

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-144
June 1, 2004

For drilling and production facilities, submit to
appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☐

Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☒

Operator: Rubicon Oil and Gas, LLC Telephone: 432-687-5100 e-mail address: hal@adventure-energy.com

Address: 508 W. Wall Ave., Suite 500, Midland, Texas 79701

Facility or well name: **Bough 13 Federal No. 1** API #: **30-025-38276** U/L: **SW/NE S13 T9S R35E 1650' FNL 1980' FEL**

County: **Lea** Latitude **N** Longitude **W** NAD: 1927 ☐ 1983 ☐

Surface Owner: Federal ☒ State Private ☐ Indian ☐ Lease Number: **NM0450847**

Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness: 12ml HDPE liner Clay <input type="checkbox"/> Pit Volume: 1500 bbl. Approximately	Below-grade tank N/A Volume: N/A bbl Type of fluid: N/A Construction material: N/A Double-walled, with leak detection? <input type="checkbox"/> If not, explain why not.
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of groundwater.) NMOCD/ State Engineer and map data shows 150' to groundwater.	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (0 points) 100 feet or more 0 pts.
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No <input checked="" type="checkbox"/> (0 points) 0 pts.
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet (10 points) 1000 feet or more (0 points) 0 pts.
	Ranking Score (Total Points) 0 pts.

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. Digital Photos shall be submitted for before and after remediation activity with final report. (2) Indicate disposal location: offsite **N/A** If offsite, name of facility: **N/A** (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☒ Yes ☐ If yes, show depth below ground surface **ft.** and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: The depth to groundwater for this location shows water levels present from 150' which provides for insitu deep burial on the location. Please refer to the attached letter for detailed "Closure Plan" information.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒ a general permit ☐, or an (attached) alternative OCD-approved plan ☐

Date: **11 September 2007**

Printed Name/Title **Hal Lee** Signature 

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title

Signature 

ENVIRONMENTAL ENGINEER

Date: **9.18.07**

Mr. Hal Lee
RUBICON OIL AND GAS, LLC
508 W. Wall Ave.
Suite 500
Midland, TX 79701

11 September 2007

Mr. Larry Johnson
OIL CONSERVATION DIVISION
1625 N. French Dr.
Hobbs, NM 88240

Re: Bough Federal 13 No. 1 Pit Closure Plan

Dear Mr. Johnson:

Pursuant to the State of New Mexico regulatory requirements for permanent closure of drilling pits, please be advised the following documents are herewith enclosed: (1) Form C-144 and (2) additional information constituting the proposed "Closure Plan" for closure of the Rubicon Oil and Gas, LLC, hereinafter "Rubicon", Bough Federal 13 No. 1 drilling pit, hereinafter "Bough 13-1", (API No. 30-025-38276) located in U/L SW/NE S13 T9S R35E, SHL 1650' FNL and 1980' FEL of Lea County, New Mexico.

INTRODUCTION

Remediation of the Rubicon, Bough 13-1 drilling pit is targeted to begin 13 September 2007 with completion expected by 26 September 2007, permitting weather and the occurrence of unexpected conditions not within the Operator's control do not create delays or exacerbate the proposed schedule in any way. Rubicon intends to maintain its commitment to environmental health and safety and fully comply with the Regulatory Performa of the State of New Mexico, OCD (NMOCD) regarding this disposal action culminating in permanent closure of the Bough 13-1 drilling pit.

Potential, temporary contamination from the Bough 13-1 drilling pit site, should any exist, resulted solely from oil and gas production activities. Potential contaminants are typically mid to high-level concentrations of brines, typical polymers (such as xanthium gum and starch) and in general, drilling mud and fluids remaining upon completion of said drilling operations.

Area land use is primarily ranching with domestic pasturage commensurate with significant oil and gas production activities. The Rubicon Bough 13-1 drilling pit is located in an area wherein groundwater depth to surface data is shown on the State of New Mexico, State Engineer's web site as 150 feet.

Consequently, *insitu* disposal shall be engaged in accordance with the conditions of the approved Form C-144. It is the belief of Rubicon that compliant environmental performance and reduction of liability in this area pursuant to NMOCD regulations can be achieved with *insitu* disposal predicated on the evidentiary groundwater table data heretofore presented. Further, should future Regulatory Performa mandate additional action or should the Operator choose to take additional action, the *insitu* option, in this case, (1) limits the environmental impact in general, (2) allows the Operator or government immediate access to said, heretofore, defined liability, (3) contains said material within the Operator's lease boundary and (4) should groundwater (levels < 50') be discovered as opposed to small perched seasonal or precipitous event accumulations during the construction of the *insitu* pit, all actions would cease and NMOCD would immediately be notified that a (1) haul off or (2) *insitu* solidification should be considered in the form of an amended C-144 for completion of the closure action.

This compliance action shall strictly apply NMOCD standards, i.e. clean-up level for the Bough 13-1 drilling pit shall meet the < 250ppm chlorides unless approved otherwise and substantiated by (1) background analytical data documented to be higher than the above cited indices, (2) geological evidence of salt stringers and/or other geological features which support salt retaining soil types or features, (3) rock to soil ratios predicated upon analytical calculations of infield data acquisitions and (4) soil types which geologically typify, substantiate and uphold analytical investigations in areas with i.e. documented, non-perforated clay lenses, allowing for "risked closures" in non-sensitive groundwater table areas approved by the NMOCD and BLM where applicable.

CLOSURE PLAN

Prior to commencement of closure activities, the Rubicon contractor shall contact One-Call for line spot clearance and notify NMOCD at least 24 hours prior to initiation of any closure action on said drilling pit. The following "Closure Plan" shall be strictly adhered to by Rubicon's contractor for removal of approximately 1,500 bbls of liquid followed by the removal of all fines (drill cuttings) assuming (1) these fines have sufficiently dried allowing for maneuverability of heavy equipment in the pit area or (2) mixing shall occur in order to attain sufficient dryness of said fines prior to deposit into the *insitu* 20 ml HDPE liner, enabling *insitu* burial application to take place and final pit closure.

Environmental health and safety regulations mandate control of pit volumes at all times. Thus, the liquid material was pumped off as needed and properly disposed of during active drilling operations. Water accumulated since this time is either due to liquids resurfacing after the hydrostatic head has been altered through hauling of earlier fluids or rain. Such water, should it exist, has subsequently been hauled from the drilling pit and properly disposed of in accordance with NMOCD Regulatory Performa.

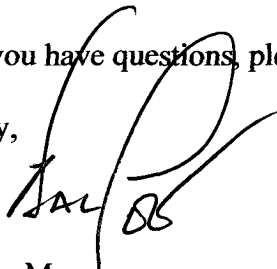
- Contractor shall mobilize to the Bough 13-1 drilling pit site located 1.5 miles north of Crossroads in Lea County, New Mexico. Personnel and heavy equipment necessary to provide for the initiation and completion of remediation activities presented above shall be engaged as is appropriate to the mandated exercise.

- All remediation activity shall be confined to (1) the existing pad, (2) already disturbed areas as authorized by the APD and approved Best Management Practices (BMP's) and/or (3) not beyond the lease boundaries without the express written permission of the Operator. Rubicon's dirt contractor assumes sole responsibility for operations in inclement weather conditions and shall cease and desist infield operations immediately when such conditions become unsafe or would in any way be destructive to Rubicon's lease or at the mandate of Rubicon's infield representative. Further, Rubicon's dirt contractor shall ensure the positioning of their equipment to provide a clear area for adequate staging, site control and safety ensuring operations shall be compliant with OSHA and NMOCD Regulatory Performa at all times.
- The Bough 13-1 drilling pit is currently lined by a 12ml HDPE liner, which shall be removed by heavy equipment and disposed of with the drilling fines *insitu* pursuant to NMOCD requirements. No pit area shall be lined prior to sampling, receipt of analytical results from Trace Analysis, Inc. and NMOCD authorization to proceed with closure operations, which shall include and be applicable to all activities beyond the "mixing stage".
- *Insitu* actions provide for the encasement of all drilling pit contents within a 20 ml HDPE liner placed in the *insitu* burial chamber sufficiently deep enough to provide a minimum of 4 feet of top cover to match the surrounding topographic relief and general "lay of the land" upon completion. Should the presence of rock exacerbate the potential integrity of the liner in perpetuity, the *insitu* pit shall first be lined with 4 ounce Geotextile Felt placing the 20 ml HDPE liner on top with the sides of the "container" married to previously undisturbed ground ensuring no objects such as sharp rocks, etc. shall be in the contact area reducing the potential of puncturing the "container" resulting from (1) the placement of soil on top of it during the backfilling process and (2) the activity of heavy equipment mandated for the job.
- Once the burial trench/pit has been dug to sufficient dimensions to ensure proper placement of the pit contents, the track hoe shall begin to deposit pit materials within the secured "container" until all contaminated pit material has been placed within it. This 20ml HDPE lined burial site shall not be permanently capped and sealed until after the final drilling pit areas have been sampled and approved for closure by the NMOCD. In the event more material must be harvested to achieve compliance, and said harvest shall increase the volume of the *insitu* material to such a degree that it will threaten the integrity of the "container" or potentially cause leakage to occur by reason of increased volume, an additional *insitu* 20ml HDPE lined "container" shall be placed either adjacent (when space and terrain permits) or close to the existing "container". Such action will provide for reasonable assurance that no leakage will occur and maintain all contaminants within a specific geographic location on the lease. Rubicon's dirt contractor shall make every effort to bury within the existing drilling pit.

- Prior to initiation of backfilling, the Operator shall take appropriate samples of the pit area to ensure compliance with NMOCD Standards for remediation of possible soil chloride levels greater than 250 ppm. However if levels at the bottom of the drilling pit test hot or are not within acceptable range, a background set of samples shall be obtained for testing from the immediate vicinity and compared to those of the pit bottom. Simultaneously, more soil shall be removed from the “hot spots”. Once completed, a new data acquisition shall occur and sample results determine whether or not compliance has been reached in order to begin backfilling.
- Backfilling of the Bough 13-1 drilling pit shall be commensurate with existing topography and terrain relief features (contouring) so as to return it to its “near-as” previous condition, including a contour for prevailing wind conditions and moisture accumulation which prevents abnormal or unsustainable water impoundment resulting in erosive actions. All sites shall be seeded in compliance with BLM seed mixtures, which are currently being used by the NMOCD as well.
- The “Closure Plan” shall include a final report providing lab analysis of the backfill material, digital project photos and evidentiary narrative to support the completed disposition of the reclaimed Bough 13-1 drilling pit site.

Should you have questions, please call 432-684-8006 (office) or 432-664-9040 (cell).

Sincerely,



Hal Lee
Operation Manager

Enclosure: C-144