Highlander Environmental Corp.

Midland, Texas

February 22, 2007

Mr. Larry Johnson
Environmental Engineer Specialist
Oil Conservation Division- District I
1625 N. French Drive
Hobbs, New Mexico 88240

C-141 SAID #1

RE: ~~Assessment and Work Plan for the~~ CrownQuest Operating, LLC, Abandoned Line Federal 20 #5 ~~Leak~~, Unit Letter O, Section 21, Township 13 South, Range 33 East, ~~Lea County~~, New Mexico.

Dear Mr. Johnson:

Highlander Environmental Corp. (Highlander) was contacted by CrownQuest Operating, LLC (CrownQuest) to assess the soil impact from a abandoned line (Federal 20 #5), located in Unit Letter O, Section 21, Township 13 South, Range 33 East, Lea County, New Mexico. The site coordinates are N 33.170144°, W 103.617425°. The State of New Mexico C-141 (Initial) is included in Appendix D. The spill locations are shown on Figure 1.

Background

On December 6, 2006, a check valve failed from the produced water disposal transfer line. The check valve diverted the produced water into an abandoned line, which leaked. Once the leak was discovered, all free water was removed using a vacuum truck. The total volume released was unknown, however, the site is reportedly inspected on a daily basis. At the time of the release, a vacuum truck was on location recovering the produced water at the release point (line) for approximately two days to prevent the spill from spreading. The approximate amount recovered was 210 barrels. The length of the affected area measured approximately 700' with a width of approximately 30.0'. The produced water analysis is shown in Appendix B. The spill location is shown on Figures 1 and 2.

Groundwater and Regulatory

The spill area is located in Section 21, Township 13 South, Range 33 East. The State of New Mexico Well Reports did show one well in Section 21 with an average depth to water at 110' below surface. Additional wells in Section 20 and 22 had reported

average depths to water of 135' and 104', respectively. In addition, the USGS data base reported a depth to water at 134' in Section 6, Township 14 South, Range 33 East. The State of New Mexico Well Reports, USGS report and published reports are included in Appendix A.

A risk-based evaluation was performed for the Site in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene and xylene). Based on the regional groundwater data, the proposed RRAL for TPH is 5,000 mg/kg.

Assessment

On December 18, 2006 and January 3, 2007, CrownQuest personnel collected samples from the perimeter of the spill for horizontal extents. The sample locations are shown on Figure 2. On January 4, and 22, 2006, Highlander personnel inspected and sampled the spill area. The spill area had been excavated (scraped) to a depth of approximately 6" and the soil stockpiled onsite. The spill had migrated east, parallel to the lease road on the north side of road. Due to the dense caliche/limestone formation, a backhoe was used to collect the samples in order to define the extents of the chloride impact. A total of (8) eight test trenches were installed approximately 75' to 100' apart throughout the spill area. Two samples were collected from each test trench. Due to the indurated underlying formation, deeper samples could not be collected with a backhoe. The location of the test trenches are show on Figure 2.

Soil samples were collected from selected depth intervals and analyzed for Total Petroleum Hydrocarbon (TPH) by method modified 8015 DRO/GRO and chloride by EPA method 300.0. Based on the TPH results, no BTEX were analyzed. The sample results are presented in Table 1. The laboratory reports are shown in Appendix C.

Soil Sample Results

Test trenches (T-1, T-3, T-5 and T-7) were selected for TPH analyses. Referring to Table 1, there were no TPH concentrations above the reporting limit. However, the Site did show evidence of chloride impact. The chloride concentrations ranged from 6,440 mg/kg (T-1) to 16,200 mg/kg (T-6) at 0-0.5' below excavation bottom (BEB). The deeper samples (1.0 to 2.0' BEB) did show significant decline in chloride concentrations at a shallow depth on the top of the indurated formation. The chloride concentrations ranged from 52 mg/kg (T-5) to 2,180 mg/kg (T-6). The samples collected for horizontal extents showed chloride concentrations less than 50 mg/kg.

Conclusions and Work Plan

The chloride impact at the Site has been defined horizontally, and chloride concentrations above the indurated layer showed significant decline in chloride

concentrations at a shallow depth. The depth to the dense formation was encountered at approximately 0.5' to 1.0' BEB.

Considering the depth to groundwater, the significant reduction in chloride concentration and the depth of the indurated layer, CrownQuest proposes to remove an additional 0.5' to 1.0' of impacted soil from the spill area to the top of the indurated layer. The area will then be backfilled with clean top soil. The excavated soil will be transported to proper disposal.

If you require any additional information or have any questions or comments, please call.

Highlander Environmental Corp.

Ike Tavarez, P.G.
Project Manager/Senior Geologist

cc: Luke Dunn - CrownQuest

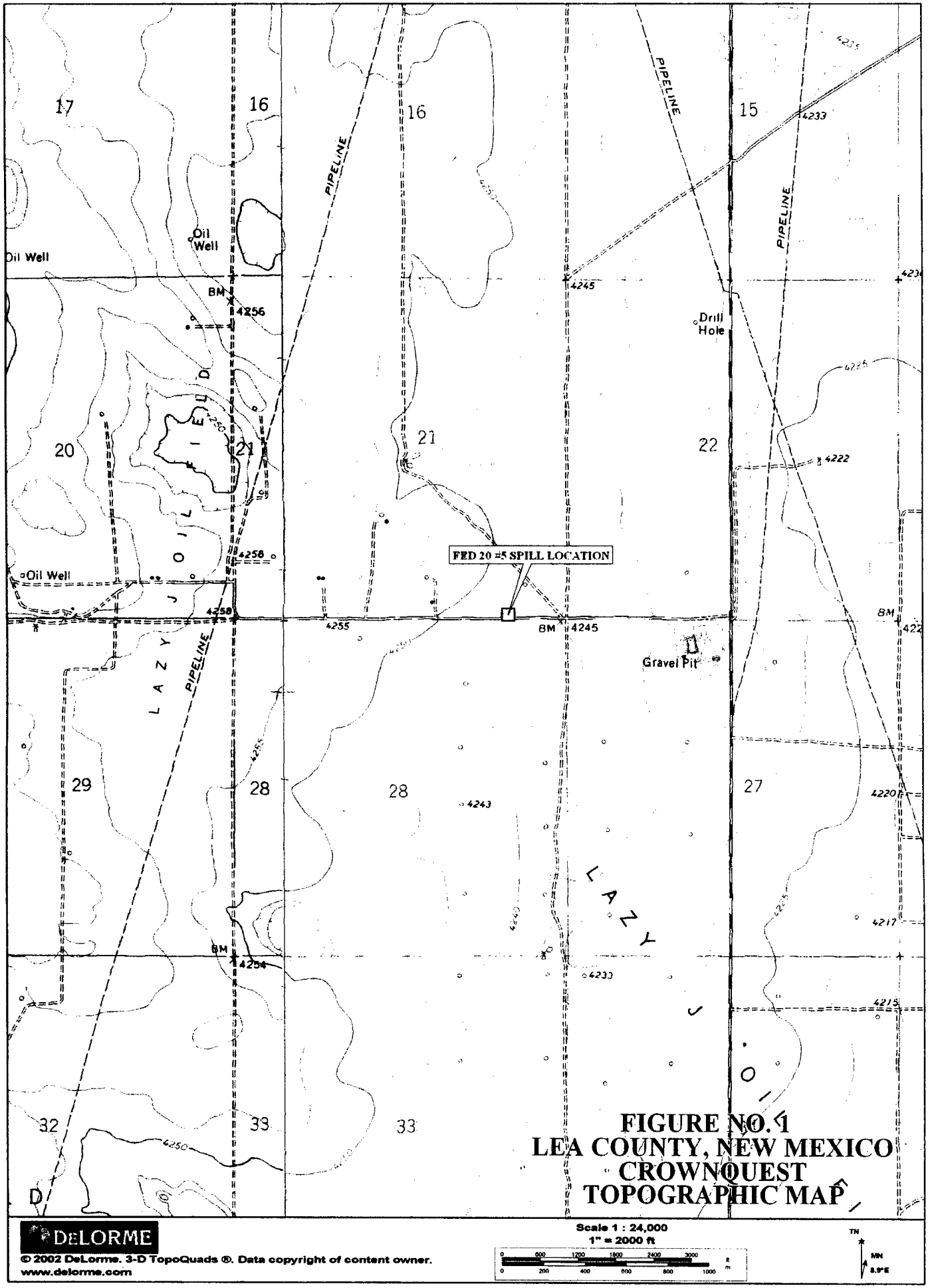
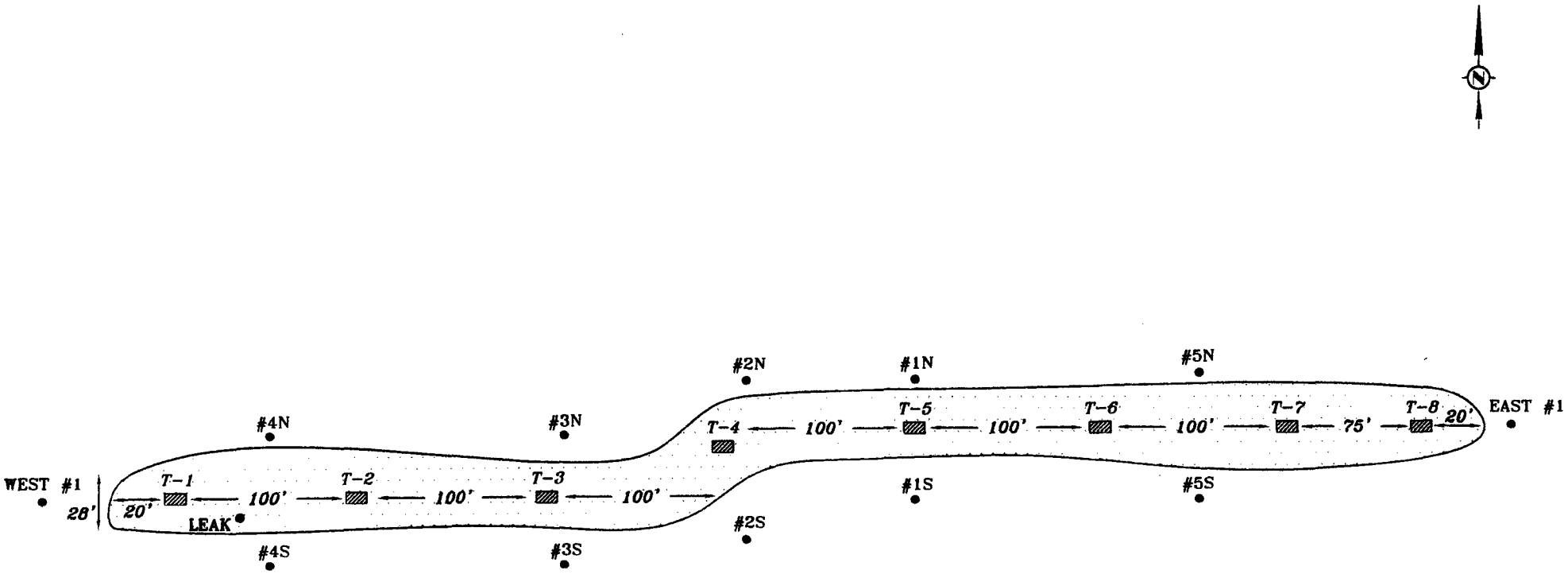


FIGURE NO. 1
LEA COUNTY, NEW MEXICO
CROWNQUEST
TOPOGRAPHIC MAP



▨ TRENCH LOCATIONS
▨ SPILL AREA
• SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 2

LEA COUNTY, NEW MEXICO

CROWNQUEST
FED 20 #5

DATE: 2/14/07
DWN. BY: JJ
FILE: C:\CROWNQUEST\2639 FED 20 #5

HIGHLANDER ENVIRONMENTAL CORP.
MIDLAND, TEXAS

Table 1
CrownQuest - Federal 20 #5
Spill Assessment
Lea County, New Mexico

Sample ID	Date Sampled	Sample Depth (ft)	TPH (mg/kg)			Chloride (mg/kg)
			C6-C12	C12-C35	Total	
T-1	1/4/2007	0-0.5	<10.0	<10.0	<10.0	6,440
		1-1.5	-	-	-	426
T-2	1/4/2007	0-0.5	-	-	-	9,280
		2.0	-	-	-	2,130
T-3	1/4/2007	0-0.5	<10.0	<10.0	<10.0	8,270
		2.0	-	-	-	1,290
T-4	1/4/2007	0-0.5	-	-	-	12,300
		1.5	-	-	-	276
T-5	1/4/2007	0-0.5	<10.0	<10.0	<10.0	12,300
		1.5	-	-	-	51.5
T-6	1/4/2007	0-0.5	-	-	-	16,200
		1.0	-	-	-	2,180
T-7	1/4/2007	0-0.5	<10.0	<10.0	<10.0	9,910
		1.5	-	-	-	1,030
T-8	1/4/2007	0-0.5	-	-	-	10,600
		1.0	-	-	-	923
North #1	12/18/2006	-	-	-	-	21.3
North #2	1/3/2007	-	-	-	-	<5.0
North #3	1/3/2007	-	-	-	-	13.6
North #4	1/3/2007	-	-	-	-	6.26
North #5	1/3/2007	-	-	-	-	38.8
South #1	12/18/2006	-	-	-	-	31.9
South #2	1/3/2007	-	-	-	-	6.30
South #3	1/3/2007	-	-	-	-	25.1
South #4	1/3/2007	-	-	-	-	14.1
South #5	1/3/2007	-	-	-	-	<5.0
East #1	1/3/2007	-	-	-	-	13.7
West #1	1/3/2007	-	-	-	-	12.6

(-) Not Analyzed

Water Well Data
Average Depth to Groundwater (ft)
CrownQuest Operating - Federal 20 #5, Lea County, New Mexico

12 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

12 South 33 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

12 South 34 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

13 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

13 South 33 East

6	5	4	3	2	1
7	8	9 **95**	10 **95**	11 **80**	12
18 **155**	17	16	15	14	13
19	20 **135**	21 SITE **110**	22 **104**	23 **85**	24
30	29	28	27	26 **85**	25
31 **135**	32 **135**	33	34 **115**	35 **87**	36

13 South 34 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

14 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

14 South 33 East

6 **134** **133**	5 **125**	4 **130**	3 **102**	2 **100**	1 **80**
7 **144**	8 **120**	9 **110**	10 **110**	11 **90**	12
18	17	16	15	14	13 **80**
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

14 South 34 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

88 New Mexico State Engineers Well Reports
105 USGS Well Reports
90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
Geology and Groundwater Resources of Eddy County, NM (Report 3)
34 NMOCD - Groundwater Data

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 13S Range: 33E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic
All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 10/13/2006

								(Depth Water in Feet)		
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
L	13S	33E	09				1	95	95	95
L	13S	33E	10				1	95	95	95
L	13S	33E	11				1	80	80	80
L	13S	33E	18				1	155	155	155
L	13S	33E	20				1	135	135	135
L	13S	33E	21				1	110	110	110
L	13S	33E	22				4	97	110	104
L	13S	33E	23				1	85	85	85
L	13S	33E	26				3	80	95	85
L	13S	33E	28				2	100	125	113
L	13S	33E	31				1	135	135	135
L	13S	33E	32				2	135	135	135
L	13S	33E	34				4	105	125	115
L	13S	33E	35				4	80	95	87

Record Count: 27

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 14S Range: 33E Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) Non-Domestic Domestic All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

AVERAGE DEPTH OF WATER REPORT 10/13/2006

							(Depth Water in Feet)		
Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	Min	Max	Avg
L	14S	33E	01				1	80	80	80
L	14S	33E	02				2	100	100	100
L	14S	33E	03				3	85	110	102
L	14S	33E	04				1	130	130	130
L	14S	33E	05				1	125	125	125
L	14S	33E	06				3	130	135	133
L	14S	33E	07				1	144	144	144
L	14S	33E	08				1	120	120	120
L	14S	33E	09				2	110	110	110
L	14S	33E	10				1	110	110	110
L	14S	33E	11				1	90	90	90
L	14S	33E	13				1	80	80	80
L	14S	33E	14				2	100	100	100
L	14S	33E	16				3	105	110	108
L	14S	33E	17				2	110	130	120
L	14S	33E	19				1	158	158	158
L	14S	33E	22				3	80	95	85
L	14S	33E	23				2	58	100	79
L	14S	33E	26				2	125	125	125
L	14S	33E	27				2	144	144	144
L	14S	33E	28				2	110	110	110
L	14S	33E	29				2	115	115	115
L	14S	33E	32				1	110	110	110
L	14S	33E	34				4	110	122	116
L	14S	33E	35				3	105	130	113

Record Count: 47

Water Resources National Water Information System: Web Interface

Data Category: Ground Water Geographic Area: New Mexico GO

Ground-water levels for New Mexico

Search Results -- 1 sites found

Search Criteria

site_no list = • 330729103384401

Save file of selected sites to local disk for future upload

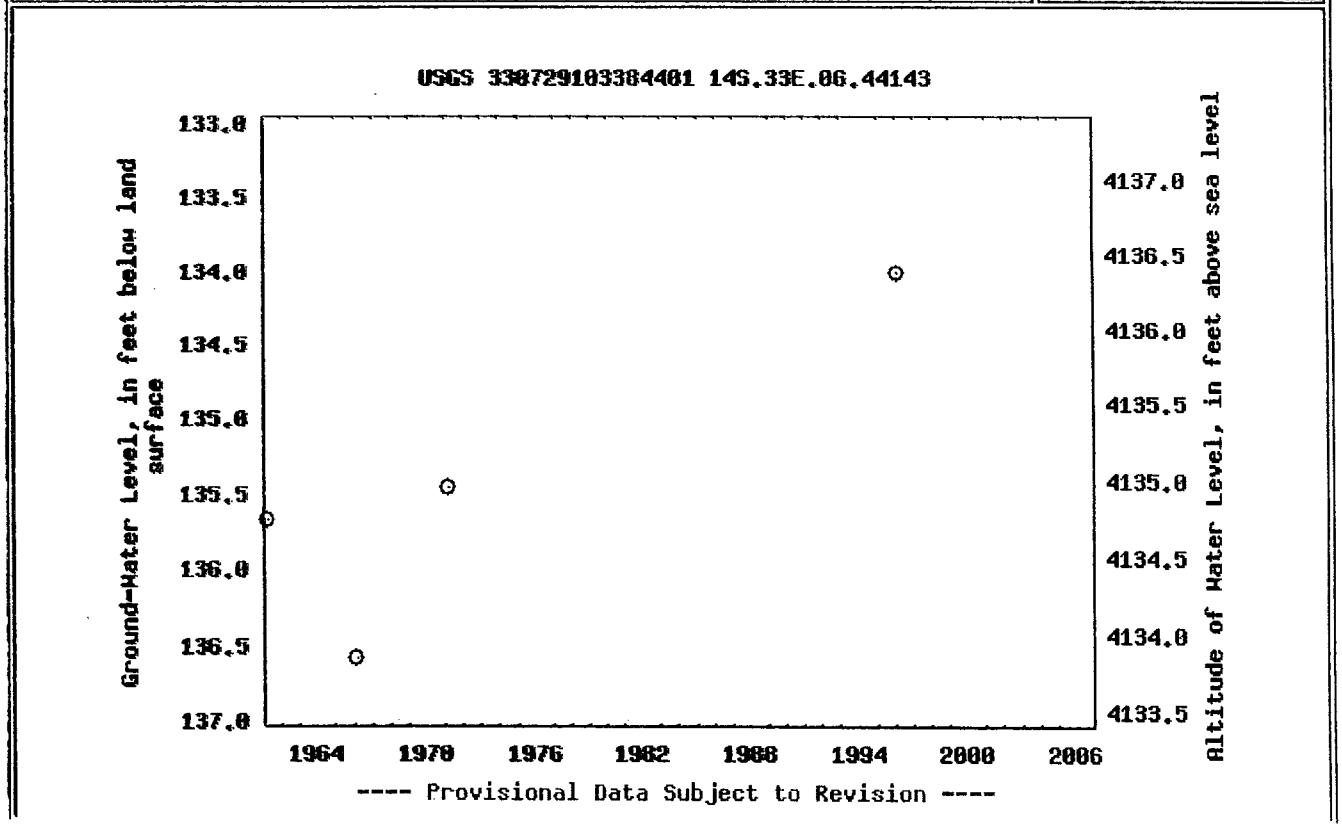
USGS 330729103384401 14S.33E.06.44143

Available data for this site Ground-water: Field measurements GO

Lea County, New Mexico
Hydrologic Unit Code 12080003
Latitude 33°07'29", Longitude 103°38'44" NAD27
Land-surface elevation 4,270.40 feet above sea level NGVD29
The depth of the well is 190 feet below land surface.
This well is completed in the OGALLALA FORMATION (121OGLL) local aquifer.

Output formats

- Table of data
- Tab-separated data
- Graph of data
- Reselect period



P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

RESULT OF WATER ANALYSES

LABORATORY NO. 107-156
SAMPLE RECEIVED 1-4-07
RESULTS REPORTED 1-9-07

TO: Mr. Luke Dunn
PO Box 53310, Midland, TX 79710

COMPANY CrownQuest Operating, LLC LEASE Federal 20 #5-SWD
FIELD OR POOL Baum
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Submitted water sample - taken 1-3-07.
NO. 2
NO. 3
NO. 4
REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.1140			
pH When Sampled				
pH When Received	6.94			
Bicarbonate as HCO_3	220			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	8,400			
Calcium as Ca	2,720			
Magnesium as Mg	389			
Sodium and/or Potassium	68,175			
Sulfate as SO_4	2,130			
Chloride as Cl	109,369			
Iron as Fe	924			
Barium as Ba	0			
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	183,003			
Temperature °F.				
Carbon Dioxide, Calculated	46			
Dissolved Oxygen,				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	0.062			
Suspended Oil				
Filtrable Solids calculated	xxxxxxxxx Corrosiveness	Mod-Severe		
Volume Filtered, ml	Barium Sulfate Scaling Tendency	None		
CaCO3 S.I. @ 77° F. (Stiff-Davis)		0.36		
CaCO3 S.I. @ 122° F. (Stiff-Davis)		0.97		
Calcium Sulfate Scaling Tendency		None		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

CaCO3 S.I. - A positive fig. signifies a scaling potential proportionate to the magnitude of the number, and a negative fig. signifies no scaling potential.

Please feel free to contact us for any details or discussions concerning these results.

Form No. 3

By Greg Ogden, B.S.

LATHAM PRINTING CO. - 333-1292

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Ike Tavarez

Highlander Environmental Corp.

1910 N. Big Spring St.

Midland, TX 79705

Project: Crown Quest/ Fed 20 #5

Project Number: 2839

Location: Lea County, NM

Lab Order Number: 7A05008

Report Date: 01/11/07

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T-1 (0-0.5')	7A05008-01	Soil	01/04/07 00:00	01-05-2007 15:45
T-1 (1.5')	7A05008-02	Soil	01/04/07 00:00	01-05-2007 15:45
T-2 (0-0.5')	7A05008-03	Soil	01/04/07 00:00	01-05-2007 15:45
T-2 (2.0')	7A05008-04	Soil	01/04/07 00:00	01-05-2007 15:45
T-3 (0-0.5')	7A05008-05	Soil	01/04/07 00:00	01-05-2007 15:45
T-3 (2.0')	7A05008-06	Soil	01/04/07 00:00	01-05-2007 15:45
T-4 (0-0.5')	7A05008-07	Soil	01/04/07 00:00	01-05-2007 15:45
T-4 (1.5)	7A05008-08	Soil	01/04/07 00:00	01-05-2007 15:45
T-5 (0-0.5')	7A05008-09	Soil	01/04/07 00:00	01-05-2007 15:45
T-5 (1.5')	7A05008-10	Soil	01/04/07 00:00	01-05-2007 15:45
T-6 (0-0.5')	7A05008-11	Soil	01/04/07 00:00	01-05-2007 15:45
T-6 (1.0')	7A05008-12	Soil	01/04/07 00:00	01-05-2007 15:45
T-7 (0-0.5')	7A05008-13	Soil	01/04/07 00:00	01-05-2007 15:45
T-7 (1.5')	7A05008-14	Soil	01/04/07 00:00	01-05-2007 15:45
T-8 (0-0.5')	7A05008-15	Soil	01/04/07 00:00	01-05-2007 15:45
T-8 (1.0')	7A05008-16	Soil	01/04/07 00:00	01-05-2007 15:45

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

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
T-1 (0-0.5') (7A05008-01) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EA70513	01/05/07	01/06/07	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*125 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*128 %*	*70-130*		"	"	"	"	
T-3 (0-0.5') (7A05008-05) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EA70513	01/05/07	01/06/07	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*125 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*129 %*	*70-130*		"	"	"	"	
T-5 (0-0.5') (7A05008-09) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EA70513	01/05/07	01/06/07	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*126 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*129 %*	*70-130*		"	"	"	"	
T-7 (0-0.5') (7A05008-13) Soil									
Carbon Ranges C6-C12	ND	10.0	mg/kg dry	1	EA70513	01/05/07	01/06/07	EPA 8015M	
Carbon Ranges C12-C28	ND	10.0	"	"	"	"	"	"	
Carbon Ranges C28-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbons	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*109 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*121 %*	*70-130*		"	"	"	"	

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

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
T-1 (0-0.5') (7A05008-01) Soil									
Chloride	**6440**	100	mg/kg	200	EA70808	01/08/07	01/08/07	EPA 300.0	
% Moisture	**12.7**	0.1	%	1	EA70810	01/08/07	01/08/07	% calculation	
T-1 (1.5') (7A05008-02) Soil									
Chloride	**426**	10.0	mg/kg	20	EA70808	01/08/07	01/08/07	EPA 300.0	
T-2 (0-0.5') (7A05008-03) Soil									
Chloride	**9280**	200	mg/kg	400	EA70808	01/08/07	01/08/07	EPA 300.0	
T-2 (2.0') (7A05008-04) Soil									
Chloride	**2130**	500	mg/kg	1000	EA70808	01/08/07	01/08/07	EPA 300.0	
T-3 (0-0.5') (7A05008-05) Soil									
Chloride	**8270**	200	mg/kg	400	EA70808	01/08/07	01/08/07	EPA 300.0	
% Moisture	**13.4**	0.1	%	1	EA70810	01/08/07	01/08/07	% calculation	
T-3 (2.0') (7A05008-06) Soil									
Chloride	**1290**	25.0	mg/kg	50	EA70808	01/08/07	01/08/07	EPA 300.0	
T-4 (0-0.5') (7A05008-07) Soil									
Chloride	**12300**	200	mg/kg	400	EA70808	01/08/07	01/08/07	EPA 300.0	
T-4 (1.5) (7A05008-08) Soil									
Chloride	**276**	10.0	mg/kg	20	EA70808	01/08/07	01/08/07	EPA 300.0	
T-5 (0-0.5') (7A05008-09) Soil									
Chloride	**12300**	200	mg/kg	400	EA70808	01/08/07	01/08/07	EPA 300.0	
% Moisture	**13.2**	0.1	%	1	EA70810	01/08/07	01/08/07	% calculation	
T-5 (1.5') (7A05008-10) Soil									
Chloride	**51.5**	10.0	mg/kg	20	EA70808	01/08/07	01/08/07	EPA 300.0	

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

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
T-6 (0-0.5') (7A05008-11) Soil									
Chloride	**16200**	250	mg/kg	500	EA70809	01/08/07	01/08/07	EPA 300.0	
T-6 (1.0') (7A05008-12) Soil									
Chloride	**2180**	25.0	mg/kg	50	EA70809	01/08/07	01/08/07	EPA 300.0	
T-7 (0-0.5') (7A05008-13) Soil									
Chloride	**9910**	200	mg/kg	400	EA70809	01/08/07	01/08/07	EPA 300.0	
% Moisture	**12.8**	0.1	%	1	EA70810	01/08/07	01/08/07	% calculation	
T-7 (1.5') (7A05008-14) Soil									
Chloride	**1030**	20.0	mg/kg	40	EA70809	01/08/07	01/08/07	EPA 300.0	
T-8 (0-0.5') (7A05008-15) Soil									
Chloride	**10600**	200	mg/kg	400	EA70809	01/08/07	01/08/07	EPA 300.0	
T-8 (1.0') (7A05008-16) Soil									
Chloride	**923**	20.0	mg/kg	40	EA70809	01/08/07	01/08/07	EPA 300.0	

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Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA70513 - Solvent Extraction (GC)										
Blank (EA70513-BLK1)				Prepared: 01/05/07 Analyzed: 01/06/07						
Carbon Ranges C6-C12	ND	10.0	mg/kg wet							
Carbon Ranges C12-C28	ND	10.0	"							
Carbon Ranges C28-C35	ND	10.0	"							
Total Hydrocarbons	ND	10.0	"							
Surrogate: 1-Chlorooctane	*59.7*		*mg/kg*	*50.0*		*119*	*70-130*			
Surrogate: 1-Chlorooctadecane	*64.3*		*"*	*50.0*		*129*	*70-130*			
LCS (EA70513-BS1)				Prepared: 01/05/07 Analyzed: 01/08/07						
Carbon Ranges C6-C12	542	10.0	mg/kg wet	500		108	75-125			
Carbon Ranges C12-C28	454	10.0	"	500		90.8	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00			75-125			
Total Hydrocarbons	996	10.0	"	1000		99.6	75-125			
Surrogate: 1-Chlorooctane	*51.9*		*mg/kg*	*50.0*		*104*	*70-130*			
Surrogate: 1-Chlorooctadecane	*42.1*		*"*	*50.0*		*84.2*	*70-130*			
Calibration Check (EA70513-CCV1)				Prepared: 01/05/07 Analyzed: 01/08/07						
Carbon Ranges C6-C12	246		mg/kg	250		98.4	80-120			
Carbon Ranges C12-C28	293		"	250		117	80-120			
Total Hydrocarbons	539		"	500		108	80-120			
Surrogate: 1-Chlorooctane	*57.9*		*"*	*50.0*		*116*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.4*		*"*	*50.0*		*105*	*70-130*			
Matrix Spike (EA70513-MS1)	**Source: 7A05005-09**			Prepared: 01/05/07 Analyzed: 01/06/07						
Carbon Ranges C6-C12	594	10.0	mg/kg dry	529	16.1	109	75-125			
Carbon Ranges C12-C28	551	10.0	"	529	120	81.5	75-125			
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125			
Total Hydrocarbons	1140	10.0	"	1060	136	94.7	75-125			
Surrogate: 1-Chlorooctane	*60.0*		*mg/kg*	*50.0*		*120*	*70-130*			
Surrogate: 1-Chlorooctadecane	*50.6*		*"*	*50.0*		*101*	*70-130*			

Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA70513 - Solvent Extraction (GC)										
Matrix Spike Dup (EA70513-MSD1)	**Source: 7A05005-09**			Prepared: 01/05/07 Analyzed: 01/06/07						
Carbon Ranges C6-C12	630	10.0	mg/kg dry	529	16.1	116	75-125	6.22	20	
Carbon Ranges C12-C28	586	10.0	"	529	120	88.1	75-125	7.78	20	
Carbon Ranges C28-C35	ND	10.0	"	0.00	ND		75-125		20	
Total Hydrocarbons	1220	10.0	"	1060	136	102	75-125	7.42	20	
Surrogate: 1-Chlorooctane	*62.8*		*mg/kg*	*50.0*		*126*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.6*		"	*50.0*		*107*	*70-130*			

Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA70808 - Water Extraction										
Blank (EA70808-BLK1)				Prepared & Analyzed: 01/08/07						
Chloride	ND	0.500	mg/kg							
LCS (EA70808-BS1)				Prepared & Analyzed: 01/08/07						
Chloride	9.33	0.500	mg/kg	10.0		93.3	80-120			
Calibration Check (EA70808-CCV1)				Prepared & Analyzed: 01/08/07						
Chloride	8.09		mg/L	10.0		80.9	80-120			
Duplicate (EA70808-DUP1)	Source: 7A05007-05			Prepared & Analyzed: 01/08/07						
Chloride	7.79	5.00	mg/kg		6.30			21.1	20	S-08
Duplicate (EA70808-DUP2)	Source: 7A05008-02			Prepared & Analyzed: 01/08/07						
Chloride	415	10.0	mg/kg		426			2.62	20	
Matrix Spike (EA70808-MS1)	Source: 7A05007-05			Prepared & Analyzed: 01/08/07						
Chloride	104	5.00	mg/kg	100	6.30	97.7	80-120			
Matrix Spike (EA70808-MS2)	Source: 7A05008-02			Prepared & Analyzed: 01/08/07						
Chloride	638	10.0	mg/kg	200	426	106	80-120			
Batch EA70809 - Water Extraction										
Blank (EA70809-BLK1)				Prepared & Analyzed: 01/08/07						
Chloride	ND	0.500	mg/kg							
LCS (EA70809-BS1)				Prepared & Analyzed: 01/08/07						
Chloride	9.74	0.500	mg/kg	10.0		97.4	80-120			

Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA70809 - Water Extraction										
Calibration Check (EA70809-CCV1)				Prepared & Analyzed: 01/08/07						
Chloride	8.25		mg/L	10.0		82.5	80-120			
Duplicate (EA70809-DUP1)		Source: 7A05008-14		Prepared & Analyzed: 01/08/07						
Chloride	1020	20.0	mg/kg		1030			0.976	20	
Matrix Spike (EA70809-MS1)		Source: 7A05008-14		Prepared & Analyzed: 01/08/07						
Chloride	1440	20.0	mg/kg	400	1030	102	80-120			
Batch EA70810 - General Preparation (Prep)										
Blank (EA70810-BLK1)				Prepared & Analyzed: 01/08/07						
% Solids	100		%							
Duplicate (EA70810-DUP1)		Source: 7A04022-01		Prepared & Analyzed: 01/08/07						
% Solids	84.3		%		85.3			1.18	20	
Duplicate (EA70810-DUP2)		Source: 7A05005-09		Prepared & Analyzed: 01/08/07						
% Solids	94.3		%		94.6			0.318	20	

Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

Notes and Definitions

S-08	Value outside Laboratory historical or method prescribed QC limits.
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

Report Approved By: Raland K Tuttle Date: 1/11/2007

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.

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 Fax (432) 682-3946

CLIENT NAME: CROWN QUEST
SITE MANAGER: IKE TAVAREZ
PROJECT NO.: 2839
PROJECT NAME: CROWN QUEST FEDERAL 20 #5, LEA COUNTY, NM

A 705008

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 (8015 MOD.) TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, (Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
-01	01/04/07		S		X	T-1 (0-0.5')	1				X				X											X			
-02			S		X	T-1 (1.5')	1				X															X			
-03			S		X	T-2 (0-0.5')	1				X															X			
-04			S		X	T-2 (2.0')	1				X															X			
-06			S		X	T-3 (0-0.5')	1				X				X											X			
-06			S		X	T-3 (2.0')	1				X															X			
-07			S		X	T-4 (0-0.5')	1				X															X			
-08			S		X	T-4 (1.5')	1				X															X			
-09			S		X	T-5 (0-0.5')	1				X				X											X			
-10			S		X	T-5 (1.5')	1				X															X			

RELINQUISHED BY: (Signature) [illegible] Date: 01/05/07 Time: 15:45
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: ELT
ADDRESS:
CITY: STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature) [illegible] DATE: 1-5-07 TIME: 15:45

SAMPLED BY: (Print & Sign) IKE TAVAREZ Date: 01/04/07 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL # ______ (HAND DELIVERED) UPS OTHER: ______

HIGHLANDER CONTACT PERSON: IKE TAVAREZ

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid (S-Soil) SL-Sludge O-Other

REMARKS: ~~Run (1) BTEX on the one with the highest TPH~~ -0.5°C 4oz glass

Please Fill out all copies – Laboratory retains yellow copy – Return original copy to Highlander Environmental Corp. – Project Manager retains pink copy – Accounting receives Gold copy.

↳ No BTEX needed as per Ike 1/5/7 RG

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(432) 682-4559 Fax (432) 682-3946

CLIENT NAME: CROWN QUEST

SITE MANAGER: IKE TAVAREZ

PROJECT NO.: 2839

PROJECT NAME: CROWN QUEST FEDERAL 20 #5 LEA COUNTY, NM

A105008

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST (Circle or Specify Method No.): BTEX 8020/602	MTBE 8030/602	TPH 8015 MOD. TX1005 (418.1)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/608	BOD, TSS, pH, TDS, (Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
-11	01/04/07		S		X	T-6 (0-0.5')	1				X															X			
-12			S		X	T-6 (1.0')	1				X															X			
-13			S		X	T-7 (0-0.5')	1				X				X											X			
-14			S		X	T-7 (1.5')	1				X															X			
-15			S		X	T-8 (0-0.5')	1				X															X			
-16			S		X	T-8 (1.0')	1				X															X			

RELINQUISHED BY: (Signature) Date: 01/05/07 Time: 15:45

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) IKE TAVAREZ Date: 01/04/07 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS UPS HAND DELIVERED AIRBILL #: OTHER:

RECEIVING LABORATORY: ELT

ADDRESS:

CITY: STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature) Kristine Moore

DATE: 1-5-07 TIME: 15:45

HIGHLANDER CONTACT PERSON: IKE TAVAREZ

Results by:

PUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid (S-Soil) SL-Sludge O-Other

REMARKS: -0.5°C 4.0 oz glass

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy - Accounting receives Gold copy.

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Highlander

Date/ Time: 01/05/07 15:45

Lab ID #: 710505008

Initials: BM

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	-05 / 19 °C	
#2	Shipping container in good condition?	(Yes)	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	(Not Present)	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	(Yes)	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	(Yes)	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	(Yes)	No		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	(Yes)	No	See Below	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	(Yes)	No	(Not Applicable)	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Ike Tavarez

Highlander Environmental Corp.

1910 N. Big Spring St.

Midland, TX 79705

Project: Crown Quest/ Fed 20 #5

Project Number: 2839

Location: Lea County, NM

Lab Order Number: 7A05007

Report Date: 01/11/07

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
North #2	7A05007-01	Soil	01/03/07 00:00	01-05-2007 15:45
North #3	7A05007-02	Soil	01/03/07 00:00	01-05-2007 15:45
North #4	7A05007-03	Soil	01/03/07 00:00	01-05-2007 15:45
North #5	7A05007-04	Soil	01/03/07 00:00	01-05-2007 15:45
South #2	7A05007-05	Soil	01/03/07 00:00	01-05-2007 15:45
South #3	7A05007-06	Soil	01/03/07 00:00	01-05-2007 15:45
South #4	7A05007-07	Soil	01/03/07 00:00	01-05-2007 15:45
South #5	7A05007-08	Soil	01/03/07 00:00	01-05-2007 15:45
East #1	7A05007-09	Soil	01/03/07 00:00	01-05-2007 15:45
West #1	7A05007-10	Soil	01/03/07 00:00	01-05-2007 15:45

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

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
North #2 (7A05007-01) Soil									
Chloride	**J [3.57]**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	J
North #3 (7A05007-02) Soil									
Chloride	**13.6**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
North #4 (7A05007-03) Soil									
Chloride	**6.26**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
North #5 (7A05007-04) Soil									
Chloride	**38.8**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
South #2 (7A05007-05) Soil									
Chloride	**6.30**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
South #3 (7A05007-06) Soil									
Chloride	**25.1**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
South #4 (7A05007-07) Soil									
Chloride	**14.1**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
South #5 (7A05007-08) Soil									
Chloride	**J [2.25]**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	J
East #1 (7A05007-09) Soil									
Chloride	**13.7**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	
West #1 (7A05007-10) Soil									
Chloride	**12.6**	5.00	mg/kg	10	EA70808	01/08/07	01/08/07	EPA 300.0	

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Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA70808 - Water Extraction										
Blank (EA70808-BLK1)				Prepared & Analyzed: 01/08/07						
Chloride	ND	0.500	mg/kg							
LCS (EA70808-BS1)				Prepared & Analyzed: 01/08/07						
Chloride	9.33	0.500	mg/kg	10.0		93.3	80-120			
Calibration Check (EA70808-CCV1)				Prepared & Analyzed: 01/08/07						
Chloride	8.09		mg/L	10.0		80.9	80-120			
Duplicate (EA70808-DUP1)	**Source: 7A05007-05**			Prepared & Analyzed: 01/08/07						
Chloride	7.79	5.00	mg/kg		6.30			21.1	20	S-08
Duplicate (EA70808-DUP2)	**Source: 7A05008-02**			Prepared & Analyzed: 01/08/07						
Chloride	415	10.0	mg/kg		426			2.62	20	
Matrix Spike (EA70808-MS1)	**Source: 7A05007-05**			Prepared & Analyzed: 01/08/07						
Chloride	104	5.00	mg/kg	100	6.30	97.7	80-120			
Matrix Spike (EA70808-MS2)	**Source: 7A05008-02**			Prepared & Analyzed: 01/08/07						
Chloride	638	10.0	mg/kg	200	426	106	80-120			

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

Notes and Definitions

S-08	Value outside Laboratory historical or method prescribed QC limits.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 1/11/2007

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.

Analysis Request and Chain of Custody Record

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(432) 682-4559 Fax (432) 682-3946

PAGE: 1 OF: 1

CLIENT NAME: CROWN QUEST

SITE MANAGER: IKE TAVAREZ

PROJECT NO.: 2839

PROJECT NAME: CROWN QUEST FEDERAL 20 #5

LEA COUNTY, NM

7A05007

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 8015 MOD. TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RUI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 608/608	BOD, TSS, pH, TDS, Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
-01	01/03/07		S		X	NORTH #2	1				X															X			
-02	"		S		X	NORTH #3	1				X															X			
-03			S		X	NORTH #4	1				X															X			
-04			S		X	NORTH #5	1				X															X			
-05			S		X	SOUTH #2	1				X															X			
-06			S		X	SOUTH #3	1				X															X			
-07			S		X	SOUTH #4	1				X															X			
-08			S		X	SOUTH #5	1				X															X			
-09			S		X	EAST #1	1				X															X			
-10	"		S		X	WEST #1	1				X															X			

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 01/05/07 Time: 15:45

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Sign) TIM CARTER Date: 01/03/07 Time:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: HAND DELIVERED UPS OTHER:

RELINQUISHED BY: (Signature) Date: Time:

RECEIVED BY: (Signature) Date: Time:

RECEIVING LABORATORY: ELT

ADDRESS:

CITY: STATE: TX ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature) Richard Moore

DATE: 1-5-07 TIME: 15:45

HIGHLANDER CONTACT PERSON: IKE TAVAREZ

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:

MATRIX: W-Water A-Air SD-Solid S-Soil SL-Sludge O-Other

REMARKS:

Please Fill out all copies – Laboratory retains yellow copy – Return original copy to Highlander Environmental Corp. – Project Manager retains pink copy – Accounting receives Gold copy.

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Highlander

Date/ Time: 01/05/07 15:45

Lab ID # : 7H050007

Initials: BM

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	Yes	No	-0.5/ 19 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes or	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
#16	Containers documented on Chain of Custody?	Yes	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	See Below	
#18	All samples received within sufficient hold time?	Yes	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	Not Applicable	
#20	VOC samples have zero headspace?	Yes	No	Not Applicable	

Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken:

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Ike Tavarez

Highlander Environmental Corp.

1910 N. Big Spring St.

Midland, TX 79705

Project: Crown Quest/ Fed 20 #5

Project Number: 2839

Location: Lea County, NM

Lab Order Number: 6L20004

Report Date: 12/27/06

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
#1 Bottom	6L20004-01	Soil	12/18/06 00:00	12-20-2006 13:35
N1	6L20004-09	Soil	12/19/06 00:00	12-20-2006 13:35
S1	6L20004-10	Soil	12/19/06 00:00	12-20-2006 13:35

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

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
#1 Bottom (6L20004-01) Soil									
Chloride	**3830**	20.0	mg/kg Wet	2	EL62214	12/22/06	12/22/06	SW 846 9253	
N1 (6L20004-09) Soil									
Chloride	**21.3**	20.0	mg/kg Wet	2	EL62214	12/22/06	12/22/06	SW 846 9253	
S1 (6L20004-10) Soil									
Chloride	**31.9**	20.0	mg/kg Wet	2	EL62214	12/22/06	12/22/06	SW 846 9253	

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

Highlander Environmental Corp.
1910 N. Big Spring St.
Midland TX, 79705

Project: Crown Quest/ Fed 20 #5
Project Number: 2839
Project Manager: Ike Tavarez

Fax: (432) 682-3946

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EL62214 - General Preparation (WetChem)										
Blank (EL62214-BLK1)				Prepared & Analyzed: 12/22/06						
Chloride	ND	20.0	mg/kg Wet							
LCS (EL62214-BS1)				Prepared & Analyzed: 12/22/06						
Chloride	91.5	5.00	mg/kg Wet	100		91.5	80-120			
Matrix Spike (EL62214-MS1)	**Source: 6L21003-21**			Prepared & Analyzed: 12/22/06						
Chloride	585	20.0	mg/kg Wet	500	63.8	104	80-120			
Matrix Spike Dup (EL62214-MSD1)	**Source: 6L21003-21**			Prepared & Analyzed: 12/22/06						
Chloride	596	20.0	mg/kg Wet	500	63.8	106	80-120	1.86	20	
Reference (EL62214-SRM1)				Prepared & Analyzed: 12/22/06						
Chloride	50.0		mg/kg	50.0		100	80-120			

Highlander Environmental Corp.	Project: Crown Quest/ Fed 20 #5	Fax: (432) 682-3946
1910 N. Big Spring St.	Project Number: 2839	
Midland TX, 79705	Project Manager: Ike Tavarez	

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

Report Approved By: Raland K Tuttle Date: 12/27/2006

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.

Analysis Request and Chain of Custody Record

PAGE: 1 OF: 1

HIGHLANDER ENVIRONMENTAL CORP.

1910 N. Big Spring St.
Midland, Texas 79705

(432) 682-4559 Fax (432) 682-3946

CLIENT NAME: Crown Quest | SITE MANAGER: Ike Tavarez

PROJECT NO.: 2839 | PROJECT NAME: Crown Quest / Fed 20 #5 Lea County, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8020/602	MTBE 8020/602	TPH 418.1 / 8015 MOD. TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	BOD, TSS, pH, TDS, (Chloride)	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)
41000A																															
01	12/18/06		S		X	#1 Bottom		1					X														X			
02	↓		S		X	#3 Bottom	*	1					X														X			
03			S		X	#4 Bottom	*	1					X														X			
04			S		X	#5 Bottom	*	1					X														X			
05			S		X	#6 Bottom	*	1					X														X			
06			S		X	#7 Bottom	*	1					X														X			
07			S		X	#8 Bottom	*	1					X														X			
08	↓		S		X	#9 Bottom	*	1					X														X			
09	12/19/06		S		X	N1		1					X														X			
10	12/19/06		S		X	S1		1					X														X			

RELINQUISHED BY: (Signature) Tom Cantu — Date: 12-19-06 Time: 4:00 pm — RECEIVED BY: (Signature) — Date: 12-19-06 Time: 4:00 pm

RELINQUISHED BY: (Signature) — Date: 12/20/06 Time: 1:35 — RECEIVED BY: (Signature) — Date: Time:

RELINQUISHED BY: (Signature) — Date: Time: — RECEIVED BY: (Signature) — Date: Time:

RECEIVING LABORATORY: ELT
ADDRESS:
CITY: Odessa STATE: TX ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) Jana McMurray
DATE: 12-20-06 TIME: 1335

SAMPLED BY: (Print & Sign) Date: Time:

SAMPLE SHIPPED BY: (Circle)
FEDEX BUS AIRBILL #
HAND DELIVERED UPS OTHER:

HIGHLANDER CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 19.0°C plastic bag, id written on bag

MATRIX: W-Water A-Air SD-Solid (S-Soil) SL-Sludge O-Other

REMARKS: * Some of the samples (not enough)

Please Fill out all copies - Laboratory retains yellow copy - Return original copy to Highlander Environmental Corp. - Project Manager retains pink copy Accounting receives Gold copy

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: Highlander Environmental

Date/ Time: 12-20-06 @ 13:15

Lab ID #: 061220004

Initials: JMM

Sample Receipt Checklist

					Client Initials
#1	Temperature of container/ cooler?	(Yes)	No	19.0 °C	
#2	Shipping container in good condition?	Yes	No	N/A	
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present N/A	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	(Not Present)	
#5	Chain of Custody present?	(Yes)	No		
#6	Sample instructions complete of Chain of Custody?	(Yes)	No		
#7	Chain of Custody signed when relinquished/ received?	(Yes)	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	(ID written on Cont/ Lid)	
#9	Container label(s) legible and intact?	Yes	No	(Not Applicable)	
#10	Sample matrix/ properties agree with Chain of Custody?	(Yes)	No		
#11	Containers supplied by ELOT?	Yes	(No)		
#12	Samples in proper container/ bottle?	(Yes)	No	See Below	
#13	Samples properly preserved?	(Yes)	No	See Below	
#14	Sample bottles intact?	(Yes)	No		
#15	Preservations documented on Chain of Custody?	(Yes)	No		
#16	Containers documented on Chain of Custody?	(Yes)	No		
#17	Sufficient sample amount for indicated test(s)?	Yes	No	(See Below)	
#18	All samples received within sufficient hold time?	(Yes)	No	See Below	
#19	Subcontract of sample(s)?	Yes	No	(Not Applicable)	
#20	VOC samples have zero headspace?	Yes	No	(Not Applicable)	

Variance Documentation

Contact: Tom Reed Contacted by: [illegible] Date/ Time [illegible]

Regarding [illegible] #8

Corrective Action Taken: [illegible]

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company CrownQuest Operating LLC	Contact Luke Dunn
Address 303 Veterans Airpark Lane, Suite 5100 - PO Box 53310 Midland, TX 79710	Telephone No. 432-818-0300
Facility Name Abandoned buried line (Federal 20 #1)	Facility Type Water Transfer Line

Surface Owner Norman Hahn	Mineral Owner State	Lease No. ??

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	21	13S	33E	10	South	2130	East	Lea

Latitude 33.170144 Longitude -103.617425

WGR 100

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release ?	Volume Recovered 210 bbls
Source of Release Water Transfer Line	Date and Hour of Occurrence	Date and Hour of Discovery 12/5/06 3pm
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? Maxie Brown	
By Whom? Luke Dunn	Date and Hour 12/6/06 10am CST	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Received JUL 2006 Hobbs OCD

Describe Cause of Problem and Remedial Action Taken.*

Check valve gave out that allowed the produced water being transferred to a disposal well to divert to the abandoned line. The abandoned line then leaked. Approximate effected area is 300 yards along the road by 10 yards wide. Most of the area is spotty where the water snaked from the source. Water was picked up with vacuum truck & hauled off to disposal. The truck stayed & sucked for several hrs at the source until the source was found & shut off & the leak stopped.

Describe Area Affected and Cleanup Action Taken.*

Water was picked up with a vacuum truck & a temporary fence was built to protect livestock. A work plan will be built based on the testing that will be done.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION
Printed Name: Luke Dunn facility - fPAC0634850288	Approved by District Supervisor: ENVIROENGR
Title: Consultant Incident - nPAC0634850388 application - pPAC0634850470	Approval Date: 12.12.06 Expiration Date: FOR APPROVED PLAN 3.12.07
E-mail Address: ldunn@crownquest.com	Conditions of Approval: ① PROVIDE WORK PLAN W/ FULL HORIZ & VERTICAL DELINEATION TO 250 PPM CHLORIDE ② PROVIDE CHLORIDE CONTENT OF WATER SPILLED ③ SUBMIT WORK PLAN TO OCD BY 3.12.07 FOR CLEANUP Attached ☐
Date: 12/8/2006 Phone: 432-818-0300	

* Attach Additional Sheets If Necessary

RP# 1146