

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: MURCHISON OIL AND GAS, INC.

Telephone: 505-628-3932

e-mail address: tommyfolsom@valornet.com

Address: 1100 Mira Vista Blvd., Plano, Texas 75093-4698

Facility or well name: Bear Draw State Com. No. 1 API #: 30-015-35679 U/L B Sec 3 T17S R29E 660' FNL and 1980' FEL

County: Eddy Latitude N Longitude W NAD: 1927 ☐ 1983 ☐

Surface Owner State X

Pit

Type: Drilling X

Lined X

Liner type: Synthetic X Thickness: 12ml HDPE Liner

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? ☐ If not, explain why not.

Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of groundwater.) State Engineer's records/  
Eddy County Map shows depth to groundwater to be approximately 125'.

Less than 50 feet

(20 points)

50 feet or more, but less than 100 feet

(10 points)

100 feet or more

(0 points) 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 X

(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) 0 pts.

1000 feet or more

(0 points)

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. (2) Indicate disposal location: Insitu as described in Closure Plan. If offsite, name of facility: N/A (4) Groundwater encountered: No X 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: Please refer to the attached letter for detailed "Closure Plan" information. For purposes of continuity, all materials shall be submitted as part of the final closure report.

TRENCHBURG

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 X, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: 7 January 2008

Printed Name/Title: Tommy W. Folsom, Production Manager

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 groundwater 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:

Signature

Signed By

White Bear

Date:

JAN 07 2008

NOTIFY OCD 24 HOURS PRIOR to beginning closure and 24 HOURS PRIOR to obtaining samples. Samples are to be obtained from pit area and analyses submitted to OCD prior to back-filling.

If burial trench is to be constructed in pit area, samples are to be obtained and analyses submitted to OCD PRIOR to lining trench.

Mr. Tommy W. Folsom  
Production Manager  
MURCHISON OIL AND GAS, INC.  
PO Box 627  
Carlsbad, NM 88221-0627

7 January 2008

Mr. Mike Bratcher  
OIL CONSERVATION DIVISION  
1301 West Grand Avenue  
Artesia, NM 88210

Re: Bear Draw State Com. No. 1 Pit Closure Documents

Dear Mr. Bratcher:

Pursuant to the State of New Mexico regulatory requirements for permanent closure of drilling pits, enclosed herewith is the completed Form C-144 and additional information constituting the "Closure Plan" for closure of the Murchison Oil and Gas, Inc., hereinafter "Murchison", Bear Draw State Com. No. 1 drilling pit (API No. 30-015-35679) located in U/L B S3 T17S, R29E, 660' FNL and 1980' FEL and of Eddy County, New Mexico.

#### INTRODUCTION

Remediation of the Murchison, hereinafter "Bear Draw", drilling pit is targeted to begin 9 January 2008 with completion expected by 23 January 2008, 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. Murchison intends to maintain its commitment to environmental health and safety and fully comply with the Regulatory Performa of the State of New Mexico, OCD regarding this disposal action and permanent closure of the Bear Draw drilling pit.

Potential, temporary contamination from the Bear Draw drilling pit site, should any exist, resulted solely from oil and gas production activities. Potential contaminates of concern are typical 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 and oil and gas production activities. The Murchison Bear Draw drilling pit is located in an area wherein groundwater depth to surface data available on the State Engineer's data bank indicated groundwater present at 125 feet plus. However, in conjunction with their normal online databank, the State of New Mexico, OCD is cross-referencing with a groundwater map titled "Eddy County Depth to Groundwater", dated 9 February 2005. This map also indicates the presence of groundwater in the area to be 125 feet.

Consequently, *insitu* disposal is the preferred choice for the Bear Draw drilling pit closure. It is the belief of Murchison that compliant environmental performance and reduction of liability in this area pursuant to New Mexico; OCD regulations can be achieved with *insitu* disposal predicated on the evidentiary 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/government immediate access to said liability, (3) contains said material within the

Operator's lease boundary and (4) in the event evidence of water is discovered during the digging of the *insitu* pit, all actions would cease and the State would be immediately notified.

Murchison intends to engage in *insitu* disposal upon approval from the New Mexico, OCD. This compliance action shall strictly apply the State of New Mexico, OCD standards, i.e. clean-up level for the Bear Draw drilling pit shall meet the less than 100ppm of TPH, ND for BTEX and the less than 250ppm of chlorides unless approved otherwise and substantiated by background information documented to be higher than the above cited indices.

#### CLOSURE PLAN

Prior to commencement of closure activities, Murchison contractor will contact One-Call for line spot clearance confirming the State of New Mexico, OCD is in agreement with the proposed Closure Plan for removal of approximately 1,500 bbl. of liquid followed by the removal of all fines (drill cuttings) assuming these fines have sufficiently dried allowing for maneuverability of heavy equipment in the pit area, enabling *insitu* burial application to take place and final closure of the pit occur.

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 liquid material not completely hauled from actual drilling operations or rain. This water has subsequently been hauled from the location and properly disposed of pursuant to OCD Regulatory Performa.

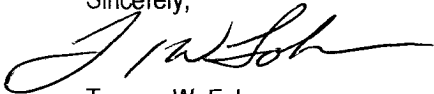
- ❖ Contractor shall mobilize to the Bear Draw drilling pit site located in Section 3 after notification to NMOCD to commence closure operations. Personnel and heavy equipment necessary to provide for the initiation and completion of said remediation activities presented above shall be engaged as is appropriate to the mandated exercise.
- ❖ No remediation activity shall occur off the existing pad or already disturbed areas as authorized by the APD and approved Best Management Practices (BMP's). Murchison shall consider weather conditions and necessary equipment positioning to provide a clear area for adequate staging for site control and safety compliance, ensuring operations shall be compliant with New Mexico, OCD Regulatory Performa.
- ❖ The Bear Draw drilling pit is currently lined with a 12ml HDPE liner, which shall be removed by heavy equipment and disposed of *insitu* with the drilling fines pursuant to NMOCD requirements. *Insitu* actions provide for the encasement of all drilling pit contents in a 20 ml HDPE liner placed below ground. The bottom and sides of the container shall be married to undisturbed ground ensuring no objects such as sharp rocks, etc. shall be in the contact area to reduce the potential of puncturing the container.
- ❖ 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 pit material has been placed within it. This 20ml HDPE liner container shall not be permanently sealed until after the pit bottom has 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 liner container shall be placed adjacent (when space and terrain permits) to the existing container.

Such action will provide for reasonable assurance that no leakage will occur and maintain all contaminates within a specific geographic location within the lease boundary.

- ❖ Prior to initiation of backfilling, the Operator shall take appropriate samples of the pit area to ensure compliance with OCD Standards for remediation of possible TPH, ND for BTEX and levels of less than 250ppm of chlorides. However if levels at the bottom of the drilling pit test too high, 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, new data acquisition shall occur and sample results determine whether or not compliance has been reached in order to begin backfilling. No backfilling shall begin without authorization by the State of New Mexico, OCD.
- ❖ Backfilling of the Bear Draw 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 moisture accumulation which prevents abnormal or unsustainable water impoundment resulting in erosive actions.
- ❖ The Closure Plan shall include a final report providing laboratory analytical data and a final C-144 to support the completed disposition of the reclaimed Bear Draw drilling pit site.

Should you have questions, please call 505-628-3932 (office) or 505-706-0667 (cell).

Sincerely,



Tommy W. Folsom  
Production Manager

cc: NMOCD Form C-144

## Summary Report

Cheryl Winkler  
Murchison Oil & Gas Inc.  
P.O. Box 627  
Carlsbad, NM, 88220

Report Date: August 24, 2007

Work Order: 7082420



Project Location: Background Samples

Project Number: Bear ~~Cave~~ State #1

DRAW

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
134311	Outer Horse Shoe #1	soil	2007-08-23	12:00	2007-08-24
134312	Outer Horse Shoe #2	soil	2007-08-23	12:30	2007-08-24
134313	Outer Horse Shoe #3	soil	2007-08-23	12:40	2007-08-24
134314	Outer Horse Shoe #4	soil	2007-08-23	13:00	2007-08-24
134315	Inner Horse Shoe #1	soil	2007-08-23	13:20	2007-08-24
134316	Inner Horse Shoe #2	soil	2007-08-23	13:40	2007-08-24

### Sample: 134311 - Outer Horse Shoe #1

Param	Flag	Result	Units	RL
Chloride		<100	mg/Kg	5.00

### Sample: 134312 - Outer Horse Shoe #2

Param	Flag	Result	Units	RL
Chloride		<100	mg/Kg	5.00

### Sample: 134313 - Outer Horse Shoe #3

Param	Flag	Result	Units	RL
Chloride		<100	mg/Kg	5.00

### Sample: 134314 - Outer Horse Shoe #4

Param	Flag	Result	Units	RL
Chloride		<100	mg/Kg	5.00

### Sample: 134315 - Inner Horse Shoe #1

Report Date: August 24, 2007  
Bear Cave State #1

Work Order: 7082420

Page Number: 2 of 2  
Background Samples

Param	Flag	Result	Units	RL
Chloride		<100	mg/Kg	5.00

**Sample: 134316 - Inner Horse Shoe #2**

Param	Flag	Result	Units	RL
Chloride		<b>107</b>	mg/Kg	5.00