

NEW MEXICO STATE K TANK BATTERY No. 3 SITE ASSESSMENT

VACUUM OIL FIELD LEA COUNTY, NEW MEXICO

Prepared For:

Mr. CHRIS CLOVER EXXONMOBIL GLOBAL REMEDIATION 16825 NORTHCHASE DRIVE, SUITE 917 HOUSTON, TEXAS 77060

> Prepared by: Conestoga-Rovers & Associates Formerly BNC Environmental Services Inc.

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DECEMBER 9, 2005 REF. NO. 041836

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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) was contracted by ExxonMobil Global Remediation (EMGR) to perform a Naturally Occurring Radioactive Material (NORM) survey, NORM removal, and a subsurface soil assessment at the New Mexico State K Tank Battery No. 3, Vacuum Oil Field, Lea County, Texas. A site locality map and an aerial site photo are shown on FIGURES 1 and 2, respectively. This report describes the field activities and presents a summary of the assessment results. The activities were performed over the period of May 3, 2005 through August 22, 2005.

2.0 NORM ACTIVITIES

2.1 NORM Survey

A site-specific safety and health plan (SSSHP) was prepared by CRA to comply with EMGR's Loss Prevention System (LPS) and Operations and Integrity Management System (OIMS) requirements. The SSSHP was approved by EMGR prior to performing the field work.

The NORM survey was performed by LOTUS, LLC on May 3, 2005 under the supervision of CRA personnel. Copies of LOTUS' permits and licenses are provided in APPENDIX A. The survey and sampling activities were performed according to the New Mexico Environment Department (NMED) document titled "Appendix A, Regulation Guidelines for the Management of NORM in the Oil and Gas Industry in New Mexico." The site was delineated with a 30-ft by 30-ft grid pattern by placing pin flags on the grid intersections. Exposure readings were recorded with a Ludlum Model 2241-2 hand-held portable scintillation detector held approximately 1 centimeter above the ground surface.

After establishing the grid, background exposure readings were recorded at two offsite locations immediately south of the south lease road that abuts the south perimeter of the site. The background exposure readings were 8 and 13 μ R/hr. After recording the background readings, the NORM survey was performed by recording exposure readings at 15-ft intervals on the grid pattern. A total of 900 exposure readings were recorded on the grid; 839 exposure readings, or 93.2% of the total number of readings, were within the background range of 8 to 13 μ R/hr. After establishing background to be in the 8 to 13 μ R/hr range, the background exposure reading for the purpose NORM confirmation sample collection was selected to be 12 μ R/hr to ensure that samples collected for confirmation laboratory analyses were collected from only those areas that exceeded background.

The survey grid and exposure readings are illustrated on FIGURE 3. The survey field notes are provided in APPENDIX B, and photographic documentation is provided in Appendix C. Samples were collected for laboratory analyses from the ground surface in grid locations that exhibited exposure rates greater than or equal to twice background, or $24~\mu R/hr$. The samples were submitted to Environmental Lab of Texas I, Ltd., Midland, Texas for analysis of Ra-226, Ra-228, PB-210, and total activity by EPA Method 901.1M.

The survey analytical results are illustrated on FIGURE 4 and tabulated in TABLE 1. The laboratory analytical reports are provided in APPENDIX D. The NORM remediation action level is defined by New Mexico Administrative Code 20.3.14.1403 to be 30 picocuries per gram (pCi/gm) of Ra-226 above background, or 150 pCi/gm above background of any other NORM radionuclide. Activity levels in samples collected from unaffected areas of the grid were below laboratory detection limits, therefore, 30 pCi/gm Ra-226 was selected to be the remediation action level for the site. Activity levels exceeded the cleanup standard at the locations identified on FIGURE 4 as the "1 Grab" and the "7 Composite."

2.2 NORM Remediation

On July 6, 2005, LOTUS performed NORM remediation activities under the oversight of CRA personnel. Approximately two cubic yards of NORM material were removed from the ground surface at the "1 Grab" location, and approximately six cubic yards of material were removed from the 30-ft grid from which the "7 Composite" sample was collected. In addition, approximately two cubic yards of material was removed from the areas of the "5 Composite" and "6 Composite" grids that exhibited exposure readings of 132 and 137 μ R/hr. The material removed from the "1 Grab" location was apparent scale, and the material removed from the other locations was soil. At all locations, the top four to six inches of surface soil were removed with a front-end loader and placed into a clean roll off container staged onsite. Photographic documentation of the removal activities is provided in APPENDIX C.

Upon completion of the removal activities, CRA collected confirmation samples from the remediated locations for laboratory analyses. The analytical results are summarized in TABLE 1 and illustrated on FIGURE 5. The activity levels in the confirmation samples were below the remediation action levels of 30 pCi/gm of R-226 and 150 pCi/gm of any other NORM radionuclide. In addition, a characterization sample was collected from the NORM material contained in the roll-off container. The characterization sample identification is "Roll Off Composite;" this sample contained 77.43 pCi/gm Ra-226.

2.3 NORM Disposal

On August 22, 2005, LOTUS transported the NORM material from the site to the LOTUS Disposal Facility located in Andrews County, Texas under the Rocky Mountain Low-Level Radioactive Waste Board Export and Disposal Authorization Permit No. LOTUS-05-3. Copies of the permit, the Certification of Disposal Compliance, the Shipping Manifest, and the LOTUS Disposal Facility's operating permits are provided in APPENDIX E. The operating permits contain descriptions of the disposal facility and procedures.

3.0 SUBSURFACE INVESTIGATION

3.1 Remediation Action Levels

The New Mexico Oil Conservation Division (NMOCD) remediation action levels are developed using the site-specific ranking criteria described in the NMOCD guidance document "Guidelines for Remediation of Spills, Leaks, and Releases" (August 13, 1993). The ranking criteria are 1) vertical distance from the lowermost contaminants to the seasonal high elevation of the ground water, 2) wellhead protection area, and 3) distance to nearest surface water body.

No monitor or water wells are located onsite from which to determine depth to groundwater. When depth to groundwater is unknown, the depth can be estimated using data on file with the New Mexico Office of the State Engineer. On February 15, 2005, CRA retrieved Depth to Water reports for the site location (Township 17S, Range 35E, Section 32) and for adjacent Sections 5, 29, 31, and 33. No Depth to Water reports were available for Sections 5, 29, and 32. Average depth to water in Section 31 (adjoining the west Section line of Section 32) was reported to be 106-feet, and average depth to water in Section 33 (adjoining the east Section line of Section 32) was 63-feet. Extrapolation between these data provides an estimated average depth to groundwater of 84.5-feet in Section 32. A copy of the Depth to Water report is provided in APPENDIX F.

The site is located in the Vacuum Oil Field. According to the topographic map shown in APPENDIX F, the perimeter of the nearest surface water body is located 1,320-feet northeast of the site. However, no surface water was observed in the mapped surface water body during the time frame of the field activities. Site reconnaissance and review of satellite imagery suggests that the apparent water body is a topographic low that may receive surface runoff during heavy precipitation events. No other water bodies were observed in the vicinity of the site.

The water well search of the New Mexico Office of the State Engineer revealed that no documented water wells are present in Section 32. The nearest documented water wells are located in Section 33, whose west section line is located 2,000-feet east of the site. The water well search records are provided in APPENDIX E. Based on these data, the well head protection area is greater than 1,000-feet.

The NMOCD ranking score is illustrated in the following table:

Criteria	Site Characteristics	Ranking Score
Depth to Ground Water	50-99 feet	10
Wellhead Protection Area	>1,000 feet	0
Distance to Surface Water	>1,000 feet	0
	Total Ranking Score	10

The NMOCD Recommended Remediation Action Levels (RRALs) for soils at the site are 10 mg/Kg benzene, 50 mg/Kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 mg/Kg total petroleum hydrocarbons (TPH).

3.2 Soil Sampling Procedures

Subsurface soil samples were collected from eleven borings advanced by the White Drilling Company under the supervision of CRA personnel. The soil boring locations are illustrated on FIGURE 6. The borings were advanced with a Failing 1500 air rotary drilling rig. Soil samples for field screening were collected from the borings over the 1 to 2-foot depth interval with a shovel during the pre-drill protocol activities. Beneath the 2-foot depth interval, samples were collected from the soil cuttings on 5-foot intervals. Additionally, soil cuttings were visually screened and described on 2.5-foot intervals. Each field screened sample was placed into a new sealable plastic bag. After a residence time of approximately 30 minutes at ambient temperature, instantaneous head space readings of the samples were recorded with a calibrated photo-ionization detector (PID).

The CRA field geologist recorded the headspace readings and described the samples using the Unified Soil Classification System. Soil samples from each location that met the following criteria were selected for chemical analysis:

- The sample collected from the 0-5-foot depth interval with the highest headspace reading;
- The sample collected between the 5-foot and total depth interval with the highest headspace reading; and
- The sample collected from the total depth of the boring.

The samples selected for chemical analysis were transferred to laboratory-supplied sample containers, labeled and placed into iced coolers. The samples were shipped via overnight courier to Southern Petroleum Laboratories, Inc. (SPL) in Houston, Texas. Copies of the laboratory reports are provided in APPENDIX G.

The soil borings were advanced to 20-feet below ground surface (bgs) because field screening results were unremarkable at this depth. Upon completion, the soil borings were plugged with hydrated bentonite to the ground surface.

A background soil sample was collected from the 6-inch to 10-inch depth interval from one offsite location immediately south of the south lease road that abuts the south perimeter of the site. The background sample was submitted to the laboratory for chloride analysis.

Copies of the driller's reports are provided in APPENDIX G. Soil boring logs that illustrate subsurface soil profiles, soil sample depths, head-space readings, and are provided in APPENDIX I. Photographic documentation is presented in APPENDIX C.

3.3 Soil Analytical Results

Soil samples selected for chemical analyses were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) concentrations by EPA Method 8021B, for total petroleum hydrocarbons (TPH) by EPA Method 8015B, and for chloride by EPA Method E325.2. The analytical results are summarized in TABLE 2 and illustrated in FIGURE 6.

The analytical results were compared to the Remediation Action Levels. No samples contained benzene or BTEX concentrations in excess of the Remediation Action Levels. One sample, collected from the SB-2 location over the 1 to 2-foot interval, exceeded the exceeded the TPH Remediation Action Level.

The chloride background concentration was below the laboratory detection level of 12.6 mg/Kg. Chloride concentrations in samples collected from the eleven boring locations exceeded the background concentration.

Soil cuttings were stockpiled on and covered with plastic sheeting. A composite sample of the cuttings was analyzed for BTEX, TPH, reactivity, corrosivity, and ignitability. The analytical results are summarized in TABLE 3. The data indicate that the soil cuttings were non-hazardous; additionally, concentrations of BTEX and TPH constituents were below the OCD recommended Remediation Action Levels.

All of Which is Respectfully Submitted, Conestoga-Rovers & Associates

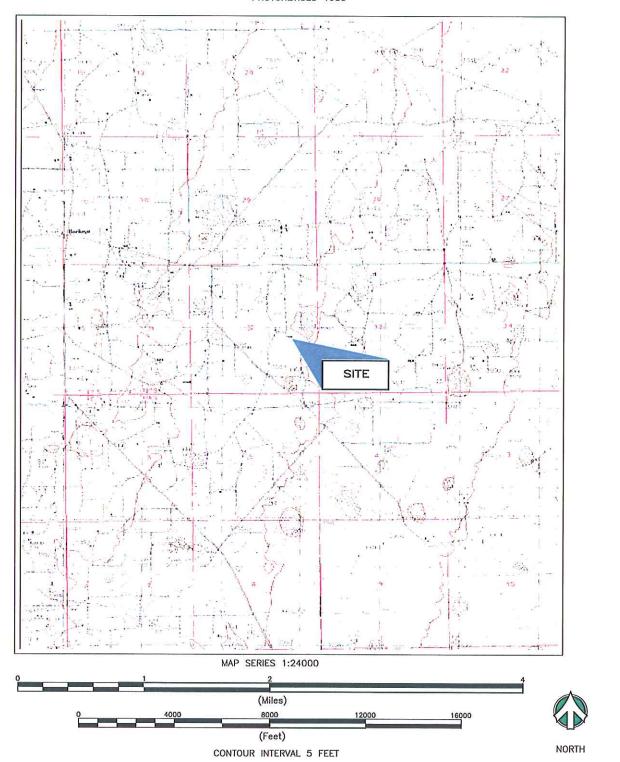
James R. Buice Project Manager Thomas C. Larson

Operations Manager

LOVINGTON SW QUADRANGLE NEW MEXICO

LAT=32° 47' 26.1" N LONG= 103° 28' 29.7" W

PHOTOREVISED 1985





SITE LOCATION MAP

NEW MEXICO STATE "K" BATTERY NO. 3 LEA COUNTY, NEW MEXICO JOB No. 041836

FIGURE

SLR 120705



Aerial Satellite Image obtained from Google Earth on October 18, 2005.



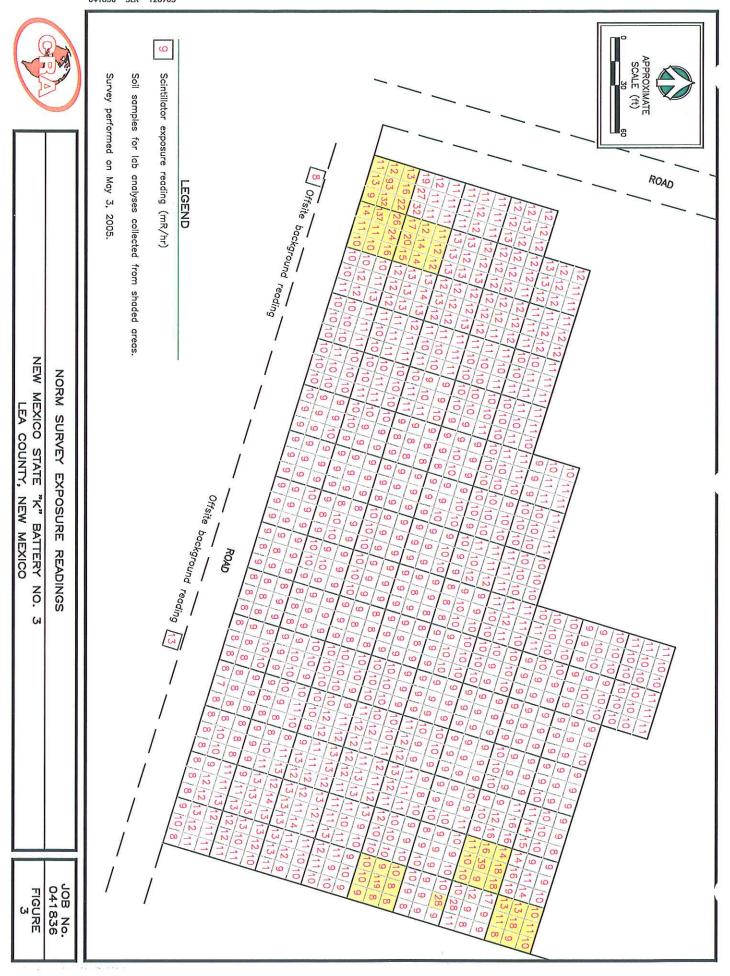
NORTH



DISTANCE TO NEAREST APPARENT SURFACE WATER BODY

NEW MEXICO STATE "K" BATTERY NO. 3 LEA COUNTY, NEW MEXICO JOB No. 041836

FIGURE 2

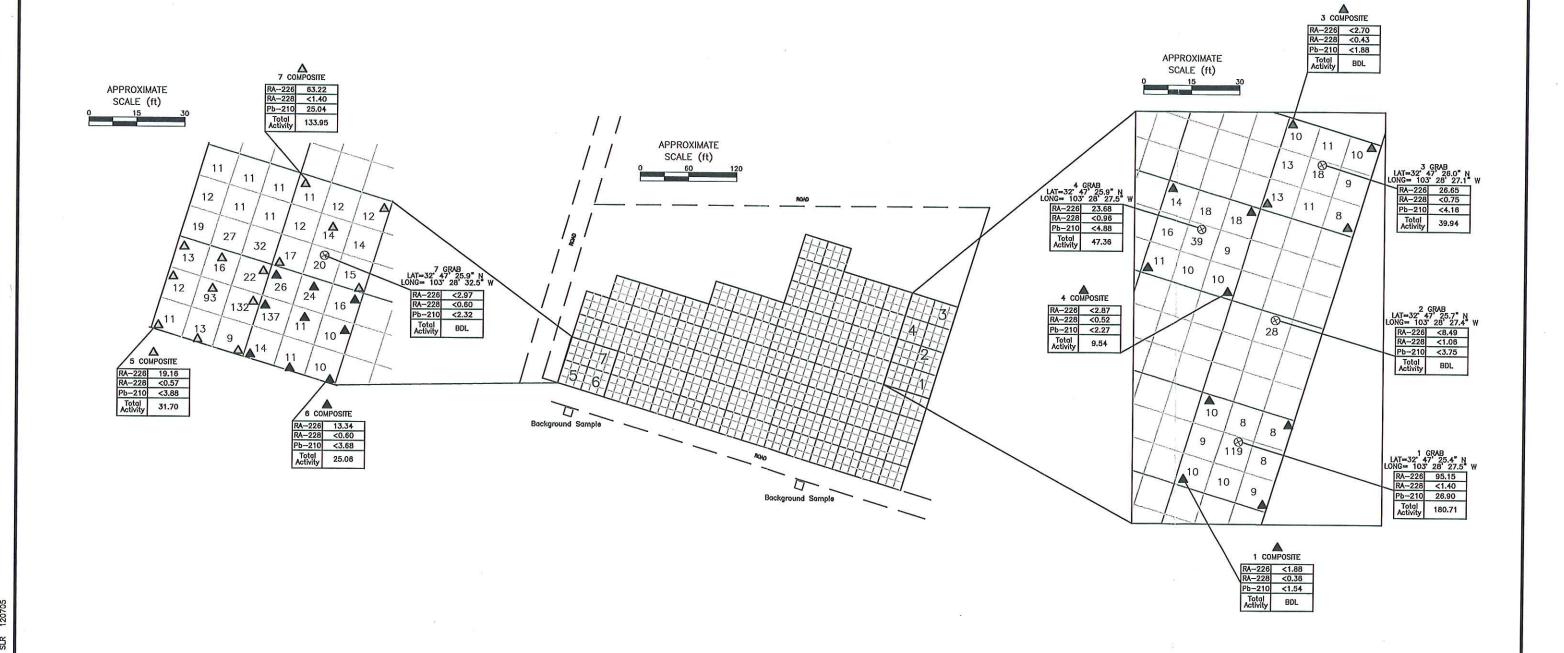




NOTES

NORM remediation and confirmation sample collection performed on July 6, 2005.

Concentration measured in pCi/gm.





NORM SURVEY ANALYTICAL RESULTS

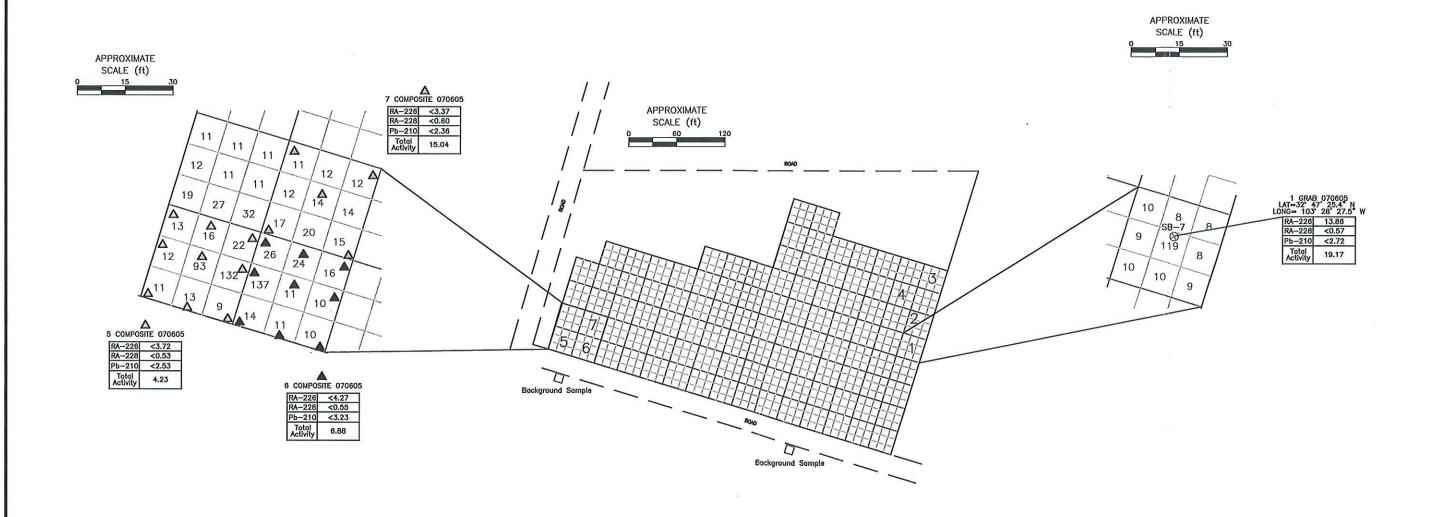
NEW MEXICO STATE "K" BATTERY NO. 3 LEA COUNTY, NEW MEXICO



NOTES

NORM remediation and confirmation sample collection performed on July 6, 2005.

Concentration measured in pCi/gm.

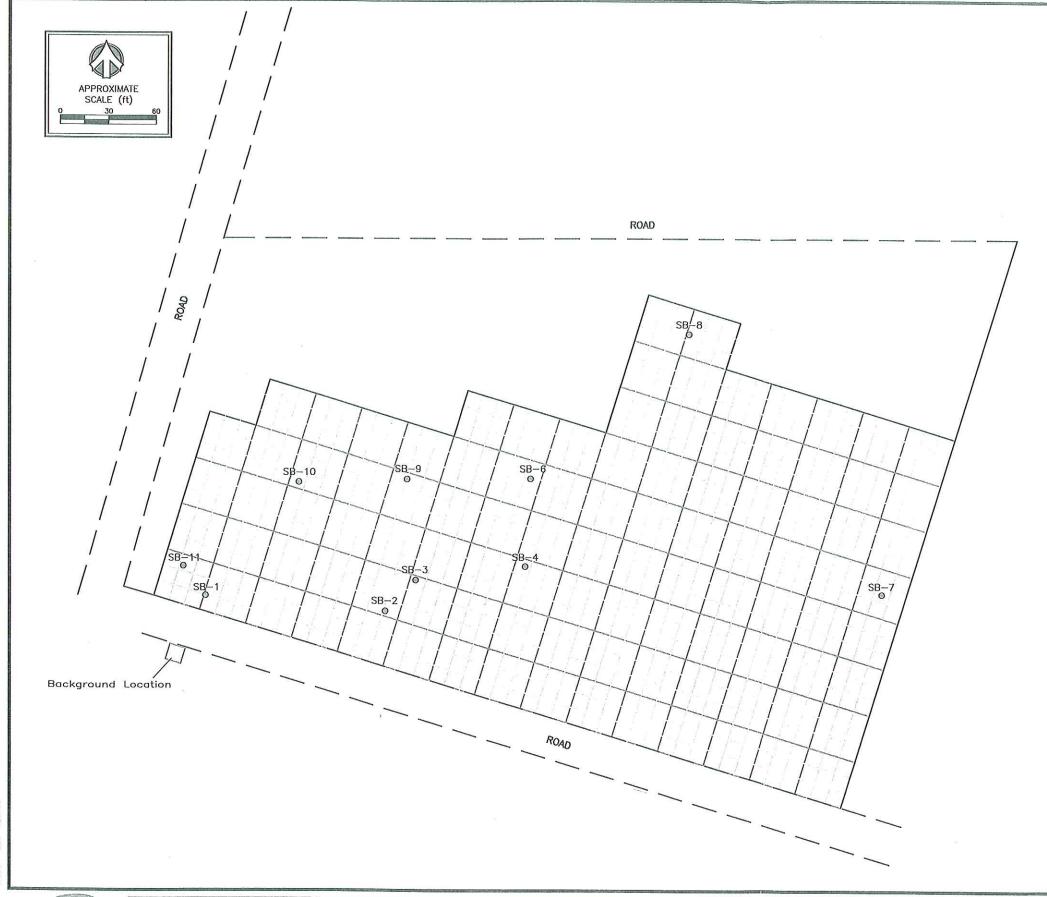




NORM CONFIRMATION SAMPLE LOCATIONS AND ANALYTICAL RESULTS

NEW MEXICO STATE "K" BATTERY NO. 3 LEA COUNTY, NEW MEXICO JOB No. 041836

FIGURE 5



Sample ID	Sam ple Date	Depth (feet bgs)	Benzene	BTEX	Total TPH	Chloride
	Remediatio Ranking Sco	n Action	10	50	1,000	
SB1-0-2'	8/22/05	0 - 2	<0.0012	BDL	870	<12
SB1-14-15'	8/22/05	14 - 15	<0.0011	BDL.	BDL	132
SB1-19-20'	8/22/05	19 - 20	<0.001	BDL	BDL	955
SB2-1-2'	8/22/05	1 - 2	<0.001	0.0095	4,200	91.9
SB2-15-16'	8/22/05	15 - 16	<0.001	BDL	32	25.6
SB2-20-21'	8/22/05	20 - 21	<0.001	BDL.	19	91.3
SB3-1-2'	8/22/05	1 - 2	<0.0012	0.0073	160	4,590
SB3-15-16'	8/22/05	14 - 15	<0.0011	BDL	BDL	1,050
SB3-20-21'	8/22/05	20 - 21	<0.0011	BDL	BDL.	1,470
SB4-1-2'	8/22/05	1 - 2	<0.0011	BDL	250	1,930
SB4-15-16'	8/22/05	14 - 15	<0.001	BDL	11	877
SB4-20-21'	8/22/05	20 - 21	<0.0011	BDL	14	1,220
SB5-1-2'	8/22/05	1-2	<0.0011	BDL.	BDL.	<10.6
SB5-15-16'	8/22/05	15 - 16	<0.001	BDL.	BDL	104
SB5-20-21'	8/22/05	20 - 21	<0.0011	BDL.	BDL	138
SB6-1-2'	8/22/05	1-2	<0.0012	0.0463	410	49.4
SB6-15-16'	8/22/05	15 - 16	<0.001	BDL.	BDL	35
SB6-20-21'	8/22/05	20 - 21	<0.001	BDL.	BDL	31.9
SB7-1-2'	8/23/05	1-2	<0.0011	BDL	BDL.	46.5
SB7-15-16'	8/23/05	15 - 16	<0.0011	BDL	BDL	117
SB7-20-21'	8/23/05	20 - 21	<0.0012	BDL	BDL	128
SB8-1-2'	8/23/05	1 - 2	<0.0013	BDL	530	940
SB8-15-16'	8/23/05	15 - 16	<0.001	BDL	17	84
SB8-20-21'	8/23/05	20 - 21	<0.001	BDL.	BDL	41.7
SB9-1-2'	8/23/05	1 - 2	<0.0012	BDL	BDL	<12.4
SB9-15-16'	8/23/05	15 - 16	<0.0011	BDL.	BDL	19.5
SB9-20-21'	8/23/05	21 - 21	<0.0012	BDL	BDL	<11.5
SB10-1-2'	8/23/05	1 - 2	<0.0011	BDL	50	2,080
SB10-15-16'	8/23/05	15 - 16	<0.0011	BDL	BDL	887
SB10-20-21'	8/23/05	20 - 21	<0.0011	BDL.	BDL	62
SB11-1-2'	8/23/05	1 - 2	<0.0012	BDL	BDL.	203
SB11-15-16'	8/23/05	15 - 16	<0.001	0.0014	BDL.	300
SB11-20-21'	8/23/05	20 - 21	<0.0011	0.0016	BDL	269
Background	8/23/05	1 - 2				<12.6

NOTES:

- Values reported in mg/Kg.
- 2. BDL: below laboratory detection limits.
- 3. Shaded cells indicate NMOCD Remediation Action Level exceedance.
- BTEX analyses by EPA Method SW 8021B.
- 5. TPH analyses by EPA Method SW 8015B.
- 6. Chloride analyses by Method E325.2.



SOIL BORING LOCATION MAP

NEW MEXICO STATE "K" BATTERY NO. 3 LEA COUNTY, NEW MEXICO

JOB No. 041836

FIGURE 6

TABLE 1 New Mexico State K Tank Battery #3

NORM Analytical Summary Table

Sample ID	Sample Date	Ra-226	Ra-228	Pb-210	Total Activity
NMED Remedia		30	150	150	
		NORM Su	rvey Samples		
1 Composite	5/3/05	<1.88	<0.36	<1.54	BDL
1 Grab	5/3/05	95.15	<1.40	26.90	180.71
2 Grab	5/3/05	<8.49	<1.06	<3.75	BDL
3 Grab	5/3/05	26.65	<0.75	<4.16	39.94
3 Composite	5/3/05	<2.70	<0.43	<1.88	BDL
4 Composite	5/3/05	<2.87	<0.52	<2.27	9.54
4 Grab	5/3/05	23.68	<0.96	<4.88	47.36
5 Composite	5/3/05	19.16	<0.57	<3.88	31.70
6 Composite	5/3/05	13.34	<0.60	<3.86	25.06
7 Composite	5/3/05	63.22	<1.40	25.04	133.95
7 Grab	5/3/05	<2.97	<0.60	<2.32	BDL
NO	RM Confirma	tion Samples (collected after l	NORM remediat	ion)
1 Grab	7/6/05	13.86	<0.57	<2.72	19.17
5 Composite	7/6/05	<3.72	<0.53	<2.53	4.23
6 Composite	7/6/05	<4.27	<0.55	<3.23	6.88
7 Composite	7/6/05	<3.37	<0.60	<2.36	15.04
	NC	RM Waste Cha	aracterization S	ample	Contraction
Roll Off Composite	7/6/05	77.43	<1.03	31.04	221.22

NOTES:

- 1. Values reported in picocuries per gram (pCi/gm).
- 2. NMED remediation action levels are 30/150 pCi/gm above background. Background activity is below the laboratory detection limit; therefore, the remediation action levels are 30/150 pCi/gm.
- 3. Shaded cells indicate NMED remediation action level exceedance.
- 4. Analyses by EPA Method 901.1M.

TABLE 2 New Mexico State K Tank Battery #3

BTEX/TPH/Chloride Analytical Summary Table

Sample	Sample	Depth	Вонново	Toluene	Ethyl-	Xylenes	втех		TPH		Chloride
ID	Date	(feet bgs)	Benzene	Toluene	Benzene	Aylelles	DIEX	GRO	DRO	Total	Cilioriue
	mediation Ac		10				50			1,000	
SB1-0-2'	8/22/05	0 - 2	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	870	870	<12
SB1-14-15'	8/22/05	14 - 15	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	132
SB1-19-20'	8/22/05	19 - 20	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	955
SB2-1-2'	8/22/05	1 - 2	<0.001	0.0075	<0.001	0.002	0.0095	<0.1	4,200	4,200	91.9
SB2-15-16'	8/22/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	32	32	25.6
SB2-20-21'	8/22/05	20 - 21	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	19	19	91.3
SB3-1-2'	8/22/05	1 - 2	<0.0012	0.0073	<0.0012	<0.0012	0.0073	<0.12	160	160	4,590
SB3-15-16'	8/22/05	14 - 15	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<0.54	BDL	1,050
SB3-20-21'	8/22/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<0.53	BDL	1,470
SB4-1-2'	8/22/05	1 - 2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	250	250	1,930
SB4-15-16'	8/22/05	14 - 15	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	11	11	877
SB4-20-21'	8/22/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	14	14	1,220
SB5-1-2'	8/22/05	1-2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<11	BDL	<10.6
SB5-15-16'	8/22/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	104
SB5-20-21'	8/22/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	138
SB6-1-2'	8/22/05	1-2	<0.0012	0.039	0.0018	0.0055	0.0463	<0.12	410	410	49.4
SB6-15-16'	8/22/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.1	BDL	35
SB6-20-21'	8/22/05	20 - 21	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.1	BDL	31.9
SB7-1-2'	8/23/05	1-2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.6	BDL	46.5
SB7-15-16'	8/23/05	15 - 16	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.6	BDL	117
SB7-20-21'	8/23/05	20 - 21	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<5.8	BDL	128
SB8-1-2'	8/23/05	1 - 2	<0.0013	<0.0013	<0.0013	<0.0013	BDL	<0.13	530	530	940
SB8-15-16'	8/23/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	17	17	84
SB8-20-21'	8/23/05	20 - 21	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	41.7
SB9-1-2'	8/23/05	1 - 2	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<6.2	BDL	<12.4
SB9-15-16'	8/23/05	15 - 16	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	19.5
Duplicate			<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	15.9
SB9-20-21'	8/23/05	21 - 21	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<6.2	BDL	<11.5
SB10-1-2'	8/23/05	1 - 2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	50	50	2,080
SB10-15-16'	8/23/05	15 - 16	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	887
SB10-20-21'	8/23/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.6	BDL	62
SB11-1-2'	8/23/05	1 - 2	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<61	BDL	203
SB11-15-16'	8/23/05	15 - 16	<0.001	<0.001	<0.001	0.0014	0.0014	<0.1	<5.2	BDL	300
SB11-20-21'	8/23/05	20 - 21	<0.0011	<0.0011	<0.0011	0.0016	0.0016	<0.11	<0.53	BDL	269
Background	8/23/05	1 - 2						1207			<12.6
Trip Blank #1	8/23/05		<0.001	<0.001	<0.001	<0.001	BDL				
Trip Blank #2	8/23/05		<0.001	<0.001	<0.001	<0.001	BDL	eee			

NOTES:

- 1. Values reported in mg/Kg. Values for trip blanks (water) reported in mg/L.
- 2. BDL: below laboratory detection limits.
- 3. Shaded cells indicate NMOCD Remediation Action Level exceedance.
- 4. BTEX analyses by EPA Method SW 8021B.
- 5. TPH analyses by EPA Method SW 8015B.
- 6. Chloride analyses by Method E325.2.

TAP' E 3 New Mexico Sta ... Tank Battery #3

Investigation Derived Waste (Soil) Characterization Data

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Sample ID	Date	Describtion	penzene	топепе	Emylbenzene	lotal Ayleries	סובא	DRO	GRO	Total
NMOCD Rem	ediation Action L	MOCD Remediation Action Level (Ranking Score: 10)	10	-		1	50	1	1	1,000
Vaste Chara.	8/23/2005	Characterization composite sample collected from soil cuttings stockpile	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.0	BDL

Sample ID	Date	Description	Corrosivity (pH units)	Reactive Cyanide	Reactive Sulfide	Ignitability (°F)
41	40 CFR 261 Regulatory	atory Limits	<2 or >12.5	<250	<500	<140
Vaste Chara.	8/23/2005	Characterization composite sample collected from soil cuttings stockpile	8.18	$\overline{\mathbf{v}}$	۷۲٥	>212

Values reported in mg/Kg unless otherwise indicated.
 BDL: below laboratory detection limits.
 40 CFR 261 total benzene regulatory limit: 10.0 mg/Kg.

BTEX analyses by EPA Method SW 8021B.
 TPH analyses by EPA Method SW 8015B.
 Ignitability by ASTM Method D92-01.
 Corrosivity analyses by EPA Method SW 9045D.
 Reactive cyanide and sulfide analyses by EPA Methods SW 7.3.3.2 and 7.3.4.2, respectively.



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Radiation Control Bureau
State of New Mexico
Environment Department
1190 St. Francis Drive, 87505-4173
PO Box 26110
Santa Fe, New Mexico 87502-6110



Phone (505) 476-3236 Fax (505) 476-3232

http://www.nmenv.state.nm.us/nmrcb/home.html

Tuesday, March 01, 2005

Geri Cooley, Regulatory Affairs & HES Manager Lotus, LLC P. O. Box 1277 Andrews, TX 79714

SUBJECT: NOTICE OF RECIPROCAL RECOGNITION OF LICENSE IN NEW MEXICO FOR 2005

License Number: L05147 Am# 09

Issuing Agency: Texas

License Expiration Date: Sunday, July 31, 2005

Thank you for your request for reciprocity. In accordance with your request and pursuant to New Mexico Radiation Protection Regulation (NMRPR) Section 324., you are hereby authorized to possess and utilize radioactive sources at temporary job sites within the State of New Mexico. Reciprocity is granted on a year to year basis. This authorization is void after December 31, 2005, or when activities have exceeded 180 days in the calendar year, whichever occurs first.

You are required to notify the Department in writing at least three (3) days prior to each use of radioactive material in New Mexico. Further, you must notify the Department within one (1) hour after arrival at the actual work location within the State, and notify the Department within one (1) hour after any change in work location within the State. Please note that you may be subject to a routine field inspection at anytime.

Special Conditions: The following must be in the possession of the users at the work site: (1) A copy of this letter; (2) a complete copy of the New Mexico Radiation Protection Regulations or the applicable sections, which can be downloaded from the State website at www.nmenv.state.nm.us; (3) a copy of the Radioactive Materials License; (4) a complete inventory of sources brought into the State; (5) pertinent U.S. DOT documents; (6) records of current leak tests for sealed sources brought into the State; (7) records of current instrument calibration(s); and (8) personnel training records.

If I can be of assistance, you may contact me at (505) 222-9517 or fax (505) 222-9510

For the New Mexico Environment Department --

Edward D. Vigil

Radiation Specialist



,		79714	stal Code
818 E. Broadway, PO Box 1277	Street Address	X	State/Province Zip/Postal Code
818 E. Bro	S	Andrews	City
Lotus, LLC	Name	Lotus, LLC	Organization

Registration

Radiological Service Specialty(s) For Which Certification is seeded. Number(s)

Expiration Date(s)

Jun 30, 2008 These services will be provided in New Mexico to ed under the direct oversight of the radiation safety redistrant is responsible for ensuring that all personnel of radioactive material (NORM) in the oil and gas industries. e credentials to discharge their duties. Said services are to be perform both public and private concerns, and to licensees and registrants of the New Mexico Radiation Protection Program." the Oil and Gas Industry Radiation Safety Consulting to Radiation safety services and consultation regarding naturally occurr performing service under this registration possess adequa 604 - 6N officer (RSO)

idustri Training for NORWin the Oil & Gast Radiation Safety 670 - 9N

Jun 30, 2008

das industries. we material (NORM) in the oil and Radiation safety training services regarding naturally occuming radioaci

is for performing NORM radiation surveys to meet the The training shall include appropriate meth requirements of Part 14 (20.3.14 NMAC) of the New Mexico Radiation This training shall include classroom instruction and actual hands.

following topics affecting workers: addresses the 2) The training shall follow a standardized format which at a minimum

a) Fundamentals of radiation and radioactive material associated with NORM in the oil and gas inclusines

d) Full damentals of reduction and reduced with exposure to radiation and radioactive material from NORM in the oil and gas, industries, b) health protection problems associated with exposure to radiation and radioactive material from NORM in the oil and gas, industries;

precautions or procedures to minimize expositife, and in the purposes and functions of profective devices employed; Ü

the applicable provisions of applicable regulations for the protection of personnel from exposure to radiation and radioactive material ত

the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material; 33 of the New Mexico Radiation Protection Regulations; and advised as to the radiation exposure reports which workers may request pursuant to Section 100 6

the requirements set forth in Part 14 of the New Mexico Radiation Protection Regulations (20,3,14 NMAC)

Training shall performed under the direct oversight of the radiation safety officer (RSO).

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Control Bureau as having the necessary training and knowledge to provide radiological services in the specially (\$) indicated above. These services will be provided in New Mexico to both public and private concerns, and to licensees and registrants of the New Mexico Radiation Control Bureau. The registrant shall not perform services which are not specifically accordance with Part 2 of the New Mexico Radiation Protection Regulations (20.3.2 NMAC), the above named person or organization is registered with the New Mexico Radiation responsible for applying for timely renewal of registration(s) as they expire individually, and shall notify this Bureau in writing before making any changes which would render the indicated by this certificate and its provisions, and is subject to all applicable requirements of the New Mexico Radiation Protection Regulations (20.3 NMAC). The registant is Jew-Mexico 87502-6110, phone (505)476-3236. information contained in this certificate to be inaccurate. New Mexico Radiation Control Bureau, PO Box 26110, Santa Fe.

POST OR FILE.

This certificate and its provisions must be available for inspection.

New Mexico Environment Department Radiation Control Bureau Stanley Fitch

6/23/2003

RAILROAD COMMISSION OF TEXAS OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 08-0214236 IN THE FUHRMAN-MASCHO FIELD ANDREWS COUNTY, TEXAS

FINAL ORDER
APPROVING THE APPLICATION OF LOTUS, L.L.C.
FOR PIT PERMIT AND DISPOSAL WELL PERMIT
TO MANAGE AND DISPOSE OF NORM WASTE
IN THE FUHRMAN-MASCHO FIELD
ANDREWS COUNTY, TEXAS

The Commission finds that after statutory notice in the above-numbered docket heard on December 4, 1996, the presiding examiner has made and filed a report and recommendation containing findings of fact and conclusions of law, for which service was not required that the proposed application is in compliance with all statutory requirements; and that this proceeding was duly submitted to the Railroad Commission of Texas at conference held in its offices in Austin, Texas.

The Commission, after review and due consideration of the examiner's report and recommendation, the findings of fact and conclusions of law contained therein, hereby adopts as its own the findings of fact and conclusions of law contained therein, and incorporates said findings of fact and conclusions of law as if fully set out and separately stated herein.

Therefore, it is ordered by the Railroad Commission of Texas that the application of LOTUS, L.L.C. for Pit Permit No. P010928 and an Injection Well Permit for the Lotus Lease, Well No. 1, to authorize management and disposal of oil and gas NORM in the Fuhrman-Mascho Field, Andrews County, Texas, be and it is hereby approved subject to the conditions and limitations indicated in Exhibits A and B.

Done this 17th day of December, 1996.

rajlroad commission-of texas

CHAIRMAN

COMMISSIONER

COMMISSIONER

Secretain

EXHIBIT A

PERMIT TO MAINTAIN AND USE A PIT

Pit Permit No. P010928

LOTUS, L.L.C. P.O. Box 1277 Andrews County, TX 79714

Based on information contained in your application (Form H-11) dated November 6, 1996, you are hereby authorized to maintain and use the pit designated herein:

Type of Pit: Oil and Gas NORM Waste Collecting Pit [LINED] LOTUS Disposal Facility 1980 feet FSL and 660 feet FEL of Section 8, Block A-47, PSL Survey, Andrews County, RRC District 03

Authority is granted to maintain and use the pit in accordance with Statewide Rule 8 and subject to the following conditions:

- 1. Use of the pit is limited to collection of nonhazardous oil and gas waste, including oil and gas NORM waste at or below levels specified in the permit application, prior to disposal in the following well: LOTUS Lease, Well No. 1
- 2. The pit must be constructed of concrete at least 12 inches thick.
- 3. The capacity of the pit may not exceed 416 barrels.
- 4. At least 2 feet of freeboard must be maintained between the fluid level in the pit and the top of the pit.
- 5. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.
- 6. The permittee shall comply with the worker protection standards as defined in 16 TAC §3.94 (Rule 94, Disposal of Oil and Gas NORM Waste).

- 7. Records must be kept of each load of waste received at the pit. Records must include:
 - a) the identity of the property where any oil and gas NORM waste was generated, including the Commission district; field; lease, unit, facility, or offshore tract;
 - b) the identity of the facility, site, or well where the oil and gas NORM waste was disposed of if other than the disposal wells referenced in Condition No. 1;
 - c) the physical nature (i.e., pipe scale, contaminated soil, basic sediment) of the oil and gas NORM waste;
 - d) the volume of oil and gas NORM waste received in the pit prior to disposal; and
 - e) the radioactivity level(s) of the oil and gas NORM waste (in pCi/g of Radium-226 and 228).

A copy of the records must be filed quarterly with the Assistant Director for Environmental Services and the Midland District Office.

- 8. No oil may be allowed to accumulate on top of waste collected in the pit. Any oil on top of the waste must be skimmed off.
- 9. The pit must be emptied and inspected monthly for deterioration and/or leaks. The Midland District Office must be notified at least 48 hours before each inspection. The pit must also be inspected whenever evidence of pit leakage arises. If inspection of the pit reveals a leak, the pit must be repaired before use of the pit is resumed.
- 10. The permittee must maintain a record of when the pit is inspected and the results of each inspection. This record must be maintained by the permittee for the life of the pit, and, upon request of the Commission, the record shall be filed with the Commission.
- 11. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the pit shall be in accordance with the information represented on the application (Form H-11) and attachments thereto.
- 12. A sign shall be posted at the pit which shall show the pit permit number in numerals at least one inch in height.
- 13. The pit must be dewatered, emptied, and closed within 120 days of final cessation of use of the pit. Final closure of the pit must be accomplished in such a manner that rainfall will not collect at the pit location after pit closure. Upon final closure, the District Office shall be notified in writing.
- 14. This permit is nontransferable without the consent of the Commission. Any request for permit transfer must be filed with Environmental Services.
- 15. This permit does not authorize the discharge of any oil and gas wastes from the pit to the ground or surface water or groundwater.
- 16. This permit may be considered for administrative renewal upon review by Environmental Services.

- 17. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permittee shall decontaminate the land surface and any equipment not otherwise exempted under the provisions of §46.4(a)(2), Texas Regulations for Control of Radiation (TRCR). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background, unless a higher level is approved by the Commission. Equipment shall be considered decontaminated when it meets the exemption levels set forth in Appendix 46-A, TRCR Part 46.
- 18. Authority to use the pit expires December 17, 2001 (5 years from date of permit).

This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON December 17, 1996.

EXHIBIT B

PERMIT TO DISPOSE OF NON-HAZARDOUS OIL AND GAS WASTE, INCLUDING NATURALLY OCCURRING RADIOACTIVE MATERIAL, BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS

PERMIT NO. 10799

LOTUS, L.L.C. P. O. Box 1277 Andrews, TX 79714

Based on information contained in your application (Form W-14) dated September 9, 1996, you are hereby authorized to dispose of oil and gas waste, including oil and gas NORM waste, into your well designated as follows:

Lotus Lease, Well No. 1, Fuhrman-Mascho Field, Andrews County, RRC District & Oh

Authority is granted to inject in accordance with Statewide Rules 9 and 94 of the Railroad Commission of Texas and subject to the following special and standard conditions:

SPECIAL CONDITIONS:

- Oil and gas waste shall only be injected into strata in the subsurface depth interval from 5210 feet to 10,300 feet.
- 2. The injection volume shall not exceed 5,000 barrels per day.
- 3. The maximum surface injection pressure shall not exceed 2000 psig.
- 4. Records relating to the disposal of oil and gas NORM waste shall be retained for at least three years after the date of disposal. The records shall include for each shipment disposed of:
 - a. the identity of the generator of the oil and gas NORM waste.
 - b. the identity of the property where the oil and gas NORM waste was generated, including the district, field, lease, unit, facility, or offshore tract.
 - c. the physical nature of the NORM waste (i.e. pipe scale, contaminated soil, etc.)
 - d. the volume of the NORM waste.
 - e. the radioactivity level of the NORM waste in pCi/g of Radium-226 and Radium-228.
- 6. The permittee shall comply with the worker protection standards of Rule 94 (c).

7. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permitted shall decontaminate the land surface at the site and any equipment not otherwise exempted under the provisions of §46.4(a) (2), Texas Regulations for Control of Radiation (TRCR). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background unless a higher level is approved by the Commission. Equipment shall be considered decontaminated when it meets the exception levels set forth in Appendix 46-A, TRCR Part 46.

STANDARD CONDITIONS:

- 1. Injection must be through tubing set on a packer. The packer must be set no higher than 100 feet above the top of the permitted interval.
- 2. The District Office must be notified 48 hours prior to:
 - a. running tubing and setting packer;
 - b. beginning any workover or remedial operation;
 - c. conducting any required pressure tests or surveys.
- 3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.
- 4. Prior to beginning injection and subsequently after any workover, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.
- 5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.
- 6. Within 30 days after completion, conversion to disposal, or any workover which results in a change in well completion, a new Form W-2 or G-1 must be filed in duplicate with the District Office to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.
- 7. Written notice of intent to transfer the permit to another operator must be submitted to the Commission at least 15 days prior to the date the transfer will occur by filing Form P-4.
- 8. Unless otherwise required by conditions of the permit, completion and operation of the well shall be in accordance with the information represented on the application (Form W-14).
- 9. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:

- a. All surface facilities for oil and gas waste management must be permitted under the requirements of Statewide Rule 8.
- b. A catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.
- c. All fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director. These facilities must be maintained so as to prevent discharges of oil and gas waste.
- d. Dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.
- e. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.
- f. Each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.
- 10. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

Provided further that, should it be determined that such injection fluid is not confined to the approved strata, then the permission given herein is suspended and the disposal operation must be stopped until the fluid migration from such strata is eliminated.

APPROVED AND ISSUED ON December 17, 1996.

QUALITY COMMISSION ON ENVINONMENTAL ON Notice of Registration Industrial and Hazardous Waste TEXAS COMMISSION ON Notice of

07/25/03 Page: Date:

This registration does not constitute authorization of any waste management activities or facilites listed below. The registration reflects hazardous and/or industrial waste generation and management activities for which the registrant has provided notification. Requirements for solid waste management are provided by Texas Administrative code section 335 of the rules of the Texas Commission on Environmental Quality (TCEQ). Changes or additions to waste management methods referred to in this notice require written notification to the TCEQ.

EPA Id: TXR000019349 Solid Waste Registration Number: 84887 that 20 refer Please and filed information pertaining to your operation. The Solid Waste Registration Number provides access to computerized number in any correspondence.

Facility of, Andrews, Lotus LLC Lotus Disposal F 14 miles west of Snow, Dan W Company Name: Site Name: Site Location: Contact:

Initial Registration Date: 12/20/1996 Last Amendment Date: 03/07/2001 Last Date NOR Computer update: 10/28/2002 Phone: 915-524-6232 Ext 11 Andrews 7 Region: County:

Title: Manager Assistant

Andrews,

Dana

0

miles west

4

Address:

Street

Site

PO BOX 1277 Address: Mailing

79714-1277 X

Andrews,

Active Transporter For hire 2 3 H Medical Wast Registration Status: Registration Type: Transporter Type: Transport Wst Class: Spoke to 1 32 bb. Business Description:

Other

streams. Sp. 10/28/02 Injection well disposal and processing of exempt oil and gas waste : (915-524-6232), she confirmed that the correct is as shown in TRACS.

011 and Gas Operations 405 Support Activities

Permitted TSD 213112 Support 752664720 Not Applicable NAICS Code: Tax Identification #: Handler Status: 79714-1277 Andrews, TX, 03/07/2001

Information Lotus LLC 915-524-6232 PO Box 1277

Operator Name: Phone: Address:

and WASTES 1s 0001 UNITS 1s 001. 40 00 number unassigned sequence unassigned sequence - the next the next As of

requirements reporting and specifies the notification, record keeping, manifesting Section 335, Chapter 31 of the Texas Adminstrative Code for hazardous and industrial solid wastes.

79714-1277

Owner Information
Name: Lotus LLC
Phone: 915-524-6232
Address: PO Box 1277
Andrews, TX,



DAVID E. SCHIECK
DIRECTOR, OIL AND GAS DIVISION
LORI WROTENBERY
DEPUTY DIRECTOR, OIL AND GAS DIVISION
ASSISTANT DIRECTOR—ENVIRONMENTAL SERVICES

Railroad Commission of Texas

OIL AND GAS DIVISION

PERMIT TO MAINTAIN AND USE A PIT

Pit Permit No. P010938

LOTUS L L C P O BOX 1277 ANDREWS TX 79714

Based on information contained in your application (Form H-11) dated January 24, 1997, you are hereby authorized to maintain and use the pit designated herein:

Type of Pit: Oil and Gas NORM Waste Collecting Pit [LINED] Lotus Disposal Facility 1965 feet FSL and 660 feet FEL of Section 8, Block A-47, PSL Survey Andrews County, RRC District 8A

Authority is granted to maintain and use the pit in accordance with Statewide Rule 8 and subject to the following conditions:

- 1. Use of the pit is limited to collection of nonhazardous oil and gas waste, including oil and gas NORM waste at or below levels specified in the permit application, prior to disposal in the following well: Lotus Lease, Well No. 1.
- 2. The pit must be constructed of concrete at least 8 inches thick.
- 3. The capacity of the pit may not exceed 165 barrels.
- 4. At least 2 feet of freeboard must be maintained between the fluid level in the pit and the top of the pit.
- 5. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.
- 6. The permittee shall comply with the worker protection standards as defined in 16 TAC §3.94 (Rule 94, Disposal of Oil and Gas NORM Waste).

- 7. Records must be kept of each load of waste received at the pit. Records must include:
 - a) the identity of the property where any oil and gas NORM waste was generated, including the Commission district; field; lease, unit, facility, or offshore tract;

b) the identity of the facility, site, or well where the oil and gas NORM waste was disposed of if other than the disposal wells referenced in Condition No. 1;

c) the physical nature (i.e., pipe scale, contaminated soil, basic sediment) of the oil and gas NORM waste;

 the volume of oil and gas NORM waste received in the pit prior to disposal; and

e) the radioactivity level(s) of the oil and gas NORM waste (in pCi/g of Radium-226 and 228).

A copy of the records must be filed quarterly with the Assistant Director for Environmental Services and the Midland District Office.

- 8. No oil may be allowed to accumulate on top of waste collected in the pit. Any oil on top of the waste must be skimmed off.
- 9. The pit must be emptied and inspected monthly for deterioration and/or leaks. The Midland District Office must be notified at least 48 hours before each inspection. The pit must also be inspected whenever evidence of pit leakage arises. If inspection of the pit reveals a leak, the pit must be repaired before use of the pit is resumed.
- 10. The permittee must maintain a record of when the pit is inspected and the results of each inspection. This record must be maintained by the permittee for the life of the pit, and, upon request of the Commission, the record shall be filed with the Commission.
- 11. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the pit shall be in accordance with the information represented on the application (Form H-11) and attachments thereto.
- 12. A sign shall be posted at the pit which shall show the pit permit number in numerals at least one inch in height.
- 13. The pit must be dewatered, emptied, and closed within 120 days of final cessation of use of the pit. Final closure of the pit must be accomplished in such a manner that rainfall will not collect at the pit location after pit closure. Upon final closure, the District Office shall be notified in writing.
- 14. This permit is nontransferable without the consent of the Commission. Any request for permit transfer must be filed with Environmental Services.

Pit Permit No. P010938 Page 3

- This permit does not authorize the discharge of any oil and 15. gas wastes from the pit to the ground or surface water or groundwater.
- This permit may be considered for administrative renewal upon 16. review by Environmental Services.
- Within one year after active disposal operations cease at the 17. facility and prior to release of the facility for unrestricted use, the permittee shall decontaminate the land surface and any equipment not otherwise exempted under the provisions of §46.4(a)(2), Texas Regulations for Control of Radiation For purposes of this provision, the land surface shall be considered decontaminated when the levels above do not Radium 228 exceed 5 pCi/q Radium 226 and background, unless a higher level is approved by the Commission. Equipment shall be considered decontaminated when it meets the exemption levels set forth in Appendix 46-A, TRCR Part 46.
- Authority to use the pit expires December 17, 2001. 18.

This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON July 16, 1997

Lori Wrotenbery, Assistant Director

Lori Wrotenbery

for Environmental Services



US EPA CERCLA

APPROVAL RECEIVED:

AUGUST 10, 1998

EPA ID:

TXR000019349

Acceptable for the receipt of hazardous substances, pollutants or contaminants (that are not Resource Conservation and Recovery Act hazardous waste) from Comprehensive Environmental Response, Compensation and Liability Act reqsponce actions. Determination made pursuant to requirements prescribed in 40 CFR 300.440 (58 FR 49200, 49215 - 49218 September 22, 1993).

Letter on file at Lotus Headquarter Office located in Andrews, Texas.



RONALD L. KITCHENS ACTING DIRECTOR, OIL AND GAS DIVISION LESLIE SAVAGE ASSISTANT DIRECTOR FOR ENVIRONMENTAL SERVICES

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO DISPOSE OF NON-HAZARDOUS OIL AND GAS WASTE, INCLUDING NATURALLY OCCURRING RADIOACTIVE MATERIAL, BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS

PERMIT NO. 11239, AMENDED

LOTUS, L.L.C. P O BOX 1277 ANDREWS TX 79714

Based on information contained in your application (Form W-14) received February 2, 1999, you are hereby authorized to dispose of oil and gas waste, including oil and gas NORM waste, into your well designated as follows:

Lotus Lease (35507), Well No. 2B, Fuhrman-Mascho Field, Andrews County, RRC District 8

Authority is granted to inject in accordance with Statewide Rules 9 and 94 of the Railroad Commission of Texas and subject to the following special and standard conditions:

SPECIAL CONDITIONS:

- 1. Oil and gas waste shall only be injected into a cavern in a salt formation in the subsurface depth interval from 2400 feet to 3100 feet.
- 2. The injection volume shall not exceed 10,000 barrels per day.
- The maximum surface injection pressure shall not exceed <u>1200</u> psig.
- 4. Prior to beginning disposal operations in the cavern disposal system, the cavern capacity shall be determined by sonar survey or other Commission approved method.
- 5. The results of the sonar survey or other method shall be reported to the Commission's Austin office prior to beginning disposal.

- 6. Records relating to the disposal of oil and gas NORM waste shall be retained for at least three years after the date of disposal. The records shall include for each shipment disposed of:
 - a. the identity of the generator of the oil and gas NORM waste.
 - b. the identity of the property where the oil and gas NORM waste was generated, including the district, field, lease, unit, facility, or offshore tract.
 - c. the physical nature of the NORM waste (i.e. pipe scale, contaminated soil, etc.)
 - d. the volume of the NORM waste.
 - e. the radioactivity level of the NORM waste in pCi/g of Radium-226 and Radium-228.
- 7. The permittee shall comply with the worker protection standards of Rule 94 (c).
- 8. A radiation safety officer (RSO) shall be on location during any activity that involves the retrieval of logging or workover tools, tubulars, or equipment from the well after NORM disposal begins.
- 9. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permitted shall decontaminate the land surface at the site and any equipment not otherwise exempted under the provisions of TAC § 289.259(d) (2). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background or do not exceed the level specified in Statewide Rule 94, whichever is greater. Equipment shall be considered decontaminated when it meets the exception levels set forth in § 289.259(w).

STANDARD CONDITIONS:

- 1. Injection must be through tubing set on a packer. The packer must be set no higher than 100 feet above the top of the permitted interval.
- 2. The District Office must be notified 48 hours prior to:
 - a. running tubing and setting packer;
 - b. beginning any workover or remedial operation;
 - c. conducting any required pressure tests or surveys.
- 3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.
- 4. Prior to beginning injection and subsequently after any workover, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.

- 5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.
- 6. Within 30 days after completion, conversion to disposal, or any workover which results in a change in well completion, a new Form W-2 or G-1 must be filed in duplicate with the District Office to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.
- 7. Written notice of intent to transfer the permit to another operator must be submitted to the Commission at least 15 days prior to the date the transfer will occur by filing Form P-4.
- 8. Unless otherwise required by conditions of the permit, completion and operation of the well shall be in accordance with the information represented on the application (Form W-14).
- 9. The operator shall comply with financial security requirements of Statewide Rule 78.
- 10. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:
 - All surface facilities for oil and gas waste management must be permitted under the requirements of Statewide Rule 8.
 - b. A catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.
 - c. All fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director. These facilities must be maintained so as to prevent discharges of oil and gas waste.
 - d. Dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.
 - e. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.

- f. Each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.
- 11. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

Provided further that, should it be determined that such injection fluid is not confined to the approved strata, then the permission given herein is suspended and the disposal operation must be stopped until the fluid migration from such strata is eliminated.

APPROVED AND ISSUED ON ___March 16, 2001__.

NOTE: Amends permit dated July 27, 1999. Amends maximum surface injection pressure to 1200 psgi.

Richard F. Ginn, Deputy Assistant Director for Underground Injection Control



RONALD L. KITCHENS
ACTING DIRECTOR, OIL AND GAS DIVISION
LESLIE SAVAGE
ASSISTANT DIRECTOR FOR ENVIRONMENTAL SERVICES

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO DISPOSE OF NON-HAZARDOUS OIL AND GAS WASTE, INCLUDING NATURALLY OCCURRING RADIOACTIVE MATERIAL, BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS

PERMIT NO. 11240, AMENDED

LOTUS, L.L.C. P O BOX 1277 ANDREWS TX 79714

Based on information contained in your application (Form W-14) received February 2, 1999, you are hereby authorized to dispose of oil and gas waste, including oil and gas NORM waste, into your well designated as follows:

Lotus Lease (35507), Well No. 2A, Fuhrman-Mascho Field, Andrews County, RRC District 8

Authority is granted to inject in accordance with Statewide Rules 9 and 94 of the Railroad Commission of Texas and subject to the following special and standard conditions:

SPECIAL CONDITIONS:

- 1. Oil and gas waste shall only be injected into a cavern in a salt formation in the subsurface depth interval from 2400 feet to 3100 feet.
- 2. The injection volume shall not exceed 10,000 barrels per day.
- 3. The maximum surface injection pressure shall not exceed 1200 psig.
- 4. Prior to beginning disposal operations in the cavern disposal system, the cavern capacity shall be determined by sonar survey or other Commission approved method.
- 5. The results of the sonar survey or other method shall be reported to the Commission's Austin office prior to beginning disposal.

- 6. Records relating to the disposal of oil and gas NORM waste shall be retained for at least three years after the date of disposal. The records shall include for each shipment disposed of:
 - a. the identity of the generator of the oil and gas NORM waste.
 - b. the identity of the property where the oil and gas NORM waste was generated, including the district, field, lease, unit, facility, or offshore tract.
 - c. the physical nature of the NORM waste (i.e. pipe scale, contaminated soil, etc.)
 - d. the volume of the NORM waste.
 - e. the radioactivity level of the NORM waste in pCi/g of Radium-226 and Radium-228.
- 7. The permittee shall comply with the worker protection standards of Rule 94 (c).
- 8. A radiation safety officer (RSO) shall be on location during any activity that involves the retrieval of logging or workover tools, tubulars, or equipment from the well after NORM disposal begins.
- 9. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permitted shall decontaminate the land surface at the site and any equipment not otherwise exempted under the provisions of TAC § 289.259(d) (2). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background or do not exceed the level specified in Statewide Rule 94, whichever is greater. Equipment shall be considered decontaminated when it meets the exception levels set forth in § 289.259(w).

STANDARD CONDITIONS:

- 1. Injection must be through tubing set on a packer. The packer must be set no higher than 100 feet above the top of the permitted interval.
- 2. The District Office must be notified 48 hours prior to:
 - running tubing and setting packer;
 - b. beginning any workover or remedial operation;
 - c. conducting any required pressure tests or surveys.
- 3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.
- 4. Prior to beginning injection and subsequently after any workover, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.

- 5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.
- 6. Within 30 days after completion, conversion to disposal, or any workover which results in a change in well completion, a new Form W-2 or G-1 must be filed in duplicate with the District Office to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.
- 7. Written notice of intent to transfer the permit to another operator must be submitted to the Commission at least 15 days prior to the date the transfer will occur by filing Form P-4.
- 8. Unless otherwise required by conditions of the permit, completion and operation of the well shall be in accordance with the information represented on the application (Form W-14).
- 9. The operator shall comply with financial security requirements of Statewide Rule 78.
- 10. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:
 - a. All surface facilities for oil and gas waste management must be permitted under the requirements of Statewide Rule 8.
 - b. A catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.
 - c. All fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director. These facilities must be maintained so as to prevent discharges of oil and gas waste.
 - d. Dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.
 - e. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.

- f. Each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.
- 11. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

Provided further that, should it be determined that such injection fluid is not confined to the approved strata, then the permission given herein is suspended and the disposal operation must be stopped until the fluid migration from such strata is eliminated.

APPROVED AND ISSUED ON March 16, 2001.

NOTE: Amends permit dated July 27, 1999. Amends maximum surface injection pressure to 1200 psig.

Richard F. Ginn, Deputy Assistant Director for Underground Injection Control



Photo 1: LOTUS, LLC personnel prepare NORM survey grid.



Photo 2: LOTUS, LLC personnel perform NORM survey.



Photo 3: Sample ID "1 Grab" sample location identified with paint.



Photo 4: Removal of NORM-containing material from the "1 Grab" sample location.



Photo 5: Transfer of NORM-containing material to the roll-off storage container.



Photo 6: Roll-off NORM container labeled and covered after completion of NORM removal activity.

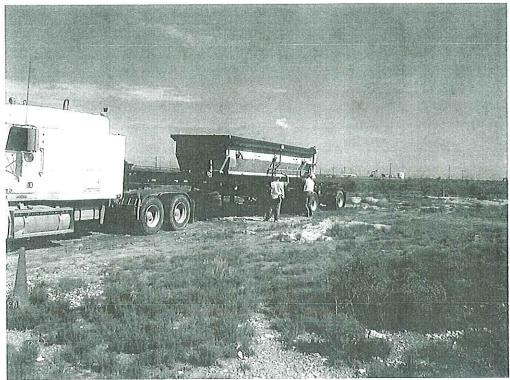


Photo 7: Preparing NORM container for transport to LOTUS, LLC disposal facility. Date: August 22, 2005.

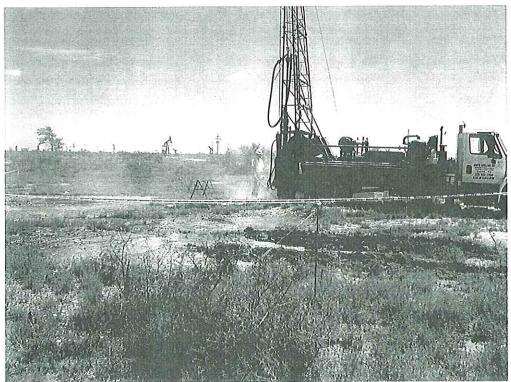


Photo 8: Drilling soil boring SB-1. Date: August 22, 2005.



Photo 9: Decontaminating drill rig between boring locations. Date: August 22, 2005.



Photo 10: Plugging soil boring with bentonite. Date: August 23, 2005.

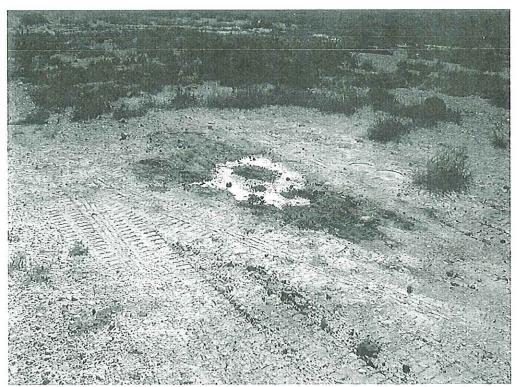


Photo 11: Soil boring plugged with hydrated bentonite. Date: August 23, 2005.



Photo 12: Soil cutting stockpile after completion of drilling activities. Stockpile was covered with plastic after taking photo. Date: August 23, 2005.



Analytical Report

Prepared for:

Jim Buice

Conestoga-Rovers & Associates 2135 S. Loop 250 West Midland, TX 79703

Project: NM State K Battery #3

Project Number: 041836 Location: Buckeye, NM

Lab Order Number: 5G07017

Report Date: 07/14/05

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836

Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 07/14/05 17:10

ANALYTICAL REPORT FOR SAMPLES

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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1 Grab 070605	5G07017-01	Soil	07/06/05 12:10	07/07/05 12:20
5 Composite 070605	5G07017-02	Soil	07/06/05 15:00	07/07/05 12:20
6 Composite 070605	5G07017-03	Soil	07/06/05 18:00	07/07/05 12:20
7 Composite 070605	5G07017-04	Soil	07/06/05 15:15	07/07/05 12:20
Roll Off Composite	5G07017-05	Soil	07/06/05 15:00	07/07/05 12:20

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836 Project Manager: Jim Buice Fax: (432) 686-0186

Reported: 07/14/05 17:10

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1 Grab 070605 (5G07017-01) Soil									
Density	1,383		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
5 Composite 070605 (5G07017-02) Soil									
Density	1.430		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
6 Composite 070605 (5G07017-03) Soil									
Density	1.340		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
7 Composite 070605 (5G07017-04) Soil					5				
Density	1.430		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
Roll Off Composite (5G07017-05) Soil									
Density	1.390		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	

2135 S. Loop 250 West

Midland TX, 79703

Project: NM State K Battery #3

Project Number: 041836

Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 07/14/05 17:10

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

%REC RPD Spike Reporting Source %REC RPD Limit Analyte Result Limit Units Level Result Limits Notes

Batch EG51222 - General Preparation (WetChem)

 Duplicate (EG51222-DUP1)
 Source: 5G07017-01
 Prepared & Analyzed: 07/11/05

 Density
 1.410
 g/cm³
 1.383
 1.93
 200

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Fax: (432) 686-0186

Project Number: 041836 Project Manager: Jim Buice

Reported: 07/14/05 17:10

Notes and Definitions

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

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

	Raland K Julis		
Report Approved By:	Couldn't Iss	Date:	7/14/200

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

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"Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-01

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 12:10 Receiving Date: 07/07/05 Analysis Date: 07/11/05 Analysis Time: 12:51

Field Code: 1 Grab 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 20	Analysis Test Method	Analysis Technician
Ra-226	13.86	1.84	0.51	0.07	EPA 901.1M	RT
Ra-228	< 0.57	N/A	< 0.02	N/A	EPA 901.1M	RT
Pb-210	<2.72	N/A	< 0.10	N/A	EPA 901.1M	RT
Total Activity	19.17	N/A	0.71	N/A	EPA 901.1M	RT
Notes:						

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Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-02

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 15:00 Receiving Date: 07/07/05 Analysis Date: 07/11/05

Analysis Time: 13:18

Field Code: 5 Composite 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226 Ra-228 Pb-210	<3.72 <0.53 <2.53	N/A N/A N/A	<0.14 <0.02 <0.09	N/A N/A N/A	EPA 901.1M EPA 901.1M EPA 901.1M	RT RT RT
Total Activity	4.23	N/A	0.16	N/A	EPA 901.1M	RT

Notes:

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'Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-03

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 18:00 Receiving Date: 07/07/05 Analysis Date: 07/11/05 Analysis Time: 14:32

Field Code: 6 Composite 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	<4.27	N/A	< 0.16	N/A	EPA 901.1M	RT
Ra-228	< 0.55	N/A	< 0.02	N/A	EPA 901.1M	RT
Pb-210	<3.23	N/A	< 0.12	N/A	EPA 901.1M	RT
Total Activity	6.88	N/A	0.25	N/A	EPA 901.1M	RT
Notes:	Calculation (C.)	I	I	L	1	1

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'Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-04

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 15:15 Receiving Date: 07/07/05 Analysis Date: 07/11/05

Analysis Time: 12:34

Field Code: 7 Composite 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	<3.37	N/A	< 0.12	N/A	EPA 901.1M	RT
Ra-228	< 0.60	N/A	< 0.02	N/A	EPA 901.1M	RT
Pb-210	< 2.36	N/A	<0.09	N/A	EPA 901.1M	RT
Total Activity	15.04	N/A	0.56	N/A	EPA 901.1M	RT
Notes:						

Quality Assurance Review

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'Don't Treat Your Soil Like Dirt!'

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-05

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 15:00 Receiving Date: 07/07/05 Analysis Date: 07/11/05

Analysis Time: 12:15

Field Code: Roll Off Composite

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	77.43	8.30	2.86	0.31	EPA 901.1M	RT
Ra-228	<1.03	N/A	< 0.04	N/A	EPA 901.1M	RT
Pb-210	31.04	3.99	1.15	0.15	EPA 901.1M	RT
Total Activity	221.22	N/A	8.18	N/A	EPA 901.1M	RT
Notes:		L	1	L		J

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Quality Assurance Review

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Notes:

Comments:

- 1. Soil and Sludge analysis results are reported on a wet basis or as received basis unless otherwise indicated.
- 2. The data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- Modified analysis procedures are procedures that are modified to meet certain specifications. An example would be the use
 of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid
 matrix.
- 4 Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.
- Fotal activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring decay chains and other prominent radioactive isotopes. Fotal activity may be lower than actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of isotopes that emit solely alpha or beta radiation.
- 6 Ra-228 is determined via secular equilibrium with its daughter, Actinium 228, (Gamma Spectroscopy only)
 - U-238 is determined via secular equilibrium with its daughter. Thorium 234. (Gamma Spectroscopy only)
- All Gamma Spectroscopy was performed using high purity germanium detectors (HPGF).

Method References:

- i:PA 600 4-86-032. Prescribed Procedures for the Measurement of Radioactivity in Drinking Water. August 1980.
- Standard Methods for the Examination of Water and Waste Water, 18th, 1902.
- 1 EPA SW-846. Test Methods for Evaluating Solid Wasta. Third Edition, (9 86). (Updated through 1905)
- 4. EPA 600 4-79-020. Methods for Chemical Analysis of Water and Waste, March 1983.
- 5 HASL 300

Definitions:

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3	ND	Not detected above the detection limit.
1	Facility and ope it through	the many as an array of the many as the before the many as
4	13.	Method Blank
5	D	Method Duplicate
6	MS	Matrix Spike
	Š	spike
8	RS	Reference Spike
63	SC	Subcontracted to analitied laborator
3.69	ZB	Not Wellering 1
11.	8.4	Not applicable
!2.	MDA	Minimum detectable activity

Insuranteental hab of Lexas I. Find assumes no habitity to the assert interpretation of any analytical results, other than the cost of the performed uniform to general transfer that the performed in the report transfer that the performance of the pressure of the pressur

Envir nmental Lab of lexas I, Ltd.

12600 West i-_0 East Odessa, Texas 79763

Phone: 915-563-1800 Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS ... QUEST

TAT brebnet2 əlubərlə2-ə19) TAT H<mark>ZU</mark>R Project Namo: N/M STATE K SATE 8 plastic baggie C. a O ! Temperature Upon Receipt 10 Sample Containers Intact? Laboratory Comments: Analyze For GE09/81708 X313 Project Loc: ろっこ人を子の sajjejekura 50(18)0) as blind to boled by sy steret Project #: ₽O #: SOV COS HCOS 12:20 (N eV gN eD) should Time 9001 9001 MS108 1817 Hd. (Apoads) τουμο nos Sindge Date 1916/V ytipads) rattio Suov Preservative 'OS'H HOPN 1())} Project Manager: Jrm Buice jouice & crestorate. Com ONH Fax No: 千32 631 No of Containers Dalqme2 amiT w Recorded by ELOT Received by 79763 baldmes also 250 65. 000 Telephone No: 432 68600 P. Company Name Conestora FIELD CODE City/State/Zip: 10 Lymn Company Address: 2/35 Sampler Signature: -200000 Special Instructions: LAB # (lab use only) Relinquished by

Variance / Corrective Action Report – Sample Log-In

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Analytical Report

Prepared for:

Jim Buice
Conestoga-Rovers & Associates
2135 S. Loop 250 West
Midland, TX 79703

Project: NM State K Battery #3
Project Number: 041836
Location: Buckeye, NM

Lab Order Number: 5E04006

Report Date: 05/16/05

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836 Project Manager: Jim Buice Fax: (432) 686-0186

Reported: 05/16/05 07:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1 Composite	5E04006-01	Soil	05/03/05 18:15	05/04/05 12:50
1 Grab	5E04006-02	Soil	05/03/05 18:00	05/04/05 12:50
2 Grab	5E04006-03	Soil	05/03/05 18:50	05/04/05 12:50
3 Grab	5E04006-04	Soil	05/03/05 18:25	05/04/05 12:50
3 Composite	5E04006-05	Soil	05/03/05 18:35	05/04/05 12:50
4 Composite	5E04006-06	Soil	05/03/05 18:45	05/04/05 12:50
4 Grab	5E04006-07	Soil	05/03/05 18:45	05/04/05 12:50
5 Composite	5E04006-08	Soil	05/03/05 18:00	05/04/05 12:50
6 Composite	5E04006-09	Soil	05/03/05 17:45	05/04/05 12:50
7 Composite	5E04006-10	Soil	05/03/05 19:00	05/04/05 12:50
7 Grab	5E04006-11	Soil	05/03/05 19:00	05/04/05 12:50

Conestoga-Rovers & Associates 2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836 Project Manager: Jim Buice Fax: (432) 686-0186

Reported: 05/16/05 07:42

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte	Kesuit			Dilution	Buten				
1 Composite (5E04006-01) Soil					Vertically, companies	Vertical	05/00/05	D 4292	-
Density	1.388		g/cm³	1	EE51209	05/09/05	05/09/05	D 4272	
1 Grab (5E04006-02) Soil							***		
Density	1.231		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
2 Grab (5E04006-03) Soil			-						A
Density	1.384		g/cm³	Ĭ	EE51209	05/09/05	05/09/05	D 4292	
3 Grab (5E04006-04) Soil									
Density	1.251		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
3 Composite (5E04006-05) Soil									
Density	1.395		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
4 Composite (5E04006-06) Soil									
sity	1.428		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
4 Grab (5E04006-07) Soil									
Density	1.150		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
5 Composite (5E04006-08) Soil									
Density	1.382		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
6 Composite (5E04006-09) Soil									
Density	1.387		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
7 Composite (5E04006-10) Soil									
Density	1.164		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
7 Grab (5E04006-11) Soil									
Density	1.300		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	

2135 S. Loop 250 West Midland TX, 79703

Project: NM State K Battery #3

Project Number: 041836

Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 05/16/05 07:42

General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE51209 - General Preparation	on (WetChem)									

Prepared & Analyzed: 05/09/05 Duplicate (EE51209-DUP1) Source: 5E04006-01 1.388 g/cm³ 1.388 0.00 200 Density

Duplicate

2135 S. Loop 250 West Midland TX, 79703

Dup

Project: NM State K Battery #3

Project Number: 041836
Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 05/16/05 07:42

Notes and Definitions

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
LCS	Laboratory Control Spike
MS	Matrix Spike

	Kaland K Julus			
Report Approved By:	Racaric	Date:	5/16/2005	

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

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Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
48-10-29-1000-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Density	(Soil)	Result calculations based on MDL
			Default Report (not modified)



Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-01

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:15

Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 09:29

Field Code: 1 Composite

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226 Ra-228 Pb-210	<1.88 <0.36 <1.54	N/A N/A N/A	<0.07 <0.01 <0.06	N/A N/A N/A	EPA 901.1M EPA 901.1M EPA 901.1M	RT RT RT
Total Activity	BDL	N/A	BDL.	N/A	EPA 901.1M	RT
Notes:	 					

RIM amak Julik Quality Assurance Review

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TABLE 1 New Mexico State K Tank Battery #3

NORM Analytical Summary Table

Sample ID	Sample Date	Ra-226	a-226 Ra-228 Pb-210		Ra-226 Ra-228 Pl		Total Activity
NMED Remediation Action Level		30	150	150			
		NORM Su	rvey Samples				
1 Composite	5/3/05	<1.88	<0.36	<1.54	BDL		
1 Grab	5/3/05	95.15	<1.40	26.90	180.71		
2 Grab	5/3/05	<8.49	<1.06	<3.75	BDL		
3 Grab	5/3/05	26.65	<0.75	<4.16	39.94		
3 Composite	5/3/05	<2.70	<0.43	<1.88	BDL		
4 Composite	5/3/05	<2.87	<0.52	<2.27	9.54		
4 Grab	5/3/05	23.68	<0.96	<4.88	47.36		
5 Composite	5/3/05	19.16	<0.57	<3.88	31.70		
6 Composite	5/3/05	13.34	<0.60	<3.86	25.06		
7 Composite	5/3/05	63.22	<1.40	25.04	133.95		
7 Grab	5/3/05	<2.97	<0.60	<2.32	BDL		
NO	RM Confirma	tion Samples (collected after l	NORM remediat	ion)		
1 Grab	7/6/05	13.86	<0.57	<2.72	19.17		
5 Composite	7/6/05	<3.72	<0.53	<2.53	4.23		
6 Composite	7/6/05	<4.27	<0.55	<3.23	6.88		
7 Composite	7/6/05	<3.37	<0.60	<2.36	15.04		
	NC	RM Waste Cha	aracterization S	ample			
Roll Off Composite	7/6/05	77.43	<1.03	31.04	221.22		

NOTES:

- 1. Values reported in picocuries per gram (pCi/gm).
- 2. NMED remediation action levels are 30/150 pCi/gm above background. Background activity is below the laboratory detection limit; therefore, the remediation action levels are 30/150 pCi/gm.
- 3. Shaded cells indicate NMED remediation action level exceedance.
- 4. Analyses by EPA Method 901.1M.

TABLE 2 New Mexico State K Tank Battery #3

BTEX/TPH/Chloride Analytical Summary Table

Sample	Sample	Depth			Ethyl-				TPH		01.1
ID	Date	(feet bgs)	Benzene	Toluene	Benzene	Xylenes	BTEX	GRO	DRO	Total	Chloride
	mediation Ac		10				50			1,000	
SB1-0-2'	8/22/05	0 - 2	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	870	870	<12
SB1-14-15'	8/22/05	14 - 15	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	132
SB1-19-20'	8/22/05	19 - 20	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	955
SB2-1-2'	8/22/05	1 - 2	<0.001	0.0075	<0.001	0.002	0.0095	<0.1	4,200	4,200	91.9
SB2-15-16'	8/22/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	32	32	25.6
SB2-20-21'	8/22/05	20 - 21	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	19	19	91.3
SB3-1-2'	8/22/05	1 - 2	<0.0012	0.0073	<0.0012	<0.0012	0.0073	<0.12	160	160	4,590
SB3-15-16'	8/22/05	14 - 15	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<0.54	BDL	1,050
SB3-20-21'	8/22/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<0.53	BDL	1,470
SB4-1-2'	8/22/05	1 - 2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	250	250	1,930
SB4-15-16'	8/22/05	14 - 15	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	11	11	877
SB4-20-21'	8/22/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	14	14	1,220
SB5-1-2'	8/22/05	1-2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<11	BDL	<10.6
SB5-15-16'	8/22/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	104
SB5-20-21'	8/22/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	138
SB6-1-2'	8/22/05	1-2	<0.0012	0.039	0.0018	0.0055	0.0463	<0.12	410	410	49.4
SB6-15-16'	8/22/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.1	BDL	35
SB6-20-21'	8/22/05	20 - 21	<0.001	<0.001	<0.001	<0.001	BDL.	<0.1	<5.1	BDL	31.9
SB7-1-2'	8/23/05	1-2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.6	BDL	46.5
SB7-15-16'	8/23/05	15 - 16	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.6	BDL	117
SB7-20-21'	8/23/05	20 - 21	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<5.8	BDL	128
SB8-1-2'	8/23/05	1 - 2	<0.0013	<0.0013	<0.0013	<0.0013	BDL	<0.13	530	530	940
SB8-15-16'	8/23/05	15 - 16	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	17	17	84
SB8-20-21'	8/23/05	20 - 21	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	41.7
SB9-1-2'	8/23/05	1 - 2	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<6.2	BDL	<12.4
SB9-15-16'	8/23/05	15 - 16	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	19.5
Duplicate			<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.2	BDL	15.9
SB9-20-21'	8/23/05	21 - 21	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<6.2	BDL	<11.5
SB10-1-2'	8/23/05	1 - 2	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	50	50	2,080
SB10-15-16'	8/23/05	15 - 16	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.3	BDL	887
SB10-20-21'	8/23/05	20 - 21	<0.0011	<0.0011	<0.0011	<0.0011	BDL	<0.11	<5.6	BDL	62
SB11-1-2'	8/23/05	1 - 2	<0.0012	<0.0012	<0.0012	<0.0012	BDL	<0.12	<61	BDL	203
SB11-15-16'	8/23/05	15 - 16	<0.001	<0.001	<0.001	0.0014	0.0014	<0.1	<5.2	BDL	300
SB11-20-21'	8/23/05	20 - 21	<0.0011	<0.0011	<0.0011	0.0016	0.0016	<0.11	<0.53	BDL	269
Background	8/23/05	1 - 2									<12.6
Trip Blank #1	8/23/05		<0.001	<0.001	<0.001	<0.001	BDL				
Trip Blank #2	8/23/05		<0.001	<0.001	<0.001	<0.001	BDL				

NOTES:

- 1. Values reported in mg/Kg. Values for trip blanks (water) reported in mg/L.
- 2. BDL: below laboratory detection limits.
- 3. Shaded cells indicate NMOCD Remediation Action Level exceedance.
- 4. BTEX analyses by EPA Method SW 8021B.
- 5. TPH analyses by EPA Method SW 8015B.
- 6. Chloride analyses by Method E325.2.

TAP' E 3 New Mexico Sta Tank Battery #3

Investigation Derived Waste (Soil) Characterization Data

2	4	a citation of	0	- L	Table of the control	Total Vision	VIII		TPH	
Sample ID	Date	Describnon	allazillad	ionelle	EulyiDelizerie	lotal Ayleries	DIEN	DRO	GRO	Total
NMOCD Rem	ediation Action Le	IMOCD Remediation Action Level (Ranking Score: 10)	10			1	50	1	1	1,000
Waste Chara.	8/23/2005	Characterization composite sample collected from soil cuttings stockpile	<0.001	<0.001	<0.001	<0.001	BDL	<0.1	<5.0	BDL

Sample ID	Date	Description	Corrosivity (pH units)	Reactive Cyanide	Reactive Sulfide	Ignitability (°F)
4	40 CFR 261 Regulatory	atory Limits	<2 or >12.5	<250	<500	<140
Vaste Chara.	8/23/2005	Characterization composite sample collected from soil cuttings stockpile	8.18	Σ	۷10	>212

Values reported in mg/Kg unless otherwise indicated.
 BDL: below laboratory detection limits.
 40 CFR 261 total benzene regulatory limit: 10.0 mg/Kg.

BTEX analyses by EPA Method SW 8021B.
 TPH analyses by EPA Method SW 8015B.
 Ignitability by ASTM Method D92-01.
 Corrosivity analyses by EPA Method SW 9045D.
 Reactive cyanide and sulfide analyses by EPA Methods SW 7.3.3.2 and 7.3.4.2, respectively.



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Radiation Control Bureau
State of New Mexico
Environment Department
1190 St. Francis Drive, 87505-4173
PO Box 26110
Santa Fe, New Mexico 87502-6110

PO Box 26110

Santa Fe, New Mexico 87502-6110

Phone (505) 476-3236 Fax (505) 476-3232

http://www.nmenv.state.nm.us/nmrcb/home.html

Tuesday, March 01, 2005

Geri Cooley, Regulatory Affairs & HES Manager Lotus, LLC P. O. Box 1277 Andrews, TX 79714

SUBJECT: NOTICE OF RECIPROCAL RECOGNITION OF LICENSE IN NEW MEXICO FOR 2005

License Number: L05147 Am# 09

Issuing Agency: Texas

License Expiration Date: Sunday, July 31, 2005

Thank you for your request for reciprocity. In accordance with your request and pursuant to New Mexico Radiation Protection Regulation (NMRPR) Section 324., you are hereby authorized to possess and utilize radioactive sources at temporary job sites within the State of New Mexico. Reciprocity is granted on a year to year basis. This authorization is void after December 31, 2005, or when activities have exceeded 180 days in the calendar year, whichever occurs first.

You are required to notify the Department in writing at least three (3) days prior to each use of radioactive material in New Mexico. Further, you must notify the Department within one (1) hour after arrival at the actual work location within the State, and notify the Department within one (1) hour after any change in work location within the State. Please note that you may be subject to a routine field inspection at anytime.

Special Conditions: The following must be in the possession of the users at the work site: (1) A copy of this letter; (2) a complete copy of the New Mexico Radiation Protection Regulations or the applicable sections, which can be downloaded from the State website at www.nmenv.state.nm.us; (3) a copy of the Radioactive Materials License; (4) a complete inventory of sources brought into the State; (5) pertinent U.S. DOT documents; (6) records of current leak tests for sealed sources brought into the State; (7) records of current instrument calibration(s); and (8) personnel training records.

If I can be of assistance, you may contact me at (505) 222-9517 or fax (505) 222-9510

For the New Mexico Environment Department --

Edward D. Vigil

Radiation Specialist



,		79714	stal Code
818 E. Broadway, PO Box 1277	Street Address	X	State/Province Zip/Postal Code
818 E. Bro	S	Andrews	City
Lotus, LLC	Name	Lotus, LLC	Organization

Registration

Radiological Service Specialty(s) For Which Certification is seeded. Number(s)

Expiration Date(s)

Jun 30, 2008 These services will be provided in New Mexico to ed under the direct oversight of the radiation safety redistrant is responsible for ensuring that all personnel of radioactive material (NORM) in the oil and gas industries. e credentials to discharge their duties. Said services are to be perform both public and private concerns, and to licensees and registrants of the New Mexico Radiation Protection Program." the Oil and Gas Industry Radiation Safety Consulting to Radiation safety services and consultation regarding naturally occurr performing service under this registration possess adequa 604 - 6N officer (RSO)

idustri Training for NORWin the Oil & Gast Radiation Safety 670 - 9N

Jun 30, 2008

das industries. we material (NORM) in the oil and Radiation safety training services regarding naturally occuming radioaci

is for performing NORM radiation surveys to meet the The training shall include appropriate meth requirements of Part 14 (20.3.14 NMAC) of the New Mexico Radiation This training shall include classroom instruction and actual hands.

following topics affecting workers: addresses the 2) The training shall follow a standardized format which at a minimum

a) Fundamentals of radiation and radioactive material associated with NORM in the oil and gas inclusines

d) Full damentals of reduction and reduced with exposure to radiation and radioactive material from NORM in the oil and gas, industries, b) health protection problems associated with exposure to radiation and radioactive material from NORM in the oil and gas, industries;

precautions or procedures to minimize expositife, and in the purposes and functions of profective devices employed; Ü

the applicable provisions of applicable regulations for the protection of personnel from exposure to radiation and radioactive material ত

the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material; 6

33 of the New Mexico Radiation Protection Regulations; and the requirements set forth in Part 14 of the New Mexico Radiation Protection Regulations (20,3,14 NMAC) advised as to the radiation exposure reports which workers may request pursuant to Section 100

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Training shall performed under the direct oversight of the radiation safety officer (RSO).

Control Bureau as having the necessary training and knowledge to provide radiological services in the specially (\$) indicated above. These services will be provided in New Mexico to both public and private concerns, and to licensees and registrants of the New Mexico Radiation Control Bureau. The registrant shall not perform services which are not specifically accordance with Part 2 of the New Mexico Radiation Protection Regulations (20.3.2 NMAC), the above named person or organization is registered with the New Mexico Radiation responsible for applying for timely renewal of registration(s) as they expire individually, and shall notify this Bureau in writing before making any changes which would render the indicated by this certificate and its provisions, and is subject to all applicable requirements of the New Mexico Radiation Protection Regulations (20.3 NMAC). The registant is Jew-Mexico 87502-6110, phone (505)476-3236. information contained in this certificate to be inaccurate. New Mexico Radiation Control Bureau, PO Box 26110, Santa Fe.

POST OR FILE.

This certificate and its provisions must be available for inspection.

New Mexico Environment Department Radiation Control Bureau Stanley Fitch

6/23/2003

RAILROAD COMMISSION OF TEXAS OFFICE OF GENERAL COUNSEL

OIL AND GAS DOCKET NO. 08-0214236 IN THE FUHRMAN-MASCHO FIELD ANDREWS COUNTY, TEXAS

FINAL ORDER
APPROVING THE APPLICATION OF LOTUS, L.L.C.
FOR PIT PERMIT AND DISPOSAL WELL PERMIT
TO MANAGE AND DISPOSE OF NORM WASTE
IN THE FUHRMAN-MASCHO FIELD
ANDREWS COUNTY, TEXAS

The Commission finds that after statutory notice in the above-numbered docket heard on December 4, 1996, the presiding examiner has made and filed a report and recommendation containing findings of fact and conclusions of law, for which service was not required that the proposed application is in compliance with all statutory requirements; and that this proceeding was duly submitted to the Railroad Commission of Texas at conference held in its offices in Austin, Texas.

The Commission, after review and due consideration of the examiner's report and recommendation, the findings of fact and conclusions of law contained therein, hereby adopts as its own the findings of fact and conclusions of law contained therein, and incorporates said findings of fact and conclusions of law as if fully set out and separately stated herein.

Therefore, it is ordered by the Railroad Commission of Texas that the application of LOTUS, L.L.C. for Pit Permit No. P010928 and an Injection Well Permit for the Lotus Lease, Well No. 1, to authorize management and disposal of oil and gas NORM in the Fuhrman-Mascho Field, Andrews County, Texas, be and it is hereby approved subject to the conditions and limitations indicated in Exhibits A and B.

Done this 17th day of December, 1996.

rajlroad commission-of texas

CHAIRMAN

COMMISSIONER

COMMISSIONER

Secretain

EXHIBIT A

PERMIT TO MAINTAIN AND USE A PIT

Pit Permit No. P010928

LOTUS, L.L.C. P.O. Box 1277 Andrews County, TX 79714

Based on information contained in your application (Form H-11) dated November 6, 1996, you are hereby authorized to maintain and use the pit designated herein:

Type of Pit: Oil and Gas NORM Waste Collecting Pit [LINED] LOTUS Disposal Facility 1980 feet FSL and 660 feet FEL of Section 8, Block A-47, PSL Survey, Andrews County, RRC District 03

Authority is granted to maintain and use the pit in accordance with Statewide Rule 8 and subject to the following conditions:

- 1. Use of the pit is limited to collection of nonhazardous oil and gas waste, including oil and gas NORM waste at or below levels specified in the permit application, prior to disposal in the following well: LOTUS Lease, Well No. 1
- 2. The pit must be constructed of concrete at least 12 inches thick.
- 3. The capacity of the pit may not exceed 416 barrels.
- 4. At least 2 feet of freeboard must be maintained between the fluid level in the pit and the top of the pit.
- 5. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.
- 6. The permittee shall comply with the worker protection standards as defined in 16 TAC §3.94 (Rule 94, Disposal of Oil and Gas NORM Waste).

- 7. Records must be kept of each load of waste received at the pit. Records must include:
 - a) the identity of the property where any oil and gas NORM waste was generated, including the Commission district; field; lease, unit, facility, or offshore tract;
 - b) the identity of the facility, site, or well where the oil and gas NORM waste was disposed of if other than the disposal wells referenced in Condition No. 1;
 - c) the physical nature (i.e., pipe scale, contaminated soil, basic sediment) of the oil and gas NORM waste;
 - d) the volume of oil and gas NORM waste received in the pit prior to disposal; and
 - e) the radioactivity level(s) of the oil and gas NORM waste (in pCi/g of Radium-226 and 228).

A copy of the records must be filed quarterly with the Assistant Director for Environmental Services and the Midland District Office.

- 8. No oil may be allowed to accumulate on top of waste collected in the pit. Any oil on top of the waste must be skimmed off.
- 9. The pit must be emptied and inspected monthly for deterioration and/or leaks. The Midland District Office must be notified at least 48 hours before each inspection. The pit must also be inspected whenever evidence of pit leakage arises. If inspection of the pit reveals a leak, the pit must be repaired before use of the pit is resumed.
- 10. The permittee must maintain a record of when the pit is inspected and the results of each inspection. This record must be maintained by the permittee for the life of the pit, and, upon request of the Commission, the record shall be filed with the Commission.
- 11. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the pit shall be in accordance with the information represented on the application (Form H-11) and attachments thereto.
- 12. A sign shall be posted at the pit which shall show the pit permit number in numerals at least one inch in height.
- 13. The pit must be dewatered, emptied, and closed within 120 days of final cessation of use of the pit. Final closure of the pit must be accomplished in such a manner that rainfall will not collect at the pit location after pit closure. Upon final closure, the District Office shall be notified in writing.
- 14. This permit is nontransferable without the consent of the Commission. Any request for permit transfer must be filed with Environmental Services.
- 15. This permit does not authorize the discharge of any oil and gas wastes from the pit to the ground or surface water or groundwater.
- 16. This permit may be considered for administrative renewal upon review by Environmental Services.

- 17. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permittee shall decontaminate the land surface and any equipment not otherwise exempted under the provisions of §46.4(a)(2), Texas Regulations for Control of Radiation (TRCR). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background, unless a higher level is approved by the Commission. Equipment shall be considered decontaminated when it meets the exemption levels set forth in Appendix 46-A, TRCR Part 46.
- 18. Authority to use the pit expires December 17, 2001 (5 years from date of permit).

This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON December 17, 1996.

EXHIBIT B

PERMIT TO DISPOSE OF NON-HAZARDOUS OIL AND GAS WASTE, INCLUDING NATURALLY OCCURRING RADIOACTIVE MATERIAL, BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS

PERMIT NO. 10799

LOTUS, L.L.C. P. O. Box 1277 Andrews, TX 79714

Based on information contained in your application (Form W-14) dated September 9, 1996, you are hereby authorized to dispose of oil and gas waste, including oil and gas NORM waste, into your well designated as follows:

Lotus Lease, Well No. 1, Fuhrman-Mascho Field, Andrews County, RRC District & Oh

Authority is granted to inject in accordance with Statewide Rules 9 and 94 of the Railroad Commission of Texas and subject to the following special and standard conditions:

SPECIAL CONDITIONS:

- Oil and gas waste shall only be injected into strata in the subsurface depth interval from 5210 feet to 10,300 feet.
- 2. The injection volume shall not exceed 5,000 barrels per day.
- 3. The maximum surface injection pressure shall not exceed 2000 psig.
- 4. Records relating to the disposal of oil and gas NORM waste shall be retained for at least three years after the date of disposal. The records shall include for each shipment disposed of:
 - a. the identity of the generator of the oil and gas NORM waste.
 - b. the identity of the property where the oil and gas NORM waste was generated, including the district, field, lease, unit, facility, or offshore tract.
 - c. the physical nature of the NORM waste (i.e. pipe scale, contaminated soil, etc.)
 - d. the volume of the NORM waste.
 - e. the radioactivity level of the NORM waste in pCi/g of Radium-226 and Radium-228.
- 6. The permittee shall comply with the worker protection standards of Rule 94 (c).

7. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permitted shall decontaminate the land surface at the site and any equipment not otherwise exempted under the provisions of §46.4(a) (2), Texas Regulations for Control of Radiation (TRCR). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background unless a higher level is approved by the Commission. Equipment shall be considered decontaminated when it meets the exception levels set forth in Appendix 46-A, TRCR Part 46.

STANDARD CONDITIONS:

- 1. Injection must be through tubing set on a packer. The packer must be set no higher than 100 feet above the top of the permitted interval.
- 2. The District Office must be notified 48 hours prior to:
 - a. running tubing and setting packer;
 - b. beginning any workover or remedial operation;
 - c. conducting any required pressure tests or surveys.
- 3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.
- 4. Prior to beginning injection and subsequently after any workover, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.
- 5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.
- 6. Within 30 days after completion, conversion to disposal, or any workover which results in a change in well completion, a new Form W-2 or G-1 must be filed in duplicate with the District Office to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.
- 7. Written notice of intent to transfer the permit to another operator must be submitted to the Commission at least 15 days prior to the date the transfer will occur by filing Form P-4.
- 8. Unless otherwise required by conditions of the permit, completion and operation of the well shall be in accordance with the information represented on the application (Form W-14).
- 9. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:

- a. All surface facilities for oil and gas waste management must be permitted under the requirements of Statewide Rule 8.
- b. A catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.
- c. All fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director. These facilities must be maintained so as to prevent discharges of oil and gas waste.
- d. Dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.
- e. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.
- f. Each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.
- 10. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

Provided further that, should it be determined that such injection fluid is not confined to the approved strata, then the permission given herein is suspended and the disposal operation must be stopped until the fluid migration from such strata is eliminated.

APPROVED AND ISSUED ON December 17, 1996.

QUALITY COMMISSION ON ENVINONMENTAL ON Notice of Registration Industrial and Hazardous Waste TEXAS COMMISSION ON Notice of

07/25/03 Page: Date:

This registration does not constitute authorization of any waste management activities or facilites listed below. The registration reflects hazardous and/or industrial waste generation and management activities for which the registrant has provided notification. Requirements for solid waste management are provided by Texas Administrative code section 335 of the rules of the Texas Commission on Environmental Quality (TCEQ). Changes or additions to waste management methods referred to in this notice require written notification to the TCEQ.

EPA Id: TXR000019349 Solid Waste Registration Number: 84887 that 20 refer Please and filed information pertaining to your operation. The Solid Waste Registration Number provides access to computerized number in any correspondence.

Facility of, Andrews, Lotus LLC Lotus Disposal F 14 miles west of Snow, Dan W Company Name: Site Name: Site Location: Contact:

Andrews 7 Region: County:

Initial Registration Date: 12/20/1996 Last Amendment Date: 03/07/2001 Last Date NOR Computer update: 10/28/2002 Phone: 915-524-6232 Ext 11 Title: Manager Assistant

> PO BOX 1277 Address: Mailing

0 miles west Andrews, 4 Address: Street

Site

79714-1277 X Andrews,

Other Active Transporter For hire 2 3 H Medical Wast Registration Status: Registration Type: Transporter Type: Transport Wst Class: Spoke to 1 32 bb. streams. Sp. 10/28/02 Injection well disposal and processing of exempt oil and gas waste : (915-524-6232), she confirmed that the correct is as shown in TRACS. Business Description:

Dana

011 and Gas Operations 405 Support Activities NAICS Code: Tax Identification #: Handler Status:

213112 Support 752664720 Not Applicable

Permitted TSD

Information Lotus LLC 915-524-6232 PO Box 1277 Operator Name: Phone:

79714-1277

Andrews, TX,

Address:

79714-1277 Owner Information
Name: Lotus LLC
Phone: 915-524-6232
Address: PO Box 1277
Andrews, TX,

and WASTES 1s 0001 UNITS 1s 001. 40 00 number unassigned sequence unassigned sequence - the next the next 03/07/2001 As of

requirements reporting and specifies the notification, record keeping, manifesting Section 335, Chapter 31 of the Texas Adminstrative Code for hazardous and industrial solid wastes.



DAVID E. SCHIECK
DIRECTOR, OIL AND GAS DIVISION
LORI WROTENBERY
DEPUTY DIRECTOR, OIL AND GAS DIVISION
ASSISTANT DIRECTOR—ENVIRONMENTAL SERVICES

Railroad Commission of Texas

OIL AND GAS DIVISION

PERMIT TO MAINTAIN AND USE A PIT

Pit Permit No. P010938

LOTUS L L C P O BOX 1277 ANDREWS TX 79714

Based on information contained in your application (Form H-11) dated January 24, 1997, you are hereby authorized to maintain and use the pit designated herein:

Type of Pit: Oil and Gas NORM Waste Collecting Pit [LINED] Lotus Disposal Facility 1965 feet FSL and 660 feet FEL of Section 8, Block A-47, PSL Survey Andrews County, RRC District 8A

Authority is granted to maintain and use the pit in accordance with Statewide Rule 8 and subject to the following conditions:

- 1. Use of the pit is limited to collection of nonhazardous oil and gas waste, including oil and gas NORM waste at or below levels specified in the permit application, prior to disposal in the following well: Lotus Lease, Well No. 1.
- 2. The pit must be constructed of concrete at least 8 inches thick.
- 3. The capacity of the pit may not exceed 165 barrels.
- 4. At least 2 feet of freeboard must be maintained between the fluid level in the pit and the top of the pit.
- 5. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.
- 6. The permittee shall comply with the worker protection standards as defined in 16 TAC §3.94 (Rule 94, Disposal of Oil and Gas NORM Waste).

- 7. Records must be kept of each load of waste received at the pit. Records must include:
 - a) the identity of the property where any oil and gas NORM waste was generated, including the Commission district; field; lease, unit, facility, or offshore tract;

b) the identity of the facility, site, or well where the oil and gas NORM waste was disposed of if other than the disposal wells referenced in Condition No. 1;

c) the physical nature (i.e., pipe scale, contaminated soil, basic sediment) of the oil and gas NORM waste;

 the volume of oil and gas NORM waste received in the pit prior to disposal; and

e) the radioactivity level(s) of the oil and gas NORM waste (in pCi/g of Radium-226 and 228).

A copy of the records must be filed quarterly with the Assistant Director for Environmental Services and the Midland District Office.

- 8. No oil may be allowed to accumulate on top of waste collected in the pit. Any oil on top of the waste must be skimmed off.
- 9. The pit must be emptied and inspected monthly for deterioration and/or leaks. The Midland District Office must be notified at least 48 hours before each inspection. The pit must also be inspected whenever evidence of pit leakage arises. If inspection of the pit reveals a leak, the pit must be repaired before use of the pit is resumed.
- 10. The permittee must maintain a record of when the pit is inspected and the results of each inspection. This record must be maintained by the permittee for the life of the pit, and, upon request of the Commission, the record shall be filed with the Commission.
- 11. Unless otherwise required by conditions of this permit, construction, use, and maintenance of the pit shall be in accordance with the information represented on the application (Form H-11) and attachments thereto.
- 12. A sign shall be posted at the pit which shall show the pit permit number in numerals at least one inch in height.
- 13. The pit must be dewatered, emptied, and closed within 120 days of final cessation of use of the pit. Final closure of the pit must be accomplished in such a manner that rainfall will not collect at the pit location after pit closure. Upon final closure, the District Office shall be notified in writing.
- 14. This permit is nontransferable without the consent of the Commission. Any request for permit transfer must be filed with Environmental Services.

Pit Permit No. P010938 Page 3

- This permit does not authorize the discharge of any oil and 15. gas wastes from the pit to the ground or surface water or groundwater.
- This permit may be considered for administrative renewal upon 16. review by Environmental Services.
- Within one year after active disposal operations cease at the 17. facility and prior to release of the facility for unrestricted use, the permittee shall decontaminate the land surface and any equipment not otherwise exempted under the provisions of §46.4(a)(2), Texas Regulations for Control of Radiation For purposes of this provision, the land surface shall be considered decontaminated when the levels above do not Radium 228 exceed 5 pCi/q Radium 226 and background, unless a higher level is approved by the Commission. Equipment shall be considered decontaminated when it meets the exemption levels set forth in Appendix 46-A, TRCR Part 46.
- Authority to use the pit expires December 17, 2001. 18.

This authorization is granted subject to review and cancellation should investigation show that such authorization is being abused.

APPROVED AND ISSUED ON July 16, 1997

Lori Wrotenbery, Assistant Director

Lori Wrotenbery

for Environmental Services



US EPA CERCLA

APPROVAL RECEIVED:

AUGUST 10, 1998

EPA ID:

TXR000019349

Acceptable for the receipt of hazardous substances, pollutants or contaminants (that are not Resource Conservation and Recovery Act hazardous waste) from Comprehensive Environmental Response, Compensation and Liability Act reqsponce actions. Determination made pursuant to requirements prescribed in 40 CFR 300.440 (58 FR 49200, 49215 - 49218 September 22, 1993).

Letter on file at Lotus Headquarter Office located in Andrews, Texas.



RONALD L. KITCHENS ACTING DIRECTOR, OIL AND GAS DIVISION LESLIE SAVAGE ASSISTANT DIRECTOR FOR ENVIRONMENTAL SERVICES

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO DISPOSE OF NON-HAZARDOUS OIL AND GAS WASTE, INCLUDING NATURALLY OCCURRING RADIOACTIVE MATERIAL, BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS

PERMIT NO. 11239, AMENDED

LOTUS, L.L.C. P O BOX 1277 ANDREWS TX 79714

Based on information contained in your application (Form W-14) received February 2, 1999, you are hereby authorized to dispose of oil and gas waste, including oil and gas NORM waste, into your well designated as follows:

Lotus Lease (35507), Well No. 2B, Fuhrman-Mascho Field, Andrews County, RRC District 8

Authority is granted to inject in accordance with Statewide Rules 9 and 94 of the Railroad Commission of Texas and subject to the following special and standard conditions:

SPECIAL CONDITIONS:

- 1. Oil and gas waste shall only be injected into a cavern in a salt formation in the subsurface depth interval from 2400 feet to 3100 feet.
- 2. The injection volume shall not exceed 10,000 barrels per day.
- The maximum surface injection pressure shall not exceed <u>1200</u> psig.
- 4. Prior to beginning disposal operations in the cavern disposal system, the cavern capacity shall be determined by sonar survey or other Commission approved method.
- 5. The results of the sonar survey or other method shall be reported to the Commission's Austin office prior to beginning disposal.

- 6. Records relating to the disposal of oil and gas NORM waste shall be retained for at least three years after the date of disposal. The records shall include for each shipment disposed of:
 - a. the identity of the generator of the oil and gas NORM waste.
 - b. the identity of the property where the oil and gas NORM waste was generated, including the district, field, lease, unit, facility, or offshore tract.
 - c. the physical nature of the NORM waste (i.e. pipe scale, contaminated soil, etc.)
 - d. the volume of the NORM waste.
 - e. the radioactivity level of the NORM waste in pCi/g of Radium-226 and Radium-228.
- 7. The permittee shall comply with the worker protection standards of Rule 94 (c).
- 8. A radiation safety officer (RSO) shall be on location during any activity that involves the retrieval of logging or workover tools, tubulars, or equipment from the well after NORM disposal begins.
- 9. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permitted shall decontaminate the land surface at the site and any equipment not otherwise exempted under the provisions of TAC § 289.259(d) (2). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background or do not exceed the level specified in Statewide Rule 94, whichever is greater. Equipment shall be considered decontaminated when it meets the exception levels set forth in § 289.259(w).

STANDARD CONDITIONS:

- 1. Injection must be through tubing set on a packer. The packer must be set no higher than 100 feet above the top of the permitted interval.
- 2. The District Office must be notified 48 hours prior to:
 - a. running tubing and setting packer;
 - b. beginning any workover or remedial operation;
 - c. conducting any required pressure tests or surveys.
- 3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.
- 4. Prior to beginning injection and subsequently after any workover, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.

- 5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.
- 6. Within 30 days after completion, conversion to disposal, or any workover which results in a change in well completion, a new Form W-2 or G-1 must be filed in duplicate with the District Office to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.
- 7. Written notice of intent to transfer the permit to another operator must be submitted to the Commission at least 15 days prior to the date the transfer will occur by filing Form P-4.
- 8. Unless otherwise required by conditions of the permit, completion and operation of the well shall be in accordance with the information represented on the application (Form W-14).
- 9. The operator shall comply with financial security requirements of Statewide Rule 78.
- 10. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:
 - All surface facilities for oil and gas waste management must be permitted under the requirements of Statewide Rule 8.
 - b. A catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.
 - c. All fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director. These facilities must be maintained so as to prevent discharges of oil and gas waste.
 - d. Dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.
 - e. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.

- f. Each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.
- 11. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

Provided further that, should it be determined that such injection fluid is not confined to the approved strata, then the permission given herein is suspended and the disposal operation must be stopped until the fluid migration from such strata is eliminated.

APPROVED AND ISSUED ON ___March 16, 2001__.

NOTE: Amends permit dated July 27, 1999. Amends maximum surface injection pressure to 1200 psgi.

Richard F. Ginn, Deputy Assistant Director for Underground Injection Control



RONALD L. KITCHENS
ACTING DIRECTOR, OIL AND GAS DIVISION
LESLIE SAVAGE
ASSISTANT DIRECTOR FOR ENVIRONMENTAL SERVICES

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PERMIT TO DISPOSE OF NON-HAZARDOUS OIL AND GAS WASTE, INCLUDING NATURALLY OCCURRING RADIOACTIVE MATERIAL, BY INJECTION INTO A POROUS FORMATION NOT PRODUCTIVE OF OIL AND GAS

PERMIT NO. 11240, AMENDED

LOTUS, L.L.C. P O BOX 1277 ANDREWS TX 79714

Based on information contained in your application (Form W-14) received February 2, 1999, you are hereby authorized to dispose of oil and gas waste, including oil and gas NORM waste, into your well designated as follows:

Lotus Lease (35507), Well No. 2A, Fuhrman-Mascho Field, Andrews County, RRC District 8

Authority is granted to inject in accordance with Statewide Rules 9 and 94 of the Railroad Commission of Texas and subject to the following special and standard conditions:

SPECIAL CONDITIONS:

- 1. Oil and gas waste shall only be injected into a cavern in a salt formation in the subsurface depth interval from 2400 feet to 3100 feet.
- 2. The injection volume shall not exceed 10,000 barrels per day.
- 3. The maximum surface injection pressure shall not exceed 1200 psig.
- 4. Prior to beginning disposal operations in the cavern disposal system, the cavern capacity shall be determined by sonar survey or other Commission approved method.
- 5. The results of the sonar survey or other method shall be reported to the Commission's Austin office prior to beginning disposal.

- 6. Records relating to the disposal of oil and gas NORM waste shall be retained for at least three years after the date of disposal. The records shall include for each shipment disposed of:
 - a. the identity of the generator of the oil and gas NORM waste.
 - b. the identity of the property where the oil and gas NORM waste was generated, including the district, field, lease, unit, facility, or offshore tract.
 - c. the physical nature of the NORM waste (i.e. pipe scale, contaminated soil, etc.)
 - d. the volume of the NORM waste.
 - e. the radioactivity level of the NORM waste in pCi/g of Radium-226 and Radium-228.
- 7. The permittee shall comply with the worker protection standards of Rule 94 (c).
- 8. A radiation safety officer (RSO) shall be on location during any activity that involves the retrieval of logging or workover tools, tubulars, or equipment from the well after NORM disposal begins.
- 9. Within one year after active disposal operations cease at the facility and prior to release of the facility for unrestricted use, the permitted shall decontaminate the land surface at the site and any equipment not otherwise exempted under the provisions of TAC § 289.259(d) (2). For purposes of this provision, the land surface shall be considered decontaminated when the levels of Radium 226 and Radium 228 do not exceed 5 pCi/g above background or do not exceed the level specified in Statewide Rule 94, whichever is greater. Equipment shall be considered decontaminated when it meets the exception levels set forth in § 289.259(w).

STANDARD CONDITIONS:

- 1. Injection must be through tubing set on a packer. The packer must be set no higher than 100 feet above the top of the permitted interval.
- 2. The District Office must be notified 48 hours prior to:
 - running tubing and setting packer;
 - b. beginning any workover or remedial operation;
 - c. conducting any required pressure tests or surveys.
- 3. The wellhead must be equipped with a pressure observation valve on the tubing and for each annulus.
- 4. Prior to beginning injection and subsequently after any workover, an annulus pressure test must be performed. The test pressure must equal the maximum authorized injection pressure or 500 psig, whichever is less, but must be at least 200 psig. The test must be performed and the results submitted in accordance with the instructions of Form H-5.

- 5. The injection pressure and injection volume must be monitored at least monthly and reported annually on Form H-10 to the Commission's Austin office.
- 6. Within 30 days after completion, conversion to disposal, or any workover which results in a change in well completion, a new Form W-2 or G-1 must be filed in duplicate with the District Office to show the current completion status of the well. The date of the disposal well permit and the permit number must be included on the new Form W-2 or G-1.
- 7. Written notice of intent to transfer the permit to another operator must be submitted to the Commission at least 15 days prior to the date the transfer will occur by filing Form P-4.
- 8. Unless otherwise required by conditions of the permit, completion and operation of the well shall be in accordance with the information represented on the application (Form W-14).
- 9. The operator shall comply with financial security requirements of Statewide Rule 78.
- 10. The operator shall be responsible for complying with the following requirements so as to assure that discharges of oil and gas waste will not occur:
 - a. All surface facilities for oil and gas waste management must be permitted under the requirements of Statewide Rule 8.
 - b. A catch basin constructed of concrete, steel, or fiberglass must be installed to catch oil and gas waste which may spill as a result of connecting and disconnecting hoses or other apparatus while transferring oil and gas waste from tank trucks to the disposal facility.
 - c. All fabricated waste storage and pretreatment facilities (tanks, separators, or flow lines) shall be constructed of steel, concrete, fiberglass, or other materials approved by the Director. These facilities must be maintained so as to prevent discharges of oil and gas waste.
 - d. Dikes shall be placed around all waste storage, pretreatment, or disposal facilities. The dikes shall be designed so as to be able to contain a volume equal to the maximum holding capacity of all such facilities. Any liquids or wastes that do accumulate in the containment area shall be removed within 24 hours and disposed of in an authorized disposal facility.
 - e. The facility shall have security to prevent unauthorized access. Access shall be secured by a 24-hour attendant, a fence and locked gate when unattended, or a key-controlled access system. For a facility without a 24-hour attendant, fencing shall be required unless terrain or vegetation prevents truck access except through entrances with lockable gates.

- f. Each storage tank shall be equipped with a device (visual gauge or alarm) to alert drivers when each tank is within 130 barrels from being full.
- 11. Form P-18, Skim Oil Report, must be filed in duplicate with the District Office by the 15th day of the month following the month covered by the report.

Provided further that, should it be determined that such injection fluid is not confined to the approved strata, then the permission given herein is suspended and the disposal operation must be stopped until the fluid migration from such strata is eliminated.

APPROVED AND ISSUED ON March 16, 2001.

NOTE: Amends permit dated July 27, 1999. Amends maximum surface injection pressure to 1200 psig.

Richard F. Ginn, Deputy Assistant Director for Underground Injection Control



Photo 1: LOTUS, LLC personnel prepare NORM survey grid.



Photo 2: LOTUS, LLC personnel perform NORM survey.



Photo 3: Sample ID "1 Grab" sample location identified with paint.



Photo 4: Removal of NORM-containing material from the "1 Grab" sample location.



Photo 5: Transfer of NORM-containing material to the roll-off storage container.



Photo 6: Roll-off NORM container labeled and covered after completion of NORM removal activity.

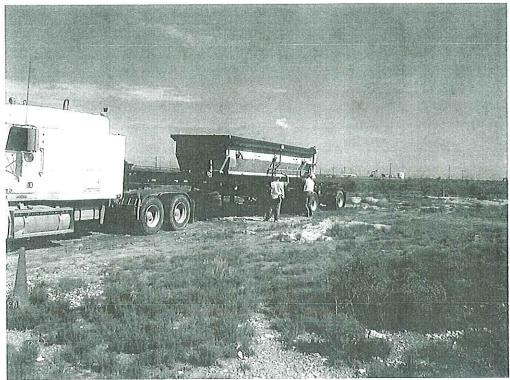


Photo 7: Preparing NORM container for transport to LOTUS, LLC disposal facility. Date: August 22, 2005.

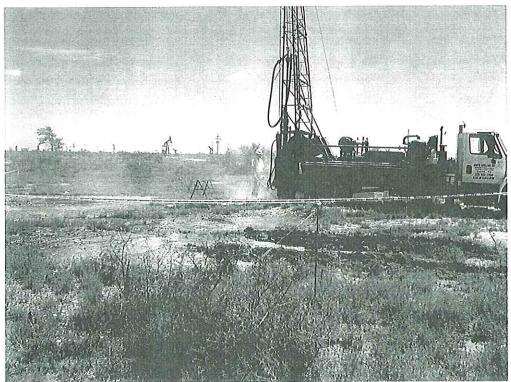


Photo 8: Drilling soil boring SB-1. Date: August 22, 2005.



Photo 9: Decontaminating drill rig between boring locations. Date: August 22, 2005.



Photo 10: Plugging soil boring with bentonite. Date: August 23, 2005.

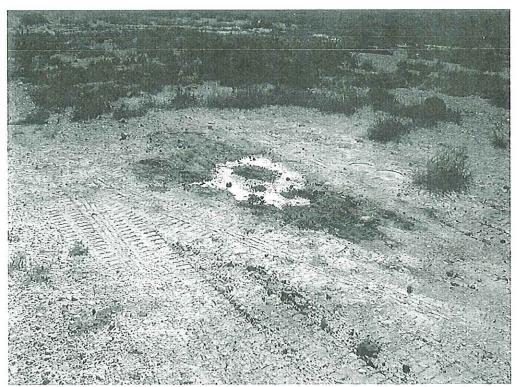


Photo 11: Soil boring plugged with hydrated bentonite. Date: August 23, 2005.



Photo 12: Soil cutting stockpile after completion of drilling activities. Stockpile was covered with plastic after taking photo. Date: August 23, 2005.



Analytical Report

Prepared for:

Jim Buice

Conestoga-Rovers & Associates 2135 S. Loop 250 West Midland, TX 79703

Project: NM State K Battery #3

Project Number: 041836 Location: Buckeye, NM

Lab Order Number: 5G07017

Report Date: 07/14/05

Conestoga-Rovers & Associates

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836

Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 07/14/05 17:10

ANALYTICAL REPORT FOR SAMPLES

				The second secon
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1 Grab 070605	5G07017-01	Soil	07/06/05 12:10	07/07/05 12:20
5 Composite 070605	5G07017-02	Soil	07/06/05 15:00	07/07/05 12:20
6 Composite 070605	5G07017-03	Soil	07/06/05 18:00	07/07/05 12:20
7 Composite 070605	5G07017-04	Soil	07/06/05 15:15	07/07/05 12:20
Roll Off Composite	5G07017-05	Soil	07/06/05 15:00	07/07/05 12:20

Conestoga-Rovers & Associates

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836 Project Manager: Jim Buice Fax: (432) 686-0186

Reported: 07/14/05 17:10

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

		Reporting							
Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
1 Grab 070605 (5G07017-01) Soil									
Density	1,383		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
5 Composite 070605 (5G07017-02) Soil									
Density	1.430		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
6 Composite 070605 (5G07017-03) Soil									
Density	1.340		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
7 Composite 070605 (5G07017-04) Soil					8				
Density	1.430		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	
Roll Off Composite (5G07017-05) Soil									
Density	1.390		g/cm³	1	EG51222	07/11/05	07/11/05	D 4292	

2135 S. Loop 250 West

Midland TX, 79703

Project: NM State K Battery #3

Project Number: 041836

Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 07/14/05 17:10

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

%REC RPD Spike Reporting Source %REC RPD Limit Analyte Result Limit Units Level Result Limits Notes

Batch EG51222 - General Preparation (WetChem)

 Duplicate (EG51222-DUP1)
 Source: 5G07017-01
 Prepared & Analyzed: 07/11/05

 Density
 1.410
 g/cm³
 1.383
 1.93
 200

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Fax: (432) 686-0186

Project Number: 041836 Project Manager: Jim Buice

Reported: 07/14/05 17:10

Notes and Definitions

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

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

	Raland K Julis		
Report Approved By:	Couldn't Iss	Date:	7/14/200

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer Jeanne Mc Murrey, Inorg. Tech Director LaTasha Cornish, Chemist Sandra Sanchez, Lab Tech.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.



"Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-01

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 12:10 Receiving Date: 07/07/05 Analysis Date: 07/11/05 Analysis Time: 12:51

Field Code: 1 Grab 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 20	Analysis Test Method	Analysis Technician
Ra-226	13.86	1.84	0.51	0.07	EPA 901.1M	RT
Ra-228	< 0.57	N/A	< 0.02	N/A	EPA 901.1M	RT
Pb-210	<2.72	N/A	< 0.10	N/A	EPA 901.1M	RT
Total Activity	19.17	N/A	0.71	N/A	EPA 901.1M	RT
Notes:						

7				
(11/2	 -1	Sect.	

Quality Assurance Review



Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-02

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 15:00 Receiving Date: 07/07/05 Analysis Date: 07/11/05

Analysis Time: 13:18

Field Code: 5 Composite 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226 Ra-228 Pb-210	<3.72 <0.53 <2.53	N/A N/A N/A	<0.14 <0.02 <0.09	N/A N/A N/A	EPA 901.1M EPA 901.1M EPA 901.1M	RT RT RT
Total Activity	4.23	N/A	0.16	N/A	EPA 901.1M	RT

Notes:

Quality Assurance Review



'Don't Treat Your Soil Like Dirt"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-03

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 18:00 Receiving Date: 07/07/05 Analysis Date: 07/11/05 Analysis Time: 14:32

Field Code: 6 Composite 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	<4.27	N/A	< 0.16	N/A	EPA 901.1M	RT
Ra-228	<0.55	N/A	<0.02	N/A	EPA 901.1M	RT
Pb-210	<3.23	N/A	< 0.12	N/A	EPA 901.1M	RT
Total Activity	6.88	N/A	0.25	N/A	EPA 901.1M	RT
Notes:						

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Qua	lity	Ass	uran	ce R	eview		 211-00100



'Don't Treat Your Soil Like Dirt!"

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-04

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 15:15 Receiving Date: 07/07/05 Analysis Date: 07/11/05

Analysis Time: 12:34

Field Code: 7 Composite 070605

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	<3.37	N/A	< 0.12	N/A	EPA 901.1M	RT
Ra-228	< 0.60	N/A	< 0.02	N/A	EPA 901.1M	RT
Pb-210	< 2.36	N/A	<0.09	N/A	EPA 901.1M	RT
Total Activity	15.04	N/A	0.56	N/A	EPA 901.1M	RT
Notes:						

Quality Assurance Review



'Don't Treat Your Soil Like Dirt!'

CONESTOGA- ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 West Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 29.5 deg C

ELT # 5G07017-05

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 07/06/05 Sample Time: 15:00 Receiving Date: 07/07/05 Analysis Date: 07/11/05

Analysis Time: 12:15

Field Code: Roll Off Composite

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	77.43	8.30	2.86	0.31	EPA 901.1M	RT
Ra-228	<1.03	N/A	< 0.04	N/A	EPA 901.1M	RT
Pb-210	31.04	3.99	1.15	0.15	EPA 901.1M	RT
Total Activity	221.22	N/A	8.18	N/A	EPA 901.1M	RT
Notes:		L	1	L		J

79		

Quality Assurance Review

Notes:

Comments:

- 1. Soil and Sludge analysis results are reported on a wet basis or as received basis unless otherwise indicated.
- 2. The data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- Modified analysis procedures are procedures that are modified to meet certain specifications. An example would be the use
 of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid
 matrix.
- 4 Derived Air Concentrations and Effluent Release Concentrations are obtained from 10 CFR 20 Appendix B.
- Fotal activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring decay chains and other prominent radioactive isotopes. Fotal activity may be lower than actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of isotopes that emit solely alpha or beta radiation.
- 6 Ra-228 is determined via secular equilibrium with its daughter, Actinium 228, (Gamma Spectroscopy only)
 - U-238 is determined via secular equilibrium with its daughter. Thorium 234. (Gamma Spectroscopy only)
- All Gamma Spectroscopy was performed using high purity germanium detectors (HPGF).

Method References:

- i:PA 600 4-86-032. Prescribed Procedures for the Measurement of Radioactivity in Drinking Water. August 1980.
- Standard Methods for the Examination of Water and Waste Water, 18th, 1902.
- 1 EPA SW-846. Test Methods for Evaluating Solid Wasta. Third Edition, (9 86). (Updated through 1905)
- 4. EPA 600 4-79-020. Methods for Chemical Analysis of Water and Waste, March 1983.
- 5 HASL 300

Definitions:

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3	ND	Not detected above the detection limit.
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4	13.	Method Blank
5	D	Method Duplicate
6	MS	Matrix Spike
	Š	spike
8	RS	Reference Spike
63	SC	Subcontracted to analitied laborator
3.69	ZB	Not Wellering 1
11.	8.4	Not applicable
!2.	MDA	Minimum detectable activity

Insuranteental hab of Lexas I. Find assumes no habitity to the assert interpretation of any analytical results, other than the cost of the performed uniform to general transfer that the performed in the performed in the performance of the president of the presi

Envir nmental Lab of lexas I, Ltd.

12600 West i-_0 East Odessa, Texas 79763

Phone: 915-563-1800 Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS ... QUEST

TAT brebnet2 əlubərlə2-ə19) TAT H<mark>ZU</mark>R Project Namo: N/M STATE K SATE 8 C. a O ! Temperature Upon Receipt 10 Sample Containers Intact? Laboratory Comments: Analyze For GE09/81708 X313 Project Loc: ろっこを子の sajjejekura 50(18)0) as blind to boled by sy steret Project #: ₽O #: SOV COS HCOS (N eV gN eD) should 9001 9001 MS108 1817 Hd. (Apoads) τουμο nos Sindge 1916/V ytipads) rattio Suov Preservative 'OS'H HOPN 1())} Project Manager: Jrm Buice jouice & crestorate. Com ONH Fax No: 千32 631 No of Containers Dalqme2 amiT w 79763 baldmes also 250 65. 000 Telephone No: 432 68600 P. Company Name Conestora FIELD CODE City/State/Zip: 10 Lyma Company Address: 2/35 Sampler Signature: -200000 Special Instructions: LAB # (lab use only)

plastic baggie

12:20

Time

Recorded by ELOT

Received by

Relinquished by

Date

Variance / Corrective Action Report – Sample Log-In

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Analytical Report

Prepared for:

Jim Buice
Conestoga-Rovers & Associates
2135 S. Loop 250 West
Midland, TX 79703

Project: NM State K Battery #3
Project Number: 041836
Location: Buckeye, NM

Lab Order Number: 5E04006

Report Date: 05/16/05

2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836 Project Manager: Jim Buice Fax: (432) 686-0186

Reported: 05/16/05 07:42

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1 Composite	5E04006-01	Soil	05/03/05 18:15	05/04/05 12:50
1 Grab	5E04006-02	Soil	05/03/05 18:00	05/04/05 12:50
2 Grab	5E04006-03	Soil	05/03/05 18:50	05/04/05 12:50
3 Grab	5E04006-04	Soil	05/03/05 18:25	05/04/05 12:50
3 Composite	5E04006-05	Soil	05/03/05 18:35	05/04/05 12:50
4 Composite	5E04006-06	Soil	05/03/05 18:45	05/04/05 12:50
4 Grab	5E04006-07	Soil	05/03/05 18:45	05/04/05 12:50
5 Composite	5E04006-08	Soil	05/03/05 18:00	05/04/05 12:50
6 Composite	5E04006-09	Soil	05/03/05 17:45	05/04/05 12:50
7 Composite	5E04006-10	Soil	05/03/05 19:00	05/04/05 12:50
7 Grab	5E04006-11	Soil	05/03/05 19:00	05/04/05 12:50

Conestoga-Rovers & Associates 2135 S. Loop 250 West Midland TX, 79703 Project: NM State K Battery #3

Project Number: 041836 Project Manager: Jim Buice Fax: (432) 686-0186

Reported: 05/16/05 07:42

General Chemistry Parameters by EPA / Standard Methods Environmental Lab of Texas

	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Analyte	Kesuit			Dilution	Buten				
1 Composite (5E04006-01) Soil					Version of the second	Vertical	05/00/05	D 4292	-
Density	1.388		g/cm³	1	EE51209	05/09/05	05/09/05	D 1272	
1 Grab (5E04006-02) Soil							***		
Density	1.231		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
2 Grab (5E04006-03) Soil			-						A
Density	1.384		g/cm³	Ĭ	EE51209	05/09/05	05/09/05	D 4292	
3 Grab (5E04006-04) Soil									
Density	1.251		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
3 Composite (5E04006-05) Soil									
Density	1.395		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
4 Composite (5E04006-06) Soil									
sity	1.428		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
4 Grab (5E04006-07) Soil									
Density	1.150		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
5 Composite (5E04006-08) Soil									
Density	1.382		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
6 Composite (5E04006-09) Soil									
Density	1.387		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
7 Composite (5E04006-10) Soil									
Density	1.164		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	
7 Grab (5E04006-11) Soil									
Density	1.300		g/cm³	1	EE51209	05/09/05	05/09/05	D 4292	

2135 S. Loop 250 West Midland TX, 79703

Project: NM State K Battery #3

Project Number: 041836

Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 05/16/05 07:42

General Chemistry Parameters by EPA / Standard Methods - Quality Control **Environmental Lab of Texas**

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch EE51209 - General Preparation	on (WetChem)									

Prepared & Analyzed: 05/09/05 Duplicate (EE51209-DUP1) Source: 5E04006-01 1.388 g/cm³ 1.388 0.00 200 Density

Duplicate

2135 S. Loop 250 West Midland TX, 79703

Dup

Project: NM State K Battery #3

Project Number: 041836
Project Manager: Jim Buice

Fax: (432) 686-0186

Reported: 05/16/05 07:42

Notes and Definitions

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
LCS	Laboratory Control Spike
MS	Matrix Spike

	Kaland KJulus		
Report Approved By:	Racari C 110	Date:	5/16/2005

Raland K. Tuttle, Lab Manager Celey D. Keene, Lab Director, Org. Tech Director Peggy Allen, QA Officer

Jeanne Mc Murrey, Inorg. Tech Director James L. Hawkins, Chemist/Geologist Sandra Sanchez, Lab Tech.

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If you have received this material in error, please notify us immediately at 432-563-1800.

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
48-10-29-1000-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Density	(Soil)	Result calculations based on MDL
			Default Report (not modified)



Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-01

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:15

Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 09:29

Field Code: 1 Composite

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226 Ra-228 Pb-210	<1.88 <0.36 <1.54	N/A N/A N/A	<0.07 <0.01 <0.06	N/A N/A N/A	EPA 901.1M EPA 901.1M EPA 901.1M	RT RT RT
Total Activity	BDL	N/A	BDL.	N/A	EPA 901.1M	RT
Notes:	 					

RIM amak Julik Quality Assurance Review



"Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-02

Project Name: NM State K Battery #3

Project # 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:00 Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 18:04

Field Code: 1 Grab

Analysis	
Test	Analys

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
			2.50		=======================================	
Ra-226	95.15	23.45	3.52	0.87	EPA 901.1M	RT
Ra-228	< 1.40	N/A	< 0.05	N/A	EPA 901.1M	RT
Pb-210	26.90	4.83	1.00	0.18	EPA 901.1M	RT
Total Activity	180.71	N/A	6.69	N/A	EPA 901.1M	RT
Notes:						



Don't Treat Your Soil Like Dirth

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-03

Project Name: NM State K Battery #3

Project = 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:50 Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 16:59

Field Code: 2 Grab

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Technician
Ra-226 Ra-228 Pb-210	<8.49 <1.06 <3.75	N/A N/A N/A	<0.31 <0.04 <0.14	N/A N/A N/A	EPA 901.1M EPA 901.1M EPA 901.1M	RT RT RT
Total Activity	BDL	N/A	BDL.	N/A	EPA 901.1M	RT
Notes:						

Ralana K Jaul.)
Quality Assurance Review



"Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-04

Project Name: NM State K Battery #3

Project = 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:25 Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 16:03

Field Code: 3 Grab

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
				0.05	F	
Ra-226	26.65	6.75	0.99	0.25	EPA 901.1M	RT
Ra-228	< 0.75	N/A	< 0.03	N/A	EPA 901.1M	RT
Pb-210	<4.16	N/A	< 0.15	N/A	EPA 901.1M	RT
Total Activity	39.94	N/A	1.48	N/A	EPA 901.1M	RT
Notes:		I	L		1	1

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Quality Assurance Review



'Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-05

Project Name: NM State K Battery =3

Project = 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05

Sample Time: 18:35 Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 10:43

Field Code: 3 Composite

Analysis Description	Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226	<2.70	N/A	< 0.10	N/A	EPA 901.1M	RT
Ra-228	< 0.43	N/A	< 0.02	N/A	EPA 901.1M	RT
Pb-210	<1.88	N/A	<0.07	N/A	EPA 901.1M	RT
Total Activity	BDL	N/A	BDL	N/A	EPA 901.1M	RT

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Lulundk Judl Quality Assurance Review



Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-06

Project Name: NM State K Battery #3

Project = 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:45 Receiving Date: 05/04/05 Analysis Date: 05/06/05

Analysis Time: 10:13 Field Code: 4 Composite

Analysis Results pCi/gm	Analysis Error +/- 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
<2.87	N/A	< 0.11	N/A	EPA 901.1M	RT
< 0.52	N/A	< 0.02	N/A	EPA 901.1M	RT
<2.27	N/A	<0.08	N/A	EPA 901.1M	RT
9,54	N/A	0.35	N/A	EPA 901.1M	RT
	Results pCi/gm <2.87 <0.52 <2.27	Results Error	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Results pCi/gm Error +/- 2σ Results Bq/gm Error +/- 2σ <2.87	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

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Ouality Assurance Review



'Don't Treat Your Soil Like Dirt!"

CONESTOGA-ROVERS & ASSOCIATES

ATTN: Jim Buice 2135 S. Loop 250 W. Midland, TX 79703 FAX: 432-686-0186

Sample Type: Soil

Sample Condition: Intact/ 12.0 deg C

ELT # 5E04006-07

Project Name: NM State K Battery #3

Project = 041836

Project Location: Buckeye, NM

Sample Date: 05/03/05 Sample Time: 18:45 Receiving Date: 05/04/05 Analysis Date: 05/06/05 Analysis Time: 17:27

Field Code: 4 Grab

Analysis Description	Analysis Results pCi/gm	Analysis Error +/ 2σ	Analysis Results Bq/gm	Analysis Error +/- 2σ	Analysis Test Method	Analysis Techniciar
Ra-226 Ra-228 Pb-210	23.68 <0.96 <4.88	6.38 N/A N/A	0.88 <0.04 <0.18	0.24 N/A N/A	EPA 901.1M EPA 901.1M EPA 901.1M	RT RT RT
Total Activity	47.36	N/A	1.75	N/A	EPA 901.1M	RT
Notes:						

Ratura L Jacob Quality Assurance Review