

AE Order Number Banner

Report Description

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



App Number: pLWJ1020430895

1RP - 2509

DEVON ENERGY PRODUCTION CO., L.P.

7/27/2016



Whole Earth Environmental, Inc 2103 Arbor Cove Katy, TX 77494

IRP-2509 June 15, 2010

Devon Energy Corporation 20 North Broadway Oklahoma City, OK 73102

Attn: Darren Smith

Reference: Tomcat 21 Spill Remediation Plan

Dear Mr. Smith:

Enclosed, please find a draft copy of our remediation plan for the Tomcat 21 release. The protocol outlines the excavation and commercial disposal of brine impacted soils to a depth below the normal root zone for plants in an arid environment. A bentonite liner will be installed below the excavated areas to provide protection for vertical migration of the chlorides.

Thank you again for the opportunity of working with you on this project.

Warmest personal regards,

Mike Griffin President Whole Earth Environmental, Inc.



Executive Summary Devon Tomcat 21 Remediation Project

Location

The site is located approximately fourty two miles s.west of the City of Hobbs, Lea County, New Mexico on federal lands. The primary land use is grazing of cattle however extensive oil and gas operations are prevalent in the area. The area is semi-arid with a net precipitation / evaporation amount of -73" per year. The legal description is S-21, T-23S, R -32E. Depth to groundwater is estimated to be approximately 415' below ground surface.

History

The leak was discovered on the morning of March 31, 2010 as the result of a parted weld on a 4" poly line. The spill volume was initially reported based on the loss of three days produced water production from the Tomcat 21 Lease. Field and laboratory analysis of the soil profile indicates that significantly larger volumes are involved. A revised C-141 will be submitted to the NMOCD prior to the commencement of remediation activities.

Delineation

The affected area was inspected by Whole Earth Environmental and Devon personnel and found to encompass approximately one acre in total affected area. The terrain is quite hilly with cattle trails connecting twelve puddle areas. The lateral extent of the spill was delineated through the use of a Geonics EM-38 electromagnetic survey instrument in vertical mode which averages the soil conductivity to a depth of 5' below ground surface. An archeological survey was requested by the Bureau of Land Management and the affected area was determined to have no relics or historical artifacts present at the ground surface.

Selected points were vertically delineated by coring. An impermeable red bed clay layer was discovered at a depth of approximately 90' below ground surface at the leak source and rising to a depth of approximately 35' to the south and west. No significant chloride concentrations were found to penetrate this layer in any boring.



Exhibit index

- A. NMOCD C-141
- B. NMOCD Assessment Criteria Worksheet
- C. Site Plat Map
- D. USGS 7.5' Map
- E. Geonics EM-38 Survey Map
- F. Spill Overlay Map With Archeological Survey Area
- G. Boring Logs



Remediation Protocol Devon Energy Tomcat 21 Brine Release

1.0 Purpose

This protocol is to provide a detailed outline of the steps to be employed in the remediation of a brine and hydrocarbon affected area in Lea County, New Mexico.

2.0 Scope

This protocol is site specific for the above project.

3.0 Preliminary

Prior to any field operations, Whole Earth Environmental shall conduct the following activities:

3.1 Client Review

- 3.1.1 Whole Earth shall meet with appointed personnel within Devon to review this protocol and make any requested modifications or alterations.
- 3.1.2 Changes to this protocol will be documented and submitted for final review by Devon prior to the initiation of actual fieldwork.
- 3.1.3 Upon client approval, this protocol and supporting documentation will be submitted to the Hobbs district of the NMOCD and the Carlsbad District of the USBLM for approval.

4.0 Safety

- 4.1 Prior to work on the site, Whole Earth shall obtain the location and phone numbers of the nearest emergency medical treatment facility. We will review all safety related issues with the appropriate Devon personnel, subcontractors and exchange phone numbers.
- 4.2 A tailgate safety meeting shall be held and documented each day. All subcontractors must attend and sign the daily log-in sheet.
- 4.3 Anyone allowed on to location must be wearing sleeved shirts, steel toed boots, hardhats, safety glasses and long pants. Each vehicle must be equipped with two way communication capabilities.

5.0 Remediation Procedure

- 5.1 The areas identified in the support documentation as the Source and Puddles A and B shall be excavated to a minimum depth of four feet below ground surface with all excavated soils being sent to a licensed commercial disposal facility. Manifest of all materials sent to commercial disposal shall be maintained and submitted as part of the final closure report.
- 5.2 A geotextile bentonite liner will be placed at the bottom of the excavations and covered with topsoils to a sufficient elevation to match background contours.
- 5.3 Puddle area D lies directly atop an EOG high pressure pipeline. We propose to flood the Puddle D area with ion exchange amendments that will move the chlorides down below the root zone while beneficially replacing the sodium cations with calcium, potassium and ammonium within the upper soil profile. This replacement will insure that the sodium cannot migrate to the surface (wicking) due to the unavailability of soil receptor sites. The sodium will concentrate at a depth of approximately 6' below ground surface forming a dispersion zone diverting water around the lower affected zones.
- 5.4 The remainder of the sites shall be excavated similarly to puddle areas A-C except that the excavation depths may be made shallower with the adjacent hillocks used to bring the surface elevations of materials above the liner to a minimum depth of 4' below ground level.

6.0 Site Restoration Procedure

6.1 The affected areas shall be contoured to minimize erosion and seeded with an approved BLM seed mixture.

7.0 Closure Report

At the conclusion of the project, Whole Earth shall prepare a closure report which contains the following minimum information:

- Photographs of the location prior to remediation
- · Photographs of all excavations at the point of maximum soil removal
- Photographs of the location at time of final closure
- All pre-closure contaminant concentrations
- Copies of this protocol and all testing procedures

- Manifests of all materials sent to commercial disposal
- MSDS certificates of the ion exchange agents

Remediation Plan

We propose to excavate the chloride contaminated soils contained within the leak source, and puddles B and C to a minimum depth of 4' below ground surface and sending these soils to commercial disposal. A woven geotextile (bentonite) mat will be placed at the bottom of each excavation and backfilled to surface with fresh topsoil.

Puddle area D lies directly atop an EOG high pressure pipeline. We propose to flood the Puddle D area with ion exchange amendments that will move the chlorides down below the root zone while beneficially replacing the sodium cations with calcium, potassium and ammonium within the upper soil profile. At the time of this submittal, EOG has not approved the scope of work around their line. Implementation of this portion of the remediation plan will require their prior approval. This replacement will insure that the sodium cannot migrate to the surface (wicking) due to the unavailability of receptor sites. The sodium will concentrate at a depth of approximately 6' below ground surface forming a dispersion barrier diverting water around the lower affected zones.

The remainder of the sites shall be excavated similarly to puddle areas A -C except that the excavation depths may be made shallower with the adjacent hillocks used to bring the surface elevations of materials above the liner to a minimum depth of 4' below ground level.

Oil Conservation Division 2040 South Pacheco Santa Fe, NM 87505

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

			Relea	se Notifica	tion a	and Cor	rective Ac	tion				
					OPER	ATOR		🛛 Ini	tial Rep	ort	🗌 Fin	nal Report
Name of Co	ompany D	evon Energy	Product	ion Co. L.P.		Contact '	Fracy Kidd					
Address P.	O. Box 25	0, Artesia, N	M 8821	0		Telephon	e No. 575-513-	0628				
Facility Nat	ne Tomca	at 21 Battery				Facility T	ype Battery					
Surface Ow	ner Feder	al		Minera	l Owner				Lease	e No.1	NM-861	53
				LOCAT	FION	OF REL	EASE					
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/We	st Line	Cou	nty	
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	L		h	NATT	DE O	EDELE	ACE			l		
Type of Rele	ase Produ	ced water		NAIU	KE U	Volume of	Release 100 bbl	\$	Volum	e Reco	overed 0	
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Was Immedi	ate Notice (Given?				If YES, To Whom?						
		\boxtimes	Yes 🗌	No Not R	equired	Larry John	ison OCD					
By Whom? 1	Tracy Kidd					Date and Hour 3/31/10 3:00 PM						
Was a Watercourse Reached?					If YES, Volume Impacting the Watercourse.							
			Yes 🖄	No								
Describe Car Three inch S	use of Probl	em and Reme	dial Actio	n Taken.* ion of pipe releasi	ng an est	imated 100 l	obls of water. Lin	ie was repa	ured and	soil sa	amples w	ere taken.
Describe Are	a Affected	and Cleanup 2	Action Tal	ken.* width. Whole Ea	rth has be	en called to	do remediation.					
I hereby cert and regulatic endanger pul of liability sh water, human compliance y	ify that the ons all opera- blic health on hould their on health or t with any oth	information g ttors are requi or the environm operations hav he environme ter federal, sta	iven above red to repo ment. The re failed to nt. In add tte, or loca	e is true and comp ort and/or file cert e acceptance of a (adequately inves lition, NMOCD a d laws and/or regu	blete to the ain release C-141 rep stigate and cceptance alations.	the best of my se notification port by the N d remediate e of a C-141	knowledge and u ns and perform co MOCD marked a contamination tha report does not re	orrective as s "Final Ro t pose a the lieve the o	that purs ctions fo cport" do reat to g perator o	suant to r release not round to f response	o NMOC ses which relieve th water, sur onsibility	D rules n may he operator rface for
Signature:	Irac	y A. 1	Kuda	/			OIL CONS	ERVAT	TION 1	DIVI	SION	
Printed Nam	e: Tracy K	idd				Approved	by District Supe	rvisor:				
Title: Produ	ction Foren	nan				Approval	Date:		Expiratio	on Dat	e:	
Date:	15/2010	heets If Nec	Phone	575-513-0628		Condition	s of Approval:				Attached	

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SITE ASSESMENT CRITERIA (NMOCD)

Devon	Energy	Corporation
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Tomcat Fed 21 # 1

Depth to Groundwater: Approx. 500' bgs

			the local division of					
Ľ	DEPTH TO GI	ROUND WATH	ER					
(Vertical distance from cont	aminants to seasonal	high water elevation of	f ground water.)					
Less than 50' BGS	(20 points)	5	5					
50' to 99' BGS	(10 points)							
Greater than 100' BGS	(0 points)	0						
W	ELLHEAD PR	OTECTION AR	EA					
(Less tan 200' from a private	e domestic water sou	rce, or; less than 1000'	from all other water sources)					
YES	(20 points)							
NO	(0 points)	0						
DISTANCE TO SURFACE WATER BODY								
(Horizontal distance to pere	nnial lakes, ponds, ri	vers, streams, creeks, in	rigation canals, and ditches)					
Less than 200'	(20 points)							
200' to 1000'	(10 points)							
Greater than 1000'	(0 points)	0						
RANKING SCO	RE TOTAL POINTS	0						
CLEAN - UP TAR	GET CONCEN	TRATIONS FOR	R "SITE CLOSURE"					
IF RANKING SCORE IS:	> 19	10 - 19	0 - 9					
BENZENE (ppm)*	10	10	10					
BTEX (ppm)*	50	50	50					
TPH (ppm)**	100	1000	5000					
*A field vapor headspace m	easurement of 100 pj	om may be substituted f	for a laboratory analysis.					
** The contaminant concent	ration for TPH is the	e concentration above ba	ackground levels.					



DEVON TOMCAT FED 21 COM. #1 LEAK #1 Sec 21 - T23S - R32E API # 30-025-33356







Devon Energy Tomcat 21 EM-38 Survey (0-5')



Devon Tomcat 21 Pipeline Spil



















Atkins	Log of Boring No.2 Leak 2					
ENGINEERING ASSOCIATES			(F	Page 1 of 1)		
Whole Earth Environmental 2103 Arbor Cove Katy, TX 77494 Contact: Mike Griffin Job #: WHOLETH.DEV.10	Start Date : 05/03/10 Start Time : End Date : 05/03/10 End Time : Boring Location :	Sil Au Lo	te Location uger Type ogged By	: Devon Tomcat 21 Site : 4 1/4" ID Hollow Stem : J.L. Atkins		
JOD #: WHOLETH.DEV.10 Image: Section of the section	DESCRIPTION The to Medium Grained Ter, Light Tan, Fine Grained Ter Grained Ter Grained Reddish Brown, Fine to Medium Grained		Lab Bore 2 L	eak 2 Bentonite Hole Plug		

05-20-2010 C:\Users\Paddy\Documents\Whole Earth\Devon Site (2010)\Bore2_Leak2.bor





05-20-2010 C:\Users\Paddy\Documents\Whole Earth\Devon Site (2010)\Bore8_Leak1.bor





Analytical Results Index

- A. Soil Analysis Summary
- B. Graph of Selected Concentrations
- C. Cardinal Lab Analysis H19783
- D. Cardinal Lab Analysis H19795
- E. Cardinal Lab Analysis H19838
- F. Cardinal Lab Analysis H19839
- G. Cardinal Lab Analysis H19840



Summary of Excavation Soil Sample Analytical Results Devon Tom Cat Fed #21 Com. #1 Leak #1

Soil Sample ID.	Depth (Feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analysis (ppm)	Laboratory ID	Carbon Ranges (C6-C10) (mg/Kg)	Carbon Ranges (C10-C28) (mg/Kg)	Moisture %	Chloride (mg/Kg)
	surface			42.3	n/a		<500	59,900		25,600
р	5'		bit returns	14.1	12,916					
(Bore 1)	10'	4/14/10		3.5	15,682					
(Dole 1)	15'			1.9	17,934					
	20'			3.9	24,492		<10.0	<10.0		23,600
C (Bore 2)	surface			61.5	5,537		<100	19,000		9,000
	5'			6.8	21,553					
(Dore 2)	7'	4/15/10	bit				bit refusal			
C	5'	4/13/10	returns	6.9	10,172					
C (Bore 3) H	bit refusal			bit refusal						
	surface			11.6	33,958		<10.0	<10.0		24,800
v	5'		hit	7.8	14,205					
(Dara ())	10'	04/15/10	olt	1.5	13,404					
(Bore 4)	15'		returns	3.8	7,450					
	20'		·	1.4	11,462		<10.0	<10.0		12,800

Soil Sample ID.	Depth (Feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analysis (ppm)		Carbon Ranges (C6-C10) (mg/Kg)	Carbon Ranges (C10-C28) (mg/Kg)	Moisture %	Chloride (mg/Kg)
	5'				11,422					
	10'	1			20,098			_		
1	15'	1			13,777					
	20'	1			12,222			_		
	25'				14,275					
	30'				10,754					
A (Bore 5)	35'				7,535					
	40'	4/20/10	split	NI/A	7,420					
	45'	4/29/10	spoon	IN/PA	8,701					
	50'				6,794					
	55'				5,714					
	60'				5,998					
	65'				6,101					
	75'				6,800					
[85'				120	H19783	<10.0	<10.0		(mg/Kg)
	87'				348	H19783	<10.0	<10.0		480
	5'				16,588					
[[15'				18,438					
	25'	1	1.4		15,925					
	35'	4/30/10	split	N/A	12,373					
(Bore 6)	45'	1	spoon		23,937					
	55'				58	H19795	<10.0	<10.0		isture % Chloride (mg/Kg)
	60'				120	H19795	<10.0	<10.0		32
	5'				18,125					
	15				20,703					
D	25			N/A	8,282					

(Bore 7)	35			19/23	10,798			
	45	5/4/10	split spoon		165	<10.0	<10.0	128
	47				176			160
	5'			NI/A	20,371			
K	15'				23,585			
	25'				242			
(Bore 8)	35'			N/A	5,635			
	40'				245			
	42'				95			

Soil Sample ID.	Depth (Feet)	Sample Date	Soil Status	PID Reading (ppm)	Field Chloride Analysis (ppm)		Carbon Ranges (C6-C10) (mg/Kg)	Carbon Ranges (C10-C28) (mg/Kg)	Moisture %	Chloride (mg/Kg)
	5'			1.5	13,422					
I	15'			13.9	17,339					
(Bore 9)	30'			2.1	4,525	H19840			14.6	6,400
	32'			2.2	647	H19840	<10.0	<10.0	17.3	608
	5'			2.7	14,805					
[15'			15.2	20,596					
G	25'			3.5	28,102					
(Bore 10)	30'			2.1	1,324					
	35'	35' 37'		28	114	H19838	<10.0	<10.0	13.6	96
	37'			3.3	418	H19838			14.2	96 1,920
C	5'				12,376					
(Dem 11)	15'				10,583					
(Bole II)	25'	05/05/10	split		5,563					
C (Bore 12)	5'	05/05/10	spoon		1,109					
C (Bore 13)	5'				1,205					
С	5'				302					
(Bore 14)	15				1,945					
	5'				199					
C	15'				47					
(Bore 15)	20'				652					
	25'				1,568					
0	5'			2.1	58					
Dam 10	15'			3.3	79	H19839	<10.0	<10.0	13.7	48
(Bore 10)	20'			2.4	80	H19839	<10.0	<10.0	9.17	48





PHONE (575): 393-2325 . 107 E. MARLAND . HOBBS, NM 88240

May 3, 2010

Müke Griffin Whole Earth Environmental, Inc. 2103 Arbor Cove Katy, TX 77494

Re: Tomcat 21

Enclosed are the results of analyses for sample number H19783, received by the laboratory on 04/30/10 at 7:58 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Method SW-846 8260 Method TX 1005 Benzene, Toluene, Ethyl Benzene, and Total Xylenes Benzene, Toluene, Ethyl Benzene, and Total Xylenes Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

sincerety,

Celley D. Keene Laboratory Director



ANALYTICAL RESULTS FOR WHOLE EARTH ENVIRONMENTAL, INC. ATTN: MIKE GRIFFIN 2103 ARBOR COVE KATY, TX 77494 FAX TO: (281) 394-2051

Receiving Date: 04/30/10 Reporting Date: 05/03/10 Project Number: NOT GIVEN Project Name: NOT GIVEN Project Location: TOMCAT 21 Sampling Date: 04/29/10 Sample Type: SOIL Sample Condition: COOL & INTACT @ 2.5^oC Sample Received By: JH Analyzed By: AB/HM

LAB NUMBE	R SAMPLE ID	GRO (C _S -C ₁₃) (mg/kg)	DRO (>C ₁₀ -C ₂₈) (mg/kg)	Cľ" (mg/kg)
ANALYSIS D	ATE	05/01/10	05/01/10	04/30/10
H19783-1***	TOMICAT 21 85'	<10.0	<10.0	64
H19783-2	TOMCAT 21 90'	<10.0	<10.0	480
Quality Contro	pi	475	514	500
True Value Q	С	500	500	500
% Recovery		95.0 103		
Relative Perc	ent Difference	1.7	12.7	< 0.1

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analyses performed on 1:4 w:v aqueous extracts. Reported on wel weight. **One or more TPH surrogates outside historical limits due to matrix interference.

ab Di

PSIBIO

Date

H19783 TCL WEE

PLEXSE NOTE: Usefailing and Stamages. Candinar's liability and client's exclusive remady for any claim arising, whether based in contract or tort, shall be limited to the amount paid by elient for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Candinal within thirty (30) days after completion of the applicable service. In no event shall Candinar be liable for incidental or consequential damages, including, without limitation, business interruptions, toss of use, or lose of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Candinari regardless of whether such claim is based upon any of the above eliated massors or otherwise. Results relate-only to the samples identified above. This report shall not be reproduced except in full with written approval of Candinari Laboratories.

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603

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F Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



PHONE (575) 393-2325 . 101 E. MARLAND . HOBBS, NN 88243

May 4, 2010

Mike Griffin Whole Earth Environmental, Inc. 2103 Arbor Cove Katy, TX 77494

Re: Tomcat 21

Enclosed are the results of analyses for sample number H19795, received by the laboratory on 05/03/10 at 7:55 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Method SW-846 8260 Method TX 1005 Benzene, Toluene, Ethyl Benzene, and Total Xylenes Benzene, Toluene, Ethyl Benzene, and Total Xylenes Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 3 (includes Chain of Custody)

Sincerely.

Celley D./Reene Laboratory Director



PHONE (575) 393-2326 . 101 E. MARLAND . HOBES, NM 88240

ANALYTICAL RESULTS FOR WHOLE EARTH ENVIRONMENTAL, INC. ATTIN: MIKE GRIFFIN 2103 ARBOR COVE KATY, TX 77494 FAX TO: (281) 394-2051

Receiving Date: 05/03/10 Reporting Date: 05/04/10 Project Number: NOT GIVEN Project Name: TOMCAT 21 Project Location: NOT GIVEN Sampling Date: 05/03/10 Sample Type: SOIL Sample Condition: COOL & INTACT @ 6°C Sample Received By: JH Analyzed By: AB/HM

LAB NUMBE	ER SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/kg)	DRO (>C ₁₈ -C ₂₈) (mg/kg)	CP (mg/kg)	
ANALYSIS (DATE	05/04/10	05/04/10	05/03/10	
H19795-1	PUDDLE 2 BORE 2 (55')	<10.0	<10.0	48	
H19795-2	PUDDLE 2 BORE 2 (60')	<10.0	<10.0	32	
Quality Cont	Irgil	460	456	500	
True Value (QC	500	500	500	
% Recovery		92.0	92.0 91.2		
Relative Pen	cent Difference	1.2	0.6	< 0.1	

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; CI: Std. Methods 4500-CIB *Analyses performed on 1:4 w:v aqueous extracts. Reported on wet weight.

ab Director

H19795 TCL WEE

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Mary 11, 2010

Michael Griffin Whole Earth Environmental, Inc. 2103 Arbor Cove Katy, TX 77494

Re: Tomcat 21 Fed 21 Com #1 Leak 1

Enclosed are the results of analyses for sample number H19838, received by the laboratory on 05/07/10 at 8:05 am.

Cardinal Laboratories is accredited through Texas NELAP for:

Method SW-846 8021 Method SW-846 8260 Method TX 1005 Benzene, Toluene, Ethyl Benzene, and Total Xylenes Benzene, Toluene, Ethyl Benzene, and Total Xylenes Total Petroleum Hydrocarbons

Certificate number T104704398-08-TX. Accreditation applies to solid and chemical materials and non-potable water matrices.

Cardinal Laboratories is accredited though the State of Colorado Department of Public Health and Environment for:

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

Accreditation applies to public drinking water matrices.

Total Number of Pages of Report: 4 (includes Chain of Custody)

Simcere elev/D. Keene

Laboratory Director



ANALYTICAL RESULTS FOR WHOLE EARTH ENVIRONMENTAL, INC. ATTN: MICHAEL GRIFFIN 2103 ARBOR COVE KATY, TX 77494 FAX TO: (281) 394-2051

Receiving Date: 05/07/10 Reporting Date: 05/10/10 Project Owner: NOT GIVEN Project Name: TOMCAT 21 FED 21 COM#1 LEAK 1 Project Location: NOT GIVEN Sampling Date: 05/05/10 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: JH Analyzed By: AB

LAB NUMBEF	R SAMPLE ID	GRO (C ₅ -C ₁₀) (mg%g)	DRO (>C ₁₀ -C ₂₀) (mg/kg)
ANALYSIS DA	ATE:	05/07/10	05/07/10
H19838-1	PUDDLE G (B10) 35'	<10.0	<10.0
-			

Quality Control	462	452
True Value QC	500	500
% Recovery	92.4	90.4
Relative Percent Difference	1.3	0.2

METHOD: SW-846 8015 M. Reported on wel weight.

5/11/10

H19838 TPH WEE

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ANALYTICAL RESULTS FOR WHOLE EARTH ENVIRONMENTAL, INC. ATTN: MICHAEL GRIFFIN 2103 ARBOR COVE KATY, TX 77494 FAX TO: (281) 394-2051

Receiving Date: 05/07/10 Reporting Date: 05/10/10 Project Owner: NOT GIVEN Project Name: TOMCAT 21 FED 21 COM #1 LEAK 1 Project Location:: NOT GIVEN Sampling Date: 05/05/10 Sample Type: SOIL Sample Condition: COOL & INTACT Sample Received By: JH Analyzed By: HM/AB

	FID	* CF	WATER
Analivsis Date		05/07/10	05/10/10
H19838-1 PUDDU	E G (B10) 35'	96	13.6
H19838-2 PUDD	LE G (B10) 37	1,920	14.2
Quality Control		500	NR
True Value QC		500	NR
% Recovery		1:00	NR
Relative Percent Diff	ference	2.0	NR
METHOD: Standard M	ethods	4500-CI'B	D2216

* Note: Analyses performed on 1:4 w.v aqueous extracts.

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H19838 WEE

PLEASE NOTE: ListHilly and Dimages. Continuel's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Continual within thirty (30) days after completion of the applicable service. In no event stall Continual be liable for incidentat or consequential damages, including, without imitation, business interruptions, loss of use; on loss of profite incurred by client: its subsidiartes: affiliates or successors arising out of or related to the performance of services hereunder by Cantifund regardless of whatter such claim is based: upon any of the above-stated measurem or otherwise. Result: nelate-only to the samples identified: above. This report shall not be reproduced except in full with written approval of Cantinal Laboratories. CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Leking, Geoffrey R, EMNRD

From: Roy Rascone [Royr@vadose.us] Sunday, February 20, 2011 6:16 PM Sent: Don Mayberry; Nathan Kuhnert; Shannon Moss; Jerry Mathews; Paul Evans; Leking, Geoffrey R, EMNRD MC Griffin ; ElliotW; MC Griffin Subject: 2-17-11 DAILY REPORT Devon Tom Cat Fed 21 Com #1 Plat Map.xlsx Attachments:

Good morning everyone

To:

Cc:

Our daily report for Friday is as follows, Doc continued to excavate the finger between area J and K, for the moment we have two areas that are clean, this will depending on the results of the side walls of these extensions which will have to tested. I got the area A & B dug out and is now ready for further sampling laterally to see if we are getting any closer to the lateral sides of the leak, this will be done on Monday. Shannon and Silvio arrived onsite today and we discussed the fence problem, Silvio will be moving his cattle from this area so we can remove the fence in the leak area and not have it impeding work progress. I talked to MMX foreman Cody and we may have a crew onsite on Monday to remove the fence. All fence material (post) will be saved and reused when job is complete.

Attached is the leak area map along with specific site maps. If you will open the attachment and down at the bottom of the page there will be tabs ided as to what they contain, if you will click on the tab it should appear.

If you have any questions or comments please don't hesitate to call or email me.

Thank you very much and have a great day.

Roy R. Rascon Regional Manager / Project Manager Whole Earth Environmental Inc. Cell: 713-560-6076 Email: royr@vadose.us

DEVON TOM CAT FED 21 COM #1 LEAK #1 AREA A & B CL- FIELD TITRATIONS RESULTS



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