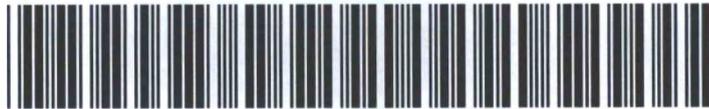




AE Order Number Banner

Report Description

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



App Number: pPAC0726226792

1RP - 1574

AMERICO ENERGY RESOURCES LLC

**HUNGRY HORSE, LLC
ENVIRONMENTAL SERVICES**

Dirt Work * On-Site Remediation * Soil Testing * Excavation

25June09

TO: Larry Johnson
REFERENCE: Remediation Work Plan

OPERATOR: AmeriCo Energy Resources
LOCATION: State T 8
API: 30-025-05233
LEGALS: UL, M, Sec. 2, T15S, R37E
GPS: N33 02.533 W103 10.492
DEPTH to GROUND WATER: 70'

RECEIVED

JUN 30 2009

HOBSOCD

IRP 1574 (ISSUED 6-07)

General Site Characteristics: The affected area is approximately 125' x 265' in the southeast corner of the pasture just west of the Davis Gas Plant. It is approximately 800' due east of the State T 8 well. The surrounding area is used for cattle production and consists of native grasses and small cactus plants.

Site ranking Score: 10- based upon the depth to groundwater (50'-99'), not a wellhead protection area, and no surface bodies of water within 1000'

Soil Remediation Action Levels: Benzene 10ppm, BTEX 50ppm, TPH 1000ppm, chlorides as per NM OCD guidance

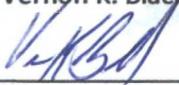
Delineation: Performed Dec 2007 (**Attachment 1**)

Work Plan Proposal: The proposed work plan is to excavate three feet from the affected area, line the area with a synthetic liner, and backfill using clean material. All excavated material will be transported to and disposed of at a division approved disposal facility. The area will then be contoured to match the surrounding terrain and seeded.

Notes/Comments: Hungry Horse was contracted to drill and install a monitor well at the location (SE of affected area) to determine if the groundwater had been impacted (**Drilling log Attachment 2**). A water sample was obtained on 8Jun09, and analyzed for TPH, Benzene, BTEX, and Chlorides (**Attachment 3**). Lab results indicate the groundwater has not been impacted.

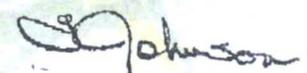
Attachment 4-C 141

Submitted By: Vernon K. Black, Hungry Horse, LLC

Signature:  25 Jun 09

DENIED

1. FULL HORIZONTAL & VERTICAL DELINEATION IS REQUIRED FOR APPROVAL CONSIDERATION.
2. C. 141 EXPIRED. NEW C. 141 w/ AMERICO SIGNATURE REQUIRED BY 7. 14. 09 TO AVOID NOV.



ENVIRONMENTAL ENGINEER
6.30.09



LOG OF BORING BH-1

(Page 1 of 1)

Produced Water Release Investigation
 Americo Energy Resources
 Americo State T #8
 Unit M, Sec 2, T15S R37E, Lea County, NM
 N33° 02' 32.3", W103° 10' 29.0"

Date, Time Started : 11/01/07, 1500
 Date, Time Complete : 11/01/07, 1730
 Hole Diameter : 8 1/4 in.
 Drilling Method : Hollow Stem Auger
 Drilling Equipment : Foremost-Mobile B-57

Drilled By : Eco/Enviro Drilling
 Sampling Method : 5 ft. core barrel
 Logged By : Isaac Kincaid
 Company Rep. :

Depth in Feet	Sample Type	Recovery (ft.)	USCS	GRAPHIC	DESCRIPTION	Lab No.	Field Chlorides (ppm)	Lab Chlorides (mg/Kg)	TPH 418.1 (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
0													
1	CB	4.0	CL		0-5 ft. CLAY, brown, with heavy odor and staining. No field chloride at 5 ft. due to heavy staining. Oil in core barrel seeping out.	B711004-07		6,400	21,000	<0.50	0.62	1.0	3.5
2													
3													
4													
5					5-6 ft. CLAY, brown	B711004-01		2,300	33,000	4.0	72	82	170
6													
7	CB	1.4	CA/SP		6-10 ft. CALICHE rock and SAND, rock with greyish color, heavy odor	B711004-02		4,700	14,000	0.94	26	38	88
8													
9													
10													
11													
12	CB	1.6	SP		10-14 ft. CALICHE greyish and SAND yellow, with odor and staining	B711004-03		5,900	6,100	<0.50	13	19	48
13					SAND, brown and CALICHE rock with minimum staining								
14													
15													
16													
17	CB	1.1	SP/CA		15-20 ft. SAND, tan and CALICHE with SANDSTONE, staining with odor	B711004-04	2,008	7,200	5,600	<0.50	7.2	9.6	24
18													
19													
20													
21													
22	CB	2	SP		20-24 ft. SAND, tan with staining and odor	B711004-05		4,600	11,000	0.58	18	23	57
23													
24					24-25 ft. CALICHE rock with staining and odor								
25													
26	CB	2.7	SP		25-28 ft. SAND, tan	B711004-06		5,700	16,000	0.69	24	34	82
27													
28					28 ft. CALICHE, hard, auger refusal								
29													
30													

Notes: Boring backfilled with 9 bags bentonite, hydrated.

LOG OF BORING BH-1A

(Page 1 of 1)

Produced Water Release Investigation Americo Energy Resources Americo State T #8 Unit M, Sec 2, T15S R37E, Lea County, NM N33° 02' 32.3", W103° 10' 29.0"	Date, Time Started : 12/04/07, 0725 Date, Time Complete : 12/04/07, 1430 Hole Diameter : 8 in. Drilling Method 1 : Hollow Stem Auger Drilling Method 2 : Downhole hammer	Drilling Equipment : Foremost-Mobile B-57 Drilled By : Eco/Enviro Drilling Sampling Method : 5 ft. core barrel/cuttings Logged By : Isaac Kincaid Company Rep. :
---	--	--

Depth in Feet	Sample Type	Recovery (in.)	USCS	GRAPHIC	DESCRIPTION	Lab No.	Field Chlorides (ppm)	Lab Chlorides (mg/Kg)	TPH 418.1 (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
0													
1													
2	CT		CL/SP		0-5 ft. CLAY, SAND, odor, greyish staining								
3													
4													
5													
6													
7	CT				5-10 ft. SAND, CLAY, with rock, odor								
8													
9													
10			SP/CL										
11													
12	CT				10-15 ft. SAND, CLAY, with minimal rock, odor								
13													
14													
15													
16					15-18 ft. CALICHE rock with silica. Switched to air hammer to break up hard rock layer								
17	CT		CA										
18													
19													
20													
21													
22	CT				20-25 ft. No cuttings returned with air								
23													
24													
25					25-30 ft. No cuttings, odor from hole								
26	CT				30-32 ft. No cuttings, odor. Air stream not sufficient to blow cuttings from hole. Removed hammer and replaced with auger. Drilled with auger to 28 ft. below ground surface, could not break rock. Replace hammer into borehole to break rock. Broke through rock at 32 ft. Reinstalled auger but could not get below 28 ft. Installed split spoon to obtain sample through center of hammer hole at 30 ft. No sample in spoon when pulled.								
27													
28													
29													
30													
31													
32													
33													
34													
35													

Notes:
 BH-1A drilled 10 ft. east of previous boring (BH-1).
 Boring backfilled with bentonite, hydrated.

Z:\BESC\Central\Company Files\Americo\AME-07-002 Americo State T #8\Boring Logs\BH-1A.log



LOG OF BORING BH-1B

(Page 1 of 2)

Produced Water Release Investigation
 Americo Energy Resources
 Americo State T #8
 Unit M, Sec 2, T15S R37E, Lea County, NM
 N33° 02' 32.3", W103° 10' 29.0"

Date, Time Started : 12/14/07, 0830
 Date, Time Complete : 12/17/07, 1630
 Hole Diameter : 8 1/4 in.
 Drilling Method 1 : Hollow Stem Auger
 Drilling Method 2 : Downhole hammer

Drilling Equipment : Foremost-Mobile B-57
 Drilled By : Eco/Enviro Drilling
 Sampling Method : 5 ft. core barrel/cuttings
 Logged By : David Boyer, P.G.
 Company Rep. :

Depth in Feet	Sample Type	Recovery (ft.)	USCS	GRAPHIC	Sample Type	Lab No.	Field Chlorides (ppm)	Lab Chlorides (mg/Kg)	TPH 418.1 (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
					DESCRIPTION								
0					Sample log from 0-20 ft. from BH-1, 11/01/07								
0-5	CB	4.0	CL		0-5 ft. CLAY, brown, with heavy odor and staining. No field chloride at 5 ft. due to heavy staining. Oil in core barrel seeping out.								
5-6					5-6 ft. CLAY, brown								
6-10	CB	1.4	CA/SP		6-10 ft. CALICHE rock and SAND, rock with greyish color, heavy odor								
10-14	CB	1.6	CA/SP		10-14 ft. CALICHE greyish and SAND yellow, with odor and staining SAND, brown and CALICHE rock with minimum staining								
15-20	CB	1.1	SP/CA		15-20 ft. SAND, tan and CALICHE with SANDSTONE, staining with odor								
20-22.6	CB	3	SP		20-22.6 ft. SAND, light brown, fine grained, uniform, strong H/C odor								
22.6-24					22.6-24 ft. CALICHE and SAND, yellowish-brown								
25-28.3	CB	1.3	CA/SP		25-28.3 SAND and CALICHE, caliche to 2 in., fragments, damp with H2O or H/C at base, strong H/C odor Auger refusal at 28 ft.								
28-31	CT		CA		28-31 ft. Added downhole hammer. Soft to 28 then rock, CALICHE fragments to 1/4 in. from cuttings. Odor indeterminate due to passing zone 25-30 ft. without auger to prevent slough.								
31-34	CT		SS		12/14: 31-34 ft. Drilled through rock to ~34 ft. Sand beginning 34 ft.								
34-35	SS	1.3	CA/SP		12/17: Augers advanced to 28 ft, will not go further, drilled through rock to 34 ft, SANDSTONE, well cemented	B712010-01	884	820	75	<0.005	<0.005	<0.005	<0.010

Notes:
 Boring drilled 5 ft. north of BH-1. Began 12/14/07, completed 12/17/07
 Boring backfilled 30-65 ft. with 13 bags Holeplug bentonite, well hydrated.
 Boring backfilled 0-30 ft. with 16 bags Holeplug bentonite, well hydrated.



LOG OF BORING BH-1B

(Page 2 of 2)

Produced Water Release Investigation
 Americo Energy Resources
 Americo State T #8
 Unit M, Sec 2, T15S R37E, Lea County, NM
 N33° 02' 32.3", W103° 10' 29.0"

Date, Time Started : 12/14/07, 0830
 Date, Time Complete : 12/17/07, 1630
 Hole Diameter : 8 1/4 in.
 Drilling Method 1 : Hollow Stem Auger
 Drilling Method 2 : Downhole hammer

Drilling Equipment : Foremost-Mobile B-57
 Drilled By : Eco/Enviro Drilling
 Sampling Method : 5 ft. core barrel/cuttings
 Logged By : David Boyer, P.G.
 Company Rep. :

Depth in Feet	Sample Type	Recovery (ft.)	USCS	GRAPHIC	DESCRIPTION	Lab No.	Field Chlorides (ppm)	Lab Chlorides (mg/Kg)	TPH 418.1 (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl Benzene (mg/Kg)	Total Xylenes (mg/Kg)
35	SS	1.3			12/14: 34-36 ft. Pulled hammer, added 2 ft. split spoon, blows/6 in: 5, 9, 16, 21.		820						
	NR			CA/SP	34-34.2 ft. SAND (slough)								
					34.2-35 ft. CALICHE rock fragments and slough from above								
					35-35.3 ft. SAND, light brown, dry, slight H/C odor. Due to slough, estimate sample from 34.5-35 ft.								
40	CT,SS			SS	12/17: 35-36 ft. cuttings sandy, possible slight H/C odor		1,288						
					12/14: 38-42 ft. SANDSTONE rock		1,604						
					42-44.5 ft. SANDSTONE sample may be slough. End drilling 12/14, left augers in hole.								
45	CT			SP	12/17: 39.2-41.2 ft. Split spoon sample, likely slough, mixture of sand and sandstone chips. Possible H/C odor at 41 ft.		5,652						
					12/17: 46 ft. SAND, slight H/C odor								
					48-49 ft. SAND, slight H/C odor		2,168						
50	CT			SP/SS	48-53 ft. SAND, light brown, with SANDSTONE lenses		1,860						
							2,008						
55	CT			SP	53-58 ft. SAND, light brown, less sandstone lenses, slightly reddish 57-58 ft., possible odor		1,492						
60	CT				62-63 ft. SAND, light brown, possible odor		1,860						
65	CT				65 ft. SAND, damp, possible capillary fringe with water likely 67-68 ft.								

Notes:
 Boring drilled 5 ft. north of BH-1. Began 12/14/07, completed 12/17/07
 Boring backfilled 30-65 ft. with 13 bags Holeplug bentonite, well hydrated.
 Boring backfilled 0-30 ft. with 16 bags Holeplug bentonite, well hydrated.

Z:\SES\Central\Company Files\Americo\AME-07-002 Americo State T #8\Boring Log\BH-1B.log

Drilling Log

Company: Americo Energy Resources
 County/State: Lea County NM
 Location Name: State T-8
 Drilling Date(s): 6/3 AND 6/4 09
 Purpose: MONITORIN WELL

Drilling Log/Record

	<u>Thickness</u>	<u>Soil Type/Description</u>
0-2'	2'	TOPSOIL
2-24'	22'	CALICHE CLAY & ROCK
24-30'	6'	HARD CALICHE ROCK
30-65'	35'	TAN DRY SAND
65'-85'	20' 20'	WATER SAND
	65' BLANK CASING	20' SCREEN
	15' WET SCREEN	5' DRY SCREEN

I certify that, to the best of my knowledge and belief, that the information on this record is true and accurate.

Signature: *Tom W. Coy* NM Driller Permit: WD 1497 Date: 6/4/09

JUN 17 2009



ARDINAL LABORATORIES

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

ANALYTICAL RESULTS FOR
HUNGRY HORSE ENVIRONMENTAL SERVICES
ATTN: VERNON K. BLACK
P.O. BOX 1058
HOBBS, NM 88241
FAX TO: (575) 391-4585

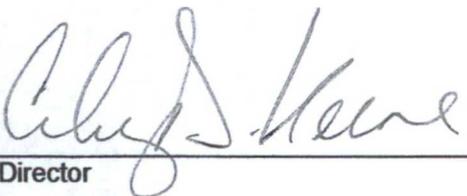
Receiving Date: 06/08/09
Reporting Date: 06/10/09
Project Owner: AMERICO ENERGY RESOURCES
Project Name: STATE T-8 MONITOR WELL
Project Location: LEA COUNTY, NM

Sampling Date: 06/08/09
Sample Type: GROUNDWATER
Sample Condition: INTACT @ 14.5°C
Sample Received By: ML
Analyzed By: AB/ZL/HM

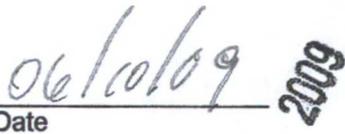
LAB NO.	SAMPLE ID	GRO (C ₆ -C ₁₀) (mg/L)	DRO (>C ₁₀ -C ₂₈) (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)	Cl ⁻ (mg/L)
ANALYSIS DATE:		06/09/09	06/09/09	06/09/09	06/09/09	06/09/09	06/09/09	06/09/09
H17579-1	STATE T-8 MONITOR WELL	<1.00	<1.00	<0.001	<0.001	<0.001	<0.003	84
Quality Control		444	450	0.055	0.057	0.052	0.158	500
True Value QC		500	500	0.050	0.050	0.050	0.150	500
% Recovery		88.8	90.0	110	114	104	105	100
Relative Percent Difference		5.0	2.8	13.1	<1.0	1.9	<1.0	2.0

METHODS: TPH GRO & DRO - EPA SW-846 8015 M; BTEX - SW-846 8021B; Cl⁻: Std. Methods 4500-Cl-B

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE,
AND TOTAL XYLENES. Not accredited for GRO/DRO and Chloride.



Lab Director



Date

H17579 TBCL HHE

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