1R - 400

REPORTS

DATE:

10/1/2003

Remediacon Incorporated
Geological and Engineering Services
mstewart@remediacon.com

PO Box 302, Evergreen, Colorado 80437
Telephone: 303.674.4370
Facsimile:720.528.8132

October 1, 2003
Mr. Stephen Weathers
Duke Energy Field Services, LP
370 Seventeenth Street, Suite 900
Denver, Colorado 80202

Re: Status Report on the Remediation System at the Etcheverry Ranch, Lea County New Mexico (Unit B, Section 7, Township 15 South, Range 34 East: Latitude 33° 02' 11", Longitude 103° 32' 48")

Dear Mr. Weathers:

This letter summarizes the status of the ongoing remediation activities by Duke Energy Field Services, LP (DEFS) at the Etcheverry Ranch. The remediation system includes product removal, performance monitoring and remediation components. The free product extraction system is installed into well MW-8 (Figure 1). The product is brought to the surface using a Xitech pump and stored in a 400 gallon polyethylene storage tank. Monitoring wells MW-1 through MW-7 are used to track performance and to ensure plume containment (Figure 1). Construction information on the seven monitoring wells is included in Table 1.

The soil vapor extraction (SVE) system includes eight vapor extraction wells in four clusters (Figure 2). SVE well completion information is summarized in Table 2. The air sparge (AS) system includes 14 sparge points at the locations shown on Figure 3. AS sparge well completion information is summarized in Table 3.

The entire remediation site is enclosed inside a 3-strand barbed-wire fence. The SVE blower, the AS blower and the compressor for the free product removal system were all placed inside a wood-frame building to protect them from the elements. An on-site, propane-fueled generator provides power for the entire system. A telemetry system was installed to alert local maintenance personnel of a power failure on any system component.

System installation was completed by the end of May. The SVE and AS components were tested and became fully functional by mid-June. The free product collection system has operated since the last week in July following the replacement of the original compressor.

Groundwater monitoring was completed at the site on June 20th, July 17th , August 20th and September 22nd 2003. Two more monthly episodes of groundwater monitoring will be completed in October and November 2003. Monitoring is then scheduled to revert to quarterly.

The monthly monitoring activities included the measurement of fluid levels in all eight existing monitoring wells and the collection of samples from wells MW-1 through MW-7. The seven wells were purged and sampled using disposable bailers. Well development consisted of evacuating a minimum of 3 casing volumes of water and then continuing development until the field parameters temperature, pH and conductivity stabilized.

Unfiltered samples were collected from each well upon stabilization for analysis for benzene, toluene, ethylbenzene and xylenes (BTEX). A field duplicate was collected and a trip blank was provided for each monitoring episode for QA/QC evaluation.

The samples were placed in an ice-filled chest immediately upon collection. The samples were delivered directly to the analytical laboratory Environmental Labs of Texas in Midland Texas using standard chain-of-custody protocol. All development and purge water was disposed of at an approved OCD facility.

The groundwater elevation measurements for all sampling episodes are summarized in Table 4. Hydrographs for wells MW-1 through MW-7 from September 2002 through September 2003 are included in Figure 4. Well MW-8 is not included in the data because periodic removal of free product produces a continual non-equilibrated state between the water and the free product. Examination of Figure 4 indicates that the water table has remained consistent in all seven wells over the one-year period of record.

A possible discrepancy was discovered in the survey data for well MW-7. This discrepancy appears to result in calculated elevations that are approximately 0.5 feet too low (Figure 4). Historical analysis based upon wells MW-1 through MW-6 indicated that the groundwater flowed easterly to southeasterly. An updated water table contour map will be provided once this discrepancy is resolved.

The BTEX data collected for DEFS since the start of the project are summarized in Table 5. Examination of this table indicates the following:

1. BTEX constituents have never been detected in wells MW-1 (up-gradient), MW-4 and MW-7;

2. The trace hydrocarbon constituent concentrations detected in MW-5 and MW-6 had declined to below the method detection limits by July 2003;

3. The BTEX concentrations in interior wells MW-2 and MW-3 have declined from the pre-remediation concentrations. The benzene concentrations for these wells are graphed in Figure 5.

The above information demonstrates that the remediation system has stabilized the plume and, in fact, may be shrinking the area of groundwater impacts.

Airflow was measured at all of the AS and SVE locations in July and September 2003. The air is currently being injected at a pressure of 13 pounds per square inch (psi). The results are summarized in Table 6. The AS flow rates declined to negligible levels in eight of the 14 wells. The injection pressure to the system and the flow rates to the individual wells will now be measured and adjusted on a weekly basis through the end of performance monitoring to attempt to provide a more uniform supply of air.

The vacuum on the SVE system was increased to 50 inches of water in July 2003. This increase produced the change in the air flow rates (Table 6). The SVE system appears to be functioning properly. Flow rates for the SVE system will also be measured weekly through the end of performance monitoring to ensure continued performance.

Weekly inspections are also being completed to ensure that the free product removal system functions at the maximum possible rate. Well MW-8 will be connected to the soil vapor extraction system once all of the available free product is extracted to attempt to remove the immobile free product lying above the water table.

Wells MW-1 through MW-7 will be sampled in October and November 2003 as part of the initial performance evaluation. A final system evaluation report will then be prepared at the end of the performance monitoring period (November 2003). The report will include updated data, and more detailed evaluation of the system's performance, recommendations (if any) to optimize the system, and a proposed groundwater monitoring program.

Do not hesitate to contact me if you have any questions or comments on this summary.

Respectfully Submitted,
REMEDIACOM INCORPORATED

Michael H. Stewart

Michael H. Stewart, P.E.
Principal Engineer

MHS:tbm
attachments

TABLES

Table 1 – Monitoring Well Completions

Well	Date Installed	Well Depth	Completion Interval	Top of Sand
MW-1	4/23/02	91	71-91	68
MW-2	3/26/02	88	68-88	62
MW-3	3/27/02	91	71-91	61
MW-4	4/24/02	91	71-91	68
MW-5	4/23/02	89	69-89	56
MW-6	4/25/02	90	70-90	68
MW-7	5/02	85	65-85	59

Notes: All units in Feet
Hydrocarbon extraction well (MW-8) completed between approximately 80 and 100 feet

Table 2 – Soil Vapor Extraction Well Completions

Extraction Point	4" PVC Riser	4" 0.010 PVC Screen	Bentonite	Sand	Total Depth	10" Surface Casing
SVE-1s	0'-37'	37'-57'	4'-35'	35'-57'	57'	
SVE-1d	0'-57'	57'-77'	8'-55'	55'-77'	77'	
SVE-2s	0'-37'	37'-57'	4'-35'	35'-57'	57'	0'-28'
SVE-2d	0'-56'	56'-76'	4'-54'	54'-76'	76'	0'-30'
SVE-3s	0'-37'	37'-57'	6'-35'	35'-57'	57.5'	
SVE-3d	0'-55'	55'-75'	5'-53'	53'-75'	76'	
SVE-4s	0'-37'	37'-57'	5'-35'	35'-57'	57'	
SVE-4d	0'-55'	55'-75'	5'-53'	53'-75'	76'	

Notes: All units in Feet

Table 3 – Sparge Well Completions

Sparge Point	2" PVC Riser	2" 0.010 PVC Screen	Bentonite	Sand	Total Depth	8" Surface Casing
AS-1	0'-95'	95'-97'	3'-92'	92'-97'	97'	
AS-2	0'-95'	95'-97'	5'-93'	93'-97'	97.5'	0'-17' 8"
AS-3	0'-95'	95'-97'	6'-92'	92'-97'	97'	0'-17'
AS-4	0'-95'	95'-97'	5'-92'	92'-97'	97'	0'-16'
AS-5	0'-95'	95'-97'	5'-92'	92'-97'	97'	0'-16'
AS-6	0'-95'	95'-97'	5'-92'	92'-97'	97'	0'-17'
AS-7	0'-95'	95'-97'	?'-93'	93'-97'	97'	0'-17'
AS-8	0'-95'	95'-97'	4'-93'	93'-97'	97'	0'-33'
AS-9	0'-95'	95'-97'	4'-92'	92'-97'	97'	0'-38'
AS-10	0'-95'	95'-97'	5'-93'	93'-98'	98'	0'-17'
AS-11	0'-95'	95'-97'	4'-93'	93'-97'	97'	0'-30'
AS-12	0'-95'	95'-97'	5'-92'	92'-97'	97'	0'-17'
AS-13	0'-95'	95'-97'	5'-93'	93'-97'	97'	
AS-14	0'-94'	94'-96'	5'-92'	92'-96'	97'	

Notes: All units in Feet

Table 4- Measured Water Table Elevations

Well	9/6/02	4/28/03	6/20/03	7/17/03	8/20/03	9/22/03
MW-1	3,976.94	3,976.96	3,976.96	3,976.93	3,976.95	3,976.94
MW-2	3,976.85	3,976.87	3,976.89	3,976.86	3,976.91	3,976.88
MW-3	3,976.71	3,976.71	3,976.70	3,976.67	3,976.72	3,976.69
MW-4	3,976.55	3,976.55	3,976.55	3,976.52	3,976.54	3,976.53
MW-5	3,976.71	3,976.70	3,976.68	3,976.66	3,976.69	3,976.68
MW-6	3,976.76	3,976.75	3,976.74	3,976.71	3,976.75	3,976.73
MW-7	3,976.08	3,976.09	3,976.09	3,976.06	3,976.09	3,976.08

Notes: All units in Feet

Table 5- Hydrocarbon Constituent Concentrations

	Date	Benzene	Toluene	Ethyl Benzene	Xylenes
MW-1	4/24/2002	<0.002	<0.002	<0.002	<0.006
MW-1	5/21/2002	0.002	0.003	<0.002	<0.006
MW-1	4/28/2003	<0.001	<0.001	<0.001	<0.001
MW-1	6/19/2003	<0.001	<0.001	<0.001	<0.001
MW-1	7/17/2003	<0.001	<0.001	<0.001	<0.001
MW-1	8/20/2003	<0.001	<0.001	<0.001	<0.001
MW-1	9/22/2003	<0.001	<0.001	<0.001	<0.001
MW-2	4/25/2002	0.025	0.106	0.013	0.38
MW-2 Duplicate	4/25/2002	0.026	0.108	0.013	0.381
MW-2	5/21/2002	0.145	0.833	0.062	1.27
MW-2	4/28/2003	0.182	0.092	0.121	0.133
MW-2	6/19/2003	0.074	0.066	0.069	0.103
MW-2	7/17/2003	0.155	0.15	0.112	0.186
MW-2	8/20/2003	0.024	0.092	0.012	0.179
MW-2	9/22/2003	0.022	0.051	0.012	0.079
MW-3	4/25/2002	0.061	<0.002	0.023	0.189
MW-3	5/21/2002	0.176	0.004	0.023	0.451
MW-3	4/28/2003	0.099	0.005	0.029	0.039
MW-3 Dup	4/28/2003	0.099	0.005	0.03	0.039
MW-3	6/19/2003	0.045	<0.001	0.018	0.005
MW-3 (Dup)	6/19/2003	0.049	<0.001	0.021	0.006
MW-3	7/17/2003	0.064	0.002	0.023	0.007
MW-3 (Dup)	7/17/2003	0.061	0.001	0.022	0.006
MW-3	8/20/2003	0.017	<0.001	0.006	0.001
MW-3 (Dup)	8/20/2003	0.017	<0.001	0.006	0.002
MW-3	9/22/2003	**0.05**	<0.001	0.02	0.001
MW-3 (Dup)	9/22/2003	**0.048**	<0.001	0.019	0.002

Note: All units mg/l

Table 5- Hydrocarbon Constituent Concentrations (continued)

	Date	Benzene	Toluene	Ethyl Benzene	Xylenes
MW-4	4/24/2002	<0.002	<0.002	<0.002	<0.006
MW-4	5/21/2002	<0.002	<0.002	<0.002	<0.006
MW-4	4/28/2003	<0.001	<0.001	<0.001	<0.001
MW-4	6/19/2003	<0.001	<0.001	<0.001	<0.001
MW-4	7/17/2003	<0.001	<0.001	<0.001	<0.001
MW-4	8/20/2003	<0.001	<0.001	<0.001	<0.001
MW-4	9/22/2003	<0.001	<0.001	<0.001	<0.001
MW-5	4/25/2002	<0.002	<0.002	<0.002	0.011
MW-5	5/21/2002	<0.002	<0.002	<0.002	<0.006
MW-5	4/28/2003	0.005	<0.001	<0.001	0.003
MW-5	6/19/2003	<0.001	<0.001	<0.001	0.003
MW-5	7/17/2003	<0.001	<0.001	<0.001	0.002
MW-5	8/20/2003	<0.001	<0.001	<0.001	<0.001
MW-5	9/22/2003	<0.001	<0.001	<0.001	<0.001
MW-6	4/26/2002	<0.002	<0.002	0.004	0.123
MW-6	5/21/2002	0.002	<0.002	0.002	0.047
MW-6	4/28/2003	0.003	<0.001	0.002	0.01
MW-6	6/19/2003	<0.001	<0.001	<0.001	<0.001
MW-6	7/17/2003	<0.001	<0.001	0.004	0.004
MW-6	8/20/2003	<0.001	<0.001	<0.001	<0.001
MW-6	9/22/2003	<0.001	<0.001	<0.001	<0.001
MW-7	4/28/2003	<0.001	<0.001	<0.001	<0.001
MW-7	6/19/2003	<0.001	<0.001	<0.001	<0.001
MW-7	7/17/2003	<0.001	<0.001	<0.001	<0.001
MW-7	8/20/2003	<0.001	<0.001	<0.001	<0.001
MW-7	9/22/2003	<0.001	<0.001	<0.001	<0.001

Note: All units mg/l

Table 6- Summary of Air Sparge and Soil Vapor Flow Rates

Sparge ID	7/24/03	9/22/03
AS 1	7.6	0.0
AS 2	3.5	2.9
AS 3	5.0	0.2
AS 4	1.9	2.0
AS 5	2.4	0.1
AS 6	2.8	3.3
AS 7	2.5	0.1
AS 8	1.9	0.1
AS 9	2.8	0.1
AS 10	2.8	2.5
AS 11	3.8	0.2
AS 12	3.1	2.4
AS 13	3.1	0.2
AS 14	2.2	3.1
Total	45.4	17.2

Vapor ID	7/24/03	9/22/03
SVE-1D	10.5	29.7
SVE-1S	6.1	34.9
SVE-2D	5.7	13.1
SVE-2S	10.5	43.6
SVE-3D	6.5	17.5
SVE-3S	3.5	15.3
SVE-4D	10.5	36.7
SVE-4S	8.7	46.3
Total	62.0	236.9

All units Cubic Feet Per Minute at Ambient Temperature and Pressure

FIGURES

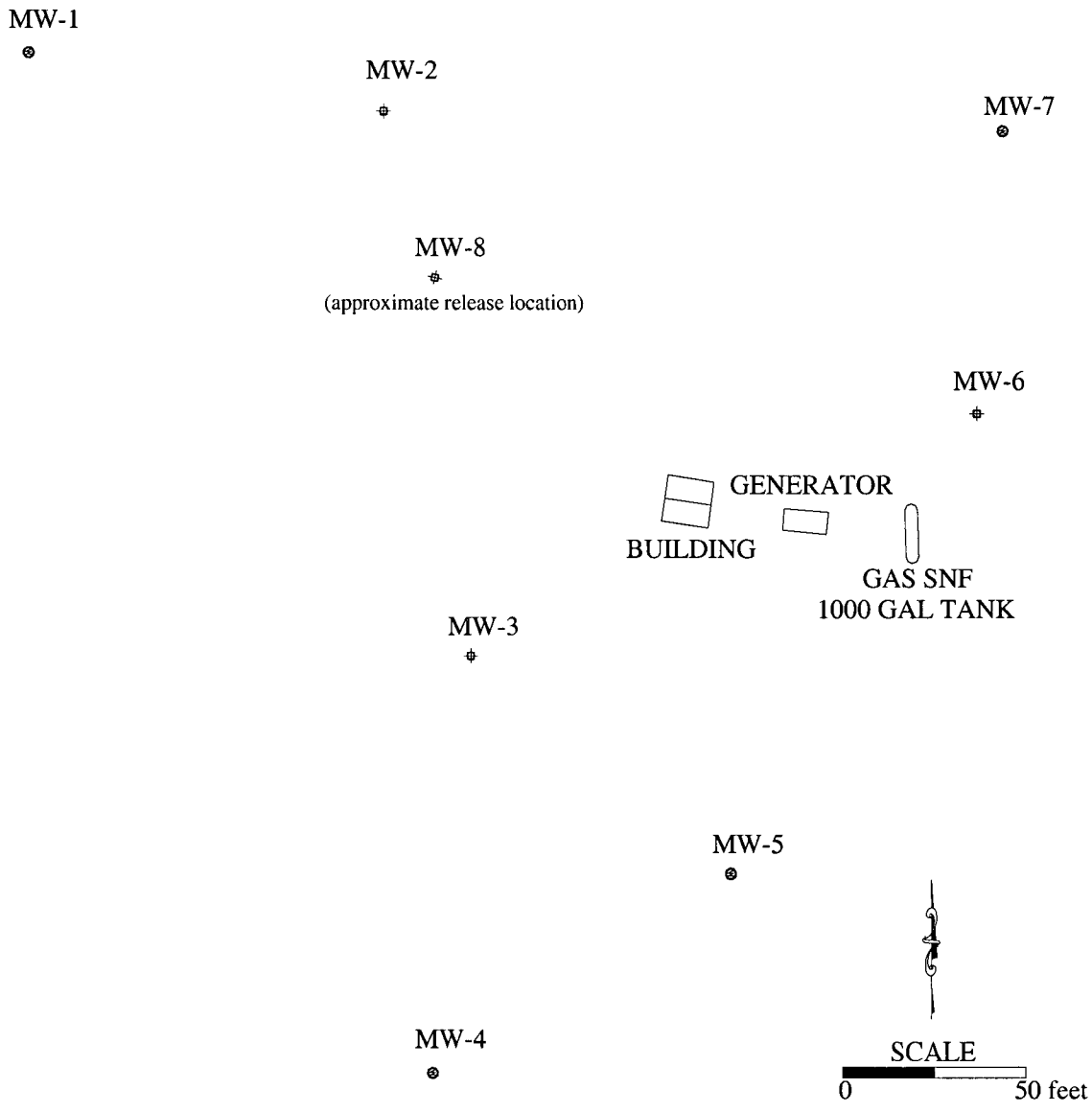

Figure 1 – Monitoring Well Locations
ETCHEVERRY RANCH GROUNDWATER INVESTIGATION

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 9/03

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Michael Stewart

REMEDIACON

P.O. Box 302

Evergreen, CO 80437

Project: DEFS-X-Line

Project Number: None Given

Location: Lea Co., NM

Lab Order Number: 4B20007

Report Date: 02/26/04

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-X-Line
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:
02/26/04 11:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	4B20007-01	Water	02/18/04 12:05	02/20/04 12:35
MW-2	4B20007-02	Water	02/18/04 13:00	02/20/04 12:35
MW-7	4B20007-03	Water	02/18/04 14:40	02/20/04 12:35
MW-6	4B20007-04	Water	02/18/04 15:00	02/20/04 12:35
MW-5	4B20007-05	Water	02/18/04 15:35	02/20/04 12:35
MW-4	4B20007-06	Water	02/18/04 16:05	02/20/04 12:35
MW-3	4B20007-07	Water	02/18/04 16:45	02/20/04 12:35
Duplicate	4B20007-08	Water	02/18/04 20:00	02/20/04 12:35
Trip Blank	4B20007-09	Water	02/18/04 00:00	02/20/04 12:35

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-X-Line
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:
02/26/04 11:27

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-1 (4B20007-01)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*119 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.5 %*	*80-120*		"	"	"	"	
MW-2 (4B20007-02)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	**0.00652**	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.00301**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	**0.0367**	0.00100	"	"	"	"	"	"	
Xylene (o)	**0.0147**	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*143 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*180 %*	*80-120*		"	"	"	"	*S-04*
MW-7 (4B20007-03)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*114 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	
MW-6 (4B20007-04)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*112 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.0 %*	*80-120*		"	"	"	"	

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory.. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-X-Line
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132

Reported:
02/26/04 11:27

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-5 (4B20007-05)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*108 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.5 %*	*80-120*		"	"	"	"	
MW-4 (4B20007-06)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*114 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	
MW-3 (4B20007-07)									
Benzene	**0.0273**	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.0132**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	J [0.000692]	0.00100	"	"	"	"	"	"	J
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*116 %*	*80-120*		"	"	"	"	
Duplicate (4B20007-08)									
Benzene	**0.0287**	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.0144**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	J [0.000638]	0.00100	"	"	"	"	"	"	J
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*119 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*120 %*	*80-120*		"	"	"	"	

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS-X-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	02/26/04 11:27

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (4B20007-09)									
Benzene	ND	0.00100	mg/L	1	EB42507	02/24/04	02/24/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*112 %*		*80-120*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.0 %*		*80-120*	"	"	"	"	

Environmental Lab of Texas

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Roland K Tuttle

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON
P.O. Box 302
Evergreen CO, 80437

Project: DEFS-X-Line
Project Number: None Given
Project Manager: Michael Stewart

Fax: 720-528-8132
Reported:
02/26/04 11:27

Organics by GC - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EB42507 - EPA 5030C (GC)										
Blank (EB42507-BLK1)				Prepared & Analyzed: 02/24/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*23.3*		*ug/l*	*20.0*		*116*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*23.9*		*"*	*20.0*		*120*	*80-120*			
LCS (EB42507-BS1)				Prepared & Analyzed: 02/24/04						
Benzene	87.3		ug/l	100		87.3	80-120			
Toluene	90.1		"	100		90.1	80-120			
Ethylbenzene	94.1		"	100		94.1	80-120			
Xylene (p/m)	203		"	200		102	80-120			
Xylene (o)	97.8		"	100		97.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*19.8*		*"*	*20.0*		*99.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*22.9*		*"*	*20.0*		*114*	*80-120*			
Calibration Check (EB42507-CCV1)				Prepared: 02/24/04 Analyzed: 02/25/04						
Benzene	92.7		ug/l	100		92.7	80-120			
Toluene	94.7		"	100		94.7	80-120			
Ethylbenzene	94.2		"	100		94.2	80-120			
Xylene (p/m)	194		"	200		97.0	80-120			
Xylene (o)	98.5		"	100		98.5	80-120			
Surrogate: a,a,a-Trifluorotoluene	*19.1*		*"*	*20.0*		*95.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.1*		*"*	*20.0*		*100*	*80-120*			
Duplicate (EB42507-DUP1)				**Source: 4B20007-09** Prepared: 02/24/04 Analyzed: 02/25/04						
Benzene	ND	0.00100	mg/L		ND				20	
Toluene	ND	0.00100	"		ND				20	
Ethylbenzene	ND	0.00100	"		ND				20	
Xylene (p/m)	ND	0.00100	"		ND				20	
Xylene (o)	ND	0.00100	"		ND				20	
Surrogate: a,a,a-Trifluorotoluene	*16.9*		*ug/l*	*20.0*		*84.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.7*		*"*	*20.0*		*98.5*	*80-120*			

Environmental Lab of Texas

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Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS-X-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	02/26/04 11:27

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Quality Assurance Review

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michael H. Stewart
Company Name: Remediacon, Inc.
Company Address: PO Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Dale Littlejohn

Project Name: DEFS - X-Line
Project #:
Project Loc: Lea Co. NM
PO #:

4020007

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers: 40 mL 4 oz	Preservative: Ice	HNO3	HCl	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP: TOTAL: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule)	Standard TAT
-01	MW-1	2/18/04	1205	2	✓		✓					✓											✓				
-02	MW-2	"	1300	2	✓		✓					✓											✓				✓
-03	MW-7	"	1440	2	✓		✓					✓											✓				✓
-04	MW-6	"	1500	2	✓		✓					✓											✓				✓
-05	MW-5	"	1535	2	✓		✓					✓											✓				✓
-06	MW-4	"	1605	2	✓		✓					✓											✓				✓
-07	MW-3	"	1645	2	✓		✓					✓											✓				✓
-08	Duplicate	"	2000	2	✓		✓					✓											✓				✓
-09	Trip Blank	—	—	2	✓		✓					✓											✓				✓

Special Instructions: Send original results and invoice to Steve Weathers, DEFS, Denver.

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments: 3.5 °C

Relinquished by:	Date	Time	Received by:	Date	Time
Dale Littlejohn	2/20/04	1235			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jane McMurry	2-2004	1235

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Remediacon, Inc.

Date/Time: 02-20-04 @ 1330

Order #: 4320007

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	(Yes)	No	3.5 C
Shipping container/cooler in good condition?	(Yes)	No	
Custody Seals intact on shipping container/cooler?	Yes	No	(Not present)
Custody Seals intact on sample bottles?	Yes	No	(Not present)
Chain of custody present?	(Yes)	No	
Sample Instructions complete on Chain of Custody?	(Yes)	No	
Chain of Custody signed when relinquished and received?	(Yes)	No	
Chain of custody agrees with sample label(s)	(Yes)	No	
Container labels legible and intact?	(Yes)	No	
Sample Matrix and properties same as on chain of custody?	(Yes)	No	
Samples in proper container/bottle?	(Yes)	No	
Samples properly preserved?	(Yes)	No	
Sample bottles intact?	(Yes)	No	
Preservations documented on Chain of Custody?	(Yes)	No	
Containers documented on Chain of Custody?	(Yes)	No	
Sufficient sample amount for indicated test?	(Yes)	No	
All samples received within sufficient hold time?	(Yes)	No	
VOC samples have zero headspace?	(Yes)	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: - Date/Time: Contacted by:

Regarding:

Corrective Action Taken: