ĺ	"	5-5.5	Х		-	-	-	-	-	-	-	_	213
	11	6-6.5	Х		_	-	-	-		-		-	<20.0
CS-1 NSW	6/25/2013	4	Х		-		_	-	-	-	_	-	104
CS-1 NSW	"	4	Х		-	-	-	-	-	-	-	_	<20.0
CS-1 ESW	. H	4	Х		-	-	-	-	-	-	-	-	<20.0
CS-1 SSW	11	4	Х		-	-	-	-	-	-	-	-	404
CS-1 Bottom Hole	**	4	Х		-	-	-	-	-	-	-	-	537

Table 1 COG Operating LLC. Empire Federal Salt Water Disposal #3 Eddy County, New Mexico

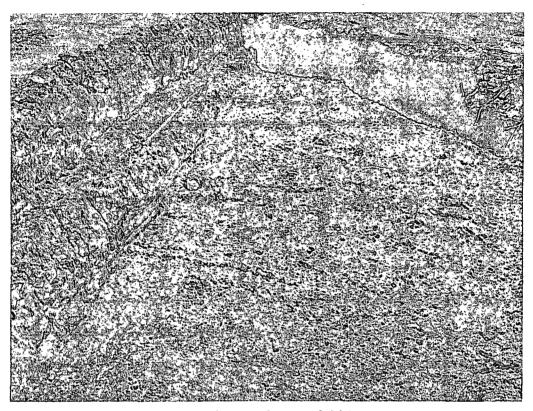
Sample ID	Sample	Sample	Soil S	Status	1	TPH (mg/k	g)	Benzene	Toluene	Ethlybenzene	Xylene	Total	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
AH-4	1/23/2013	0-1		X	*<4:00°	<50 _: 0;	}; ≤ 50`0;	-<0:0200	<0.0200	<0.0200	<0.0200	<0.0200	3,990
	н	1-1.5	Х		-	-	-	-	-	-	-	-	795
	18	2-2.5	Х		-	-	-	-	-	-	-	-	<20.0
CS-4 NSW	6/25/2013	1	Х		-	-	-	-	-	-	-	-	765
CS-4 SSW	94	1	Х		-	-	-	-	-	-	-	-	1,070
CS-4 Bottom Hole	n	1	Х		-	-	-	-	-		-		479
AH-5	1/23/2013	0-1		X	><4:00	<50.0	\$ \$ 50.0	-<0:0200	-<0:0200 <u>:</u>	<0.0200	<0.0200	<0.0200	7,990
	11	1-1.5		X							E V 2 3		5,520.
	"	2-2.5	1 daile	: X								17.57	. ₹ 4 ,090
	"	3-3.5	7** *** ** -* * *	X			E lleri						2,360
T-1	6/25/2013	→ 30°\$}	and the se	X+ >	种家建筑								€ 3;740,
	11	2.	1 2 2	χ', Χ ', <u>, ,</u>			No.		11.5				7,580
	H	4		, X ,					24. 45			的一位	-1,370
	U	6	Х		-	1	-	-	-		-	-	<20.0
	17	8	Х		-	-	-	-		-	-	-	<20.0
	11	10	Х		-	-	-	-	-	-	-	-	<20.0
	"	12	Х		-	-	-	-	-	-	-	-	55.3
CS-5 NSW	6/25/2013	5	Х		-	_	-	-	-	-	-	-	<20.0
CS-5 SSW		5	Х		-	-	-	-	-	_	-	-	104
CS-5 WSW	"	5	Х		-	-	-	-	-	-	_	-	168
CS-5 Bottom Hole		5	Х		-	-	-	-	-	-	-	-	158

(-) Not Analyzed Excavated Depths

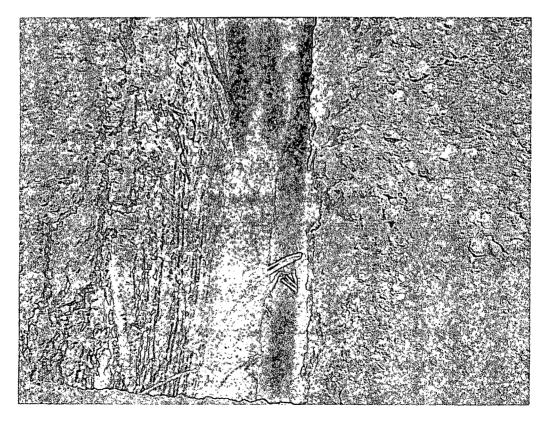
Photos

COG Operating LLC Empire Federal SWD #3 Eddy County, New Mexico





View West - Area of AH-5.



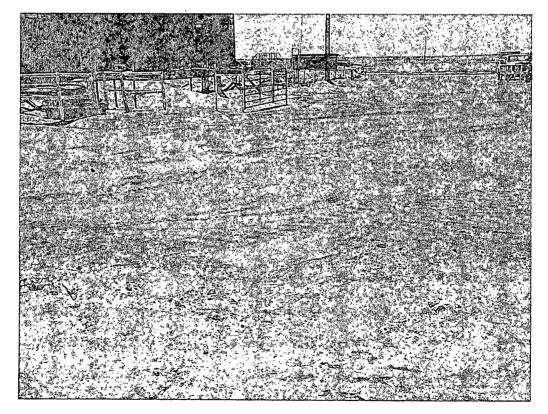
Area of Trench-1 in AH-5.

COG Operating LLC Empire Federal SWD #3 Eddy County, New Mexico





View Southeast- Backfill



View West - Backfill

Appendix A

District I
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 Revised October 10, 2003 ubmit 2 Copies to appropriate

Form C-141

☐ Final Report

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

☐ Initial Report

Release Notification and Corrective Action

OPERATOR

Name of Company COG OPERATING LLC	Contact Pat Ellis										
Address 600 West Illinois Avenue, Midland, TX 79701		30-0077									
Facility Name Empire Federal SWD #3	Facility Type S	WD									
Surface Owner Federal Mineral Owner		Lagra N	o. (API#) 30-015-37831								
Surface Owner rederal Millionar Owner		Lease IV	0. (A11#) 30-013-37831								
LOCATIO	N OF RELEASE										
Unit Letter Section Township Range Feet from the North	/South Line Feet from the	East/West Line	County Eddy								
Latitude 32.84736	Longitude 104.06480										
NATURE	OF RELEASE										
Type of Release Produced water Volume of Release 25bbls Volume Recovered 20bbls											
Source of Release Ball valve on trucking load line	Date and Hour of Occurrence		Hour of Discovery								
Was Immediate Notice Given?	11/25/2012 If YES, To Whom?	1 11/25/201	2 12:30 p.m.								
☐ Yes ☐ No ☐ Not Required		Mike Bratcher-OC	CD								
By Whom? Michelle Mullins	Date and Hour 11/26/2012	4:27 p.m.									
Was a Watercourse Reached? Yes No If YES, Volume Impacting the Watercourse.											
If a Watercourse was Impacted, Describe Fully.*											
Describe Cause of Problem and Remedial Action Taken.*											
The ball valve on the load line was partially left open causing a release o	f produced water. The ball valve	has been closed.									
Describe Area Affected and Cleanup Action Taken.*	7.7.7.7.										
Initially 25bbls of produced water were released from the ball valve at the release remained on the pad location and measured and area of 40' x 40' been hauled to disposal. Tetra Tech will sample the spill site area to delight to the NMOCD/BLM for approval prior to any significant remediation w	around the wellhead. The location neate any possible contamination	on has been scrape	d and contaminated caliche has								
I hereby certify that the information given above is true and complete to regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by the should their operations have failed to adequately investigate and remedia or the environment. In addition, NMOCD acceptance of a C-141 report of federal, state, or local laws and/or regulations.	notifications and perform correcti ne NMOCD marked as "Final Re te contamination that pose a three	ive actions for rele port" does not relie at to ground water,	ases which may endanger eve the operator of liability surface water, human health								
	OIL CONS	ERVATION	DIVISION								
Signature:	Signature:										
Printed Name: Josh Russo	Approved by District Supervisor	r:									
Title: Senior Environmental Coordinator	Approval Date:	Expiration D	Pate:								
E-mail Address: jrusso@concho.com	Conditions of Approval:		Attached								
ate: 12/06/2012 Phone: 432-212-2399											

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410

1220 S. St. Francis Dr., Santa Fe, NM 87505

District IV

State of New Mexico Energy Minerals and Natural Resources

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

Submit 2 Copies to appropriate District Office in accordance

Form C-141

Revised October 10, 2003

with Rule 116 on back side of form

Release Notification and Corrective Action

						OPERA	FOR		☐ Initia	al Report	\boxtimes	Final Repor	
Name of Co			Operati			Contact Pat Ellis							
Address	_			Midland, TX 797		Telephone N		<u>) 230-00</u>)77			<u></u>	
Facility Na	ne	Emj	pire Fede	eral SWD #3]	Facility Typ	e SWI	<u>D</u>					
Surface Ow	ner: Federa	ıl		Mineral Ov	vner				Lease N	No. (API#):	30-015	-37831	
				LOCA	TION	OF REI	LEASE						
Unit Letter K	Section 10	Township 17S	Range 29E	Feet from the	North/	South Line	Feet from the	East/	West Line	County	Edd	ý	
				Latitude N32.84	4736°	Longitud	e W 104.0648	0°					
				NATU	URE	OF REL	EASE						
Type of Rele	ase: Produce	ed Water				Volume of	Release 25 bb	ls	Volume I	Recovered	20 bbl	S	
Source of Re	lease: Ball	Valve on truc	king load	line.		1	lour of Occurrer	nce		Hour of Dis			
Was Immedi	ate Notice G	iven?				11/25/2012 If YES, To			11/25/20	12 4:27 p.m	l .		
Was minear	ato Noneo O		Yes [No 🗌 Not Req	uired	11 123, 10	Whom:						
By Whom?	Michelle Mu	ıllins				Date and F	lour 11/26/2012	2 4:27 p.	m.				
Was a Water	course Reac					If YES, Vo	lume Impacting						
		Ļ	Yes 🛚	l No		N/A							
If a Watercou	ırse was Imp	oacted, Descri	be Fully.*	,									
Describe Cau	se of Proble	m and Remed	dial Action	n Taken.*									
The ball valv	e on the load	d line was par	tially left	open causing a rele	ase of	produced wa	ter. The ball val	lve has b	een closed.				
Describe Are	a Affected a	nd Cleanup A	Action Tak	en.*									
Total Took a	waannal inse	antad tha site	and solla	atad annulas to da	fina tha	onill outout	Call that area	مطفاهمات	DDAI		ما الممياء	for	
				cted samples to det surface grade with									
NMOCD for				5 ···				rr		F			
I haraby carti	fy that the is	oformation gi	van ahova	is true and comple	to to th	a hast of mu	Imanifodas and	dameta	nd that name	went to NIM	OCD =	·loo and	
regulations a	ly that the h	ire required to	report an	d/or file certain rel	ease no	e dest of my etifications ar	knowieuge and	understa ective act	nd that purs	suant to Mivi eases which	may er	nes and idanger	
public health	or the enviro	onment. The	acceptanc	e of a C-141 report	by the	NMOCD ma	arked as "Final I	Report" (loes not reli	ieve the ope	rator of	liability	
should their o	perations ha	ive failed to a	dequately	investigate and rer	nediate	contaminati	on that pose a th	reat to g	round water	r, surface wa	iter, hu	man health	
federal, state,				tance of a C-141 re	port ac	es not renev	e the operator of	respons	ibility for c	ompiiance v	vith any	otner	
		10					OIL CON	ISERV	ATION	DIVISIO	N		
Signature:	6/1				OIL CONSERVATION DIVISION					<u></u>			
Printed Name	. Ike Toyer	oz (agant for (Approved by District Supervisor:								
i imicu ivaliik	, inc lavalt	L (agent for	200)										
Title: Projec	Manager				Approval Date: Expiration Date:								
E-mail Addre	ss: Ike Tava	rez@tetratecl	h.com		Conditions of Approval:								
C	1	13			Conditions of Approvar.					Attached			
Date:	130/			(432) 682-4559									
Attach Addi	tional Shee	ts If Necessa	arv				7		OFIL				

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JAN 24 2014

NMOCD ARTES'A

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 1301 W. Grand Avenue, Artesia, NM 88210 <u>District III</u> 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

Submit 2 Copies to appropriate District Office in accordance

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

with Rule 116 on back side of form

Form C-141

Revised October 10, 2003

Release Notification and Corrective Action												
	OPERATOR Initial Report Final Rep											
Name of Company COG OPERATING LLC	Contact Pat Ellis											
Address 600 West Illinois Avenue, Midland, TX 79701	Telephone No. 432-230-0077											
Facility Name Empire Federal SWD #3	Facility Type SWD											
	V N (ADV) 20 016 2001											
Surface Owner Federal Mineral Owner	Lease No. (API#) 30-015-37831											
	N OF RELEASE											
	/South Line Feet from the East/West Line County											
K 10 17S 29E	Eddy											
Latitude 32.84736	Longitude 104.06480											
NATURE OF RELEASE												
Type of Release Produced water	Volume of Release 15bbls Volume Recovered 12bbls											
Source of Release Ball valve on trucking load line	Date and Hour of Occurrence Date and Hour of Discovery											
Was Immediate Notice Given?	12/12/2012 12/12/2012 7:00 a.m. If YES, To Whom?											
Was immediate Nonce Given? ☐ Yes ☑ No ☑ Not Required	if YES, 10 WROM?											
By Whom?	Date and Hour											
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.											
<u> </u>												
If a Watercourse was Impacted, Describe Fully.*												
Describe Cause of Problem and Remedial Action Taken.*												
The ball valve on the load line was partially left open causing a release o	produced water. The ball valve has been closed.											
Describe Area Affected and Cleanup Action Taken.*												
-												
	e load line and we were able to recover 12bbls with a vacuum truck. The location											
	Tetra Tech will sample the spill site area to delineate any possible contamination											
from the release and we will present a work plan to the NMOCD/BLM for	r approval prior to any significant remediation work.											
I hereby certify that the information given above is true and complete to	he best of my knowledge and understand that pursuant to NMOCD rules and											
regulations all operators are required to report and/or file certain release	otifications and perform corrective actions for releases which may endanger											
	e NMOCD marked as "Final Report" does not relieve the operator of liability											
	te contamination that pose a threat to ground water, surface water, human health											
for the environment. In addition, NMOCD acceptance of a C-141 report of federal, state, or local laws and/or regulations.	loes not relieve the operator of responsibility for compliance with any other											
	OIL CONSERVATION DIVISION											
	OIL COMBERVATION DIVISION											

Approved by District Supervisor.

Expiration Date:

Attached

Approval Date:

Conditions of Approval:

Josh Russo

jrusso@concho.com

Phone:

Senior Environmental Coordinator

432-212-2399

Signature:

Title:

Printed Name:

E-mail Address:

^{12/27/2012} * Attach Additional Sheets If Necessary

District I
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

* Attach Additional Sheets If Necessary

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

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JAN 2 4 2014

NMOCD ARTESIA

Release Notification and Corrective Action

					OPERATOR					Final Report			
Name of Co	mpany	COG	Operati	ng LLC	(Contact Pat Ellis							
Address				Midland, TX 797		Telephone N		230-007	77				
Facility Nan	ne	Emj	oire Fede	eral SWD #3]	Pacility Typ	e SWD)					
Surface Ow	ner: Federa	al		Mineral Ov	vner				Lease N	lo. (API#)	30-015	-37831	
				LOCA	TION	OF RE	LEASE						
Unit Letter K	Section 10	Township 17S	Range 29E	Feet from the	North/	South Line	Feet from the	East/W	est Line	County	Eddy	<i>y</i>	
				Latitude N32.84	4736°	Longitud	e W 104.06480)°					
		·	<u></u>	NATU	JRE	RE OF RELEASE							
Type of Relea	ise: Produce	ed Water				Volume of	Release 15 bbls	}	Volume F	Recovered	12 bbl:	3	
Source of Rel	ease: Ball	Valve on truc	king load	line.		Date and F 12/12/2012	lour of Occurrence	ce		Hour of Dis 2 7:00 a.m			
Was Immedia	ite Notice C		Yes 🛭	No ⊠ Not Req	uired	If YES, To	Whom?						
By Whom? I						Date and H							
Was a Watero	course Reac		Yes 🛚] No		If YES, Vo	lume Impacting t	the Water	rcourse.				
If a Watercou	rse was Imp	oacted, Descri	be Fully.*	ķ									
Describe Cau	se of Proble	em and Remed	dial Action	n Taken.*									
The ball valve	e on the load	d line was par	tially left	open causing a rele	ase of p	produced was	ter. The ball valv	e has bee	en closed.				
Describe Are	Affected a	ınd Cleanup A	action Tak	en.*									
proper dispos NMOCD for	al. The site review.	was then brou	ight up to	ected samples to det surface grade with	clean b	ackfill mater	ial. Tetra Tech pı	repared a	closure re	port and sul	mitted	it to	
regulations al public health should their o	I operators a or the enviruperations ha ment. In ad	are required to onment. The ave failed to a ddition, NMO	report an acceptanc dequately CD accep	d/or file certain rele e of a C-141 report investigate and ren	ease no by the nediate	te to the best of my knowledge and understand that pursuant to NMOCD rules a ease notifications and perform corrective actions for releases which may endang by the NMOCD marked as "Final Report" does not relieve the operator of liable nediate contamination that pose a threat to ground water, surface water, human port does not relieve the operator of responsibility for compliance with any other							
Signature:		119	7))			OIL CON	SERVA	ATION	DIVISIO	<u>N</u>		
Printed Name	: Ike Tavar	ez (agent for ((OG)		Approved by District Supervisor:								
Title: Project	Manager				A	Approval Date: Ex			Expiration Date:				
E-mail Addre	ss: Ike Tava	arez@tetratecl	n.com		Conditions of Approval:					!			
Date:	3/30	113	Phone:	(432) 682-4559									

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Ric Brayes Road, Artes, NM 87410 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

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

Form C-141 Revised October 10, 2003

Release Notification and Corrective Action

						OPERAT	FOR		✓ Initia	l Report		Final Report
Name of Co		COG OP				Contact		at Ellis				
Address				idland, TX 7970		Telephone 1		230-00°	77			
Facility Nan	ne	Empire F	ederal S	WD #3	F	acility Typ	e S	SWD				
Surface Own	ner Feder	al		Mineral O	wner			······································	Lease N	lo. (API#)	30-01	5-37831
					TION	OF RE	LEASE					
Unit Letter K	Section 10	Township 17S	Range 29E	Feet from the	North/S	orth/South Line Feet from the E			Vest Line	County	Eddy	
				Latitude 32.8			ide 104.06480					
NATURE OF RELEASE Type of Release Produced water Volume of Release 15bbls Volume Recovered 12bbls												
		valve on truck	ing load l	ine			lour of Occurrence	· P		Hour of Dis		
Source of real						12/14/2012		·		2 7:00 a.r		
Was Immedia	ate Notice (Yes 🔀	No ⊠ Not Re	quired	If YES, To	Whom?					
By Whom?						Date and I	lour					
Was a Water	course Read	hed?					olume Impacting t	he Wate	rcourse.			
			Yes 🗵	No								ĺ
If a Watercou	irse was Im	pacted, Descri	be Fully.	k								
Describe Cau	se of Probl	em and Remed	lial Actio	n Taken.*								
The ball valve	e on the loa	d line was par	tially left	open causing a rel	ease of 1	produced wa	ter. The ball valve	e has bee	en closed.			
Describe Are	a Affected	and Cleanup A	ction Tal	en.*								
Initially 15bh	ls of produ	ced water wer	e released	from the ball valv	e at the	load line and	l we were able to	recover	12bbls with	h a vacinim	truck '	The location
				een hauled to disp								
from the relea	ase and we	will present a	work plan	to the NMOCD/E	BLM for	approval pri	or to any significa	ant reme	diation wo	rk.		
regulations al public health should their o	I operators or the envir operations h nment. In a	are required to conment. The ave failed to a ddition, NMO	report ar acceptant dequately CD accep	e is true and complete is true and complete is certain reserved of a C-141 report investigate and restance of a C-141 report of a C-141 reserved.	elease no rt by the emediate	tifications a NMOCD m contaminati	nd perform correct arked as "Final R on that pose a thr	tive acti eport" d eat to gr	ons for rele oes not reli ound water	eases which eve the ope , surface wa	may en rator of iter, hui	ndanger Tliability man health
		一 フィ	7				OIL CON	<u>SERV</u>	ATION	DIVISIO	<u>N</u>	
Signature:		/_1		5								
Printed Name	. /	Iosh	Russo		1	Approved by District Superv			Supervisor:			
				1'				Τ.				
Title:	<u> </u>	Senior Enviror	imental C	oordinator	- A	Approval Da	te:	Expiration Date:				
E-mail Addre	-mail Address: jrusso@concho.com						f Approval:	roval:		Attached		
Date: 1	2/27/2012	Phone:	432-	212-2399								

^{*} Attach Additional Sheets If Necessary

District I 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

Revised October 10, 2003 Submit 2 Copies to appropriate District Office in accordance

Form C-141

with Rule 116 on back side of form

Release Notification and Corrective Action

					OPERATOR						Final	Report		
Name of Co	mpany	COG	Operati	ng LLC	Contact Pat Ellis									
Address	600 W			Midland, TX 797	01	Telephone N	ło.	(432)	230-00	77				
Facility Nan	ne	Em	oire Fede	eral SWD #3		Facility Typ	е	SWD						
Surface Ow	ner: Feder	al		Mineral Ov	vner					Lease N	lo. (API#)	30-015	-3783	1
				LOCA	rioi	OF REI	LEASE							
Unit Letter K	Section 10	Township 17S	Range 29E	Feet from the	North	rth/South Line Feet from the East/West Line County East/West Line County East/West Line County East/West Line East/West Line County East/West Line East/West L						Eddy	,	
				Latitude N32.84	1736°	Longitud	e W 104.	.06480	0					
				NATU	JRE	RE OF RELEASE								
Type of Relea	ase: Produc	ed Water	_			Volume of	Release	15 bbls		Volume F	Recovered	12 bbls	3	
Source of Rel	lease: Ball	Valve on truc	king load	line.	.,	Date and H 12/14/2012		currenc	е		Hour of Dis 2 7:00 a.m.			
Was Immedia	nte Notice C		Yes 🛭	No ⊠ Not Req	uired	If YES, To	Whom?							
By Whom? M	Michelle Mi	ıllins				Date and H	our							
Was a Watero	course Reac		Yes 🛚] No		If YES, Vo	lume Imp	acting t	he Wate	rcourse.	-			
If a Watercou	rse was Imp	oacted, Descri	be Fully.*	\$					- W					
Describe Cau	se of Proble	em and Remed	lial Action	n Taken.*						·····				
The ball valve	e on the loa	d line was par	tially left	open causing a rele	ase of	produced was	er. The b	all valv	e has be	en closed.				
Describe Area	a Affected a	and Cleanup A	ction Tak	en.*	-,									···
	al. The site			ected samples to def surface grade with										for
regulations all public health should their o	l operators a or the enviruperations ha ment. In ac	are required to onment. The ave failed to a Idition, NMO	report an acceptanc dequately CD accep	nd/or file certain rele te of a C-141 report investigate and ren	te to the best of my knowledge and understand that pursuant to NMOCD rules a ease notifications and perform corrective actions for releases which may endang by the NMOCD marked as "Final Report" does not relieve the operator of liab nediate contamination that pose a threat to ground water, surface water, human port does not relieve the operator of responsibility for compliance with any other							danger liabilit nan he	.y	
		11.					OIL	CONS	SERV	ATION	DIVISIO	N		
Signature:	61	1/ /	4/											
Printed Name	: Ike Tavare	ez (agent for (COG)			Approved by District Supervisor:			isor:					
Title: Project	Manager					Approval Date: Expira			Expiration Date:					
E-mail Addre	_	Conditions of Approval: Attached												
Date: \geq	3-30	-13	Phone:	(432) 682-4559										

* Attach Additional Sheets If Necessary

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JAN 2 4 2014

NMOCD ARTESIA

District I
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

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

Release Notification and Corrective Action

					OPERATOR Initial Report Final					Final Report		
Name of Co	mpany	COG OP	ERATIN	G LLC		Contact	Pa	at Ellis				
Address	600 We	st Illinois A	enue, M	idland, TX 7970	1 7	Telephone N	No. 432-	230-00	77			
Facility Nar	ne	Empire F	ederal S	WD #3	F	acility Typ	e !	SWD				
Surface Ow	ner Fede	ral		Mineral Ov	wner				Lease N	lo. (API#)	30-01	5-37831
										<u> </u>		
						OF RE	LEASE	•				
Unit Letter K	Section 10	Township 17S	Range 29E	Feet from the	North/S	South Line	Feet from the	East/V	Vest Line	County	Eddy	
	L		<u> </u>	Latitude 32.8	4736	Longitu	ıde 104.06480	<u>.</u>				
				NATI	URE	OF RELI	EASE					
Type of Relea							Release 15bbls			Recovered		
Source of Re	lease Ball	valve on truck	ing load l	ine		Date and H 12/18/2012	lour of Occurrence	е		Hour of Dis 2 7:00 a.r		
Was Immedia	ate Notice C		Vac IV	No 🛛 Not Rec	mirad	If YES, To	Whom?					
By Whom?			163 🔼	140 M Hot Ra	inited .	Date and H	laus	•			····	
Was a Water	rourse Read	hed?			·····		olume Impacting t	he Wate	rcourse			
Was a Water	course rear		Yes 🛚	No No		11 123, 10	nume impacting t	ne wate	icourse.			
If a Watercou	ırse was Im	pacted, Descri	be Fully.	k		I		****				
Describe Cau	se of Probl	em and Remed	dial Action	n Taken.*						······································		
The ball valve	e on the loa	d line was par	tially left	open causing a rele	ease of p	produced wa	ter. The ball valve	has bee	en closed.			
Describe Are	a Affected	and Cleanup A	Action Tak	en.*					·····			
1 20 11 1611	1. 6 1.	4 4		6 4 1 1 11		1 11' 1						
				from the ball valve een hauled to dispo								
				to the NMOCD/B							IDIE COI	nammation
I hereby certi	fy that the i	nformation gi	ven shove	is true and comple	te to th	e hest of my	knowledge and u	nderstan	d that nurs	uent to NM	OCD n	iles and
regulations al	l operators	are required to	report an	d/or file certain rel	lease no	tifications ar	nd perform correc	tive acti	ons for rele	eases which	may en	ndanger
public health	or the envir	ronment. The	acceptano	e of a C-141 report	t by the	NMOCD ma	arked as "Final R	eport" de	oes not reli	eve the ope	rator of	liability
should their o	perations h	ave failed to a	dequately	investigate and rer	mediate	contaminati	on that pose a thre	eat to gre	ound water	, surface wa	iter, hui	man health
				tance of a C-141 re	port do	es not reliev	e the operator of i	esponsi	bility for co	ompliance v	vith any	other
federal, state,	or local lav	vs and/or regu	iations.	····			OH COM	TENT	ACTIONI	DRUGIC	N T	
				3			OIL CONS	SEKV.	AHON	DIVISIO	<u>N</u>	
Signature:		<u>/\</u>	1									
Printed Name	: 2	Josh	Russo		Approved by District Supervisor:							
Title:	(Senior Enviror	nmental C	oordinator	Approval Date: Ex			Expiration Date:				
E-mail Addre	ess:	jrusso@c	oncho.cor	n	C	Conditions of	Approval:					
							- •			Attached		
Date: 1	2/27/2012	Phone:	432-	212-2399	1					1		1

^{*} Attach Additional Sheets If Necessary

<u>District I</u> 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

Revised October 10, 2003

Form C-141

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

NMOCD ARTESIA

Release Notification and Corrective Action

			11011			OPERAT	ΓOR		Initial	l Report	\boxtimes	Final Report	
Name of Co	mpany	COG	Operati	ng LLC	(Contact	Pa	at Ellis		<u> </u>			
Address	600 W	est Illinois A	venue, N	Midland, TX 797	701	Telephone N	No. (432)	230-0077					
Facility Nan	ne	Emj	oire Fede	eral SWD #3	F	Facility Typ	e SWD						
Surface Own	ner: Federa	al	V	Mineral Ov	wner			Le	ase N	o. (API#)3	0-015	-37831	
			<u></u>	LOCA'	TION	OF RE	LEASE			·			
Unit Letter K	Section 10	Township 17S	Range 29E	Feet from the		South Line	Feet from the	East/West L	ine	County Eddy		,	
					47000							···	
				Latitude N32.84 NATI		_		O					
Type of Release: Produced Water Volume of Release 15 bbls Volume Recovered 12 bbls Source of Release: Ball Valve on trucking load line. Date and Hour of Occurrence Date and Hour of Discovery													
Source of Rel	ease: Ball	Valve on truc	king load	line.	*****	Date and F 12/18/2012	our of Occurrence			Hour of Disc 2 7:00 a.m.	overy		
Was Immedia	te Notice C		Yes 🛚	No 🛛 Not Rec	quired	If YES, To	Whom?						
By Whom? N	Michelle Mi	ıllins				Date and F	lour						
Was a Watero	ourse Reac	hed?	Yes 🛚	No		If YES, Vo N/A	lume Impacting t	he Watercour	se.				
If a Watercou	rse was Imp	oacted, Descri	be Fully.*	:		<u> </u>							
Describe Cau	se of Proble	em and Remed	lial Action	Taken.*					<u>-</u>				
The ball valve	on the load	d line was par	tially left	open causing a rele	ease of p	produced wa	ter. The ball valve	e has been clo	sed.				
Describe Area	Affected a	and Cleanup A	ction Tak	en.*									
	al. The site			cted samples to de surface grade with									
regulations all public health should their o	l operators a or the envir perations ha ment. In ac	are required to onment. The ave failed to a Idition, NMO	report an acceptanc dequately CD accep	is true and comple d/or file certain rel e of a C-141 repor investigate and rer tance of a C-141 re	lease no t by the mediate	tifications at NMOCD m contaminati	nd perform correct arked as "Final Re on that pose a thre	tive actions for eport" does no eat to ground	or relea ot relie water,	ases which nowers the operations are surface water	nay end itor of l er, hun	danger liability nan health	
Signature:			+) .			OIL CONS	SERVATION TO SERVA	<u>ON I</u>	DIVISIO	N		
Printed Name	: Ike Tavare	ez (agent for	(OG)			Approved by District Supervisor:							
Title: Project	Manager				A	Approval Date:		Expiration Date:			<u>-</u>		
E-mail Address: Ike Tavarez@tetratech.com						Conditions of Approval:			Attached				
Date:	Date: 8-30-/7 Phone: (432) 682-4559							~				_,	
Attach Addit	ional Shee	ts If Necessa		· · · · · · · · · · · · · · · · · · ·					RE(CEIV	ED		

Appendix B

Water Well Data Average Depth to Groundwater (ft) COG-Empire Federal SWD #3 Eddy County, New Mexico

	16 5	South		28 East			16 Sc	outh	2	9 East			16	South		30 Eas	t
3	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	
7	8	9	10	11	12	7	8	9	10	11	12	7	8	9	10	11	
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30	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	
31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	-
	47.9	South	<u> </u>	28 East		<u> </u>	17 Sc			9 East		L	47	South		30 Eas	
					14	6					14 1	ia.					١.
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30	29	28	27	26	25	30	29 210 208'	28	27	26	25	30	29	28	27	26	
31	32	33	34	35 258	36	31	32	33	34	35	36	31	32	33	34	35	-
										153							
	18 \$	South	:	28 East			18 Sc	outh	2	9 East			18	South	;	30 East	ŧ
5	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	-
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18	69 17	16	15	14	13	18	17	16	15	14	13	18	17	16	15	14	_
														}			
19	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	
		226				L									l	l	
19	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	
31	32	33	34	35	36	31	32	33	34	35	36	31	32	33	34	35	
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	+30	New Mexico	State	Engineers	Well	Report
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USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

Field water level

New Mexico Water and Infrastructure Data System

Appendix C

Report Date: February 11, 2013 Work Order: 13012803 Page Number: 1 of 5

Summary Report

(Corrected Report)

Ike Tavarez Tetra Tech 1910 N. Big Spring Street

1910 N. Big Spring Street Midland, TX 79705 Report Date: February 11, 2013

Work Order: 13012803

Project Location: Eddy Co., NM

Project Name: COG/Empire Fed SWD #3

Project Number: 112C04997

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
319460	AH-1 0-1'	soil	2013-01-23	00:00	2013-01-25
319461	AH-1 1-1.5'	soil	2013-01-23	00:00	2013-01-25
319462	AH-1 2-2.5'	soil	2013-01-23	00:00	2013-01-25
319463	AH-1 3-3.5'	soil	2013-01-23	00:00	2013-01-25
319464	AH-1 4-4.5'	soil	2013-01-23	00:00	2013-01-25
319466	AH-2 0-1'	soil	2013-01-23	00:00	2013-01-25
319467	AH-2 1-1.5'	soil	2013-01-23	00:00	2013-01-25
319468	AH-2 2-2.5'	soil	2013-01-23	00:00	2013-01-25
319469	AH-2 3-3.5'	soil	2013-01-23	00:00	2013-01-25
319471	AH-3 0-1'	soil	2013-01-23	00:00	2013-01-25
319472	AH-3 1-1.5'	soil	2013-01-23	00:00	2013-01-25
319473	AH-3 2-2.5'	soil	2013-01-23	00:00	2013-01-25
319474	AH-3 3-3.5'	soil	2013-01-23	00:00	2013-01-25
319475	AH-3 4-4.5'	soil	2013-01-23	00:00	2013-01-25
319476	AH-3 5-5.5'	soil	2013-01-23	00:00	2013-01-25
319477	AH-3 6-6.5'	soil	2013-01-23	00:00	2013-01-25
319479	AH-4 0-1'	soil	2013-01-23	00:00	2013-01-25
319480	AH-4 1-1.5'	soil	2013-01-23	00:00	2013-01-25
319481	AH-4 2-2.5'	soil	2013-01-23	00:00	2013-01-25
319483	AH-5 0-1'	soil	2013-01-23	00:00	2013-01-25
319484	AH-5 1-1.5'	soil	2013-01-23	00:00	2013-01-25
319485	AH-5 2-2.5'	soil	2013-01-23	00:00	2013-01-25
319486	AH-5 3-3.5'	soil	2013-01-23	00:00	2013-01-25

		BTEX				TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
319460 - AH-1 0-1'	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<0.0200 Qr,Qs	< 50.0	<4.00 Qs
319466 - AH-2 0-1'	<0.0200 Qr,Qs	<0.0200 Qr,Qs	$< 0.0200 \; _{Qr,Qs}$	<0.0200 Qr,Qs	< 50.0	$< 4.00 \ _{Qs}$
319471 - AH-3 0-1'	<0.0200 Qr,Qs	<0.0200 Qr,Qs	$< 0.0200 \;_{Qr,Qs}$	<0.0200 Qr,Qs	< 50.0	<4.00 Qs
319479 - AH-4 0-1'	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<0.0200 Qr,Qs	< 50.0	<4.00 Qs
319483 - AH-5 0-1'	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<0.0200 Qr,Qs	<0.0200 Qr,Qs	< 50.0	< 4.00 Qs

Sample: 319460 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		4910	mg/Kg	4

Sample: 319461 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 319462 - AH-1 2-2.5'

Param	\mathbf{Flag}	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 319463 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		< 20.0	mg/Kg	4

Sample: 319464 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		36.8	mg/Kg	4

Sample: 319466 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride	· · · · · · · · · · · · · · · · · · ·	10700	mg/Kg	4

Sample: 319467 - AH-2 1-1.5'

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Param	Flag	Result	Units	RL
Chloride		308	mg/Kg	4
G 1. 010409	ATT 0 0 0 F1			
Sample: 319468 -		D. 1.	**	77.7
Param Chloride	Flag	Result 152	Units mg/Kg	RL 4
<u> </u>			010	
Sample: 319469	- AH-2 3-3.5'			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 319471	- AH-3 0-1'			
Param	Flag	Result	Units	RL
Chloride		4200	mg/Kg	4
Sample: 319472 -	- AH-3 1-1.5'			
Param	Flag	Result	Units	RL
Chloride		13900	mg/Kg	4
Sample: 319473 -	- AH-3 2-2.5'			
Param	Flag	Result	Units	RL
Chloride		10900	mg/Kg	4
Sample: 319474 -	- AH-3 3-3.5'			
Param	Flag	Result	Units	m RL
Chloride	1105	5450	mg/Kg	4
Sample: 319475 -	- AH-3 4-4.5'			
Param	Flag	Result	Units	RL
Chloride	0	624	mg/Kg	4

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Sample: 319476 -	AH-3 5-5.5'			
Param	Flag	Result	Units	RL
Chloride		213	mg/Kg	4
Sample: 319477 -	AH-3 6-6.5'			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 319479 -	AH-4 0-1'			
Param	Flag	Result	Units	RL
Chloride		3990	mg/Kg	4
Sample: 319480 -	AH-4 1-1.5'			
Param	Flag	Result	Units	RL
Chloride		795	mg/Kg	4
Sample: 319481 -	AH-4 2-2.5'			
Param	Flag	Result	Units	m RL
Chloride		<20.0	mg/Kg	4
Sample: 319483 -	AH-5 0-1'			
Param	Flag	Result	Units	RL
Chloride		7990	mg/Kg	4
Sample: 319484 -	AH-5 1-1.5'			
Param	Flag	Result	Units	RL
Chloride		5520	mg/Kg	4
Sample: 319485 -	AH-5 2-2.5'			
Param	Flag	Result	Units	RL
Chloride		4090	mg/Kg	4

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Sample: 319486 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		2360	mg/Kg	4

Report Date: July 5, 2013 Work Order: 13062644 Page Number: 1 of 5

Summary Report

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

Report Date: July 5, 2013

Work Order: 13062644

Project Location: Eddy Co., NM

Project Name: COG/Empire Fed. SWD #3

Project Number: 112C04997

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
333411	CS 1 (AH-3) 3' NSW	soil	2013-06-25	00:00	2013-06-26
333412	CS 1 (AH-3) 3' ESW	soil	2013-06-25	00:00	2013-06-26
333413	CS 1 (AH-3) 3' SSW	soil	2013-06-25	00:00	2013-06-26
333414	CS 1 (AH-3) 4' BH	soil	2013-06-25	00:00	2013-06-26
333415	CS 2 (AH-2) 2' NSW	soil	2013-06-25	00:00	2013-06-26
333416	CS 2 (AH-2) 2' SSW	soil	2013-06-25	00:00	2013-06-26
333417	CS 2 (AH-2) 2' BH	soil	2013-06-25	00:00	2013-06-26
333418	CS 3 (AH-1) 1' NSW	soil	2013-06-25	00:00	2013-06-26
333419	CS 3 (AH-1) 1' SSW	soil	2013-06-25	00:00	2013-06-26
333420	CS 3 (AH-1) 1' BH	soil	2013-06-25	00:00	2013-06-26
333421	CS 4 (AH-4) 1' NSW	soil	2013-06-25	00:00	2013-06-26
333422	CS 4 (AH-4) 1' SSW	soil	2013-06-25	00:00	2013-06-26
333423	CS 4 (AH-4) 1' BH	soil	2013-06-25	00:00	2013-06-26
333424	CS 5 (AH-5) NSW	soil	2013-06-25	00:00	2013-06-26
333425	CS 5 (AH-5) SSW	soil	2013-06-25	00:00	2013-06-26
333426	CS 5 (AH-5) WSW	soil	2013-06-25	00:00	2013-06-26
333427	CS 5 (AH-5) BH	soil	2013-06-25	00:00	2013-06-26
333428	T1 (AH-5) 0'	soil	2013-06-25	00:00	2013-06-26
333429	T1 (AH-5) 2'	soil	2013-06-25	00:00	2013-06-26
333430	T1 (AH-5) 4'	soil	2013-06-25	00:00	2013-06-26
333431	T1 (AH-5) 6'	soil	2013-06-25	00:00	2013-06-26
333432	T1 (AH-5) 8'	soil	2013-06-25	00:00	2013-06-26
333433	T1 (AH-5) 10'	soil	2013-06-25	00:00	2013-06-26
333434	T1 (AH-5) 12'	soil	2013-06-25	00:00	2013-06-26
333435	CS 1 (AH-3) 4' NSW	soil	2013-06-25	00:00	2013-06-26

Report Date: July 5, 2013		Work Order: 13062644	Page Number: 2 of 5	
Param	Flag	Result	Units	RL
Chloride		104	mg/Kg	4
Sample: 333412	- CS 1 (AH-3) 3' ESW			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 333413 -	- CS 1 (AH-3) 3' SSW			
Param	Flag	Result	Units	RL
Chloride		404	mg/Kg	4
Sample: 333414 -	- CS 1 (AH-3) 4' BH			
Param	Flag	Result	Units	RL
Chloride		537	mg/Kg	4
Sample: 333415 -	· CS 2 (AH-2) 2' NSW			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 333416 -	CS 2 (AH-2) 2' SSW			
Param	Flag	Result	Units	RL
Chloride		5120	mg/Kg	4
Sample: 333417 -	CS 2 (AH-2) 2' BH			
Param	Flag	Result	Units	RL
Chloride		202	mg/Kg	4
Sample: 333418 -	CS 3 (AH-1) 1' NSW			
Param	Flag	Result	Units	RL
Chloride		1670	mg/Kg	4

Report Date: July 5, 2013		Work Order: 13062644	Page Number: 3 of 5	
Sample: 333419 - CS	3 (AH-1) 1' SSV	V		
Param	Flag	Result	Units	RL
Chloride		2810	nig/Kg	4
Sample: 333420 - CS	3 (AH-1) 1' BH			
Param	Flag	Result	Units	RL
Chloride		49.4	mg/Kg	4
Sample: 333421 - CS	4 (AH-4) 1' NS'	w		
Param	Flag	Result	Units	RL
Chloride		765	mg/Kg	4
Sample: 333422 - CS	4 (AH-4) 1' SSV	v		
Param	Flag	Result	Units	R.L
Chloride		1070	mg/Kg	4
Sample: 333423 - CS	4 (AH-4) 1' BH			
Param	Flag	Result	Units	RL
Chloride		479	mg/Kg	4
Sample: 333424 - CS	5 (AH-5) NSW			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 333425 - CS	5 (AH-5) SSW			
Param	Flag	Result	Units	RL
Chloride		104	mg/Kg	4
Sample: 333426 - CS	5 (AH-5) WSW			
Param	Flag	Result	Units	RL
Chloride	<u> </u>	168	mg/Kg	4

Report Date: July 5, 2013	Work Order: 13062644	Page	Number: 4 of 5
Sample: 333427 - CS 5 (AH-5) B	н		
Param Flag	Result	Units	m RL
Chloride	158	mg/Kg	4
Sample: 333428 - T1 (AH-5) 0'			
Param Flag	Result	Units	RL
Chloride	3740	mg/Kg	4
Sample: 333429 - T1 (AH-5) 2'			
Param Flag	Result	Units	RL
Chloride	7580	mg/Kg	4
Sample: 333430 - T1 (AH-5) 4'			
Param Flag	Result	Units	R.L
Chloride	1370	mg/Kg	4
Sample: 333431 - T1 (AH-5) 6'		•	
Param Flag	Result	Units	RL
Chloride	<20.0	mg/Kg	4
Sample: 333432 - T1 (AH-5) 8'			
Param Flag	Result	Units	RL
Chloride	<20.0	mg/Kg	4
Sample: 333433 - T1 (AH-5) 10'			
Param Flag	Result	Units	RL
Chloride	<20.0	mg/Kg	4
Sample: 333434 - T1 (AH-5) 12'			
Param Flag	Result	Units	RL
Chloride	55.3	mg/Kg	4

Report Date: July 5, 2013 Work Order: 13062644 Page Number: 5 of 5

Sample: 333435 - CS 1 (AH-3) 4' NSW

Param	Flag	Result	Units	RL
Chloride		<20.0	nig/Kg	4