1R - 4268

REPORTS

DATE:

8-27-12

Rice Environmental Consulting & Safety
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 9477

August 27th, 2012

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

RE: **CAP Report and Termination Request**
Rice Operating Company – BD SWD System
BD Jct. G-23 (1R426-286): UL/G sec. 23 T22S R37E

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the BD SWD System and has no ownership of any portion of the pipeline, well, or facility. The system is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Background and Previous Work

The site is located approximately 4 miles southeast of Eunice, New Mexico at UL/G sec. 23 T22S R37E as shown on the Site Map (Figure 1). NM OSE records indicate that groundwater is located at a depth of approximately 59 +/- feet.

In 2010, ROC initiated work on the former BD G-23 junction box. The site was delineated using a backhoe to form a 30 ft x 30 ft x 12 ft deep excavation and soil samples were screened at regular intervals for both hydrocarbons and chlorides. From the excavation, the four-wall composite and the bottom composite were taken to a commercial laboratory for analysis. Laboratory tests of the four-wall composite showed a chloride reading of 432 mg/kg and a gasoline range organics (GRO) reading and diesel range organics (DRO) reading of non-detect. The bottom composite showed a chloride laboratory reading of 1,790 mg/kg and GRO and DRO readings of non-detect. The excavated soil was blended on site and a sample was taken to a commercial laboratory for analysis. The soil showed a chloride reading of 672 mg/kg and GRO and DRO readings of non-detect. The blended backfill was returned to the excavation to 6 ft below ground surface (bgs). At 6-5 ft bgs, a 1 ft clay layer was installed to inhibit downward migration of chlorides to groundwater. A clay compaction test was conducted on March 1st, 2010. 156 yards of the excavated material was transported to a NMOCD approved facility for disposal. Clean soil was imported to the site and blended with the remaining backfill

from the excavation. Laboratory analysis of the blended backfill with imported clean soil showed a chloride reading of 480 mg/kg. The excavation was backfilled with the blended backfill to ground surface. The area was contoured to the surrounding landscape, seeded, and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. NMOCD was notified of potential groundwater impact on February 21st, 2011 and a junction box disclosure report was submitted to NMOCD with all the 2010 junction box closures and disclosures.

As part of the Investigation and Characterization Plan approved by NMOCD on June 9th, 2011, three soil bores were advanced through the former junction box site on July 12th, 2011. ROC personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID) for hydrocarbons. Representative samples from the bores were taken to a commercial laboratory for confirmation of field numbers. In all three soil bores, the laboratory chloride values decreased as the bores were advanced to values below 250 mg/kg before reaching the capillary fringe. In SB-1, the laboratory chloride readings were 1,220 mg/kg at the surface and decreased to 32 mg/kg at 50 ft bgs. In SB-2, the chloride readings were 1,040 mg/kg at 20 ft bgs and decreased to 128 mg/kg at 50 ft bgs. In SB-3, the chloride readings were 2,080 mg/kg at the surface, 880 mg/kg at 15 ft bgs, and 160 mg/kg at 30 ft bgs. In all three bores at all depths, GRO and DRO values were non-detect.

On August 8th, 2011, an ICP Report was submitted to NMOCD that was subsequently approved on September 21st, 2011. The report recommended that ROC continue to delineate the soils surrounding the former junction box site. On February 1st, 2012, two additional soil bores were installed at the site. Representative samples from the bores were taken to a commercial laboratory for confirmation of field numbers. Both bores showed chloride values that decreased to below 250 mg/kg as the bores were advanced. SB-4 resulted in laboratory chloride readings of 672 mg/kg at 15 ft bgs and decreased to 48 mg/kg at 30 ft bgs. SB-5 resulted in laboratory chloride readings of 272 mg/kg at 20 ft bgs that decreased to 48 mg/kg at 30 ft bgs. In both bores at all depths, GRO and DRO values were non-detect.

Based on the delineation of the soils surrounding the former junction box, the site will not contribute to the degradation of groundwater. The site has an existing 30 ft x 30 ft clay layer installed at 6-5 ft bgs that will impede migration of residual chlorides and hydrocarbons. As part of the 'Report of Further Investigation and Corrective Action Plan (CAP)' submitted to NMOCD on March 19th, 2012 and approved on March 21st, 2012, RECS recommended that ROC scrape the site to approximately 6 inches to 1 foot to remove all rock and break up the soil for seeding. The site would be backfilled with clean soil to ground surface and contoured to the surrounding area. The site would then be seeded with native vegetation and be expected to return to normal vegetative capacity. Vegetation will act as an evapo-transpiration barrier that will also inhibit the downward migration of chlorides and hydrocarbons. Plants capture water through their roots and so reduce the amount of water infiltrating below the root zone.

Corrective Action Plan Report

On July 16th, 2012, RECS personnel were on site to begin scraping the site down 1 foot deep to remove all rock and break up the soil for seeding. A total of 288 yards of scraped soil was disposed of at a NMOCD approved facility. A total of 300 yards of clean soil was imported to the site to serve as backfill material. The site was backfilled, contoured to the surrounding location, and seeded with a blend of native vegetation (Appendix A).

The site has been scraped and seeded and is expected to return to normal vegetative capacity. Since ROC has completed the corrective actions as approved by NMOCD in the CAP, ROC requests 'remediation termination' status of the regulatory file.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

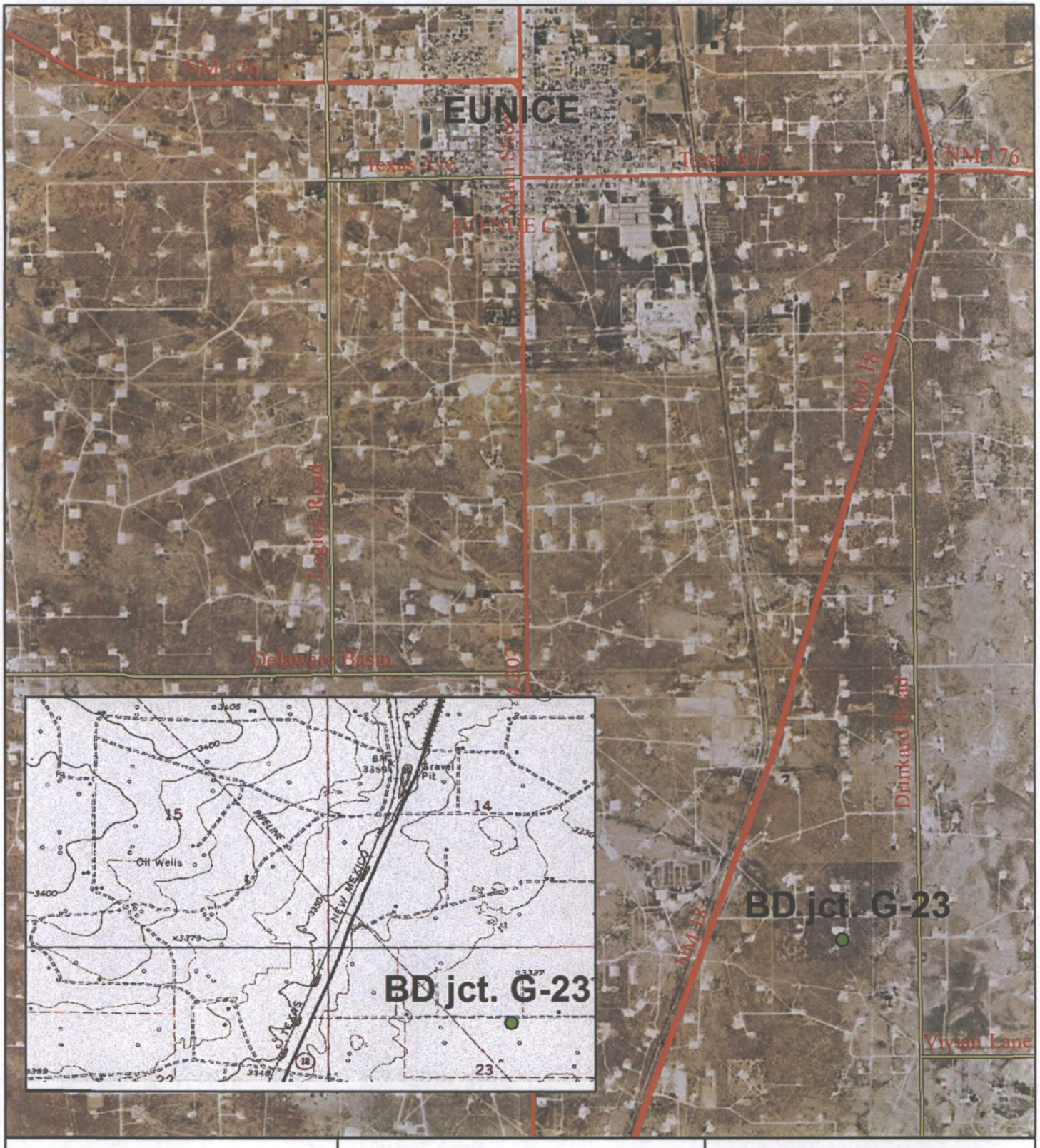
Attachments:

Figure 1 – Site Map
Appendix A – CAP Activities Documentation

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Map



RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

BD jct. G-23

LEGALS: UL/G sec. 23
T22S R37E

NMOCD Case #: 1R426-286

Figure 1

N
W E
S

0 1,750 3,500 7,000
Feet

Drawing date: 5-3-11
Drafted by: L. Weinheimer

Appendix A

CAP Activities Documentation

RICE Environmental Consulting and Safety (RECS)
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REVEGETATION FORM

1. General Information

Site name	BD JCT G-23					
U/L	Section	Township	Range	County	Latitude	Longitude
G	23	22S	37E	Lea	32°22'44.805"	103°7'55.405"
Contact Name:	Bruce Baker					
Email:	bbaker@rice-ecs.com					
Site size: 10,450 square feet			Map detail of site attached ☐			
Additional information:						

2. Soils **Do not rip caliche subsoils; caliche rocks brought to the surface by ripping shall be removed.*

Salvaged from site ☒	Bioremediated ☐	Imported ☒	Blended ☒	Depth (in):
Texture: **Sandy**	Describe soil & subsoil:	**Sandy surface with caliche below**		
Soil prep methods: Rip ☐	Depth(in):	Disc ☒	Depth (in): **6**	Rollerpack ☐
Date completed: **8/17/2012**				

3. Bioremediation

Fertilizer ☐	Hay ☐	Other ☐
Type:		Describe:
Lbs/acre:		

4. Seeding **Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

Custom seed mix ☒	Prescribed mix ☐	Seed mix name: **5.5 lbs. Blue Grama and 5.5 lbs. Side Oats Grama**	Seeding date: **8/17/2012**
Broadcast ☒ Method: Mechanical spreader/tiller			
Soil conditions during seeding: Dry ☒	Damp ☐	Wet ☐	
Photos attached ☐ Number of photos:	Observations: **Seed was tilled into soil.**		

5. Certification *I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.*

Name: **Eduardo Garcia**	Title: **Environmental Tech**	Date: **8/17/2012**
Signature: Eduardo Garcia		

BD Jct. G-23 (1R426-286)

Unit G, Section 23, T22S, R37E

Site prior to scraping, facing north 10/5/2011

Scraping site, facing south 7/16/2012

Exporting soil, facing east 7/16/2012

Exporting soil, facing north 7/16/2012

Importing soil, facing north 7/26/2012

Site seeded and tilled, facing east 8/17/2012