1R - 458

REPORTS

DATE:

8/1/2005

Americo Energy
Denton SWD #1
Site Investigation
Unit D, Section 13, Township 15S, Range 37E
Lea County, New Mexico

August 1, 2005

1R-458

Prepared for:

Americo Energy
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Houston TX 77043

By:

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I. Company Contacts

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II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged to perform delineation and cleanup services at the Americo Energy "Denton SWD #1" site. The site is located in the NW (UL-D) corner of Section 13 Township 15S Range 37E, Lea County, New Mexico (see Figure 1). The land is owned by Mr. Darr Angell.

The cement overflow pit at the site lost its integrity and allowed hydrocarbon and chloride migration to the sub-strata and to soils extending laterally beyond the perimeter of the pit.

The overflow pit at this active tank battery site has been deactivated and is no longer in use. The vertical extent and nature of contamination was determined with the boring and sampling of three boreholes, which is reported in the Merit Energy Work Plan dated August 16, 2004. Ground water sampling was performed with the installation and sampling of a ground water monitoring well approximately 70-ft down-gradient from the overflow pit, which is reported in the Merit Energy Work Plan dated August 16, 2004.

III. Surface and Ground Water

Three monitor wells have been installed at the site. On July 29, 2005 depths of water was measured in a three of these wells. The average depth of water was approximately 59'.

IV Soils

The surface soils in the area are predominantly sand and sandy loam.

V. Work Performed

Installation and Sampling of Monitor Wells

On June 21, 2005 SESI retrieved a water sample from Monitor Well #1, which had been previously installed. The sample was transported under Chain of Custody to Cardinal Laboratories for analysis.

On June 23, 2005 SESI installed Borehole #2 to a depth of 65'. Grab samples were retrieved every five feet. The samples were transported under Chain of Custody to Cardinal Laboratories. All samples were analyzed for Chlorides (EPA Method 4500-Cl^-B) and the top 15' was analyzed for TPH (EPA Method 418.1) and BTEX (EPA Method 8260). On June 29, 2005 the well was developed and the depth of water was found to be 56.09'. A water sample was retrieved and transported under Chain of Custody to Cardinal Laboratories for analysis.

On July 21, 2005 SESI installed Monitor Well #3 to a depth of 65'. On July 22, 2005 the well was developed and the depth of water was found to be 56.62'. A water sample was retrieved and transported under Chain of Custody to Cardinal Laboratories for analysis.

All water samples were analyzed for BTEX (EPA Method 8260) and major cations & anions. The results of the monitor well analysis are as follows:

Sample ID	Lab Cl^-	TPH	Benzene	Toluene	Ethyl Benzene	Total Xylenes
MW-2, 5'	960	<10	<0.005	<0.005	<0.005	<0.015
MW-2, 10'	208	<10	<0.005	<0.005	<0.005	<0.015
MW-2, 20'	192					
MW-2, 25'	64					
MW-2, 30'	32					
MW-2, 35'	16					
MW-2, 40'	16					
MW-2, 45'	16					
MW-2, 50	16					
MW-3, 5'	160					
MW-3, 10'	80					
MW-3, 15'	48					
MW-3, 20'	64					

Sample ID	Lab Cl^-	Benzene	Toluene	Ethyl Benzene	Total Xylenes
MW-1	64	<0.002	<0.002	<0.002	<0.006
MW-2	344	<0.002	<0.002	<0.002	<0.006
MW-3	40	<0.002	<0.002	<0.002	<0.006

Sample ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (mS/cm)	T-Alkalinity ($mgCaCo_3/L$)
MW-1	NS	NS	NS	NS	NS	NS
MW-2	254	100	5.8	9.18	1073	258
MW-3	36	52	23	3.06	688	190

Sample ID	Cl (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	PH (s.u.)	TDS (mg/L)
MW-1	64	NS	NS	NS	NS	NS
MW-2	344	92	0	315	6.18	1130
MW-3	40	58	0	232	7.48	455

Upon discovery of the chloride contamination is Monitor Well #2, Ed Martin with the NMOCD is Santa Fe was notified.

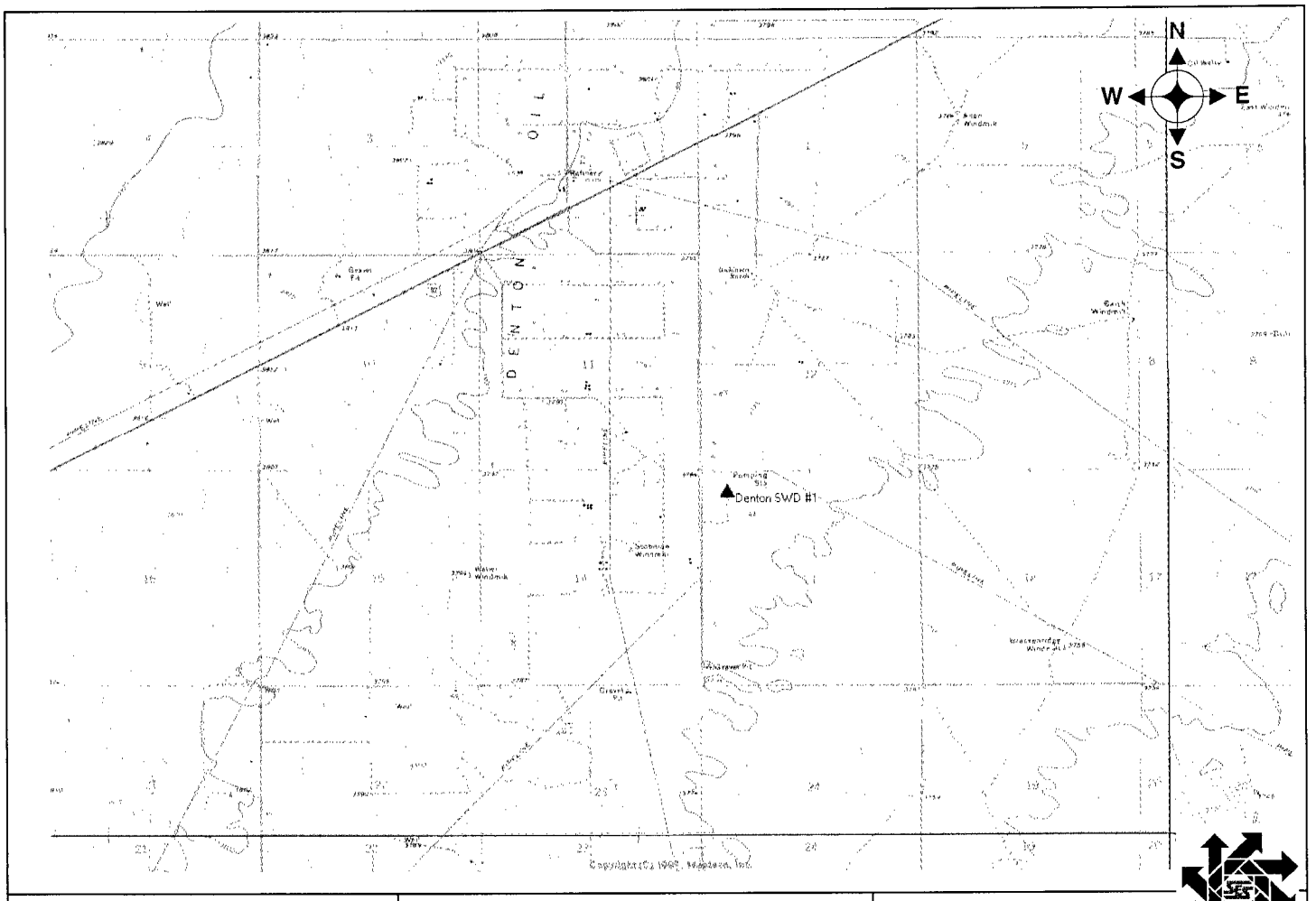
VI. Conclusions

Due to the low level of chloride contamination it is requested that the existing monitor wells continue to be monitored quarterly for chlorides.

VII. Figures

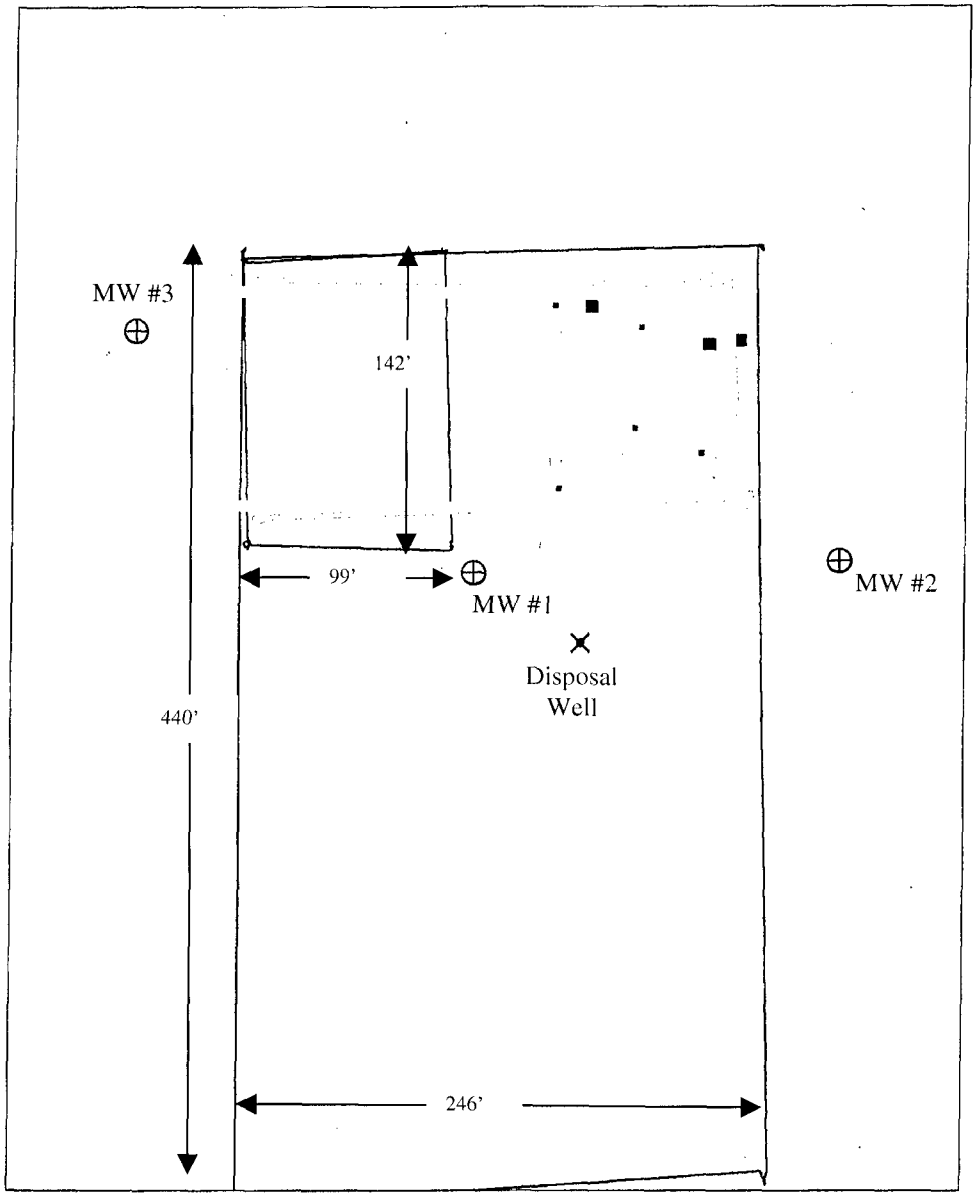
Figure 1 – Vicinity Map
Figure 2 – Site Plan
Figure 3 – Plat of Monitor Wells
Appendix A – Monitor Well Logs
Appendix B – Analytical Results

Figure 1
Vicinity Map



Americo Energy Company	**Denton SWD #1** **S13, T15S, R37E** **Lea County, New Mexico**	**Safety & Environmental Solutions, Inc.**

Figure 2
Site Plan



Americo Denton SWD

Lat/Long
WGS 1984

N

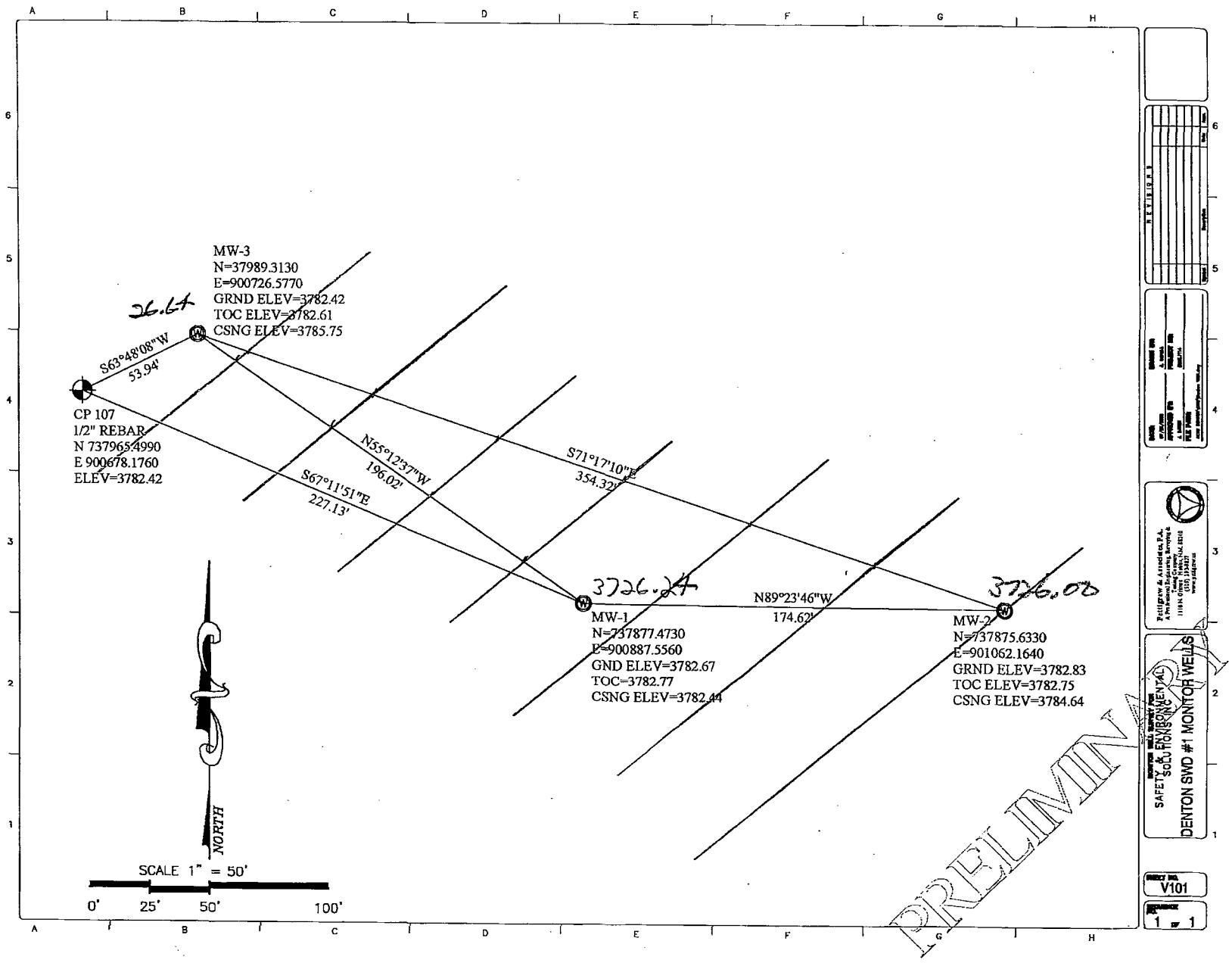
Scale 1:1,000

0 125.0

Feet

R080114A.cor
8/1/2005
GPS Pathfinder® Office
Trimble™

Figure 3
Plat of Monitor Wells


MW-3
N=37989.3130
E=900726.5770
GRND ELEV=3782.42
TOC ELEV=3782.61
CSNG ELEV=3785.75
3764
S63°48'08"W
53.94'
CP 107
1/2" REBAR
N 737965.4990
E 900678.1760
ELEV=3782.42
N55°12'37"W
196.02'
S67°11'51"E
227.13'
S71°17'10"E
354.32'
3726.64
N89°23'46"W
174.62'
3726.00
MW-1
N=737877.4730
E=900887.5560
GND ELEV=3782.67
TOC=3782.77
CSNG ELEV=3782.44
MW-2
N=737875.6330
E=901062.1640
GRND ELEV=3782.83
TOC ELEV=3782.75
CSNG ELEV=3784.64
NORTH
SCALE 1" = 50'
0'
25'
50'
100'
PRELIMINARY
DENTON SWD #1 MONITOR WELLS
V101
1 of 1

Appendix A
Log of Monitor Wells

Appendix B
Analytical Results